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USER-CREATED PERSONAS:

A four case multi-ethnic study of persona artefact co-design in Pastoral and Urban Namibia with ovaHerero, Ovambo, ovaHimba and San communities



DANIEL G. CABRERO

A thesis submitted in partial fulfilment of the requirements of
University of West London for the degree of Doctor of
Philosophy in Computer Sciences

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ABSTRACT

A persona is an artefact widely used in technology design to aid communicational processes between designers, users and other stakeholders involved in projects. Persona originated in the Global North as an interpretative portrayal of a group of users with commonalities. Persona lacks empirical research in the Global South, while projects appearing in the literature are often framed under the philosophy of User-Centred Design –this indicates they are anchored in western epistemologies. This thesis postulates persona depictions are expected to differ across locales, and that studying differences and similarities in such representations is imperative to avoid misrepresentations that in turn can lead to designerly miscommunications, and ultimately to unsuitable technology designs. The importance of this problematic is demonstrated through four exploratory case studies on persona artefacts co-designed with communities from four Namibian ethnicities, namely ovaHerero, ovaHimba, Ovambo and San. Findings reveal diverse self-representations whereby results for each ethnicity materialise in different ways, recounts and storylines: romanticised persona archetypes versus reality with ovaHerero; collective persona representations with ovaHimba; individualised personas with Ovambo, although embedded in narratives of collectivism and interrelatedness with other personas; and renderings of two contradictory personas of their selves with a group of San youth according to either being on their own (i.e. inspiring and aspirational) or mixed with other ethnic groups (i.e. ostracised). This thesis advocates for User-Created Personas (UCP) as a potentially valid tactic and methodology to iteratively pursue conceptualisations of persona artefacts that are capable to communicate localised nuances critical to designing useful and adequate technologies across locales: Methodologies to endow laypeople to co-design persona self-representations and the results and appraisals provided are this thesis' main contribution to knowledge.

Keywords: Personas, User-Created Personas, Human-Computer Interaction, Interaction Design, User-Centred Design, Participatory Design, Co-Design, Postcolonial Interculturality, Postcolonial Computing, ICT4D, HCI4D, Critical Design, Research through Design, Practice-Based Design, Objects of Design.

DECLARATION

I, Daniel G. Cabrero, born on the 24th of February 1978 hereby declare that the work contained in the dissertation towards my degree of Doctor of Philosophy in Computer Sciences project, entitled:

“User-Created Personas: A four case multi-ethnic study of persona artefact co-design in Pastoral and Urban Namibia with ovaHerero, Ovambo, ovaHimba and San communities”

is my own work and that I have not previously, in its entirety or in part, submitted it at any university or other higher education institute for the award of a degree.

There is a set of publications by the author of this thesis and other colleagues that are drawn on throughout this thesis, and which in a good degree make up the data gathering, findings and conclusions contained in it. Such set of publications are stated accordingly in each section of the dissertation for clarification as it pertains:

ACKNOWLEDGEMENTS

There are many people and some institutions I wish to thank in this endeavour: Some of these for showing me what to challenge; some for enticing this path of enlightenment, burden, maturity, blunders, affection and satisfaction throughout. And while many individuals and institutions may not fit in this acknowledgement, for them to be sure they come about in my thoughts, in my soul and in my heart.

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London, United Kingdom, January 2019

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1. INTRODUCTION

1.1. BACKGROUND & CONTRIBUTIONS

Personas in Human-Computer Interaction (HCI) and in Interaction Design (IxD) originate around 1999 from their inception by Alan Cooper (1999) in the US. Persona is a communicational proxy of a group of people sharing commonalities in regards to needs, requirements and ambitions about technological devices. Personas typically function within the philosophy of User-Centred Design (UCD), meaning they are exclusively created and solely handled by design professionals. In turn, personas have become widely used in design (Nielsen and Hansen, 2014).

Nevertheless, the adoption of personas within technology design professions largely contrasts with the overall and the current scantiness of empirical studies (ibid). Practical research is much scarier in sites in the Global South (Nielsen, 2009a), where personas are usually built following UCD practices (Cabrero et al., 2016c). Positioning situated philosophical approaches in other locales may well amplify the prospect to infer assumptions in design activities (Winschiers-Theophilus, 2009).

In fact, even in the Global North empirical research often reveals (Friess, 2012), theorises (Nielsen, 2009a), or openly claims (Cooper, 1999) using speculations and individual identifications by designers in persona conceptualisations, instead of drawing on grounded data from research practises as advised by Nielsen (2012a).

Thus, proposing UCD personas in locales where technology design has been less or not at all explored, assumptions, speculations or individual experiences might emerge, and so become deceitful obstacles towards the effective, efficient and satisfactory communicational process of designing suitable technologies aligned to cultures, rituals, traditions, and ultimately to situated ways of knowing and doing.

Hence, to obtain legitimate depictions of the needs, requirements and ambitions of end-users is crucial to be able to come-up with appropriate technological designs. And yet, in technologically developing locales round the world the question remains: *how would researchers / designers go about investigating and creating legitimised representations of users that are fair and so do justice to the people they embody?*

An answer may be to involve laypeople in co-designing via participatory practices, and where the roles of the designers, the researchers and the end-users merge, with the latter becoming a critical component through the process (Sanders, 2002). In this case new ways call for novel tools for people to express themselves (ibid).

Intrinsically, personas in Participatory Design (PD) or in co-design are differently positioned in respect to the UCD methodology. These openly and organically bring end-users to the initiation (Light et al., 2009), assembly (Grudin and Pruitt, 2002), and / or the deployment (Bødker et al., 2012) of the persona artefacts generated.

Thus-far, participatory projects involving personas mainly developed in the Global North, initially in the form of long-lasting large-scale, resourceful ventures, with personas produced from extensive empirical research and qualitative user-data.

Early ventures introduced *personas for mass-market software development* (Grudin and Pruitt, 2002; Rönkkö et al., 2004). Grudin and Pruitt (2002) stated their own realisation in steadily facilitating communication amid stakeholders with personas created in PD, while Rönkkö et al. (2004) underwent a series of failures whereby, due to patterns of power and dominance in the project, the personas they manufactured “confusingly” disintegrated and disappeared from the project.

As time went-by, further persona-based research projects begun to deploy more experimental probing experiences that involved laypeople in participatory practices.

For instance, in the UK early *persona sketches* created and validated by end-users challenged software developers' UCD personas through *pastiche scenarios* that brought out further design questions otherwise over-sighted (Dearden et al., 2006). Also in UK, Light et al. (2009) introduced *low-cost fantasy persona* co-designed with elders to stimulate their confidence towards digital tools, while feeding desires to behaving in novel ways via fantasizing technologies using props (Light, 2011).

In Denmark Johansson and Messeter (2005) applied an ethnographic participatory inquiry to create *user presence* in the design process via personas that explored existing practices to create future visions. Participants (i.e. industry stakeholders, researchers, users) created personas by interpreting images selected from ethnographic films, and used them as *boundary objects* they could use in design. Also in Denmark, and to build public services, Bødker et al. (2012) explored persona co-design scaffolding from emotions to create empathy towards the end-users. Using oral testimonies by laypeople, *persona embodiments* rendered user needs and drives. Such persona artefacts, though, succumbed to factors of power and non-participatory interests from both, management and staff at the Public Services. In Denmark too, Nielsen (2012) gathered users and designers to co-design *personas for product innovation* via role-play. Participants acted out the personas, and so provided an understanding of user goals via visualizations and empathy.

In Holland, van Doorn et al. (2013) probed to aid children to *co-designing personas of their grandparents*, and so elicit their needs, ambitions and traits assisted by the tacit empathetic bond from the family ties. Children first integrated data into a storyline on a persona-template and then grounded a set of grandparent personas.

In Australia, Williams et al. (2014) co-designed *patient personas* with healthcare experts to embody needs, and so create sentience of patient-centred designs.

Though patients were not included in the process, experts' knowledge provided the *active ingredients* that contributed to evaluate the efficacy of collaborative persona-building as a method to design technology in complex settings like healthcare (ibid).

From the studies above persona appears as detailed by Williams et al. (2014, p. 3): *a 'lightweight' artefact for communicating 'heavyweight' insights*, and whereby immersive, partaken, hands-on persona co-design practices convey persona benefits usually stated in the literature (Cabrero, 2015). Such personas appear to endorse too values of democracy, enablement, equanimity and equality in design.

Yet, as depictions of individuals and groups differ across locales (Geertz, 1973) placing UCD personas cross-culturally, conscious and caring professionals may well ask themselves: *what may personas provide to technology design in locales beyond the Global North if users come embodied via a westerly imagined artefact?*

Nielsen (2009a) questioned if persona pictorial interpretations differ across cultures, and went on probing if a written description of an online marketing manager would result in stereotypical pictorials of people dressed in westernised business attire. Findings verified this hypothesis with six students from India, China and Denmark and nine usability professionals from Japan, Brazil, France, Holland, Russia, New Zealand, Germany and USA. All the participants were familiarised with personas, and so may be argued UCD may be well embedded in their knowledge and practice.

In India, Dearden and Rizvi (2008) used storytelling to elicit life-stories to craft personas for an agricultural information flow system. Attempting to elicit initial user stories *focusing on specific information exchange events*, researchers though saw themselves eliciting *life stories over a period of months or years* (2008, p. 224), which they claimed unhelpful to assist design due to cross-cultural misjudgements.

Building on Dearden and Rizvi's (2008), Sarat St. Peters (2015) proposed *persona for UX* to aid designing Information Communication Technologies for Development (ICT4D) using personas. Yet, drawing on a western oratory in developing locales (Escobar, 1995) enhances the rhetoric of 'us' versus 'the other' (Geertz, 1974).

Depictions of 'the other' vs. 'us' continues in India with Vestergaard et al. (2016). They crafted personas via an ethnographic study on villagers' water consumption that they then validated locally through a short-film with some end-users as actors. This type of appraisal may raise questions about its validity, potential success and ultimate respect to locals, as researchers left the site stating to never come back because designers in Denmark would then provide and implement the technology.

From the above case studies and others described in the literature chapter below, it can be argued that the common tactic in developing personas a la UCD is to gather user-data and generate personas by following UCD procedures (Cabrero, 2014). This approach seemingly lacks empowering the users to employ their own footing. It also reveals colonial impulses in the terms digital technology was created and spread from the Global North to further locales (Dourish and Mainwaring, 2012), and so in the way designerly methods have mainly been conceived in locales where the epistemological approach may well differ from other locales around the world.

Deploying new directions and novelty in the way laypeople express themselves, and so enabling an accountable participation in design developmental processes, Hisham (2009) probed persona co-design with elders near Kuala Lumpur through *focus group sessions aiming to introduce computers* (p. 335). Introducing a UCD persona template upfront, Hisham claimed the efficacy of persona *in engaging users' attention through narrative and storytelling* (Hisham, 2009, p. 333), and in eliciting cultural nuances and design expectations vital to design apt technologies.

In an attempt to generate personas through mix-methods for an ICT4D project, Putnam et al. (2009a) suggested a model to adapt personas for non-western cultures based on a large set of quantitative secondary-data and a qualitative situated probe to design a mobile directory service in Kyrgyzstan and a water-service development in Andhra Pradesh, India. As users were *socially connected either by kinship bonds or by friendship* (p. 340), researchers tinkered with personas to depict families versus individuals (Putnam et al., 2012b). And despite they stated flaws and obstacles in their projects, they also claimed that localised cultural differentiators require *Modifying Methods for Persona Creation* (2011).

In a project for a frugal redesign of prosthetics for poor amputees in Vietnam, Lecomte et al. (2013) created personas for which they reemphasised *local intelligences* as key pointers for revision and adoption on how personas get built. They stated their personas depicted dimensions of the ecosystem as indispensable, and claimed a need for culturally situated awareness to answer *new questions on the personas role and into collaboration for articulating implicit, local, embedded and grassroots expertise with more formalized information and methods* (p. 1).

Lastly, in the Malaysian jungle Zaman and Winschiers-Theophilus (2015) inserted personas within a PD project involving Long Lamai youth to enable participants to engage in SMS-composing without *face lose* (Ting-Toomey and Kurogi, 1998a). The youth was proposed to create personas with a name, a gender and typical characteristics of youth and elders in the surroundings. This aided to elicit their communicational needs and styles first, so designers could then figure out suitable technologies to co-design an SMS App based on Penan's Oroo' signs' language.

In one way or another, Hisham (2009), Putnam et al. (2009), Lecomte et al. (2013) and Zaman and Winschiers-Theophilus (2015) stress the need to involve users in creating persona artefacts capable of enabling legitimate self-representations.

The necessity to further explore empirically-based persona artefacts in broad terms, and in non-western locales in particular is what this research project pursues. Hence, this thesis argues that personas can be locally nuanced according to the diversity of ways humans live around the globe, and that this can be attained by empowering laypeople with methods to co-design legitimate self-representations.

Under the current status quo of the persona artefact in HCI, this thesis explores if assumptions exist in the design of personas in locales outside the Global North. This is done in the context of existing technology co-design research in Namibia through four case studies with communities from ovaHerero, ovaHimba, Ovambo, and San ethnicities in urban and pastoral Namibia, and seeking to shed a light on (1) how indigenous groups take-on, understand and co-design persona artefacts; (2) what cultural assumptions may emerge from the above co-design activity, and (3) how and whether these personas effectively communicate their purpose to other participants in the design process.

Findings emerge deploying a Research through Design (RtD) framework whereby User-Created Personas (UCP) is the term chosen to iteratively probing, analysing and reflecting upon different methods, artefacts and methodological styles to draw persona artefacts, and so answer the main questions proposed in this exploration.

Hence meaning co-creation is central to this enquiry, as the interpretations elicited depict a set of self-representations resulting in common features, but also diverse styles, perspectives, narrations and storylines that depended on the choices made by the persona researcher, the advice and guidance by local researchers, as well

as each of the input and understanding by ethnic groups co-design took place with, and those who appraised persona results were appraised with –locally in Namibia and abroad in Denmark and in the UK.

Meaning co-creation emerged over three phases that formed the RtD framework:

(1) *Understanding Users and Team Dynamics*, to get an understanding of the communities and to explore and establish team dynamics with local researchers.

(2) *User-Created Personas with Team Dynamics*, to formalise approaches to obtain persona artefacts once the team dynamics with the local researchers were attained.

(3) *User-Created Personas*, to appraise empirical findings locally and overseas.

In the case study with ovaHerero, Phase 1 was challenging as (1) methods in the first three sessions did not attain the outcomes the researcher had expected, and (2) for the persona researcher jeopardised the team dynamics with local scholars. Prompting leading questions made participants to ratify the suggestions proposed, although by further challenging their ratifications they offered insightful viewpoints. Using a rapid ethnography tactic and situated props as playful triggers was futile due to the different ways of signifying between locals and the persona researcher. Literature holds interviews as a regular method to elicit data to create personas, and yet this did not work well for co-designing personas as it did not draw relevant detail about the users, but about elements users considered important in their ecosystem. To co-design personas directly was difficult as personas were alien to participants, and so when enticed to self-describe they ended-up self-stereotyping themselves. Attempting to co-design persona artefacts without guidance by local researchers provided needs and ambitions rendered in drawings in the sand, though this seemingly broke the researchers' protocol, so the persona researcher got scolded. Meanwhile, focus groups prompting participants to narrate stories were observed

as fruitful when deployed by local researchers in co-located sessions, and so in Phase 2 these became the focus to set-up sessions along with storytelling methods that aimed at obtaining stories about third parties to circumvent self-stereotyping. This worked well in the first two sessions in this phase, though scenarios had to be given for participants to embed third parties somewhere. So unlike what literature prescribes, scenarios were needed first to then generating persona descriptions. The fruitfulness of the scenario-persona approach was amplified in a third session, where participants narrated a story of their choice that became a sequence made out of various scenes, and where detailed descriptions of third parties emerged. Results formed five persona artefacts: an elder man, a woman, a young man and a young woman, and a girl, all conveying needs, requirements, drives and traits that attest the validity of this approach to co-design persona artefacts with ovaHerero.

Building on the effectiveness with ovaHerero of both, focus groups and describing third parties via prompted narratives, the same approach was followed in the other three case studies in order to contrast outcomes and to substantiate methodologies.

In the case study with ovaHimba Phase 2 was the starting point: a first and third sessions served to observe local researchers positioning PD with ovaHimba, while a second and fourth sessions focused on storylines, objects and the people built-in. In the first session the persona researcher noticed and noted aspects of Usability and UX held significant by participants. These were verified in the third session based upon the needs, requirements and ambitions conveyed in both observations. In the second session narrating an emblematic event of their choice was proposed: Sequencing a wedding established how ovaHimba articulated and situated stories, the main objects, and the roles and traits of people involved. The fourth session was also about storytelling an event of choice –a funeral in this case. The sequencing

verified how ovaHimba recounted stories, key elements, and people roles and traits. Ultimately, strong notions of humanness, persona collectives instead of individual personas, and the use of diverse attire and its meaning and usage emerged, resulting in three collective persona artefacts: male elders, female elders and male youth that reveal this method as effective to co-design personas with ovaHimba.

In the case study with Ovambo, Phase 2 began with a literature review both, on the slums where research occurred and the project the persona research got nested. So the methods deployed catered for the locale and the aims of the main project. The object was to craft local characters for a TV series, which served as training on filmmaking for participants to produce a short-film representing life in their locality. The opening method got participants walking researchers around the locale they lived-in to illustrate the daily challenges they faced and to identify typical residents. This approach provided an entry point to the milieu and an understanding of users. Building on the walk participants were requested to create characters for the film. They fashioned a collage concocting central characters -prostitutes and criminals- surrounded by secondary ones -parents and rioters. The former were assigned traits and behaviours enclosed in causalities from the past and effects in their future, and that constituted interrelated, collectivised narratives with the secondary characters. In a further session central characters were grounded with added contextualisation, though secondary characters (i.e. parents) were allocated more traits, behaviours, and stories of their own complementing why the situation of the main characters. Furthermore, politicians and the police were called to solve challenges in the slums. Participants created a circular plot communicating identities, surroundings, and daily experiences that produced three persona artefacts: young girls, a young man and mothers –all of them depicting needs, requirements, and ambitions that illustrated this methodology as usable to co-design persona artefacts with Ovambo.

In the case study with San, Phase 2 was the foundation for two sessions that aimed to find self-depictions when the San expressed themselves among themselves first, and then self-representations when being in front of other Namibian communities. Uttering self-depictions, positives feelings and drives appeared with self-confidence: They conveyed a sentiment of being ostracised although being proud of their origins, and voiced ambitions to achieve career goals, which they portrayed via pictorials. Enunciating self-representations in front of others, yet, showed a different picture: In a workshop multi-culturally populated and merged in groups of ethnic disparity, the San stood together at a table interacting only among themselves all the time. And when it came to present the answers proposed as the object of the workshop, the sequencing they offered showed a deep sense of being demoted and ostracised. Results represented two persona artefacts: self-confident San who are proud of their origins and encouraged to fulfil their ambitions, and relegated disliked selves. Such conflicting pictures validate this tactic to co-design persona artefacts with San.

The appraisals as part of Phase 3 consisted of sessions in three different locales: One in Windhoek (Namibia) with software engineering students, in Copenhagen (Denmark) with design practitioners, and one in London (UK) with HCI scholars. Feedback varied and went from valuing findings to considering it a waste of time.

Methodologies to endow laypeople to co-design persona self-representations and the results and appraisals provided are this thesis are the contribution to knowledge. Ultimately, this displays a set of diverse understandings apropos self-depictions, and which affects the co-design and results of the persona artefacts (re)presented. The research questions and the aims & objectives stated below close this chapter.

1.2. RESEARCH QUESTIONS

The questions that this thesis answers generate from the literature review below.

Q1.- How do indigenous communities in pastoral and urban Namibia take-on, understand and co-design persona artefacts?

Q2.- What cultural assumptions may emerge in regards to the way personas are usually understood in User-Centred Design?

Q3.- How effectively do the persona artefacts obtained communicate their purpose to other participants in the design process?

In addition to the above questions, a further query emerged as research evolved. Yet, this query is a by-product of the project, and so it is included in Appendix II.

Q4.- To what extent are persona user representations stereotypical or archetypal? And if stereotypes prime, to what degree current personas are a useful method to think about users of systems designed or in process of design, and how we can interpret findings noncompliant with usual individual persona but with collectives.

For the main three questions a series of aims and objectives are defined below.

1.3. AIMS & OBJECTIVES

Based on the questions proposed, the main aim of this project is to find out how laypeople in rural and urban Namibia embody themselves via persona artefacts, and if, and how cultural assumptions may emerge regarding persona depictions. Equally, this project aims to find if such artefacts depict useful representatives understood by, and relevant for design specialists to craft technologies in return.

So the objective is to probe methods with which to co-design persona artefacts, and so to find out methodological approaches in order to realise such an endeavour. First methods are deployed/probed to find their applicability and adaptability in Namibian sites. Then, localised methods are tried out to study and compare the results obtained. Ultimately, the persona artefacts attained are presented to local and to overseas designers to find their take, understanding and legitimising of the outputs provided.

QUESTION	AIM	OBJECTIVE
1	To find how laypeople from four ethnic groups in rural and urban Namibia took-on, understood and represented themselves via persona artefacts.	To probe existing methods and find their applicability and adaptability in Namibian sites. Then, to try localised methods to find and compare results.
2	To find if and how depictions may differ from or simulate dominant principles, guidelines, conventions and assumptions regarding persona depictions.	To compare results obtained in all case studies in Namibian locales with the customary depictions of UCD persona artefacts.
3	To appraise if such artefacts depict useful representatives understood by, and relevant for design specialists to craft technologies in return.	To present the personas artefacts to local and overseas designers to find their take, understanding and legitimising of outputs provided.
1, 2	To forge firm team dynamics with local researchers to embed the persona research in their co-design agenda and activities.	To carry out the project with ethics, respect and integrity, and with the friendliness that makes individuals thrive.

Table 1. Aims, Research Questions & Objectives

The structure of this thesis from this point onwards consists upon the following: Below a literature review narrows down findings to justify the questions suggested. Afterwards, the chapter on methodology brings together philosophical approaches, the objective of UCP, and the sequence of methods deployed and their rationale: UCD and PD are situated within RtD based on an exercise of co-design with local communities and the iterative deployment of methods as positioned to co-design persona artefacts in the Namibian locales where the four case studies took place. Next, a detailed presentation of each case-study follows, and an initial analysis of the results obtained states how data answers the questions in each of the sessions. Then, three appraisals illustrate the effectiveness of findings examined by software engineering students in Namibia, designers in Denmark, and HCI scholars the UK. Finally an interpretation and a discussion on the overall outcomes accomplished, and a set of conclusions, limitations, and further recommendations draw the thesis to a close by confirming UCP as a potentially effective approach to obtain persona artefacts with which to communicate localised aspects that are paramount to the representation of end-users to design adequate, useful and gratifying technologies.

2. LITERATURE REVIEW

From this point onwards a systematic literature review introduces the embedding discipline and presents relevant topics and the state of the art in research and theory around the concept of personas as the research foci. Literature is structured in three sections that narrow down the need to answer the questions proposed in this thesis.

The first section introduces HCI as a design discipline and its constituents apropos contributions to scientific knowledge. Then, UCD is presented as the design philosophy personas originate from. This section discusses scenarios, user profiles, user archetypes and personas as some of the ways users and their technological journeys are represented, as well as the challenges that applying UCD brings about.

The second section introduces a definition of UCD personas, the advantages and challenges in using them, emblematic methods via which personas are assembled, the commonest settings where they tend to be applied and collective personas. Then, a series of studies from the literature on UCD personas across cultures are detailed, evaluated, and also draw on apropos the problematic of personas framed within UCD being anchored in western epistemologies and the biases this creates.

The third section is a review of literature on personas created and deployed in PD, first in locales in the Global North and subsequently in settings in the Global South.

2.1. HUMAN-COMPUTER INTERACTION

Around fifty years have now got Human-Computer Interaction, or in short HCI, expanding into an ever-evolving discipline (Grudin, 2017) varied, dynamic, exciting.

HCI is a discipline dealing with the interaction between humans and technologies. In practice HCI began near 1965 as *the Third Generation of computers became the forerunner of HCI with the micro-chip development that enabled bulk-storage of data* (Mckay, 2008, p. 2). Some, though, state that HCI was coined and established as a discipline in the early 1980s with the dawn of CHI² as a conference (Bannon, 2011).

In regards to contributions to scientific knowledge, several aggregates in HCI have evolved over time according to the foci of research and the ultimate deliverables. Wobbrock and Kientz (2016) state contributions as based on either (1) empiricism, (2) artefacts, (3) methods, (4) theory, (5) data-sets, (6) surveys, or (7) opinions³.

HCI broadly amalgamates a number of disciplines: human factors, information systems, computer science, library and information science (Grudin, 2012), cognitive psychology, neuroscience, engineering, design, anthropology, sociology, philosophy, linguistics, artificial intelligence, computer science (Preece et al., 2002).

Ultimately, Grudin states HCI is not fixed but dynamic and ever-evolving (2012), while Bannon declares HCI studies cover people's goals and activities, their values, and the tools and environments that facilitate their daily lives based upon *means and ends, and the place of technology within this frame* (2011, p. 50).

² For a history on "Computer-Human Interaction: Human Factors in Computing Systems" (CHI) see Grudin (2017, 2012, 2005a, 2004, 1990). Grudin is a prominent researcher/practitioner in the field of HCI.

³ "Opinion" is not part of Contributions to Knowledge but of a class presented by Wobbrock and Kientz (2016) regarding scientific contributions to the CHI conference, and it typically refers to publications such as the Interactions magazine where this study was found.

2.2. USER-CENTRED DESIGN

The key elements in technology design are acknowledged as humans and their agency, and not technologies per-se (Bannon, 2011; Winograd and Flores, 1986). This section first introduces User-Centred Design (UCD) as a design philosophy. Then it states the rationale for UCD to exist and methods it comprises, and presents common ways to depict users in UCD. The section ends stressing main challenges in applying UCD, and builds from such reasoning to present the ensuing segment, which deals with persona per-se, being the latter the research focus of this thesis.

2.2.1. USER-CENTRED DESIGN AS A DESIGN PHILOSOPHY

Today it is usual to involve users in interactive system development (Iivari, 2006). UCD originated as a philosophy that began to place users at the centre of design research and development, and where design professionals build technologies striving to meet users' needs (Lowdermilk, 2013). Thus UCD is a multi-stage effort to problem-solve user needs and limitations via research (LeRouge et al., 2013).

User studies, involvement and representation are the forefront of design in UCD.

Sanders (2002) sees UCD as a process focusing on the thing being designed and all its components –i.e. the object, communication, space, interface, service, etc., and advises to ensure the object being designed meets the essential user needs. To get to this, Sanders perceives a social scientist/researcher as a midway collector of user data, and therefore as an interface between user, developer and designer:

The researcher collects primary data or uses secondary sources to learn about the needs of the user. The researcher interprets this information, often in the form of design criteria. The designer interprets these criteria, typically through concept sketches or scenarios. The focus continues then on the design development of the

thing. The researcher and user may or may not come back into the process for usability testing (ibid, p. 1).

In UCD, then, the roles of researchers and designers are traditionally distinct, yet, ideally, interdependent, and where the user is not really a part of the team but is spoken for by the researcher (ibid). Thus, deploying certain methods and working with tools and techniques, a UCD researcher provides significant data to attempt to circumvent ambiguity by placing user needs at the core of design and development. Under this premise UCD requires that design decisions are effectively substantiated by both, observing and listening to the user. Practicing UCD this way Lowdermilk (2013) states that a technology maintains a good Usability and a satisfactory UX.

Typical approaches to achieve the above are interviews, discussions, observations prior to system design, and to create a situation early in the design process where potential end-users provide their knowledge and concerns into the design venture (Gould and Lewis, 1983, 1985). Methods, tools and techniques to elicit data aimed to support UCD processes are interviews (Nielsen et al., 1986), prototypes (Bødker and Grønbaek, 1990), mock-ups (Ehn and Kyng, 1990), contextual enquiry (Holtzblatt and Beyer, 1995), cultural probes (Gaver et al., 1999), focus groups (Rosenbaum et al., 2002), empathetic design (Koskinen et al., 2003), ethnography (Dourish, 2007), storyboarding (Kantola and Jokela, 2007), usability testing (Clemmensen and Qingxin, 2008), theatre-system (Schieben et al., 2009), scenarios (Carroll, 1995) or personas (Cooper, 1999). These are applied to and vary upon the diverse phases of system development (Dray and Siegel, 1998) and also across cultures (Nielsen, 2010).

UCD proposes four methods that strive to embody end-users in the design process: scenarios, user profiles, archetypes and personas.

2.2.2. SCENARIOS

Scenarios are use-oriented depictions conceived by Mills in 1959 (Carroll, 1995). They are informal, solid narrative accounts focused on lifelike precise activities on what certain technology users attempt to achieve, i.e. goals, constraints, contexts, irritations, facilitators, etc. in or during the given activity (Preece et al., 2002).

Scenarios are usually created by designers during workshops or interviews to explain some of the user goals and behaviours via a one-perspective (p. 224). Scenarios do not need to describe a technology use but enable understanding human activity and identify partakers and products involved in the activity (p. 223), as well as the contexts and affordances in the situation where such activity occurs.

Some uses of scenarios are as either *generalising users' actions as in usability work or software/requirement engineering, or for helping groups of users and designers applying creativity in design* (Bødker, 1999, p. 62).

Scenarios are often used alongside outlines of users like profiles, archetypes or personas, as this activity allows placing users and situations in one single space. This is because *Personas and scenarios help designers to imagine the users and aid development of design ideas* (Nielsen, 2004, p. 1), as they support thinking about the user's perspective, with personas helping to understand who the users are and scenarios to understanding what users want to do (Putnam et al., 2009b).

Ultimately it is *[t]hrough scenario writing, the gap between consumer goals and business goals are being negotiated* (Cheng and Sun, 2013, p. 109).

2.2.3. USER PROFILES

User Profiles are conceptual models of targeted user-groups that promote the shared understanding that underpins UCD throughout the process proposed by Gould and Lewis (1983): analysis, design, development, implementation, iteration.

User profiles are a UCD technique that arose from the need to analyze and consolidate rich information about users gained from interviews, site visits, and similar (more qualitative) forms of user research (Pruitt and Adlin, 2006, p. 28).

User profiles are structured ways of typifying a group of users in text and pictorial formats –conceptually modelling the end users– by going beyond demographics and into the users’ expectations, previous experience, and anticipated behaviour.

User profiles often come denoted as a table of descriptors and help designers to focus on users by serving functions such as being the basis for identifying end-user tasks and capabilities, which impact the requirements and the conceptual models. They enable to generate scenarios for future testing and evaluation of the designs, while they can also serve as a source for screening and selecting users to partake in interactive prototyping activities and usability testing (LeRouge et al., 2013).

Besides, user profiles can be used to educate Usability and design team members in resolving group conflict, for they can decide debates about different requirements and early design concepts –either as part of an entire UCD methodology or to enhance an existing methodology by introducing user-centred thinking into the different design and development processes and stages, which makes user profiles a tool widely used in technology design (Pruitt and Adlin, 2006).

2.2.4. USER ARCHETYPES

User Archetypes is a further step from User Profiles by Mikkelson and Lee (2000). They first appeared *to improve the existing concept of “user classes” (a concept used quite broadly in traditional usability processes)* (Pruitt and Adlin, 2006, p. 31). User Archetypes largely function *as an adjunct to scenario-based design*, even if this approach did not have a broad adoption in the design of technologies (p. 32).

User Archetypes are equally used for marketing and branding positioning purposes: To attract clients brands craft archetypes by figuring out human’s motivations and assigning personalities and behaviours to characters consumers can identify with (Cheng and Sun, 2013). *The more a brand’s archetypes fit with the consumer’s inner desire, the more possibility a brand would be successful* (p. 106). This is for *[t]hey use a person’s life goal, who they want to become, as the basic for archetype design ... [T]hese brand images then satisfy one’ desire of being an ideal self* (p. 119).

2.2.5. PERSONAS

Persona both, as a concept and a tool, got legendarily introduced in the field of technology design by Cooper (1999) as a “fictitious user” tool typically framed within the philosophy of and the processes in UCD. Within the variety of user incarnations, persona is believed as *a true marriage of personifying details and user roles* (Matthews et al., 2012a) or user stories. Persona has since become a well-known and widely utilised artefact in HCI (Nielsen and Hansen, 2014), for it works as a communicational proxy of a group of individuals sharing commonalities about needs and ambitions on technological products or services (Putnam et al., 2012a). Customary personas consist of a name, written narrative, and a picture of a person (Miaskiewicz et al., 2008), while to validate persona artefacts data must come from solid research grounded on end-users (Nielsen, 2012a).

2.2.6. CURRENT CHALLENGES IN USER-CENTRED DESIGN

Despite the claims that UCD upholds the user at the centre of the design process, UCD faces a major, rising criticism apropos the procedures and the tactics it uses: UCD works as a designer's model insofar as *[s]ystem designers form mental models of users and use these to guide their designs* (Benyon and Murray, 1987, p. 8).

This challenge often comes substantiated by design professionals as a general paucity of either time, budgetary means or both combined in the design process.

This means that UCD, as it stands today, is an unlikely approach to empower laypeople with tools, techniques and / or methodologies to convey situated user experiences in their own footing (Cabrero, 2014; Dourish and Mainwaring, 2012), so that users could appropriate the design process (Winschiers-Theophilus, 2009), especially when design decisions are likely to affect and shape their lives or futures.

An example of this lack of user appropriation of design processes is revealed and discussed in the UCD persona artefact, in which the upcoming section focuses on.

The meaning and the evolution of the persona artefact in HCI provide with enough material to make this artefact the foci of this thesis apropos bestowing laypeople with representational tools to convey their situated practises in their own terms.

2.3. PERSONAS A LA UCD

This section focuses upon the persona artefact as a designerly UCD construction, and on the liabilities of making UCD personas without a localised fit and awareness. First, it presents a definition of persona and the benefits and challenges in using it. Next, mainstream book-length publications with methods to create UCD personas, projects where personas are commonly applied, and collective personas are stated. After, a series of studies from the literature on UCD personas across cultures are detailed, evaluated, and also draw on apropos the problematic of personas framed within UCD being anchored in western epistemologies and the biases this creates. This section ends with a question and a suggestion to involve laypeople in co-design participatory practices where the roles of designers, researchers and users meet.

2.3.1. PERSONA A LA UCD – A DEFINITION

Notably known due to Alan Cooper (1999), persona in HCI is an artefact in design that was fashioned and is used by design professions to support UCD processes.



Karina, 40 years old, higher commercial course, holder of diploma in business studies. Works in a payroll office of a larger company where she has worked for 15 years

Background

Karina has been married to Anders for 13 years and they have two children, a boy and a girl of 11 and 13 years old, respectively. Anders works in sales and is employed at a larger company, also in Horsens. Karina enjoys nature and hiking in rain and wind, doing a Sudoku ensconced in the sofa, or hanging out with the kids. Karina grew up with four younger siblings so she has always been used to extra responsibility and that characterises her outlook on life

Work

Karina is good with figures, she knows touch-typing, is used to a numerical keyboard and tabulation. She is in control; she saves things, files away, and tidies up. She is structured, well organised, thoughtful, and calm and would describe herself as meticulous. She prides herself in doing a good job. Her work practices are governed by a calendar. Karina is adaptable and willing to accept changes if she can see that this will streamline the work flow.

Reporting

Karina prides herself in knowing about digital reporting so that others can consult her. She has build up a routine in using reporting through the portal Virk.dk.

Karina takes in new knowledge best when she sees a demonstration, and she has a good memory. She knows the beaten track inside out but if things do not turn out as expected she can become unsure of herself. She reads error messages if they pop up and attempts to deal with them, but she prefers calling her IT supporter than guessing what the solution may be.

Since Karina does her work well, thoroughly, and on time, it is critical for her if the system is down. She finds it annoying and unacceptable but will just try again later. Sometimes she goes to work very early in the morning to do the reporting because she knows that the system will not be overloaded.

There are many things that could be made better and if she takes the time to call support she makes suggestions for improvements of the system, as this will benefit both her and others.

Karina can see long-ranging perspectives in digital reporting. It can help her skip much data entry because it offers the possibility of reusing earlier entries and automatically retrieving master data for all employees.

Figure 2. Typical UCD Persona Artefact by Lene Nielsen (2012a).

As a UCD artefact, persona functions like an archetypical, human-like, fictionalised, communicational depiction of a group of individuals sharing certain commonalities apropos goals, requirements, traits (Friess, 2012), needs, aptitudes and drives (Cooper, 1999) to do with the design of technology utilities (Putnam et al., 2012a).

Conventionally a persona is made up of three core communicational components: an evocative name, a meaningful written narrative, and a photograph⁴ of a person (Miaskiewicz et al., 2008). Other informational attributes that persona artefacts usually comprise are gender, didactic realisations, age, job, possessions, family, friends, pets, likenesses, tasks, life stories, goals, etc. (Campos and Paiva, 2011).

Design stakeholders use personas to communicate vital information about users, for example, to elicit requirements and design ideas (Triantafyllakos et al., 2009). And while persona artefacts are perceived as a usability method, they are an instrument used throughout all phases of design and development (Nielsen, 2011). Their core endeavour, hence, is to assist iterative, communicative processes that transmit user needs to design professionals in order to build products or services.

As part of the UCD arsenal persona is held as complementary in enhancing other UCD methods like scenarios and philosophies such as PD (Pruitt and Grudin, 2003); while at heart it strives to generate empathy towards the end user (Nielsen, 2007), and to promote consensus in obtaining a shared vision of users' needs in order to circumvent designerly problems arising later in the project (Mulder & Yaar, 2006).

Since UCD persona belongs to the realm of, and is created by design stakeholders, depending on chosen styles and specific necessities at a given time, the assembly and portrayal of personas often emerge in the form of webpages, posters,

⁴ It is customary photos used for personas come from Internet stock libraries (Nielsen, 2009b; Portugal, 2008).

cardboard-personas (Grudin and Pruitt, 2002), sketches (Buxton, 2007), fictional characters (Triantafyllakos et al., 2009), acting, dramatizing, characterised or role-play personas (Gordon, 1978; Lepore, 2009; Light et al., 2009; Light, 2011; Nielsen, 2012b; Shyba and Tam, 2005; Vestergaard et al., 2016), oral narrations (Bødker et al., 2012), point of view personas (Aguirre et al., 2013), as well as in the form of video personas (Handa and Vashisht, 2016; Mulvad, 2012) amongst others.

Persona hence functions as a fully versatile, utterly plastic and openly interpretative artefact in HCI (Dotan et al., 2009; Light et al., 2010b), which, arguably, encourages its widespread usage and support amongst the technology design professions.

Such a plasticity and versatility equally appear in the methods to generate personas. Qualitative, quantitative or mix-methods are indistinctively applied (Cabrero, 2014). Yet it is agreed amongst academics, practitioners and pracademics⁵ that the validity of personas hinges on data coming from grounded user-research (Nielsen, 2012a).

Qualitatively, user-data is customarily elicited via methods such as interviews (Bødker et al., 2012), focus groups (Hisham, 2009), ethnographies (Blomquist and Arvola, 2002), usability studies (Chavan, 2011) and observations (Nielsen, 2012a). Quantitatively, surveys (McGinn and Kotamraju, 2008), web traffic and customer relationship management (CRM) data analysis (Mulder and Yaar, 2006) are used. Combining qualitative and quantitative methods is another way to build personas (Mulder and Yaar, 2006; Pruitt and Adlin, 2006; Putnam et al., 2009b, 2012a).

Based upon the different uses and combinations of the aforesaid methods in persona creation and deployment, a set of approaches have emerged through time. Nielsen (2012a) synthesises these styles focusing on how proponents define their

⁵ Some exceptions such as Atiq Ur (2016) argue to skip such step at first for the sake of time and money.

standing on the matter: Goal-Directed, Role-Based, Engaging and Fiction-Based. Such methods and styles span a set of benefits to the making and use of persona.

2.3.2. PERSONA A LA UCD – BENEFITS

This literature review finds fourteen benefits personas seemingly bring to design:

- (1) to make available early design needs, requirements and ambitions from users,
- (2) to generate a solid and grounded understanding of the targeted set of end-users,
- (3) to introduce/reinforce design-thinking in all design phases (Williams et al., 2014);
- (4) to engage the product design and the development teams with the sets of users,
- (5) to circumvent stereotypes and make user assumptions as explicit as possible,
- (6) to focus upon specific users rather than the “everyone” (Pruitt and Adlin, 2006);
- (7) to encourage consensus amongst design stakeholders (Mulder and Yaar, 2006);
- (8) to provide focus upon users’ goals, requirements, traits (Putnam et al., 2012a);
- (9) to depict dimensions of ecosystems where users move (Lecomte et al., 2013);
- (10) to complementary enhance methods like scenario and philosophies like PD,
- (11) to steadily enable communication amid all partakers (Grudin and Pruitt, 2002);
- (12) to facilitate design professionals to empathise with end-users (Nielsen, 2012a);
- (13) to provide clear and comprehensive images and scenarios (Hudson, 2013),
- and (14) to enable the social and political of design to the surface (Grudin, 2003).

Such benefits are set as broadly agreed upon in the present literature on persona.

Building upon benefits, Chang et al. (2008) evaluated whether having personas involved in design projects had a positive effect on final designs and found that using personas aided designers to better picturing the users and to arrive to a consensus. Friess (2015) found akin results to the above in a Heuristic Evaluation with students. Fruitful outcomes are also corroborated in industry Agile-based projects where personas and Heuristic Evaluation combined show that *most of the agile teams*

approved the use of the stories incorporating UX aspects (Choma et al., 2015, p. 1).

This echoes claims by Hudson (2013) in that utilising personas support Agile-based design more than User Stories alone.

However, and despite the wide use and support of personas amongst designers and that it functions as an entirely versatile, totally plastic and overly interpretative usability artefact, personas also bring challenges to effectively representing users. So Portigal proposes to *step back and consider whether the benefits of these tools outweigh the risks* (2008, p. 73).

2.3.3. PERSONA A LA UCD – CHALLENGES

Along with the said benefits this literature review finds challenges in personas like:

- (1) absence of a commonly shared definition in the literature (Putnam et al., 2012a);
- (2) lacking applied use of grounded user-data in the UCD process (Friess, 2012);
- (3) the gap between data and suitable jargon and layout to transfer it (Albers, 2013);
- (4) a misused to maintain a distance from the people to design for (Portigal, 2008);
- (5) an ongoing hesitancy and debate on the utilisation of persona (Howard, 2015);
- (6) an overall paucity of empirical studies and reports (Nielsen and Hansen, 2014);
- (7) a further scarcity of practical studies in cross-cultural milieus (Nielsen, 2009b);
- (8) the lack of verifiable accuracy of any methodology (Chapman and Millan, 2006);
- (9) the hesitancy and uncertainty on its scientific validity (Getto and Amant, 2014);
- (10) its UCD functioning as a one-way communicational tool from/for designers, and
- (11) a systematic immersion of end-users in generating personas (Cabrero, 2014).

These challenges must be well borne in mind, as resulting from some of them empirical projects often report on either assumptions by designers (Friess, 2012), openly intuitive interpretations of end-users in the decision-making (Cooper, 1999), self-interpretations and self-referencing instead of using user-data (Nielsen, 2009b),

issues to do with power dimensions and decision-making (Bødker et al., 2012; Rönkkö et al., 2004, 2008), validity (Chapman and Millan, 2006), a lack of variety, and so depictive scope in settings beyond the Global North (Putnam et al., 2009b), or the lack of inclusion of end-users in the creation of the resulting personas depicted so as to safeguard their complete ownership (Blomquist and Arvola, 2002).

Ultimately such challenges keep academics and practitioners divided between the sceptical and supporters of personas in decision-making (ibid; Williams et al., 2014).

To better understand the diversity of positions between enthusiasts, the doubtful, and the array of methodologies to research, create, deploy and maintain personas, the following section presents a chronology of mainstream book-length publications that are devoted to prescribe approaches, methods and styles of persona artefacts.

2.3.4. PERSONA A LA UCD – MAINSTREAM PUBLICATIONS & METHODS

Floyd et al. (2008) summarise some of the mainstream publications cited below.

UCD Personas: by Alan Cooper

In *The Inmates Are Running the Asylum: Why High Tech Products Drive Us Crazy and How to Restore the Sanity* (1999)⁶ and later in *About face 3: The Essentials of Interaction Design* (2007) Alan Cooper –and colleagues– propose shifting efforts into personas instead of around technology, and that using the fictionalised, archetypical persona artefact as a goal-oriented⁷ tool helps focusing on user tasks.

A persona exists to achieve his goals, and the goals exist to give meaning to a persona ... What's more, the most important goals are personal ones, held only by the individual ... The most important personal goal is to retain one's dignity: to not feel stupid ... or make mistakes, either.

(Cooper, 2004)

⁶ This thesis draws upon the second edition of this publication (Cooper, 2004) for it is the most updated.

⁷ The ® symbol is used as it appears in the Foreword in Cooper (2004) and other publications on his work.

Cooper (ibid) uses the metaphor *polite software* to explain that creating personas consists of observing and interviewing potential users of a system; then crafting personas from commonalities, brainstorming, self-inferences, design assumptions and interpretations that emerge from the goal-oriented design process, as per research, modelling, requirements, framework, refinement, support (Cooper, 2007); and that finally it is about using decorum in the vocabulary to convey persona data.

When there are insufficient or imprecisely defined terms, people's thinking grows more conservative. Without a robust and precise set of terms, new ideas can't be defended well, so they are discarded prematurely. The terms we select are not those that will be plastered on the outside of the box. We use our vocabulary internally, so we don't care about the marketing palatability of the words. They need only to be precise. Later on, the marketing department will come up with appropriate words that can be used on the buying public.

(Cooper, 2004)

UCD Personas: by Steve Mulder and Ziv Yaar

In *The User Is Always Right: A Practical Guide to Creating and Using Personas for the Web*, Steve Mulder and Ziv Yaar suggest and explain how to create persona artefacts for website design from either qualitative, quantitative or via mix-methods.

The approaches they specifically endorse to construct personas are (1) qualitative, (2) qualitative validated via a quantitative approach, or (3) quantitative assembly.

The first step to generate personas for all three approaches is to conduct qualitative research, which is done through interviews, field studies and usability testing.

For qualitative creation users are segmented and a persona per segment created.

Crafting personas via mix-methods involves gathering quantitative data through surveys, site traffic analysis (i.e. user behaviours based on user log files) and/or CRM data analysis (i.e. customer records -transactions, financial, demographic). Statistical analysis segments target users and a persona per segment is created.

Quantitative personas are created from data collected from quantitative research.

Ultimately Mulder and Yaar state that the choice in style to generate personas is determined by the project scale, the available time, and the budgetary limitations.

UCD Personas: by John Pruitt and Tamara Adlin

In *The Persona Lifecycle: Keeping People in Mind Throughout Product Design* (2006) and later in *The Essential Persona Lifecycle: your guide to building and using Personas* (2010), John Pruitt and Tamara Adlin understand persona as an user-oriented artefact spawning from UCD and grounded through participatory design.

To deliver on the promise and benefits of user-centered design (UCD), we have to find creative ways of injecting accurate information about real users into the chaotic world of product development (ibid, p. 4).

They advise a methodology to create personas consisting of a five-phase lifecycle: (1) Family Planning, (2) Conception and Gestation, (3) Birth and also Maturation, (4) Adulthood, as well as (5) Lifetime Achievement, Reuse and Retirement (ibid).

Pruitt and Adlin (ibid) advise to create either (1) ad-hoc or (2) data-driven personas. For ad hoc personas practises are organisation-based, and to do with establishing the goals and objectives of the business either by holding workshops –better with senior management– or emailing surveys to key stakeholders in the organisation.

For data-driven personas the advice is to amalgamate *available data* and perform either quantitative (i.e. factor, cluster, or another multivariate statistical analysis), or qualitative analysis (via Atlas.ti, HyperQual2, HyperRESEARCH, NUDIST, Xsight).

Then, Pruitt and Adlin (ibid) advise to convey findings into “foundation documents” and depict results via strategies they propose. If time and resources are available, they instruct to perform large-sample surveys or interviews to validate personas.

Lastly, the birth (exposure to organisation), maturation, adulthood and retirement process are suggested as part of using personas in interaction design contexts.

UCD Personas: by Lene Nielsen

In *Personas: User Focused Design* (Nielsen, 2012a), Lene Nielsen lays ten-steps split into other stages that focus on *how the story can engage the reader* (p. 14):

The above comes into one distinct process compounded of the following ten steps: (1) Data collection; (2) Formation of hypothesis; (3) Acceptance of the hypothesis; (4) Established number of personas; (5) Describe personas; (6) Prepare situations; (7) Acceptance by firm; (8) Knowledge dissemination; (9) Scenario preparation; (10) Ongoing adjustments.

Nielsen proposes qualitative methods (i.e. interviews, focus groups, observations) to elicit user-data and to subsequently generate persona artefacts from such data.

Reflecting on the above book-length publications, quantitative methods and their user segmentation to elicit and create persona appear as commonplace practise. Intrinsically, there have been other efforts to explain and validate the exclusive quantitative elicitation and subsequent creation of persona artefacts such as McGinn and Kotamraju (2008), Leme et al. (2014) and Connor (2016) among others.

Siegel, though, advises on the *risks in quantitative segmentation research, common fallacies in the evolving practice of segmentation and use of personas, and the dangers of excessive deference to quantitative research generally* (2010, p. 4721).

Siegel (ibid) states such risks emerge from large businesses only using dominant market research efforts as the power source for large-scale strategic segmentation and persona development. Chapman et al. argue that quantitative output with many attributes is not common and that *the informational content and population relevance of personas must be assessed and not simply assumed* (2010, p. 1111).

2.3.5. PERSONA A LA UCD – COMMON SETTINGS AND USES

Personas in literature show a fair amount of contexts and uses such as the following.

Shamal Faily and colleagues studied the creation and use of personas (Faily and Fléchais, 2010a) in security system design (Atzeni et al., 2011) over recent years. They found persona useful due to its power to ascertain designerly assumptions (Faily and Fléchais, 2010b). And so, they developed a model to elicit and validate assumptions in security systems via personas (Atzeni et al., 2011; Faily et al., 2016). Notably they use video as technique to convey results (Vallindras and Faily, 2015), and propose a web extension, CAIRIS, as it *allows designers to quickly elicit factoids from web pages, and use them to ground persona characteristics* (Faily, 2017).

People with accessibility issues have been steadily embodied through personas. Initially allusions came via W3.org (Smith et al., 2004). Ruger (2006) advised users must be depicted through personas as much and as often as any other people. Thompson (2006) states different accessibility issues via cases of typical UCD persona descriptions, while subsequent studies specify personas both, for Inclusive Requirements (Foolproof, 2012), to teach Accessibility (Duggin, 2012), and as an Accessible Voting Technology Initiative (Quesenbery, 2012). Schulz and Skeide Fuglerud (2012) pair the persona method with specific advice for Universal Design and Accessibility; McCrickard et al. (2013) do the same for children with autism; Rebaque Rivas (2013) for the visually impaired; Loitsch et al. (2016) for teaching

Digital Accessibility, and ELRU (2015) to elicit needs of children with accessibility issues, while at the same time probing how to generate empathy in other children.

Other studies that include UCD personas at the centre of their design developments have aligned and used them, among others, for museums (Ioannidis et al., 2011; Pujol et al., 2013; Roussou et al., 2013; Vayanou et al., 2013; Tasich and Villaespesa, 2013), to represent elders (Blythe and Dearden, 2009; Eysenbach et al., 2015; Hisham, 2009; Leme et al., 2014; LeRouge et al., 2013; Nunes et al., 2010, 2012; Reeder et al., 2011; Wöckl et al., 2012), design computer games (Canossa, 2009; Jigoreanu, 2012; Silva Salomão et al., 2015; Raftopoulos, 2015), for offline and digital libraries (Dobrevá and Agre, 2015; Koltay and Tancheva, 2010; Maness et al., 2008; Marcos et al., 2008; Murdoch and Hearne, 2014; Somerville and Brar, 2008; Zaugg and Rackham, 2016), for how future citizens of megalopolises like London in the UK may look-like (Nesta, 2013), for robots and their behaviours (Björndal et al., 2011; Callaghan et al., 2008; Campos and Paiva, 2011; Freitas dos Santos et al., 2014; Ruckert, 2011; Ruckert et al., 2013), in Health (van Velsen et al., 2012; Williams et al., 2014; Wöckl et al., 2012), and Agile software development (Hakim et al., 2003; Hudson, 2013).

Another use of personas is the Designer or Developer Persona (Smith et al., 2004). The basis for this persona is *how we as design researchers approach and influence what designers do in their practice* (Boess and van der Bijl-Brouwer, 2013, p. 1). Explorations of the like aim to reveal issues design professions usually struggle with, like who designers are and how 'being' impacts research activity (see Light et al. (2010b) for a dialog on designer gender-based personas stances and their impact in design research and practice), or how to cope with direct contact between users,

designers and developers (Viswanathan, 2008). This sort of literature is still scarce – if emergent (Beth, 2008; Joomla, 2008; Hakim et al., 2003; Smith et al., 2004).

A further type of persona, *Collective Personas*, is of vital importance to this thesis for this is a suitable approach to the drives, findings and conclusions in this thesis.

2.3.6. PERSONA A LA UCD – GROUP, COLLECTIVE OR COLLABORATIVE

Group, Collective or Collaborative Personas (CP) were seemingly first conceived by Mike Kuniavsky (2004), though their further empirical study and definition come from Giboin (2011, 2013) and Matthews et al. (Matthews et al., 2011; Judge et al., 2012; Matthews et al., 2012b, 2013).

People naturally form groups, they share information, they work together, and they interact and influence each other in all aspect of their lives. With the increasing amount of accessible information, people are now overwhelmed with choices and are more often to turn to others for help. These underlying natures of groups cannot be ignored while creating personas. Therefore, there is a demand to create collective personas (Cheng and Sun, 2013, p. 112).

Where UCD persona acts a proxy of users sharing commonalities about technology, CP include communities and includes data to design tools aimed for collaboration (Giboin, 2013). CP diverge from individual UCD personas in that they encompass (1) multiple interrelated sets of persons, every one of them playing a specific role; (2) focus on unified goals by expanding individual ones that affect the common; and (3) convey novel attributes characterising collaborative aspects of the group's work (Matthews et al., 2011). Therefore CP relate to groups with common behaviours, issues to solve, and interactions amid themselves as cultural or traditional groups.

Furthermore, Gaudioso et al. (2006) point out that collective portrayals of users often (4) involve considerations of dynamic social factors such as interactions and relationships between users currently not present in prevailing individual models; (5) enable for an individual's degree of satisfaction that may in turn impact into other group members through, for instance, emotional contagion and/or conformity; and (6) allow to make explicitly noticeable some of the challenges, for example, on physical, cognitive or social skills, as well as factors like experience and availability.

Ultimately, CP address specific interactional properties of different types of collaborations to improve tool adoption of collaboration tools (Matthews et al., 2011), and so practitioners prefer CP when technological collaborations are at stake due to the advantages this type of artefact provides (Judge et al., 2012).

2.3.7. PERSONAS A LA UCD – EAST & GLOBAL SOUTH

This section focuses on UCD personas across cultures and research done about it. First it builds on theoretical literature on personas across cultures by Lene Nielsen and colleagues to stress the need to carry out localised studies devoted to persona. This argument is reinforced with empirical findings by Nielsen and colleagues, who claim businesses try to internationalise goods and services by making-up personas. Next, studies on personas across cultures found in the literature are described and discussed, while a series of conclusions on these studies progresses the narrative thread towards empirical studies found in literature that focus upon personas in PD.

Visualising depictions of *The Human Being in the 21st Century* (Nielsen et al., 2004), Lene Nielsen and colleagues questioned *who we are as humans in the perspective of the designers of the technologies of the 21st century*, while they emphasised that *we need rich portraits of human beings in order to develop the mono-cultural and*

mono-dimensional models embedded in the techniques and methods used currently by designers in software companies (p. 799). Yet, Nielsen et al. pinpointed that the challenge, however, is to craft more nuanced portrayals about the complexity of human beings from an Information Communication Technologies (ICT) viewpoint, and so they argued that *within ICT the representation of the human has been based on a rational ideal: goal oriented, information seeking and task directed* (p. 800).

Nielsen (2009b) furthered the above enquire through a probe (case detailed below) about the understanding of personas across locales by design students and experts; the way categorising formed their understanding of people they imagined designing was intended for, and the way they linked persona stories to pictorial classes formed in their minds –inevitably based on their own inferences (Nielsen, 2009c, 2009a).

In *Going Global with Personas* (2013), Nielsen et al. *investigate the strategies applied when Danish companies develop personas for an international audience, the outcomes, and the perceived benefits and difficulties* (p. 351). Their findings revealed that *companies with diverse international customers and companies with globally distributed teams perceive the use of personas as beneficial* (p. 357). However, they found that businesses had their own strategies to make personas, and that these do not draw on any proof on whether their personas may or not work. They also found that companies mainly rely on tactics to deploy personas such as (1) portraying images as either pointing to a specific continent (i.e. Asians, Africans, Europeans) or suppressing the identification of nationality altogether, i.e. pictures of a western appearance, blurred, featureless drawings, or not having imagery, and (2) internationalising names to cover varied groups of locales under a single one, despite names given in English referred to any culture –Eastern, Western or other. *Yet to create descriptions that fit all might result in superficial descriptions* (p. 357).

Moreover, descriptions by interviewees did not provide any sense of consistency, but a lack of maturity in positioning personas to represent international users (ibid).

In particular it is mentioned that there is a difference making personas for a Western context and an Asian. Data on Asian users are hard to come by as this knowledge is not easy accessible and it is expensive to get data from countries where the Danish companies do not have any offices. Furthermore, from a Danish perspective, it is experienced that the cultural differences between the Danish and the Asian users are larger than those between Danish and European users. This in common makes it difficult to develop personas for Asian users.

(p. 354)

Ultimately, Nielsen et al. proposed a series of significant points to further investigate:

- (1) *how data can be efficiently gathered and analyzed for cross-cultural personas*
- (2) *to look at how they are perceived and used in globally distributed teams*
- (3) *to develop different methods to describe international personas* (pp. 357-58).

Yet, so-far, whether quantitatively (Aquino and Filgueiras, 2005; Leme et al., 2014), qualitatively (Lecomte et al., 2013) or via mix-methods (Masiero et al., 2011; Putnam et al., 2012a), the common tactic in projects dealing with personas across locales is to follow a UCD approach: collect user-data, analyse it, create persona artefacts.

Studies found in the literature are now detailed, studied and discussed as it pertains.

This literature is positioned based upon four types of persona situated standings:

- (1) a study across locales that positioned a story to find about pictorial depictions;
- (2) studies in the Global South that were deployed as typical UCD persona ventures;
- (3) studies in the Global South where UCD personas were generated and where a realisation occurred apropos the need to contextually adjust personas to the locale,
- and (4) studies in the Global South with locals participating in the persona ventures.

Cross-Cultural UCD Persona: Pictorial Probe

In a cross-cultural probe, Nielsen (2009b) explored the premise that personas are supposed to create a shared view of users that is not built on preconceived ideas. She sent a written narrative to nine usability experts and six students in nine locales. The narrative, in English, depicted a person's daily working life, with little said about life outside work. Most chose photos that seemingly resulted stereotypical of how businesspeople are understood in the Global North. And though some were drawn on cultural guises too, most wore western business outfits based upon single traits.

The above signals that with enough informational gaps in any given persona story, readers make simplistic, stereotypical inferences about others based on our own beliefs, knowledge, experiences and surroundings (ibid). Nielsen (2012a) argues that this is how "the other" is usually described by humans: simplified clichéd ideas that show the way we categorize people who seem alike by applying stereotypical social representations that, in turn, are shared across cultures and societies so as to provide a synthesised reasoning on why 'others' act or dress as they do (ibid).

UCD Personas in the South American Context: Brazil

In Brazil, Aquino and Filgueiras (2005) and Masiero et al. (2011, 2013) have perfected data-gathering techniques and persona creations over the years, while Guimarães et al. (2011), Rosemberg et al. (2011) and Leme, et al. (2014) elicited UCD personas mostly through secondary data. Yet, their personas seemingly miss out in recognising the diversity of *Brazilian flairs*: specific cultural nuances uniquely defining Brazilian populaces. Aquino and Filgueiras (2005), however, stated that their personas expressed cultural backgrounds and expected behaviours, while Masiero et al. (2011) identified that in highly diverse contexts some are excluded from using technology due to a lack of adaption to human interaction challenges.

Results in the above seemingly emerged as imitations of depictions of ‘the other’ through UCD-based, western persona portrayals, except in names (i.e. Paulo José), though overlooking cues such as that Paulo José does not seem to be acquainted with reading (Aquino and Filgueiras, 2005) –a characteristic, orality, to be explored in multicultural Brazilian contexts. Instead, authors focused their personas on the usability of systems, stating technology development in Brazil is slower compared to *developed countries*. Ultimately, and as Masiero et al. (2011, 2013) illustrate, data-mining is handy to create personas without a designer-laypeople interaction.

As an in-country critique on the above, van Amstel et al. (2012) and van Amstel and Freese Gonzatto (2016) evaluated how Brazilians integrate foreign cultural stimuli into their own and advocated for the stressed by former Brazilian Minister of Culture –Gilberto Gil, who saw computers *as an alternative media for representing the diversity of Brazilian subcultures* (p. 446). Authors claimed that this attitude can hold the *foundations for an authentic Brazilian Interaction Design praxis* (p. 442) that enables laypeople’s participation in design, something which seems to be missing in the above cases formulating, generating and deploying persona artefacts.

Maybe result of the above, other studies embedded such a way of placing personas: For instance, Choma et al. (2015a, 2015b) did not mention the geographical location of their Brazilian projects. Research lacking such contextualisation may indicate that dominant methodologies and tools may be utilised neither with attentiveness, nor contesting their situated legitimacy. This may be further concerning as design stakeholders in the projects hold extensive IT-experience, yet their design expertise –and particularly in using Agile as a methodology– is low (2 weeks to 3 years). More importantly, their immersion and skill with personas and heuristics is stated unsound and personas are hypothesised as users –implying a lack of user research (ibid).

LeRouge et al. are aware of the commonality of such circumstances and so state:

A characteristic of the traditional IT design methodology is the limitation of user participation to a consultative role, where the bulk of the design decisions are made by the IT designers and/or developers who tend to be younger adults ... and run the risk of designing an interface for themselves (2013, p. 253).

da Costa et al. (2015) is a good case about limiting user input to a consultative role: Deploying a survey they elicited needs, lifestyles, frustrations and expectations with Brazilian children aged 10 to 14. Then, they created persona profiles themselves so as to stir the creation of politically active citizens from whom they, arguably, remove agency by disempowering their active participation to the aims of this project.

Ultimately, Brazilian-born Rogerio De Paula commented on the influence of design drawing on his participatory and transcultural experiences (De Paula, 2003, 2004, 2013), and claims culture, context and history are intrinsic parts in the study of HCI, *as all human activities are embedded in sociocultural contexts, that are not solely created by local cultural and historical practices, but also co-created by each participants' history and life-experiences in the use of a technology (2003, p. 220).*

UCD Personas in the Asian Context: China

In China, LeRouge et al. (2013) positioned and deployed UCD persona templates in order to analyse and visualise data about senior Chinese diabetic populations. The aim was to go beyond the more “traditional” user profile and persona attributes such as computer skills, educational level and mobile phone ownership, as *“Traditional” user profiles and personas do not recognize the psychological/psycho-social forces within people ... Thus, they fail to recognize research indicating that cognitive and behavioral patterns of perception and action can affect both short-*

term and long-term success (p. 259). On personas LeRouge et al. claimed that *it is not enough for the design team (particularly the interaction designers), to have the know-how of using the method; they also have to integrate these tools with existing knowledge and practices in order to feel at home with it and use it efficiently* (p. 261).

Despite the potential of the motivation and argumentation, it was just a team of two who 'cooperated' in reaching consensus on the user profiles and the attributes to personas. This may need a further continuation to show more consolidated results.

UCD Personas in the Asian Context: Kyrgyzstan

Putnam et al. (2009a) suggest a model to adapt personas in non-western cultures based upon large quantitative secondary-data obtained in Kyrgyzstan and India – see below India (Putnam et al., 2012b)– and through a qualitative localised probe.

Putnam et al. created personas in Kyrgyzstan to design a mobile directory service. The data gathered was elicited from a mixture of (1) primary data from 12 interviews, (2) secondary data from a survey by the World Bank that involved 1000 people, and (3) a good degree of ingenuity, creativeness and tinkering by the researchers.

Putnam et al. (2009a) claimed the inclusion of the personas was not thought of but imposed by the dynamics embedded in the project and restricted by its very nature: Directors of NGOs involved imposed creating personas because they liked them, whilst data from the survey was not gathered for the aims of this project in particular, and a subsequent enforcement pressed the use of marketing segmentation tactics.

As such, researchers detailed the project was primarily exploratory in nature and not necessarily planned for the persona artefacts that eventually were generated. For example, the researchers inflated users' age to emphasize group differences, and 'had to' perform a series of quantitative data processes to be able to create

personas from the data they drew initially upon (Putnam et al., 2012b). Ultimately, inconsistencies like the higher earnings of a part-time waitress versus those by a technology shop owner in the same locale emerged as likely flaws in the personas.

Putnam et al. (2011) realised about the importance of the cultural differentiators, and so brought about a process on *Modifying Methods for Persona Creation*.

UCD Personas in the Asian Context: India

Katre (2007) reflected upon having developed a UCD persona written layout that, yet, he argued it must granted cultural specificity depicting a Museum Conservator persona in India because of the different needs and behaviours Katre argued they emerged from the contextual workings by museum conservators in Indian locales.

Putnam et al. (2009a) described how they crafted personas in Andhra Pradesh, India, towards the implementation of an ICT4D-based water-service development. Users came as *socially connected either by kinship bonds or by friendship* (p. 340), hence researchers committed to depict entire families versus mere individuals. However, and as most literature on personas focuses on describing individual users, Putnam et al. argued they had to tinker with the personas to include whole families.

Applying observations, interviews, participant photo-diaries, and on-the-street-methods Snyder et al. (2011) devised a series of personas for mobile users in India, as well as in Singapore and in the United States. They initially attempted to localise and frame such personas within their cultural context according to mobile use and ways of thinking towards societal development in terms of technological progress. Nevertheless they claimed they ended-up finding very few cultural differentiators. This is despite the multiple differential possibilities culture can enable if looking into nationality, language, social context, time, currency, body positions (Fernandes,

1995), metaphors, mental models, navigation, presence, interaction (Marcus et al., 1999), text, functionality, local formats, images, symbols, colours, flow (Russo and Boor, 1993), icons, character sets, time formats, jargon or use of acronyms (Bourges-Waldegg and Scrivener, 1998).

Drawing on Dearden and Rizvi (2009) creating personas in PD in Indian settings, Sarat St. Peter (2015) postulated *Personas for UX* for projects embedded in ICT4D. This seemingly is an outsider's analysis on persona use and results that put forward a series of *methods to resolve problems and dilemmas in the project* (p. 17). Whereas this seems an attempt to keep scaffolding technology projects in resource constrained milieus, and perhaps too to make benefactors aware of the context where users dwell through persona exemplifications, such a reflection arguably leaves gaps and carries various serious misinterpretations that may endanger a grounded understanding of the peoples the technologies are, altogether, aimed for. One weakness in the project seems that it assumed a farming father-persona somewhere in rural India (a 1.277 billion people nation of varied cultural and spiritual backgrounds), portrayed as sceptical toward and finding technology a time-waster. This can be contrasted by the fact that Internet may not be a priority in settings where other, more prevalent priorities prevail in a greater degree (Hempel, 2016). Another issue in this father farming persona (Sarat St. Peter created the persona) is the seemingly oversimplified statement that one of his goals is to increase the crop every year to sell it for a profit. Yet no further explanation was provided on what this profit really means for him and his family (i.e. family/financial safety, greed...). Sarat St. Peter also indicated that the persona can then be circulated to the team involved in the design endeavour to make it become a uniting common language. Yet, it would be good to know who is in the team and their connexion to the design. Sarat St. Peter also seemed to miss an important point stated by Dearden and Rizvi:

the beneficiaries were not actively engaged in determining our goals and plans (2009, p. 57). A caring designer may well pose the question: how without the locals, and how about involving them in the creation of personas, and so to try and allow room for design and representation in peoples' own terms?

UCD Personas in the Asian Context: Malaysia

Hisham (2009) probed persona co-design together with elders near Kuala Lumpur by organising *focus group sessions aiming to introduce computers* (p. 335). Introducing a UCD persona template upfront with a name, written narrative and picture, Hisham found persona as a valuable tool to gather cultural nuances and design expectations, and argues towards the actual effectiveness of persona *in engaging users' attention through narrative and storytelling* (p. 333).

UCD Personas in the Asian Context: Vietnam

In a project for a frugal redesign of prosthetics for poor amputees in Vietnam, Lecomte et al. (2013) created personas for which they reemphasised *local intelligences* as key pointers for revision and adoption on how personas get built because designers must count on *what an appropriate technology is, by articulating product and service, bonding economic and social purposes, and exploring new business models* (p. 1). Despite personas are created by researchers themselves, Lecomte et al. stated their personas depicted dimensions of the ecosystem as vital, and claimed a need for culturally situated awareness to answer *new questions on the personas role and into collaboration for articulating implicit, local, embedded and grassroots expertise with more formalized information and methods* (p. 1).

This project is a source of inspiration as it encourages participation as paramount and elicits personas using the frugal design/engineering approach to simplifying the features of the product and lower the cost of it while keeping quality high (ibid).

UCD Personas in the African Context: Mozambique

In Mozambique European designers Aguirre et al. (2013) positioned a persona-based photo-elicited ICT4D project all across 10 different sites countrywide. Through *point of view personas* (i.e. what personas see as an alternative to the persona being looked at) this project aims to inform different stakeholders on local users and staff's contextual views of Communities Multimedia Centres (CMCs).

Aguirre et al. proposed each participant to first take and then explicate three photos in the same way that *probes* by Gaver et al. (1999), though the latter were not acknowledged in the literature. Data analysis focused on *gender, age, education* as variables, yet without looking into situated social relations. Aguirre et al. instead segmented local people directly, and confined the participants' world to the CMCs –without, for example, a prior analysis of social and contextual local interrelations. This arguably shows neglect in seeking the cultural appropriateness initially intended, thus enabling the value of, and aiming to understand the local way of life.

The creation of the persona descriptions by researchers –who never stated their validation with participants– found (1) repeated recounts where users emphasised the importance of improving data processes and the speeding-up of work, and also (2) users' main driver to use CMCs to searching for and finding labouring work. Looking into the western evolution of the term Work in Williams (1983), the personas in Aguirre et al. and the discourse placed in them portray a modelling of “the other”, with users arguably equipped to reflect upon actual understandings and implications a propos what work means and implies. The meaning of the term *Work* has evolved from “*activity and effort or achievement*” into “*steady or timed work*” (ibid, p. 335), which enforces an activity done for a wage for being hired. Seeking for fun aspects outside the captivity of the indoors confinement of CMCs, and by asking locals on

the music they relish (as stated in Vannini et al., 2012), *staff members' perceptions tend to concentrate on the radio component* (Aguirre et al., 2013, p. 11), which, as the latter stated, does not rely on external sponsors but local needs and ambitions. Another issue stressed in the personas was high costs in keeping the CMCs gear. Ironically most components in such tools usually come from African raw resources, and then are resold back for production costs and Intellectual Property value. Ultimately Aguirre et al. claim *qualitative analysis is labor intensive, and researchers have to take into account that the use of data not intended to create personas may lead to some "missing links" in the narrative* (ibid, p. 14). Nielsen (2012a) cautions on this apropos misrepresentations of users and also data misunderstanding when informational gaps exist in the persona narratives.

UCD Personas in the African Context: South Africa

In South Africa, Meissner and Blake (2011) created personas to support designerly practises initiated by a project from abroad to understand local culture and attitudes. The project aimed to create a persona dialog between researchers and a local NGO in data-transfers of issues in the South African schooling system, and towards preparing low-income students get skills for post-secondary education job-search. First the NGO named hypothetical users and then, together with the researchers, they agreed upon what each component of a UCD persona template must cover. Results elicited uncommon topics in persona depictions like *dysfunctional families, substance abuse, teenage pregnancy and even regular sexual abuse* (ibid, p. 316). Lacking, though, a proactive immersion of users in deciding what elements and how personas ought to contain them, and building the research on assumptions from the outset (i.e. hypothetical users by the NGO), endangers plans, fruition and outcomes, for example, due to the cultural distance between users and researchers, who do not enable, for instance, the formation by locals of their own factually-based stories,

which would in turn imply to try to ingeniously and suitably provide what Dearden and Rizvi termed as *peoples' sense of agency, skill and confidence* (2008, p. 221). Instead, Meissner and Blake claimed: *If a persona's description reached end users or community leaders they could wrongly attribute the more stigmatic aspects of the persona to members of their own communities based on other aspects of the story* (Meissner and Blake, 2011, p. 317).

Also in South Africa, Pretorius and colleagues (Pretorius, 2014; Pretorius and Ngwira, 2016; Pretorius and Sangham, 2015, 2016) identified government initiatives lacking research about users attending *Cape Access e-centres* in Western Cape rural areas, and so went on finding about demographics, needs and profiles of the users that they then generated into persona artefacts to depict the variety of users. Pretorius and colleagues claimed personas being key to deliver relevant information like diversity of languages among users, and their core needs, requirements and goals to apply for governmental aid and be able to find data about tenders online. They built personas following processes as provided in the mainstream literature. Despite the similitude in aim and purpose, neither Aguirre et al. (2013) above nor Meissner and Blake (2011) were cited as African literature working with personas. Their personas emerged exclusively supported from western literature and insights, and aimed at creating depicts about users' needs and demographical patterns, though with no room left for an enquiry about the linguistic nuances aforementioned. Analysing the personas created, Pretorius and colleagues seemingly found them functional, ok people with no major life issues. Findings are unlike Meissner and Blake (ibid) above, where dysfunctionalities in families and people lives emerged. Besides, in the final recommendations Pretorius and colleagues neither followed-up on languages (leaving English as the prevailing language, despite not being handled by users but by the staff members at the centres), nor they borne in mind issues

likely to be key in this context, such as depicting dimensions of the wider ecosystem where users function, or enabling social and political aspects of design to emerge. In a country where apartheid played such devastating, segregationist role in societal, racially alienated populations, and while the overall project by Pretorius and colleagues may be valid as a starting point in doing user research, these personas, seemingly created via inferences and unverified conclusions, appear as a practise that hold the danger of creating oversimplified representations of local people and the languages utilised: *In the history of South Africa, language (ethnicity) was used as the main tool for separate development* (Motinyane-Masoko, 2017). Aiming to do well, this project may instead replant seeds of faceless personas enabling agendas with powers granted to designers allowing enrooted historical and political status-quos to prevail.

Analogous to the localization of the persona artefacts by Pretorius and colleagues, De Ridder Barclay (2016) currently investigates the use of personas to enable provincial government officials to locate the people they plan and develop for at the centre of research in a Development Planning project arising in South Africa. Yet, this project has so-far not shed light about any pragmatic results to mention.

2.3.8. PERSONA A LA UCD – A LACK OF CROSS-CULTURAL STUDY

The above literature review displays a trend in projects lacking completion and personas reinforcing previous biases by omitting a contextualisation of locales. Following predominant UCD processes, the projects commented upon seemingly lack an attuning with the realities that users face in the locales abovementioned. Under this state of affairs ICT4D projects mostly end as failures (Blake et al., 2014), enabling the formation of distrust and wariness in laypeople (Brereton et al., 2014).

Focusing upon the biases of personas, Massanari (2010) problematizes the above by stating that *personas serve to reinscribe the conceptual separation between the user and designer despite technological developments that blur this boundary* (p. 401) ... *most design discourse embodies a fundamental contradiction between publicly presenting designers/IAs as 'user advocates', while simultaneously reinscribing certain tropes of the user through their professional practices* (p. 402).

In one way or another, though, Hisham (2009) in Malaysia, Putnam et al. (2009a) in Kyrgyzstan and India, LeRouge et al. (2013) in China and Lecomte et al. (2013) in Vietnam pinpoint the need to involve end users in creating persona artefacts, and so to be capable of enabling legitimate self-representations of themselves as users.

Thus, placing personas in locales where technology design has been less or not at all explored, it seems clear there is a need to avoid assumptions or speculations, and so for personas not to become deceitful obstacles towards the effective, efficient and satisfactory communicational process of designing apt technologies aligned to cultures, rituals, traditions, and ultimately to situated ways of knowing and doing.

Hence, it is crucial to obtain legitimate depictions of the needs, requirements and ambitions of end-users to then be able to come-up with fitting technological designs. And yet, in technologically developing locales round the world the question remains: *how would researchers / designers go about investigating and creating legitimised representations of users that are fair and so do justice to the people they embody?*

An answer may be to involve laypeople in co-designing via participatory practices, and where the roles of the designers, the researchers and the end-users merge, with the latter becoming a critical component through the process (Sanders, 2002). In this case new ways call for novel tools for people to express themselves (ibid).

The following section reviews the literature about personas built and deployed in PD –first in locales in the Global North and subsequently in settings in the Global South.

2.4. FRAMING PARTICIPATORY DESIGN & PERSONAS

Personas in PD or in co-design are situated differently to the UCD methodology. Practitioners working in PD proactively bring users to the start (Light et al., 2009), assembling (Grudin and Pruitt, 2002), and / or the deployment (Bødker et al., 2012) of the persona artefacts generated in their projects. A literature review on the topic finds that this way of creating personas started to happen in 2002, which aligns with a shift from UCD into PD that began at the turn of the 21st Century, and which Sanders (2002) prompted, sustained and argues as follows:

new ways of thinking, feeling and working as the participatory experience is a method or set of methodologies as much as a mindset and an attitude about people having something to offer to the design process they can both articulate and create when given appropriate tools with which to express themselves.

(p. 1)

However, one must also be wary about proposals claiming the practice of PD when, in fact, they may only involve designers in the eventual interpretation of personas. Lundh et al. (2010) seemingly do this in eliciting personas via interviews with users –children– and their supporters –parents. This is proposed as participatory design. Yet it holds the potential to diminish the standing and philosophy of stimulating a mutual learning process characteristic in PD (Simonsen and Robertson, 2013).

The upcoming section states and comments on personas in PD in the Global North. Then, an analogous exposition is performed for personas in PD in the Global South, while the closing section pinpoints a series of conclusions to introduce the case for User-Created Personas as the empirical style the case studies in this thesis follow.

2.4.1. PERSONAS IN PD: GLOBAL NORTH

United States

In the US, Grudin and Pruitt (2002) introduced *persona for mass-market software development* and stated success in such proceeding, particularly in steadily facilitating communication between various stakeholders (Pruitt and Grudin, 2003); in utilising personas collectively with PD and scenarios too (Pruitt and Grudin, 2006), as well as the usefulness of personas in enabling the social and political nature of design to come the surface (Grudin, 2003). Grudin (ibid) claimed as *a serious error to think that “the designer” is responsible for design*, and argued towards the involvement of users and other stakeholders as co-designers to endow designing while sharing accountabilities. A further paramount aspect Pruitt and Grudin (2006) brought about in their literature on this project is the caution designers must have in depicting personas as though they were characters for films or TV series: *In a movie, heroes and villains may be stereotyped because of a need to describe them quickly, as with stand-alone scenarios. But in an ongoing television series or a novel, predictable stereotypes become boring, so more complex, realistic characters are more effective* (p. 13). Today this statement can be seen as seemingly out of date, as many films, especially those based on real stories, convey archetypical characteristics of, say, heroes and villains, in a more succinct way more believable because of the nature of the real stories they emerge from.

England

In England Dearden et al. (2006) laid a PD framework that included people experiencing issues of social exclusion to design future technologies for e-services. They first provided end-users with *pastiche scenarios* (Blythe, 2004) that brought about design issues that, otherwise, would have been over-sighted by designers. Then early *persona sketches* were created and validated by end-user participants,

which initially aided to challenge software developers UCD personas' approach. However, and despite the good intentions, the personas felt-out from the project due to researchers not having identified a wide enough range of fictional characters familiar and engaging for young participants, which resulted in the former having to rely on participants to suggest characters. Like Pruitt and Grudin (2006) above, Dearden et al. claimed that *the use of characters from science fiction, fantasy fiction or magical fiction seems to make this technique difficult to apply* (2006, p. 76).

In England also, although under the premise of applying performative methods for engagement in designing 'networks of things' (Weaver et al., 2008), Light et al. (2009) facilitated *Fantasy Personas* co-designed with elders by means of storytelling and prototyping methods, and in order to inspire confidence towards digital tools, while at the same time feeding desires to behaving in evolving ways. Users fantasised technological tools utilising props, and implicit aspirations based on requirements consecutively materialise (Light, 2011). This, in turn, resulted in qualitative, grounded personas equipped to provide early design requirements and implicit goals based on such desires elicited at interview stage (Light et al., 2009).

Sweden

In Sweden, Rönkkö et al. (2004) introduced *personas for mass-market software development*, though patterns of power and dominance between stakeholders involved in the project make personas to eventually disintegrate from the project. Positioning personas in this project attempted to find out their usefulness and value, and so a set of justified rationales were provided to other stakeholders in other three projects where (1) personas first played a small role as part of one of the projects, (2) personas succeeded as a political utensil to reveal biases and assumptions, and (3) personas were found to trigger and questioning doubts upon the time invested in creating them, and in the persona usefulness and value per-se (Rönkkö, 2005).

Eventually changes and reconfigurations led personas to be castoff from all the projects during the one and a half years they were tried (Rönkkö et al., 2008).

Denmark

In Denmark, Johansson and Messeter (2005) built on ethnographic exploration, participatory inquiry and collaborative design to create *user presence* in the design process via personas that explored existing practices toward creating future visions. Participants (i.e. industry stakeholders, researchers and users) designed personas, though instead of building them from interviews, surveys or other studies to produce the interpretations that persona conceptualisations customarily deliver, participants interpreted images selected from ethnographic video footages, and used persona artefacts as 'boundary objects' among other materials they could make use of (ibid). The aim was not to find how truthful the representations are, but their usefulness in bringing the user presence to the foreground in the design phases and full process.

In Denmark too Bødker et al. (2012) explored persona co-design in the Public Services by scaffolding from emotions to creating empathy toward end-users. Making a pragmatic use of oral testimonies provided by laypeople quizzed in a shopping mall, *persona embodiments* rendered the needs and goals of end-users. In a meeting to verify the persona artefacts between designers and patrons from Public Services, the personas failed to convince management and civil servants – pinpointing the need for further studies on the plasticity and validity of personas.

Also in Denmark Nielsen (2012b) gathered users and designers to position *persona co-design for product innovation* in an attempt to facilitate communication among stakeholders by means of role-play. As such participants acted out the personas created, which fruitfully provided a sound understanding of users' needs and aspirations through visualizations, as well as empathetic and emotional elements.

Holland

In Holland van Doorn et al. (2013) draw on a *children persona co-design* approach to ground data from grandparents concerning their goals, requirements and traits. The researcher acted as a facilitator while children elicited needs from grandparents supported by the implicit empathetic bond created from the family ties. Children first unified requirements gathered from the grandparents into a storyline on a persona-template and they then grounded personas in a concluding co-design gathering.

Spain

In rural Spain, and in preparation for the work in the locales making-up this thesis, Cabrero et al. (2016b) probed how persona artefacts were understood and co-designed. An initial set of interviews with the participants elicited a series of needs and requirements in regards to technologies they use. Interviews also revealed a lack of understanding from the participants about what the persona artefact means and entails in processes about the design of technology. Participants were invited to attend a workshop where each of them was asked to bring three objects meaningful to them, while the main researcher, local to the settings, deployed a rapid ethnography approach to gather familiar objects from the settings such as a pine cone –as the locale where research ensued is surrounded by pine forests, but also a watch, a book and a CD. The workshop took place around a table where participants were first requested to present the objects they brought with to the group and to explain their meaning. Then the objects from the rapid ethnography were brought to the centre of the table and stated as further additions the researcher thought may be useful for participants to discuss and select objects, i.e. presented, on the table and/or others, that were meaningful to them, and that could thus be illustrations of needs, requirements and ambitions in their lives. This process elicited a series of objects and also collective interrelations of the same that brought about

a family persona uttering the closeness of the first degree families as one of the results, but also the pine cone as a further representation of the closeness of other members of the family such as grandparents, cousins, aunties, uncles etc. Equally, other objects were declared such as a preservative to express that despite the above closeness parents also wanted their independence from the family; a watch on top of a mobile phone served to stress that despite technology is useful, it also consumes a lot of time, and that therefore it may be helpful that technologies can have a system to switch them off automatically. Finally a CD on top of a book served participants to agree that to stay in contact with culture is good to grow and to gain a career, though when asked about it, most participants neither listened to music, nor read any books themselves.

Australia

In Australia, Williams et al. (2014) co-designed *personas with healthcare experts* to embody patients' goals and contextual awareness toward patient-centred designs. Researchers explored building first and then using personas as a collaborative artefact to engage health experts and so illustrate their knowledge to serve design. The rationale behind this was to offer the application of personas upfront to stir an iterative, experimental design study to provide an understanding of today's contexts and practices in complex settings like health. This process was researched as a collaborative rapid persona-building methodology where, despite not including patients in it, it assisted to create understandings about them between other stakeholders involved in designing process. Ultimately this was a participatory design effort to understand the *active ingredients* contributing to the productivity in evaluating the efficacy of collaborative rapid persona-building as a methodology, particularly for the health design context (ibid).

From all cases above, personas in PD seemingly emerge as a *'lightweight' artefact for communicating 'heavyweight' insights* (Williams et al., 2014, p. 19), and where immersive, partaken, hands-on co-design practices convey some of the benefits personas arguably provide. From these cases two lines of Personas in PD emerge: (1) as a conversational object in design between several design stakeholders, and (2) as a verification of designs through designer-created persona representations.

2.4.2. PERSONAS IN PD: GLOBAL SOUTH

Chile

In Chile, Light et al. (2010) positioned storytelling in a PD-based ICT4D project with educated and articulate Chilean wine producers, as a technique to bridge cultures and stakeholders as per both, wine consumers (i.e. UK) and producers (i.e. Chile). The aim was to implement tracing technology to enrich trade. The rationale scaffold from the British ethical shopper and from the fact that a system cannot be neutral, therefore a dialogue needs to be in place whereby users establish their values and expectations to find tools for joint decision-making in designing systems (ibid).

Light et al. discovered *many points of intersection where perspectives overlapped and other points where they didn't, just as might be expected in any group* (p. 42). In a first workshop, Light et al. presented three personas previously made as written characters to gain plausibility instead of symbolic aggregations of mere features. Such personas, though, came up as dry, rather futile, and researchers reprioritised them into a one single performative persona which did, though, emerge naturally. The embodiment of a persona by means of performance by one of the researchers allowed conversations to regain focus and a participatory flow to pervade among the two cultures and languages (British/English and Chilean/Spanish). This performative personas made the workshop and subsequent observations in-the-field credible, participatory, relaxed and informal, and also fun. Eventually the persona *opened up a space of multiple perspectives that contrasted slightly with the position of the visiting researchers and so produced an atmosphere where tentative suggestions could be hazarded and built upon in a participatory way* (p. 51).

India

In India, Dearden and Rizvi (2008, 2009) positioned storytelling in a PD-based ICT4D project to elicit user-stories intended for researchers to build personas for a microfinance project that then shifted into an Agricultural Information Flow System. A misperception in depicting the users appeared from trying to get initial user stories *focusing on specific information exchange events*, and where researchers found themselves eliciting *life stories over a period of months or years* (2008, p. 224). Therefore an atomistic perspective about what life entails (i.e. the immediate goal) versus a holistic view (i.e. months / years) revealed a contrast of unlike perceptions. Equally the project stated the software makers among the stakeholders, yet no qualities are given about them beyond their nationality (i.e. IT / design experience). Subsequently, a time/cost/benefit analysis made researchers become more wary and, to their view, conscious in their efforts, thus addressing *the next cycle by opening the budget process, so that participants can see clearly how finance is allocated to design, software making, data collection, hardware etc.* (ibid, p. 224). Researchers further acknowledged to have faced constrains in regards to the beneficiaries redefining their agenda, objectives and also the plans to follow. European of origin (i.e. British), researchers claimed that the personas elicited were flawed in supporting the design venture due to the cross-cultural misalignments, while shifts in aims and stakeholder participation ended-up adding to the challenge. Ultimately, *pressures of time and external funding* (p. 224) hindered the project. Since *the beneficiaries were not actively engaged in determining our goals and plans* (Dearden and Rizvi, 2009, p. 57), to have had community proxies to whom to empower with the project's baton would have been a possibility to make it all work. Instead of a short-term time-based project intervention –thus budget constrained,

and which may have well caused for the plan to come to a standstill, a more holistic tactic could have likely acted as congenial in the Indian culture (Nisbett et al., 2001).

In India as well, Vestergaard et al. (2016) created personas through an ethnographic study about villagers' water consumption first, and which a researcher subsequently validated locally by making a short-film with some of the end-users as performers. As such an ethnography based on villagers' everyday life and practices gave way to a script that was afterward co-validated in a session with the local participants, and which in turn came alive by means of a short-film captured by the researcher. Ultimately the validation of personas was done via a screening of the film in the locality in front of both, the users who acted in the film as well as their co-villagers. If promising in its co-creational approach, this type of appraisal, nonetheless, raises questions in terms of its validity, likely success, and ultimate respect to the locals. The potential influence of a self-compassion approach to, and/or pure amusement about local themselves acting in the film can well determine the positivity of seeing the film as a valid portrayal of the users in the characters and the roles performed. And so make the validity of the entire purpose of designing a technology secondary due to the effect seeing oneself on a screen triggers apropos enacting a reality. Moreover, the researcher left the locale to never come back as this was a master degree thesis project from which designers working from Denmark were to provide the technology they themselves first proposed, and so they were also to design, deliver and implement based on their understanding of the personas created in-situ.

Malaysia

Working together with a group of Long Lamai youngsters in the Malaysian jungle, Zaman and Winschiers-Theophilus (2015) scaffold from the grassroots expertise of the elder and adapted personas to PD principles by enabling the youth to engage in persona co-creation via an exercise aimed at SMS-composing without face loss.

The rationale to have personas as the chosen method was that guest researchers and community members found cross-cultural communication activities challenging.

So the researchers first requested for the personas to be co-created to possess at least a name, a gender and characteristic features of youth and elders in the area.

Youth's thinking, creativity, and awareness about the purpose of the exercise emerged as co-created personas voicing their communicational needs and styles, which, in turn, supported the designers in figuring out appropriate technological affordances to co-design an SMS App based upon Penan's Oroo' signs' language.

Due to the visually-oriented understanding of this indigenous community versus other communicational styles such as written narratives, researchers decided to continue exploring sketches representing the users as means of potentially fruitful procedures to communicate needs for apt interaction designs (Zaman et al., 2016). Using hence sketches developed by the local community members, researchers carried out both, a co-creating persona session and a validation that confirmed the fruitfulness of the sessions *as guest researchers followed the underlying themes of the interaction protocols and internalised the concepts* (ibid, p. 13).

2.4.3. UCD AND PD PERSONAS SITUATE USER-CREATED PERSONAS

This section draws a series of conclusions to frame and introduce the case for User-Created Personas as the empirical style for the case studies that this thesis follow.

While UCD personas are invaluable in depicting needs, requirements and ambitions that users may have to design efficient, effective and satisfactory technologies, personas in PD enable the co-creational process to proactively involve users in it.

This literature review sited, detailed and studied both, projects where UCD personas were built by designers and others where personas were co-designed with users.

Some of these projects state the need to convey details of locales that users inhabit; others claim methods like storytelling as fruitful to elicit localised details users value as aligned to their cultures, rituals, customs and situated ways of knowing and doing.

All illustrate diverse challenges when constructing persona artefacts across locales –revealing, hence, the need for further empirical research on personas of this kind.

This thesis makes persona its research foci via probing methodologies and methods that attempt to enable communities in pastoral and urban Namibia to craft self-representations through co-designing User-Created Persona (UCP) artefacts.

And so, the coming section deals with the rationale, meaning and drive of UCP, while it serves to frame the chosen methodology –Research through Design (RtD).

3. METHODOLOGY

This chapter presents the methodology that this thesis research project follows.

First a shift from UCD to PD is argued as an evolutionary design philosophy in order to proactively involve end-users in the research and the co-design of technologies.

Next the rationale, object, and definition of User-Created Personas are presented, along with the importance and challenges in user self-representation via personas.

Then RtD is introduced and substantiated as the methodology framing the study. This includes the division in the different phases in which the research is organised, including an exploratory phase, one of co-design and one where appraisals ensued.

Later the research is situated in Namibian locales as the geographies it occurred. This comprises an outline of the four ethnic groups with whom co-design took place, and the projects and technological aims where the persona project got embedded.

Ultimately, the dates, phase, session, ethnic group, locale, methods, empirical findings and initial evaluation are outlined on a table that summarises the project.

3.1. USER-CENTRED DESIGN AND PARTICIPATORY DESIGN

As stated in the literature review chapter, UCD lacks methods, tools and techniques to proactively empower and involve laypeople in design practises in their own terms. PD, though, is as a design philosophy that strives for the democratic involvement of all stakeholders involved in, or affected by a technology design (Ehn et al., 2012).

UCD comprises a plethora of methods, tools and techniques to elicit and represent needs, requirements and ambitions technology users may have, and that PD can practically lay to prototype artefacts (Clement et al., 2012), transfer needs (Cockton, 2012) or build socio-technical systems (Camara et al., 2008; Walker et al., 2008).

The complementarity of both philosophies enables practitioners to draw on an array of methods, tools and techniques such as diagrams (Loser and Herrmann, 2002), PICTIVE (Muller, 1991), drama, props, performance (Light, 2011), card sorting (Rodil et al., 2013), cultural probes (Gaver et al., 1999), toolkits (Sanders and Stappers, 2014), frameworks (Brandt, 2006; Frauenberger et al., 2010), scenarios and personas (Pruitt and Grudin, 2003; Dearden et al. 2006; Bødker et al., 2012).

Moreover, PD distinguishes itself as situated in a collective environment of creativity (Yasuoka et al., 2013), which, amongst others, it aims to flatten power relations (Brandt and Messeter, 2004), to elicit social and group dynamics (Grudin, 2005b), and also to rendering political constrains (Braa et al., 2004) when designing occurs.

Hence, to co-design personas can enable choices made by the parties concerned. Across locales, this may align the human action rooted in sociocultural milieus with a historic praxis (De Paula, 2003). Thus, to lay UCD methods within a PD framework of co-design is coined as User-Created Personas (UCP) to place both philosophies to co-design with laypeople at the foreground of the design practise across locales.

3.2. USER-CREATED PERSONAS

Previous sections have described different lines of Personas in PD projects as per (1) as a conversational object in design between several design stakeholders, and (2) as a verification of designs through designer-created persona representations.

This section deals with a third utility of personas: (3) User-Created Personas (UCP). First it rationalises the aims upon which a search for UCP may be worth the effort. Then it defines what this project understands user-created personas means, and then the importance and challenges in user self-representation through personas.

3.2.1. WHY TO SEARCH FOR USER-CREATED PERSONAS?

Literature on personas as an artefact in HCI ascribes its origins to Cooper (1999). Persona, however, materialises earlier in Clarke (1994) as *a model of the individual established through the collection, storage and analysis of data about that person*. This model materialises from the behaviour we, people, exhibit on the Internet, such as in providing themselves a name or an alias, or *based on the promptness, frequency and nature of their contributions, and the style in which they are written*. These features are then inferred by others as approximates to one's personality.

Clarke defines the above as a *Digital Persona* (ibid) –a predecessor of HCI persona:

[T]he digital persona is a model of an individual's public personality based on data and maintained by transactions, and intended for use as a proxy for the individual.

Clarke, though, cautions there is something innately threatening about a persona constructed from data sets and that is then used as a substitute of the real person: *It is reminiscent of the popular image of the voodoo doll, a (mythical) physical or iconic model, used to place a magical curse on a person from a distance.*

Clarke ultimately highlights the following aspects about a persona, which in a world of Big Data structures and corporative interests, together with vestiges of technical rationality, it seemingly is an increasing reality created through the technology world:

*The ability to create a persona may be vested in the individual, or in other people or organisations, or in both. The individual has some degree of control over a **projected persona**, but it is harder to influence **imposed personae** created by others. Each observer is likely to gather a different set of data about each individual they deal with, and hence to have a different gestalt impression of that person. In any case, the meaning of a digital persona is determined by the receiver based on their own processing rules. Individuals who are aware of the use of data may of course project data selectively, in order to influence the imposed digital persona that is formed (e.g. on arriving in the United States, they may take out an unnecessary loan simply to create a credit record).*

(ibid)

On this baseline personas created by individuals are on the one hand a possibility where the individual holds a certain degree of control over the persona projected.

On the other hand, personas generated by additional people or organisations are more difficult to be influenced as they can be an imposed persona created by others.

Light et al. suggest *world machines as a new archetype for systems that draw together computational powers to connect, sense and infer with a social agenda of cross-world collaboration. This archetype builds on existing socio-technical systems with global reach, to raise the profile of tools that maintain a collaborative agenda and resist a tendency towards networks as giant surveillance and marketing devices* (Light et al., 2015a).

Scaffolding from the above, UCP is not a socio-technical system but an artefact for social engagement to design user depictions to then design socio-technical objects; a probing attempt to stimulate laypeople's self-representations, and so maintain a collaborative agenda to resist designerly trends to singlehandedly build personas, and to enable the range and diversity of portrayals that locales worldwide provide.

3.2.2. WHAT ARE USER-CREATED PERSONAS?

UCP studies, probes, reflects upon, and executes an iterative approach to co-design persona artefacts as localised objects to represent end-users in technology design within a PD framework, in the case at hand, in locales in rural and urban Namibia.

Since literature concerning laypeople co-designing persona artefacts outside the Global North is infrequent, the following considerations are a compendium of what it is believed to co-design personas together with laypeople ought to be about:

- (1) UCP is a self-depictive expressive artefact co-designed together with laypeople;
- (2) UCP is a probing matching depiction of laypeople for the design of technologies;
- (3) UCP aims to give an active voice to those misrepresented in technology design;
- (4) UCP form a combination of UCD and PD as philosophies in technology design;
- (5) UCP aims to adhere to humanly parameters of ethicality, respect, and kindness;
- (6) UCP assists to gather relevant user requirements at different phases in design;
- (7) UCP strives to avoid miscommunications in designing valuable technologies;
- (8) UCP endeavours to research the persona artefact in design in situated locales;
- (9) UCP guides a culturally aware, open-ended and open-minded design practice;
- (10) UCP works as an organic, dynamic artefact part of the users' arsenal to design.

By proposing UCP this thesis endeavours to answer the three questions proposed, and to engage into a productive persona participatory collaboration in Namibia where persona theory is explored and empiricism applied and findings generated.

3.3. RESEARCH THROUGH DESIGN (RtD)

Methodologically, RtD is the approach framing this research on persona co-design. This section opens with a definition of RtD as found in the literature. Then, it explains the distribution of the project in the three phases in which the research is organised –with an exploratory phase, one of co-design and one where appraisals took place.

3.3.1. RESEARCH THROUGH DESIGN: A DEFINITION

Whereas Design focuses on the future and Social Science in the past and present, RtD aims to link the two together generating new knowledge via reflective practice:

Research through Design (RtD) is an approach to conducting scholarly research that employs the methods, practices, and processes of design practice with the intention of generating new knowledge. People carrying out research using RtD generally reject the idea that research is synonymous with science. Instead, RtD frames design inquiry as a distinctly separate activity from engineering inquiry and scientific inquiry. RtD draws on design's strength as a reflective practice of continually reinterpreting and reframing a problematic situation through a process of making and critiquing artifacts that function as proposed solutions (Rittel & Webber, 1973; Schön, 1983). RtD asks researchers to investigate the speculative future, probing on what the world could and should be.

(Zimmerman and Forlizzi, 2014, pp. 167-168)

Under the above basis, the methodological aim works as stated by Bardzell et al. (2016): a reflective practice that continually reinterprets and reframes a problematic situation by making and critiquing artefacts that can function as proposed solutions.

The objective is to apply stages and methods that investigate speculative depictions scaffolding from the situatedness of design in collectively enacted logics and dialogues emerging from what Taylor (2011) points out as the “right here, right now”: Design researchers and communities from four ethnic groups in pastoral and urban Namibia co-design personas to position a reflective practice of continuous decoding and reframing of how persona artefacts are take-on, understood and co-designed by laypeople on what their world should be in line with their answer to self-portrayals.

3.3.2. RtD: PHASES PROPOSED TO CO-DESIGN PERSONAS

As a distribution in different RtD stages (Figure 3), the study is organised to follow (1) an opening exploratory phase towards *Understanding Users & Team Dynamics*; (2) A further phase to co-design *User-Created Personas with Team Dynamics*, and (3) a concluding phase to appraise the outcomes as *User-Created Personas*.

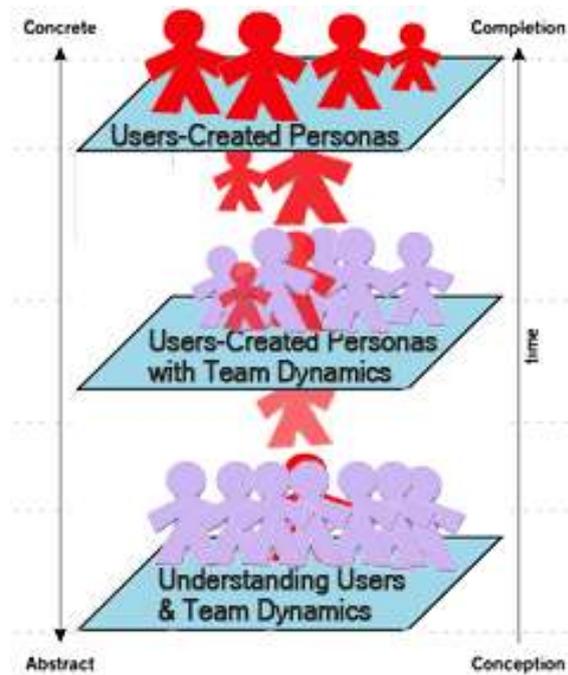


Figure 3. Methodological stages

Understanding Users and Team Dynamics is the initial exploratory phase whereby, (1) as the persona researcher was unfamiliar with locales where research ensued, gaining an initial appreciation of the communities to co-design with was held as vital. (2) *Team Dynamics* consisted on the development of a set of respectable, genuine and cooperating team dynamics between the local and the persona researchers.

User-Created Personas with Team Dynamics comprised deploying methodologies to co-design persona artefacts once an initial understanding of the communities and a fruitful set of team dynamics with the local researchers had been attained.

User-Created Personas was the process where three appraisals took place based on findings, locally in Namibia and overseas in Denmark and the United Kingdom.

3.4. CONTEXTUALISATION OF THE PROJECT

This section introduces an outline of the geographies where the research happened. The contextualisation of Namibia as the African topographical location comes first. Afterwards, the four ethnic groups comprising this four case-study are presented. The existing research contexts whereby local researchers apply co-design follows. Lastly, the methodology, methods and their rationale are presented on a table that summarises the sessions held, the corresponding phases, the ethnic groups worked with, and the specific locales, methods positioned, findings, and an initial evaluation for each of the sessions draw the chapter to an end.

- (1) A general overview to Namibia as the national context where action is situated;
- (2) An introduction to each of the four ethnic groups that this research comprises;
- (3) Technologies aimed at and co-designed as per the ethnic group at the time, and
- (4) The methodology, methods and their rationale for each of the interventions.

3.4.1. NAMIBIA: A DEMOCRATIC AND MULTICULTURAL AFRICAN NATION

Namibia is a relatively juvenile Republic situated in the South West of Africa. Namibia gained its independence from South Africa in 1990, although it was not until 1994 that the last South African bastion, Walvis Bay, was granted to Namibia (Töttemeyer, 2014). Since 1990 Namibia hosts a democratically elected government and a legacy based on a rich ethnic diversity and a kaleidoscopic cultural heritage; both driven by a peaceful reconciliation and a unifying socio-political agenda (ibid).

In 2015 Namibia was hosting an estimated population of 2.459 million individuals (United Nations, 2015) in an overall of 824 000km² of extension (Chigovera, n.d.). This makes it the second lowest country density in the entire world (Porter, 2016).

Its geography is distributed into thirteen administrative regions (Nghiulikwa, 2008), while it hosts thirteen official languages across its entire territory (LeBeau, 1993).

Namibia is inhabited by fourteen different ethnic groups, commonly held as tribes⁸, namely Damara, Nama, Topnaars, San, Rehoboth Basters, ovaHerero, ovaHimba, Afrikaner, Coloureds, Whites, Ovambo, Caprivian, Kavango and Tswana (ibid). Altogether, these tribes speak about thirty different languages and dialects (ibid). Some of them are distributed into further subgroups, as it is the case of the Ovambo with twelve further subgroups (Davies, 1994). This array of cultures manifests their ethnic practices, languages and worldviews with pride in their daily lives together.

Cultural diversity is promoted through governmental initiatives that recognise and legitimise cultures and traditions, although Namibia nowadays experiences some conflicts due to ethnocentrism and tribalism hampering national social cohesion. Inter and intra-tribal rivalries such as those amid ovaHerero, Ovambo and ovaHimba are still strong today (Töttemeyer, 2014). As a result, *ethnic entities in Namibia still live to a large extent separated from each other in own compartments, culturally and geographically. This is equally applicable in rural and urban areas* (ibid, p. 17).

An instance of tribal divide shows via the 'discursive turn' stated by Stell and Fox (2015), which becomes a main conduit to convey social identities mainly of ethnicity:

[E]ssentialist accounts of ethnicity have lost ground following the upsurge of constructionist approaches, which regard ethnicity as both a negotiable boundary and a situational reflection of interactional settings. But the ongoing sociological debate on the relationship between structure and agency in identification processes suggests that, even where ethnicity is situational and negotiable, its potential for dissolving or being subordinated to other social identities is to a large extent constricted by historical patterns of inter-group power relations.

(p. 976)

⁸ The term *tribe* substitutes *ethnic group* in ensuing sections to do justice to the way Namibians designate themselves.

Historical patterns of inter-group power relations materialise in Namibia either due to the large populations of certain groups such as the Ovambo –majority in Namibia, or the ostracism suffered by minorities like the San (Cabrero and Fernandu, 2016).

The next subsections introduce broad aspects of the tribes research took place with.

OVAHERERO

OvaHerero nowadays are nearly 10% of Namibia's population (i.e. 200,000). Generally, ovaHerero are found either developing modern careers in the capital city Windhoek or in the Eastern administrative regions of Omaheke and Otjozondjupa; although they, like most of the other Namibian tribes, are scattered all over Namibia.

OvaHerero speak Otjiherero, a language derivative of Bantu and shared with their kin and Namibian ethnic group too –the ovaHimba. OvaHerero first settled in today's Namibia based on a network of watering places that defined their territory and society, and from the late 1860s they socially transformed from being a strongly decentralised transhumant pastoralist society into one compacted and centred around particular urban sites (Gewald, 1999). It is at this point in time that *they developed a specific identification as 'OvaHerero' –people with cattle, guns and horses* (Wallace and Kinahan, 2011, p. 103), because before the 1880s *they were frequently not cattle-owners* (p. 104).

Historically ovaHerero organised as a patrilineal society, whereby patri-clan heads, the *omukuru*, depict the living embodiment of the clan's ancestor (Gewald, 1999) Like other Bantus, ovaHerero appear in 3 interlocked social groups by tradition: the district, the village and also a large house (Vansina, 1990 in Gewald, 1999).

Literature on ovaHerero's past is seemingly scarce and most of it, such as past (Windhuk, 1918) and recent explications by Sarkin-Hughes (2009), is, a priori,

subjected to accounts of the German treatment and genocide committed against ovaHerero and Nama people between the years 1904 and 1909 (Gewald, 1999).

Yet, and in a commitment to depict findings on this tribe as accurate as possible, there is literature on topics like past and general life (Wallace and Kinahan, 2011), tradition/culture transfer (Kavari and Bleckmann, 2008), household arrangements (Harpending and Pennington, 1990), health (Pennington and Harpending, 1991) and other social and ethnic matters sited after the sessions below had taken place. As relevantly stated, some literature upholds findings in the sessions stated below. Else historic reports set ovaHerero pastoralists, horticulturalists, hunter-gatherers.

Despite earlier accounts stating no artistic or literary heritage having been found in ovaHerero culture (Cabrero et al., 2016e), *orature through praises* has and it is still nowadays a vital form of knowledge-keeping (Kavari and Bleckmann, 2008).

In non-literate communities, such as ours, orature may be compared to a library in literate communities, and elders as different sources in the library.

(Kavari , J. U. in Miescher and Henrichsen, 2000, p. 111)

Nowadays, ovaHerero seemingly, dearly, jointly, proudly –and some openly state “stubbornly”– hold on to their existing culture, customs and traditions as largely compounded of pastoral lives, sacred places and rites, and their typical attire.

The historical displayed ownership of *wagons and horses* as a symbol of power and status (Wallace and Kinahan, 2011, p. 106) has seemingly remained into today’s ownership of several vehicles per household (author’s own perception).

Intrinsically, in our encounters, contemporary ovaHerero can be said to be mostly concerned with their own kinships, mostly espousing among themselves due to their historical *system of double descent* (Gewald, 1999, p. 3) and their wealth expressed in automobiles and also in cattle estimations (author’s observation).

OVAHIMBA

OvaHimba are an estimated 50 000 people, largely settled in the Kunene region, in North-West Namibia, with less significant settlements also in Southern Angola. OvaHimba are held as a peculiar tribe worldwide due to their traditional lives, ceremonies, dances, attire and hairdos, which they have upheld until today.

Close kin to the ovaHerero tribe, ovaHimba also speak the Otjiherero language. OvaHimba and ovaHerero share commonalities but also embrace many differences.

Borrowing from Stanley et al. (2018), they vary in traditional practices and attires: OvaHerero today have stopped nomadism or semi-nomadism and are cattle and small livestock breeders, and to a lesser degree small scale agriculturalists. OvaHimba, though, are still semi-nomadic, some remain as traditional hunters and gatherers in rugged areas, while they are also cattle and other livestock breeders. OvaHerero traditional attire is adopted from German colonial and British Victorian, whereas ovaHimba wear the *Omitjira* (loin cloth from animal skin) (ibid).

OvaHimba means of sustenance and trade are both, cattle and agriculture. Villages are wooden-fenced sets of huts with a sacred fire (*okuruuo*) in the centre. This sacred fire is thought to be the spiritual connection to deceased ovaHimba.

Despite being semi-nomadic, they are aware of technology and *developed world*; and today they are more commercially reliant upon their self-representations of authenticity (Kraak, 2016). Their attraction-like originality appeals visitors and film crews who expose them to latest technological gizmos and that, in return, bring some financial prosperity for displaying their cultural rituals to others 'out there'.

OVAMBO

Ovambo are around 80% of Namibia's population, the largest tribe in the country. They are mainly based in Northern Namibia, Ovamboland, though there is an affluent migration to metropolitan nucleus such as Windhoek (Nghiulikwa, 2008).

Ovambo is an ethnic group made of 12 culturally-related tribes settled in Northern Namibia and Southern Angola (Davies, 1994). They generally speak Oshiwambo (though there are variants of this language), a Bantu language like Otjiherero.

Ovambo is a denomination argued to have originated from neighbouring ovaHerero, meaning either *wealthy people*, "ovajamba", or people with the cattle posts (ibid). Similarly than to ovaHerero, cattle are a valued good reflecting people's prosperity. As such cattle posts factually mark Ovambo's fiscal fortune and political rule (ibid), making them found in all economic sectors and in Namibia's commercial activities.

Ovambo migration from North to Windhoek has been constant since colonial times, though it is in recent times this migration is being estimated to hold malign effects:

Around the turn of the century, the city had to accommodate 600 new-comers every month, 85% of whom had migrated from Ovamboland. At the time, researchers estimated that the population of Windhoek would double to more than 400 000 by 2010 and most of this growth would be gained from migration. Migration researchers further predicted that since the Katutura area would be unable to absorb it, considerable growth in the form of shanty housing would take place (Pendleton & Frayne 2002).

(Nghiulikwa, 2008, p. 6)

The above has seemingly caused what Nghiulikwa claims in his master thesis:

I argue that young migrants from Ovamboland, who intend to escape their poverty stricken rural homes and arrive on packed busses [sic], bringing with them few possessions and great expectations, constantly shift and resituate their cultural identities while trying to make a living in the city. These young people are eager to engage fully in a better life and hope to find employment in the urban economy. For many, however, this remains just that – hope.

(ibid, p. v)

SAN

Namibia is currently home to an estimate of 30 000 to 33 000 San speakers, less than 2% of the populace, though there San are also in Botswana and South Africa. San are one of the most researched societal groups in the world, as they are considered archetypical societies of nomadic hunters and gatherers.

Today San populations are scattered through the North and East of Namibia, with a majority of individuals living in commercial farming and communal areas where they typically conform small minority populations (Suzman, 2001).

The term San has been coined by non-San individuals in order to group different tribes speaking dissimilar languages under one single label (ibid). The majority of labels used to refer to them (including “San” and “Bushman”) are etymologically pejorative and evoke negative overtones like “incapable”, “unreliable”, “drunken”, “primitive”, “childlike” and hence incapable of making adult decisions on their own.

More positive, San communities are also believed to be “technically gifted”, “artistic”, “clever”, “skilled hunters”, as well as “powerful healers” (ibid).

As one of the “indigenous minorities” in Namibia, the San have received much international attention, and recently more local government initiatives have been launched to combat the socio-economical and often educational marginalization.

Today groups of San youngsters live in principal cities such as Windhoek, where they seek to receive an education in diverse fields of study, and where they attempt to make a force of recognition against their vulnerable minority positioning.

PROJECTS AND TECHNOLOGIES IN NAMIBIAN LOCALES

This project ensued part of the Indigenous Knowledge Management Systems (IKMS) and the Marginalised Community Development (MCD) research clusters at the Faculty of Computing and Informatics (FCI), as part of the Namibia University of Science and Technology (NUST). Each of the clusters co-designs technologies with indigenous and marginalised communities respectively as part of National programs at various levels of design and development according to both, the specific community and the intensity and regularity with which research interventions occur.

These co-designing efforts are mainly centred in the gathering, classifying, storing, preservation, and eventual curating of home-grown Indigenous Knowledge (IK), while there are also further projects dealing with migration and minority vulnerability. For example, previous work in pastoral Namibia by Winschiers-Theophilus et al. (Bidwell et al., 2011b, 2011a; Bidwell and Winschiers-Theophilus, 2012; Kapuire et al., 2010; Rodil et al., 2013; Winschiers-Theophilus et al., 2010b, 2010a) and Rodil et al. (2011a, 2011b, 2012a, 2012b, 2012c, 2013, 2014), provides numerous qualitative findings towards the co-design and co-development of a technological system comprising The Homestead Creator (Rodil et al., 2012c), which serves towards contextualising native IK through 3D visualisation (Jensen et al., 2012); and a Crowdsourcing system to gathering, storing and curating IK (Stanley et al., 2013). Such efforts are directed to co-designing with ovaHerero and ovaHimba groups.

Yet, at the time the persona research presented in this thesis begun to unfold, further objectives were also evolving in regards to the co-design of technologies with further tribes and specific communities part of these ethnic groups, such as with urban-migrated youth who belong to the Ovambo tribe and also with San youngsters –both of whom live in Windhoek for the reasons stated in each case-study below.

The subsequent sections provide both, a summary of the technologies aimed for and the reasons for such technologies to have been selected for co-design with each of the tribes that this specific research project on persona co-design occurred.

TECHNOLOGIES FOR OVAHERERO AND OVAHIMBA

As stated above, co-design with ovaHerero and ovaHimba communities in pastoral Namibia focused on an IK management system involving the Homestead Creator (Rodil et al., 2012c) and a Crowdsourcing tool to curate IK (Stanley et al., 2013). This venture firstly arose from the incipient neglect of IK noticed in the local youth.

Such digitisation is part a Namibian National project to co-design, co-develop, and implement an IK crowdsourcing system that aims to provide and empower [mainly] elder pastoral ovaHimba with technological tools with which they can gather, store, array and curate traditional knowledge for future generations (Stanley et al., 2015).

The crowdsourcing tool aims to (1) close the gap between village elders holding IK and the youth -migrated to urban centres- by gathering IK via technological tools (widely used by youth); and (2) invite elders to create requests for 3D designs of actual imagery they will then post to the Internet for worldwide designers to realise. It is expected designers would send 3D designs back and these will then be automatically sent to another system -the Homestead Creator (Rodil et al., 2012c).

TECHNOLOGIES FOR OVAMBO

PD and Service Design have shown capability to co-design feasible solutions with marginalised societies like those in slums (Ongwere et al., 2014). This study is part of a wider project where young residents of the Havana informal settlement –in the outskirts of the city of Windhoek– engaged in context analysis. This analysis was

done to set-up a community centre that would offer technologies and services to aid the jobless to find work, self-employment, training, counselling and project funding.

TECHNOLOGIES FOR SAN

To confront marginalisation and enable transformational change with San youth, local and international (“PARTY: H2020,” n.d.) efforts are being carried out through the co-creation of new services, careers, and support infrastructures to achieve sustainable livelihoods and wellbeing amongst San communities in Windhoek.

METHODOLOGY, METHODS AND THEIR RATIONALE

Research scaffold from persona co-design cases stated in literature in Chapter 2. Such projects revolved around promoting values of democracy, enablement, equanimity and equality, and they included end-users actively in the inception, construction, or deployment of useful persona artefacts. This aimed to support the development of technologies suited to the specific peoples they intend to serve.

Since Namibian locales have shown the need to readapt or to craft new methods to those normally utilised in further dominant locales (Winschiers-Theophilus, 2009), the proposal to co-design user self-depictions via User-Created Persona (UCP) explored suitable methodological approaches to prompt user representations.

Each stage in the methodology offers a set of methods and their rationale (Table 2). These are comprehensively explained as sessions are gradually presented below.

It must be noted the different phases of the methodology advance according to complementary findings with each tribe, and through the acquaintance with both, local participants and local researchers’ knowledge and research modus operandi.

	DATES	SESSION / PHASE	GROUP	LOCALE	METHODS	EMPIRICAL FINDINGS	PRELIMINARY EVALUATION
PERSONA CO-DESIGN ACTIVITY	10/2014	Session 1 Phase 1	ovaHerero	Pastoral Okomakwara	Things that Matter / Things of Concern	Leading questions did not work = Face-Loss; Reciprocity = Creation of trust and openness of locals to their cultural functioning and untangling key things of concern	Hidden things that matter at an abstractions level found by being informed how locals are; Openness and honesty worked
	10/2014	Session 2 Phase 1	ovaHerero	Pastoral Otjinene	Rapid Ethnography / Playful Triggers	Practices, spatial affordances, physical elements carried by people (i.e. elders' hat, stick and chair), things of concern. Attempting personas directly = self-stereotyping; persona co-design directly = Divergences in signifying	Dimensions of the ecosystem elicited, including hat, stick, chair; Different levels of abstraction locals/researcher; Lack of method transferability (Rapid Ethnography) from west to Namibia
	11/2014	Session 3 Phase 1	ovaHerero	Pastoral Erindi	Persona Co-Design Interviews / Persona Co-Design I / Appraisal / Persona Co-Design II	Spatial affordances, elements carried by people (i.e. hat, stick & chair). Personas = self-stereotyping; Researcher on his own = jeopardy of dynamics	Dimensions of ecosystem elicited, including elder's hat, stick, chair; Method transferability (i.e. persona co-design) failed, creating self-stereotyping (i.e. single traits)
	11/2014	Session 4 Phase 2	ovaHerero	Pastoral Otjinene	Storytelling/Prompted Narratives	Third-party portrayals = present relevant nuances valid for physical, intellectual, and cultural depiction	Third-party descriptions worked = Several traits elicited in two personas (i.e. girl & woman); key bodily nuances too
	11/2014	Session 5 Phase 2	ovaHerero	Pastoral Erindi	Storytelling/Prompted Narratives	Comparative of 3 rd parties delivered key nuances for physical depiction (i.e. hat, stick & chair) and traits	Third-party descriptions worked = Various traits in two personas; physical nuances confirmed
	03/2015	Session 6 Phase 2	ovaHerero	Pastoral Okomakwara	Storytelling/Prompted Narratives	Describing 3 rd parties verified (i.e. hat, stick & chair) / provided key nuances for depictions: physical, intellectual, cultural, archetypical	Third-party descriptions worked = Numerous traits in two personas; archetypical representations. Stick!
	03/2015	Session 7 Phase 2	ovaHimba	Pastoral Otjisa	Observations	Learned to deploy PD with ovaHimba (local researchers) – group dynamics, UX goals, Usability constructs	Learning work with ovaHimba. Lens on UX goals & usability constructs = persona elements.
	03/2015	Session 8 Phase 2	ovaHimba	Pastoral Ohandungu	Storytelling/Prompted Narratives	Practices, spatial affordances, people, roles, physical elements carried by people (i.e. female ornamentation)	Reality TV approach engaged; Interactions among parties = traits and behaviours; great storytelling & personas; nuances in dressing.
	10/2015	Session 9 Phase 2	ovaHimba	Pastoral Otjisa	Observations	Usability testing with Super User = large amount of UX goals & key Usability constructs, new and validated	Learnt work with ovaHimba. Rich UX goals for elder persona; humanness in the recounting.
	10/2015	Session 10 Phase 2	ovaHimba	Pastoral Otjisa	Storytelling/Prompted Narratives	Group-based collective practices (i.e. elder males, youngster males, females)	Grouping of community members and intertwined via the collective; storytelling flows.
	03/2015	Session 11 Phase 1	Ovambo	Urban Windhoek	Walking Method	Revealed state of locale: deficiencies, needs, ambitions	Reality TV approach engaged youth; Contextualisation of informal settlement.
	03/2015	Session 12 Phase 2	Ovambo	Urban Windhoek	User-Created Personas	Enable intertwined, collective UCP representations	Main & secondary personas obtained; Intertwined, collective depictions; Beginning / Climax / Closing.
	04/2015	Session 13 Phase 2	Ovambo	Urban Windhoek	Grounding User-Created Personas	Validate & ground existing UCP depictions & brought to foreground those initially in background –mothers	Validating previous personas; adding on them; revealing further stakeholder-personas (politicians)
	08/2015	Session 14 Phase 2	San	Urban Windhoek	Self-Expressions Workshop	Self-expressions amongst themselves worked well.	Self-empowerment and desires, ambitions and passions come out; great glow of self-work.
	09/2015	Session 15 Phase 2	San	Urban Windhoek	Self-Representations Workshop	Self-representations towards “the other” used stigma to put themselves in the spotlight of being ostracised.	Self-clustered, self-disempowerment and self-ostracism beliefs; spotlighted by themselves.
APPRAISALS	03/2016	Session 16 Phase 3	Software Engineering Students	Local Windhoek, Namibia	Appraisal of Findings	Personas validity and complementarity	Relate to characters and features on them and engage with their situations, implementing more.
	03/2016	Session 17 Phase 3	Practitioner Designers	Overseas Copenhagen, Denmark	Appraisal of Findings	Overall lack of contextual understanding, thus of persona validity & design complementarity	Some appreciate the approach; others see wasted time; strong designerly 'sanitation'/design-thinking
	03/2016	Session 18 Phase 3	HCI Scholars	Overseas London, UK	Appraisal of Findings	Overall lack of contextual understanding, thus of persona validity & design complementarity	Some appreciate the approach; some for other fields; some reject the idea; some question local versus foreign epistemologies and understanding.

Table 2. Sessions, Phases, Methods, Findings, Preliminary Evaluation by Case-Study.

The first six sessions described below involved members from the ovaHerero tribe. Phase 1 of the methodology was accomplished through three of such sessions. Understanding the users and an alignment of the team dynamics with the local researchers was the aim of this phase, which is further detailed in sessions below. Three further sessions with three ovaHerero communities evolved into Phase 2: User-Created Personas with Team Dynamics as detailed in Chapter 4 and below.

With the learnings from the preliminary case-study with ovaHerero communities, sessions with ovaHimba, Ovambo and San were approached in a different manner: They fundamentally began in Phase 1 as well, though this stage served to either enable the observation of local researchers working within PD with the ovaHimba; engage Ovambo youths in a *Walking Method* of their surroundings in the slums; or to observe the San interacting among themselves and overseas researchers. Once an initial understanding of users and an alignment of team dynamics occurred, Phase 2 followed as an interaction with communities to co-design persona artefacts: focusing on storylines, objects and the people built-in with ovaHimba communities; co-designing personas with the group of Ovambo youth in the informal settlement, and with San interacting with other youth in a workshop they excluded themselves.

Chapters 4, 5, 6, 7 below present the case-studies of persona co-design by tribe. Each case-study opens with (1) an outline of the locales, phases, sessions and the methods deployed, and (2) a brief of the phase within each of the studies clusters consecutive sessions that had the same aim as far as methodology is concerned. Afterwards, each session within the different case studies is structured as follows:

- (3) An introduction to the particular locale where each of the sessions took place;
- (4) A description of both, the session and the participants that were involved in it;
- (5) A summary of methods deployed in each session and the rationale behind them;

- (6) A recount of each individual sitting, which is entitled as the method being used;
- (7) An initial interpretation of the findings and a reflection for the session carried out;
- (8) A proposal on how the findings in each session answer the questions proposed;
- (9) A pictorial understanding of the persona elements being elicited in each session;
- (10) A suggestion of the further work to be carried out in the subsequent sessions.

Sessions were opportunistic based upon ongoing projects by the local researchers.

It must be noted that sessions were not expected to provide full persona artefacts.

Ultimately the process aimed to enable answering the queries posed by this thesis:

1. How do indigenous communities in pastoral and urban Namibia take-on, understand and co-design persona artefacts?
2. What cultural assumptions may emerge in regards to the way personas are usually understood in User-Centred Design?
3. How effectively do the persona artefacts obtained communicate their purpose to other participants in the design process?

In all cases and sessions, image and sound were recorded for further examination, while local researchers facilitated and translated sessions as and when needed.

Interpretations are ultimately based on local contextual knowledge and learnings.

4. USER-CREATED PERSONAS: PASTORAL OVAHERERO

This chapter introduces the case-study on user-created personas with ovaHerero. Chronologically, this the first out of the four persona co-design cases proposed.

Six sessions took place with a variety of pastoral ovaHerero between October 2014 and March 2015 in three villages in the Omaheke region in Eastern Namibia.

Sessions formed a dataset from three sites in two asynchronous sessions per site, and from which initial results and conclusions start the empirical path of this thesis. This study revolved around three initial sessions with paired methods–i.e. Phase 1, evolving into three further sessions and methods as Phase 2 in the methodology.

SESSION	TRIBE	LOCALE	METHODS
Session 1 Phase 1	ovaHerero	Pastoral – Okomakwara	Things that Matter / Concern
Session 2 Phase 1	ovaHerero	Pastoral – Otjinene	Focus Group / Rapid Ethnography
Session 3 Phase 1	ovaHerero	Pastoral – Erindiroukambe	Interview / Persona Co-Design I / Validation / Persona Co-Design II
Session 4 Phase 2	ovaHerero	Pastoral – Otjinene	Storytelling/Prompted Narratives
Session 5 Phase 2	ovaHerero	Pastoral – Erindiroukambe	Storytelling/Prompted Narratives
Session 6 Phase 2	ovaHerero	Pastoral – Okomakwara	Storytelling/Prompted Narratives

Table 3. ovaHerero Case Study: Sessions, Phases, Tribe, Locale, Methods.

Contents in this case-study draw upon existing paper publications as per *Reflecting User-Created Persona in Indigenous Namibia: what NOT to do when working in Foreign Land* (Cabrero et al., 2015a), *User-Created Persona: Namibian rural Otjiherero speakers* (Cabrero et al., 2015a), and *A Hermeneutic Inquiry into User-Created Personas in different Namibian locales* (Cabrero et al., 2016e).

PHASE 1 OVAHERERO: METHODOLOGY, METHODS & THEIR RATIONALE

Phase 1 in the methodology was about *Understanding Users & Team Dynamics*.

The object was to probe methods to promote co-design activities to build personas, and so gain an understanding on how ovaHerero engaged with this activity, what artefacts emerged, and how they would make sense regarding elements of persona.

Team Dynamics aimed to build rapport between the persona and local researchers, as the latter had a protocol and agenda that were held vital toward a fruitful research.

Hence mutual understanding and local acceptance were vital elements at this stage.

SESSION	TRIBE	LOCALE	METHODS
Session 1 Phase 1	ovaHerero	Pastoral – Okomakwara	Things that Matter / Concern
Session 2 Phase 1	ovaHerero	Pastoral – Otjinene	Focus Group / Rapid Ethnography
Session 3 Phase 1	ovaHerero	Pastoral – Erindiroukambe	Interview / Persona Co-Design I / Validation / Persona Co- Design II

Table 4. Sessions, Phases, Tribe, Locale and Methods deployed in Phase 2.

Methods in the first session served to find how to engage with communities and what triggered their interest via things that mattered and things that concerned them.

In the second session two elders voiced things that matter and that worried them via a focus group, while using a rapid ethnography and situated props was futile due to differences in signifying between the elders and the persona researcher.

Deploying interviews in the third session did not draw detail about the participants, but elements in their ecosystem, while to co-design personas became hard as they were alien to participants, and so when asked to self-describe they self-stereotyped.

Therefore to validate the persona elements created in the above sitting did not work, and yet, trying to co-design persona artefacts without guidance by local researchers provided needs and ambitions rendered in drawings in the sand, though this seemingly broke the researchers' protocol, so the persona researcher got scolded.

4.1. OKOMAKWARA (PART I)

This session occurred in Okomakwara, an ovaHerero village, on October 4th 2014.

INTRODUCTION TO THE LOCALE

Okomakwara is a small rural community located in the Ovitoto communal area. Ovitoto area belongs to the Okahandja constituency in the Otjozondjupa region. Every region in Namibia is sub-divided into smaller sections called constituencies. The Okahandja constituency is about 66km north of Windhoek metropolitan area, while Okomakwara is found about 150 kilometres away from the capital Windhoek.

Residents are elders and youth totalling 35. Some have participated in projects like a Facebook study on cultural influences (Peters et al., 2015), and the development of the Crowdsourcing system to gather, store and curate IK (Stanley et al., 2013).

INTRODUCTION TO SESSION & PARTICIPANTS

This session originated as a workshop at the Participatory Design Conference (PDC2014), which was hosted in Windhoek in October 2014 (Kapuire et al., 2014b).

The aim of this workshop was (1) to gain a cultural understanding of the ovaHerero, (2) an understanding of working in a professional Participatory Design framework, and (3) to initiate the persona co-design endeavour as a whole in Namibian milieus. The overall object was to probe methods of cross-cultural contextual acceptance.

Eight elder female ovaHerero, three ovaHerero researchers, a further local researcher, and several international scholars all sat outdoors in a circle in chairs. Two overseas facilitators, Professor Margot Brereton from Queensland Technology University in Australia and the persona researcher, deployed a method each in a way that, as explained in the following section, sessions became complementary. Local researchers facilitated the session and six conference participants observed.

METHODS AND THEIR RATIONALE

This is the initial stage in the methodology, Phase 1, which intends to both, gain an understanding of users and explore the team dynamics with the local researchers.

The motivation for the workshop was to explore *the role of the facilitator being redefined and existing community structures and protocols to be observed ... a major concern has been the creation of relationships and building and maintaining of trust ... user involvement should include an appropriation of the design process itself rather than ethnographically based choices to provide participants the opportunity to validate their own conceptualisations, techniques in-situ application against a selected Herero community's evaluation* (Kapuire et al., 2014b, p. 207).

The in-situ objective of the workshop was to (1) be introduced to the participants, (2) talk *principles and methods of participatory design within a community context*, (3) be taken around the area in a walk and so get a feel of the village's ecology, and (4) for *participants to apply their techniques and resources to the set-up of a specific challenge of the Okomakwara community accordingly* (Kapuire et al., 2014b).

To align with the above, the persona researcher pre-planned accordingly in order to (1) carry out an exploration of the site, (2) gather or notate local elements that may have looked prominent in such an environment in a rapid-ethnographical style, and (3) propose these as material to figure a potential co-creation of persona artefacts.

Inspiration for the objectives stated above came from the work on persona co-design stated earlier in the literature chapter as per Playful Triggers by Akama and Ivanka (2010), props by Light (2011), persona oral recounts by Bødker et al. (2012), and the pilot for this thesis in rural Spain by Cabrero et al. (2016b).

Yet, and as life and research go, on the day of the workshop parting from Windhoek got delayed, and the initial plan laid in the CfP (Kapuire et al., 2014b) changed.

As the day progressed, the ambition was to figure out a coherent plan on-the-fly, and where the two sittings eventually proposed would work complementary to one another, and favouring the initial attempt to co-designing personas with the locals.

As such the opening sitting materialised into *Things that Matter* in the present day; while the second draw upon the latter and evolved into *Things of Concern* of past, present and future, and where participants would ideally provide with relevant data input to find aspects potentially applicable to the co-design of persona artefacts.

SESSION	TRIBE	LOCALE	METHODS
Session 1 Phase 1	ovaHerero	Pastoral – Okomakwara	Things that Matter / Things of Concern

Table 5. Phase 1: Method deployed in Okomakwara

The object of the spontaneously-paired sittings became to introduce oral, visual and tangible stimulus via a tablet to elicit aspects relevant for locals, and then repurpose these by enticing participants to think of likely futures as possibilities for progress. The facilitators carried the two-step method with the local researchers translating.

METHOD 1: THINGS THAT MATTER – ALL THINGS ARE BEAUTIFUL

This sitting by Brereton focused on *things that matter* and introduced oral, visual and tangible stimulus via a digital tablet to elicit key aspects in the lives of the locals.

Brereton opened the sitting introducing her family portrait; explained who those in the picture were and why their importance to her. She offered elders to appreciate the photo and to talk about their families as an act of engagement and reciprocity.

Elders circulated, complemented the photo and stated their love for their families.

Then, Brereton, who lives in Australia, showed an image of a kettle and explained its emotiveness to her far-off mother in the UK. Elders took turns to relish the photo.

Next, Brereton showed a photo of flora and asked if they like and look after flowers. An elder said she looked after and felt pleased contemplating flowers. Her daughter, also present, stated flowers as likable too. Then the others said flowers are nice.

Brereton politely called this sitting to an end and thanked the elder for their input.

METHOD 2: THINGS OF CONCERN – THINGS AREN'T AS BEAUTIFUL

Building from the *things that matter* debated above, this session –led by the persona researcher– orbited around *things of concern*, and since the initial plan got bogged down the objective now was to corroborate the topics debated in the previous sitting.

On presenting himself, the researcher asked if there were requests locals wish to convey. An elder swiftly, somehow daringly, asked if the researcher knew *who they were*. The researcher answered *Herero* and waited, rather anxiously, for an answer.

The apparent reassurance in having initially identified as much as that they were ovaHerero led to a now-unexpected opening-up toward the politely placed request.

A local asked what the persona researcher wanted to know about and the former asked how it could be locals look after flowers in such a dry and arid climate.

In turn, and except the mother and daughter who live in the neighbouring village, and who earlier had stated their open likability and care for flowers, the rest of participants humbly acknowledged they neither look after any flowers nor plants.

Then, the researcher asked whether there would be anything they would like to see changing on how their families run. The mother above rapidly claimed that since she

became a widow it was her brother-in-law who looked after her cattle. She added that this is so because it is the tradition in the ovaHerero culture –with husband deceased material belongings are taken care of by the older brother of the dead. Further, she voiced the wish to get her cattle back as she claimed being hopeless in decision-making, and that she aspired to grow cattle in numbers so she can make better business than at present. Complementary, her daughter expressed a desire to own a computer to aid them managing the cattle once they got the livestock back. As life in the village goes there were two weddings to take place that afternoon, and the elders stated they needed to go and dress for the event, so the session ended.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session eight elder women debated families and flowers as thematic triggers.

The first sitting by Brereton served to stipulate engagement and reciprocity with the elders as practiced in other sites (Brereton et al., 2014). It enabled an apparent trust based on *things that matter* to the researcher via a *nice* approach to the topics.

At first, and in harmonising communion, all the elders seemingly, and swiftly, related to the topics proposed by Brereton. Yet, there was an evident absence of both, families –migrated and only returning for key events like the weddings that day, and flora –a tough survivor in such an arid climate.

Introducing predefined *nice* matters, hence, led to stating *niceness* –about families and liking and looking after flora. This resulted in a “domino effect” where an elder conveyed love for flowers or the family and others kept ratifying such a congeniality.

Building upon the observation of, and the outcomes obtained in the initial sitting, the second one led to a further attempt to discover potential *things of concern*.

When the elder asked –*do you know who we are?* And the researcher stated *Herero*, the elders opened-up to reveal they neither do gardening, nor appreciate how things ran in the families. An elder stated discontent with tradition to own and handle cattle.

Cattle are ovaHerero basic traditional means of survival and trade (Gewald, 1999), as well as a vital means for ovaHerero male to find recreation in its contemplation. Yet, in an evolving society where values and logics change, the elder voiced a desire for change in attitudes regarding male-female traditional roles in decision-making.

The initially said and the stated later can hold at least two readings on the outcomes:

One interpretation can refer to historic recounts of the Herero vitality in gardening:

Early in the century, the Herero lived in large homesteads with more dependence on gardening and with marked wealth differentials. The reacquisition of wealth has allowed them to disperse into small independent hamlets where there is little investment in gardening and little apparent political and economic hierarchy.

(Harpending and Pennington, 1990, p. 436)

Elders may hold on to memories of, or shared stories by their ancestors on how things were in the past, and so express ideals based on what it once had been.

A further reading comes apropos things said and what is finally done or happens.

The behaviour among the elders because *many in Aboriginal communities are wary of being investigated* (Brereton et al., 2014, p. 1183), due to a loyalty to the group, or, in a further nuanced, avoiding to lose face –a typical feature in collectivistic cultures towards keeping face within the group (Ting-Toomey and Kurogi, 1998b).

Likewise, they did not relate to the family connecting-kettle (Brereton et al., 2015). A mere agreement on the tool's niceness emerged with yet no further sentiment, likely because they could not relate to an object with an embedded emotional value like the kettle, as it does not seem a recurrent object in ovaHerero pastoral sites.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHerero female elders in Okomakwara took-on, understood and co-designed persona artefacts.

Despite no explicit persona physical artefacts were generated, a series of needs, requirements and ambitions emerged from the prospective likeness of the flowers, the plain requirement in shifting traditional attitudes, and in owning digital artefacts. Such findings align with benefits persona provides in gaining an *understanding of users* (Williams et al., 2014) and a *focus on people's goals, requirements and traits* (Putnam et al., 2012a). Features typical of collectivistic cultures also appeared with the elders at first evading to suffer *face loss* (Ting-Toomey and Kurogi, 1998b).

The second question aims to answer what cultural assumptions emerged.

In locales like in western countries users are argued to openly answer questions in interviews, workshops and focus groups (Nielsen, 2012a). In Okomakwara this only occurred once the elders got prompted through added engagement and reciprocity. And so, they accepted the misalignment amid what they said and how things were, which ultimately assisted *to circumvent stereotypes and make assumptions about users as explicit as possible* (Pruitt and Adlin, 2006), *to complementary enhance methods like scenario* (Grudin and Pruitt, 2002) as in the telling of who cattle goes to when a husband dies and what would the wishes of the widow be, and why, and *to depict dimensions of ecosystems where users move* (Lecomte et al., 2013).

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

As a visual takeaway from this initial session, it could be argued an initial persona artefact representing certain elements could be depicted as follows:

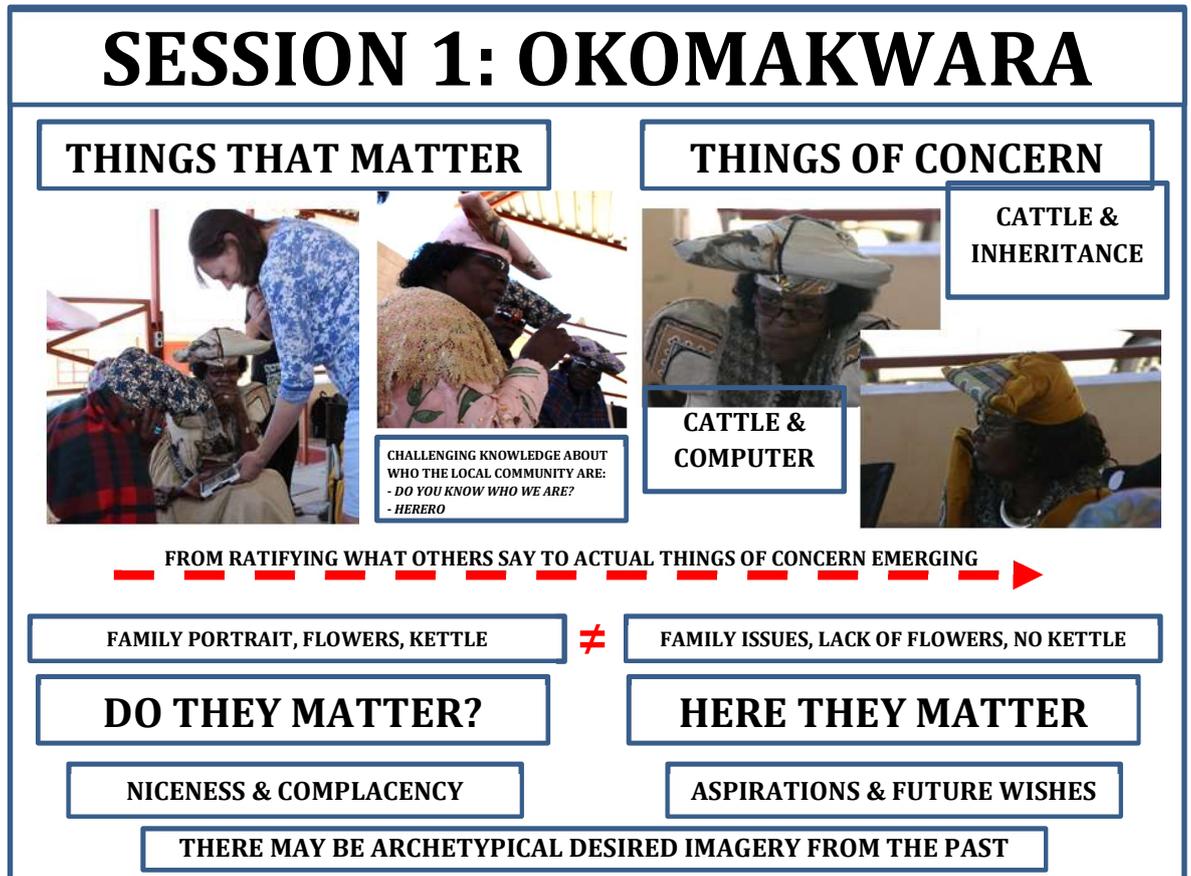


Figure 4. ovaHerero results from the First Session – Okomakwara.

FURTHER WORK SUGGESTED

To have carried out this as a two-step session has enabled to build initial findings, *things that matter*, into their validation and representational value and appearance as *things of concern*. Bringing this approach one step forward may lead to eliciting *things that matter* and *things of concern* to depict as co-designed persona artefacts. Methods by Akama and Ivanka (2010), Light (2011), Bødker et al. (2012) and Cabrero et al. (2016b) that did not suit this session can be explored in the next one.

The possible trace of archetypal aptitudes and likings like gardening and flowers will also be borne in mind to note if locals may wish to bring the past into their future.

4.2. OTJINENE (PART I)

This session occurred in the village of Otjinene on October 11th and 12th 2014.

INTRODUCTION TO THE LOCALE

Otjinene is an ovaHerero village sited around 360 kilometres away from Windhoek. With a constant population increase, it is now a town of more than 2000 inhabitants. Otjinene is surrounded by many small villages that are highly dependent on its infrastructures such as schools, medical clinics, banks, shops and a petrol station.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This session originated as a satellite event during the very last day of the Participatory Design Conference (PDC2014) in Windhoek in 2014 (Gallert, 2014).

It was a weekend-long trip driven by a project funded by the Wikipedia Foundation. Wikipedians Peter Gallert from Namibia, Bobby Shabangu from South Africa, and Mompoti Dikunwanefrom from Botswana intended to visit Otjinene to collect first and then sustain the value, thus the inclusion of IK oral tradition in Wikipedia (ibid).

The objective of the persona researcher was to attend the sitting by the Wikipedians and collect data that could support a further sitting to co-design persona artefacts.

The session, hence, got divided into two separate sittings in two consecutive days. It involved a couple of local married elder ovaHerero selected upon convenience. They had not previously engaged in any co-design activity with local researchers. The sessions occurred in the yard of the elders' homestead, with Herero researcher Gereon Koch Kapuire translating and accommodating questions to the context.

METHODS AND THEIR RATIONALE

This is Phase 1 in the methodology: understanding users and team dynamics.

The elders in this session were first asked about *things that matter* and *things of concern* by the Wikipedians in a focus group. A subsequent sitting build on a rapid-ethnography consisting of gathering representational objects the elders mentioned in the first sitting, to then prompt an exercise aimed to co-design persona artefacts.

SESSION	TRIBE	LOCALE	METHODS
Session 2 Phase 1	ovaHerero	Pastoral – Otjinene	Focus Group / Rapid Ethnography

Table 6. Phase 1: Method deployed in Otjinene.

As such, the objectives were similar than in Okomakwara: (1) to listen to the issues that emerged in the focus-group by the Wikipedians, (2) to notate, try to find and gather elements referred as prominent during that sitting, and (3) to propose these objects as material to set-up an activity to co-design of persona artefacts.

The aim was two-fold: to materialise the methods intended in the previous session as per utilising building on oral recounts (Bødker et al., 2012) together with props (Light, 2011) that could work as playful triggers (Akama and Ivanka, 2010), and then, and inspired by the rapid ethnography approach by Millen (2000), this could become a simulation of the pilot done in rural Spanish in 2014 (Cabrero et al., 2016b).

METHOD 1: WIKIPEDIANS' FOCUS-GROUP

Wikipedians ran a 3-hour focus-group with findings detailed in Gallert et al. (2016). It revealed data on distribution and procedures in the house, and that this belong to wives' realm, while outdoor work is part of male's chores. Objects symbolising the status of the ovaHerero male as an elder emerged as per (1) the chair he sits-on, (2) the hat he wears, and (3) the knife and (4) the stick he carries with (Figure 5).

The tree outside the house was also stressed because of the provision of shelter, the delivery of constant shade against heat, and its importance for family gatherings. Another issue was a worry about youth villagers' alcohol consumption, for what the elders asked if researchers could, for example, talk to spirits-makers in Windhoek. Elders also stated books as important and the unreliability of technologies in education, as these, they argued, can be modified unlike the printed book.

Once the Wikipedia session finished, and as planned, the persona researcher went on accumulating physical objects either mentioned or inferred in the focus group: (1) tree twigs to epitomise a tree; (2) an empty bottle of beer to depict alcohol issues, and (3) a used mobile phone airtime voucher to represent technologies.

METHOD 2: RAPID ETHNOGRAPHY (USER-CREATED PERSONAS)

On the second day the persona researcher revisited the elders alongside Gereon, the local researcher, who translated and clarified nuances in the questions posed.

This sitting lasted for an hour; the persona researcher came with objects gathered. After introductions and explaining the aim of the session, the elders were first asked about the meaning of the tree next to the homestead. They reaffirmed its relevance for the reasons aforementioned: protection, shade and important gatherings.

Then the persona researcher introduced the branches gathered the previous day and further enquired the elders whether these could be representative of the tree. They stated that the tree protects them and that is a vital part of their lives, whereas for them branches denote fire, and therefore a strong sense of danger and liability.

When enquired about youth encounters with alcohol, they reiterated their concerns from the day before. Then, the researcher presented the empty bottle of beer collected the prior day and asked if it could be used as a depiction of alcohol issues.

The elders claimed that an empty bottle was not suitable to portray issues to do with alcohol, as empty bottles are dangerous objects that can cut and also cause a fire.

The voucher to top-up mobile phones got an akin result in regards to the misreading of its meaningfulness, and the local facilitator kindly proposed to finish the session.

Despite it all, the female elder kindly invited researchers to return to Otjinene once she had finished a Herero dress that she was sewing with *Sigma* machine.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session an elder couple debated things that matter and things of concern.

Beyond the objectives and the findings elicited by the Wikipedians, data produced during the first sitting served both, to further understand the locale where the elders carry out their lives and to ascertain things that matter and things of concern to them.

Some results got verified from other research disciplines such as traditional chores having male and female domains separated (Harpending and Pennington, 1990). The elders here, though, stated gender roles as naturalised and accepted, which opposes the gender empowerment previously claimed by the Okomakwara elders.

In the second sitting rapid-ethnography intended a user-created persona exercise, as it had worked well when co-designing personas in Spain (Cabrero et al., 2016b). The aim, thus, was to co-design personas similarly, and so substantiate this method.

Yet, attempting a rapid ethnography approach did not produce the intended results in Otjinene. The representational objects presented to the elders did not fit their mental model due to different ways of signifying to that of the persona researcher.

Therefore, working in environments foreign to oneself carries –among others– the risk of misunderstandings, misalignments and misreading social and cultural cues. This shows that great care must be paid working outside one’s familiar settings.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHerero couple in Otjinene took-on, understood and co-designed persona artefacts.

If no persona was created, benefits associated to personas emerged in this session: The homestead, the tree, and the alcohol ingestion by the youth were articulated as *dimensions of the ecosystem where users function* (Lecomte et al., 2013), with the latter also bringing *the social and political nature of design decisions to the surface* (Grudin, 2003) via things of concern and an ensuing proposal –talk to the makers.

And yet, such items must align with the depictive materiality stated by the elders – i.e. a tree embodied by a tree; a boozy drink by a full bottle rather than being empty.

The second question aims to answer what cultural assumptions emerged.

In other locales signifying figurative materiality is customary in research and in life. In Otjinene meaning-making differed while it was based upon specifics of the milieu. So objects the elders cited became skewed and misrepresented by the researcher, although these misalignments in signifying delivered a persona benefit –a more *grounded understanding of the targeted set of end-users* (Williams et al., 2014)

The session also provided a *focus on traits* as per the elder’s objects of status, namely the hat, chair, knife and stick. These were stated as objects embodying ovaHerero male elders, which, stereotypical as they seemed, will be borne in mind

for future verification of depictions of male elders in order *to circumvent stereotypes and make assumptions about user as explicit as possible* (Pruitt and Adlin, 2006).

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

The visual takeaway from this user-created persona session could be as follows:

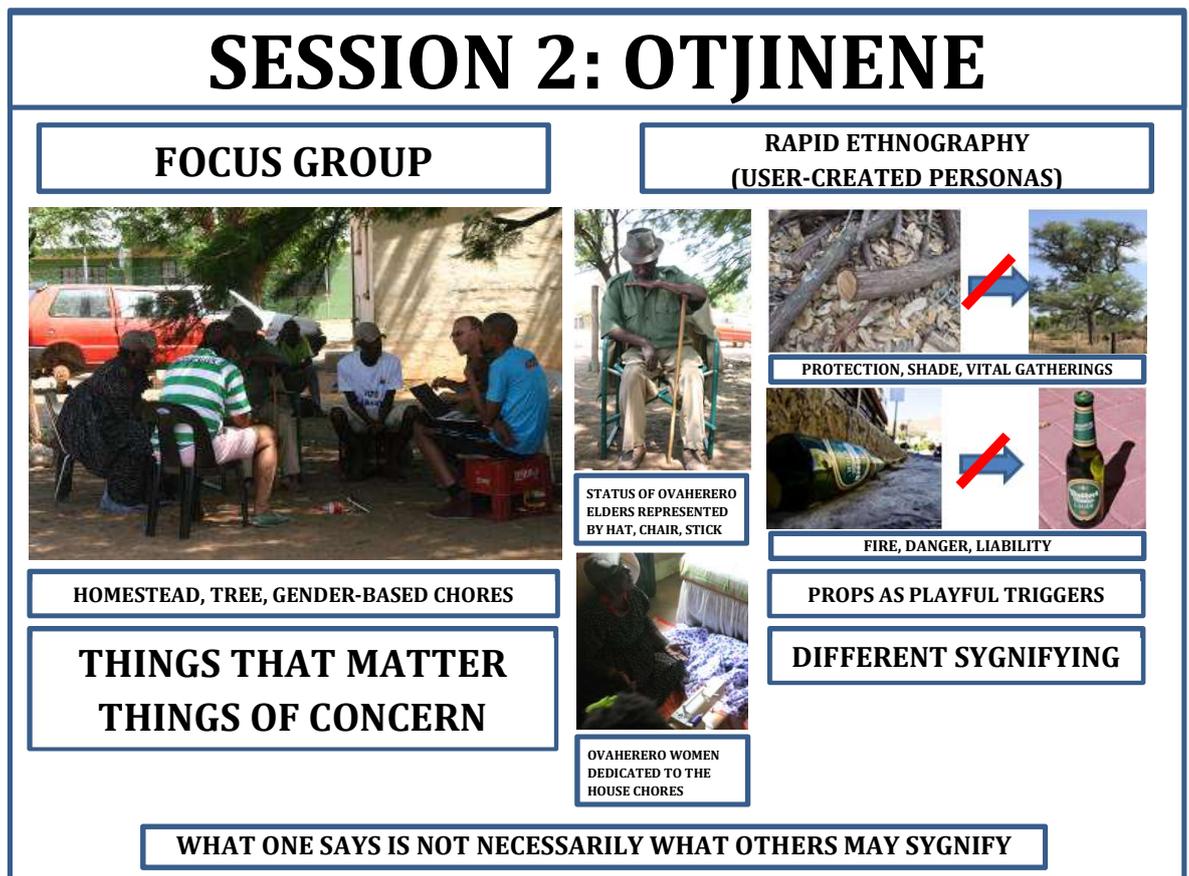


Figure 5. ovaHerero results from the Second Session – Otjinene.

FURTHER WORK SUGGESTED

This probe enabled a set of further results that, contrary to what was initial planned, failed the aims by the persona researcher –a warning about unlike ways of seeing.

Yet, the significance of the hat, stick, knife and chair as meaningful factors representing ovaHerero elders is now intended to be confirmed in the next locale.

4.3. ERINDIROUKAMBE (PART I)

This session occurred in Erindiroukambe on October 21st and 22nd 2014.

INTRODUCTION TO THE LOCALE

Erindiroukambe, Erindi, is an ovaHerero village about 60 kilometres from Otjinene. It is a typical ovaHerero village formed of 18 homesteads with a total population of 200 dwellers between elders, toddlers and a few youths (Kapuire et al., 2014a). Locals guard cattle and goats as their means of nutrition. Among local researchers, Gereon's family own the main homestead in Erindi, which is where sessions ensued.

INTRODUCTION TO SESSION & PARTICIPANTS

This was a session in two consecutive days and where the four sittings took place. Four local male elders and one male youngster met outside the main homestead. All elders except one are habitual co-designers of Indigenous Knowledge (IK) technology for nine years now as part of a long-term ongoing National project (ibid). Hence participants had taken part in numerous co-design sessions in the past. Three local researchers and the persona researcher mediated three of the sittings, while the fourth one was run by the persona researcher alone.

METHODS AND THEIR RATIONALE

This is Phase 1 in the methodology: understanding users and team dynamics.

Building on lessons learnt thus-far, and with a plan drawn with the local researchers, the aim in this multi-session was to co-design persona artefacts with the participants in the first sitting, to then run a further sitting where participants would run the personas through a scenario to assist the co-design of the IK crowdsourcing system.

The target was to probe how the participants would understand the persona artefact, as it had been carried out in rural Spain (Cabrero et al., 2016b).

The subsequent sitting aimed to find out the usefulness of the personas previously formed by running it through scenario towards the continuation of the co-design of the IK crowdsourcing system co-developed by local researcher Colin Stanley. Hence, this sitting would be an appraisal of the persona artefacts elicited earlier.

SESSION	TRIBE	LOCALE	METHODS
Session 3 Phase 1	ovaHerero	Pastoral – Erindiroukambe	Interview / Persona Co-Design I / Validation / Persona Co-Design II

Table 7. Phase 1: Method deployed in Erindiroukambe.

As described below, since neither the personas’ nor the scenario-based sitting yield the results intended, the persona researcher tried out a further attempt to co-design personas without the rest of the researchers, who were still sleeping when this event took place, utilising a photography and sand drawings as means of communication. Time pressure amounted as the persona researcher was soon returning to London.

METHOD 1: INTERVIEW

Despite the preliminary plan to concentrate on the co-design of persona artefacts, the persona researcher understood that, to be polite –and to keep understanding users while showing a genuine consideration– an initial stage of introductions –for being new to the locale– was but the way forward.

This adjustment broke away from the initially arranged with the local researchers, and so an interview sitting became as an icebreaker, and where participants stated some of their customs and how they depicted their contextual situatedness in Erindi.

The participants highlighted the things that were important to them in their daily lives: They used wooden sticks, a small tree branch and an extinguished match to recreate the holy fire that commemorates the spirits of the deceased in front of the

homestead, and cow faeces to illustrate both, the meaning of meat for nourishment, the financial income that cattle provides, and that cow dung serves to build houses.

After three hours of introductions participants ran out of things to say, so sorting cards were proposed, as they had already been utilised by local researchers to illustrate people, animals and objects, and so to work out needs and requirements (Rodil et al., 2013). They arrayed cards depicting ovaHerero alongside the other elements, and so created a hierarchy: elder on top, wife below, doctor to the side.

METHOD 2: PERSONA CO-DESIGN I

After a break from the interviews participants were asked to describe themselves. Gereon explained them a persona in general terms: a typical person in the village. They did not understand the exposition as they stated roles in the community are intertwined and so could not comprehend the individualisation of a member, so they went on conveying local elements (i.e. homestead, holy fire, cooking fire, cattle). Gereon tried to explain the persona concept once again by restating that it represents a typical person, although the added lack of comprehension led a participant to talk about “the elder” as a person embodied by a hat, stick and a chair. In a further attempt, Gereon positioned personas as particular traits and features for each participant, and so they furnished each other with one-trait self-descriptions: *the elder* –being the oldest, *the young* –being the youngest in the group, *the doctor or wise man* –able to fix everything, a car, a person, an animal, *the naughty* –being the cheeky trickster, and *the funny* –who tells the jokes and makes everybody laugh. Gereon offered a further explanation on personas using an analogy on how a vehicle built from the best parts from other vehicles would become a hybrid from many cars –i.e. features of Ford 4x4 vs. Mitsubishi or Toyota. This was well understood and participants debated different parts that make a vehicle being the most enhanced.

METHOD 3: PERSONA VALIDATION – CROWDSOURCING TOOL

After a lunch break, the next sitting aimed to authenticate the persona elements participants had worked out earlier through their statements and the sorting cards.

This sitting was led by Colin Stanley, as he was leading to the conceptualisation of the crowdsourcing system to gather, store and curate IK (Stanley et al., 2013, 2015).

Using the persona elements aimed to elicit group features rather than individuals, and so to obtain the communities' persona to incorporate into the technology design.

Colin explained the task: to find how the persona (i.e. identified features of the community) would assist developers to furnish a tool –the crowdsourcing system– suitable for the community to capture, classify and curate their IK.

Yet, the persona concept was once again problematic, and participants stated a horse had to be added for the representation to work.

The equine illustration, though, got influenced by elements considered at interview stage, so they used a horse dung to embody the horse. Colin explained dung would not be enough for outsiders to get what they meant –i.e. horse dung equals a horse.

METHOD 4: PERSONA CO-DESIGN II

On the last day at dawn participants came to the resident researcher's homestead. All but the persona researcher were still sleeping and, since co-design attempts on the prior day did not go as well as planned, with an elder speaking broken English, and having learnt in return how to say *do you want to* in Otjiherero (i.e. muwanga), this was seen as a moment to try and to co-design personas – *muwanga persona?*

I greeted participants while my colleagues still slept, and then proposed them to continue the persona co-creation where we left it on the previous day.

On questioning about desires on things of relevance, they pinpointed and drew elements in the sand such as a water-tap portraying the relevance of water for subsistence. Since participants were engaged in the process, I then enquired on possible technological needs. They added solar panels to my request, claiming with those they could watch TV and listening to music as well.

(Cabrero et al., 2015, p. 60)

They also laid a photo portrait including all of them on the sand, and that the elder who spoke English explained they had brought with for the local researchers to exchange it for another version of the photo with more contrast and less brightness. The photo was placed between the homestead and the sacred and cooking fires.

At this point Colin emerged from the homestead, learnt what was happening, and instantly called the session to a halt, arguing this activity could be misunderstood as a promise to provide, for instance, the solar panels mentioned during the session – something utterly wrong to create a prospect about when it was not to be realised⁹.

Hence the sitting ended with no full personas elicited and someone being scolded.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session a group of elders and a youngster in Erindi engaged in a series of interviews, two attempts at persona co-design, and a validation of the above. While three hours interviewing got participants tired, data drawn confirmed the relevance of the *dimensions of the ecosystem where they function* and hierarchical situatedness of people. This had been noted by Winschiers-Goagoses et al. (2012): objects (house, holy fire¹⁰, cattle dung), animals (cattle), ranks (elder, doctor, wife).

⁹ In the past, local researchers had attempted, and failed, to install solar panels in the main homestead, though the broken panels were still standing. Yet the persona researcher learnt this somewhere else.

¹⁰ The holy fire epitomises a place for praise to the deceased, and so it is also an element ovaHerero traditionally recur to in rituals (Kavari and Bleckmann, 2008).

Co-designing personas directly did not work, as neither participants nor ovaHerero researchers got the notion. Prompting and redirecting led to self-stereotyping, which Gereon informed self-depictions like *the naughty* and *the funny* where inaccurate. As self-stereotyping occurred, Gereon repurposed the concept toward a more telling image of representations based on local the appreciation of objects, i.e. vehicles. The archetypical assemble of a 4x4 from best parts (i.e. Ford 4x4, Mitsubishi, Toyota) provided a depiction of unique traits and features usual in persona, giving so a clearer grasp on what was meant by personas, hence a more precise taking.

Since neither objects elicited nor the understanding of personas were clear, to use them for the crowdsourcing tool was hard. Since the dung had previously embodied both, cattle and building homes, this was offered again –horse dung for a horse. The last sitting jeopardised the dynamics with the local researchers, as it was not a session where they took place, nor one they would have arguably anticipated that the failed solar panel venture would have emerged as it eventually did. Yet, the results from this sitting became quite telling in that participants co-designed a certain persona artefact between the drawings in the sand, the photo and the commentary.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHerero participants in Erindiroukambe took-on, understood and co-designed persona artefacts.

Items and people drawn on during the interview revealed the hierarchies of people and the significance and positioning of affordances in the surroundings. This *depicts dimensions of ecosystems where users live* (Lecomte et al., 2013). Homestead, people, and holy and cooking fires showed hierarchically embedded, which verifies the indicated by the couple in Otjinene, and so it provides *a solid and grounded understanding of the targeted set of end-users* (Williams et al., 2014)

The second question aims to answer what cultural assumptions emerged.

Interviews are held as a key method for persona creation: elicit data from users, segment them, and finally characterise groupings of different people via personas (Cooper, 1998; Mulder and Yaar, 2006; Nielsen, 2012a; Pruitt and Adlin, 2010). Interviews in Erindi, yet, did not arguably harvest material apt for such segmentation, as the data produced referred to the locale itself rather than any of the locals.

Neither participants nor ovaHerero researchers grasped the concept of personas. So locals restated elements in the ecosystem where they reside as specific to them. The difficulty to understand personas highlights the need *to circumvent stereotypes and make assumptions about users as explicit as possible* (Pruitt and Adlin, 2006). And when persona was explained again locals offered one-trait self-descriptions that, besides, were deceptive –restating so the intricacy in self-defining. Ultimately, Nielsen claims using single traits is a challenge in building UCD persona (2012a). Self-stereotyping, though, led to depicting elders embodied by a hat, stick and chair. These objects keep appearing as simplistic, yet recurrent as it happened in Otjinene.

As well as resulting in stereotyping, the attempt to define specific users seemingly contradicted what locals thought of themselves when placing their portrait between the homestead and fires drawn in the sand. Arguably, they conveyed a depiction of themselves as a collective, which clashes with the benefit that personas are useful *to focusing upon specific users rather than the “everyone”* (Pruitt and Adlin, 2006). As local researchers called off this session a further benefit stopped been better shaped as *to make available early design needs, requirements and ambitions from users* (Williams et al., 2014), and which may have *encouraged consensus amongst design stakeholders* (Mulder and Yaar, 2006) rather than *to enable the social and political of design to the surface* (Grudin, 2003) as remarked in footnote 8 above.

Resorting to building a vehicle out of other automobiles' parts hinted third party descriptions as well understood and cherished to generate representative artefacts. This type of depiction offered locals a clearer accepting and accuracy *to provide focus upon goals, requirements, traits* (Putnam et al., 2012a), which also assisted *to introduce/reinforce design-thinking in design phases* (Williams et al., 2014). Furthermore, and like in Okomakwara, this activity hinted again an archetypical portrayal –in this case that of an ideal vehicle made up of other automobiles' parts.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

As a visual takeaway from this user-created persona encountering, and attempt, it can be argued an initial persona representation could be as ensues:

SESSION 3: ERINDIROUKAMBE

INTERVIEWS



HIERARCHIES & THE ECOSYSTEM

MALE TOP; FEMALE BELOW;
DOCTOR TO THE SIDE

DUNG IS IMPORTANT:
FOOD, MONEY, HOUSE

PERSONA CO-DESIGN I



THE ELDER
THE NAUGHTY
THE FUNNY
THE DOCTOR

ONE PERSON = ONE TRAIT = NO PERSONAS

ELDERS' HAT, STICK, CHAIR

ASPIRATIONS & FUTURE WISHES

ARCHETYPICAL REPRESENTATIONS ABOUT CARS MADE UP OF PARTS

Figure 6. ovaHerero results from the Third Session – Erindiroukambe.

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SESSION 3: ERINDIROUKAMBE

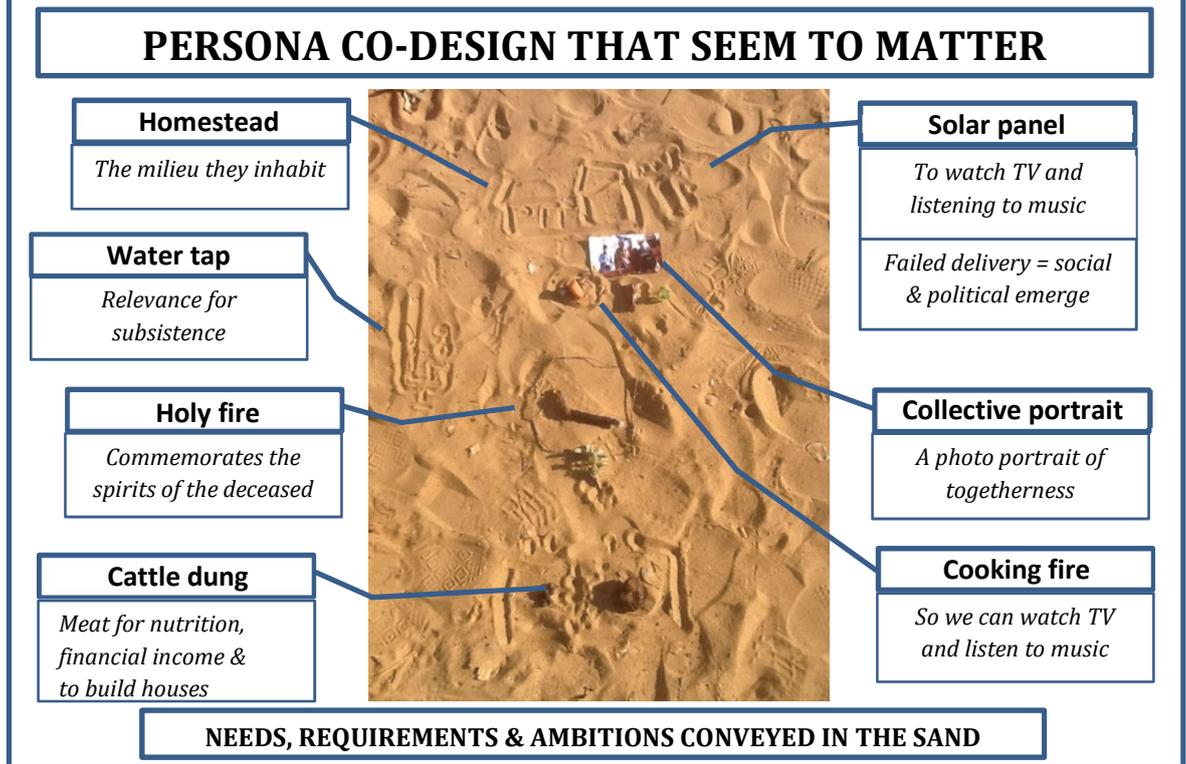


Figure 7. Persona in the Sand: an Augmented outcome in Erindi.

FURTHER WORK SUGGESTED

Local researchers deploy focus groups the most with communities across Namibia. Hisham (2009) proposes personas in focus group discussions with elders due to its value engaging via storytelling. This method is to be positioned in the next session. Yet, a next step is to search for narratives about third parties where ovaHerero may abstract themselves from the plot by talking about others rather than the self.

As per team dynamics, following local researchers' advice and action, and working in conjunction to establish a long-term, fruitful alliance keeps being the full objective. The persona researcher has now seen first-hand how local researchers structure and carry participatory sessions, and so is confident he understands protocols and ways of doing that align with participants' logics and mental model. Instead of derailing from the plan, the aforementioned is to be deployed in the next sessions.

PHASE 2 OVAHERERO: METHODOLOGY, METHODS & THEIR RATIONALE

Phase 2 in the methodology tackled *Understanding Users with Team Dynamics*.

This phase details three sessions again in Otjinene, Erindi and in Okomakwara.

One session occurred in each locality between November 2014 and March 2015 and, unlike in Phase 1, sessions now comprised one single sitting instead of two.

With team dynamics aligned with those by the local researchers, Phase 2 aimed to produce a new set of data and illustrations to complement the findings in Phase 1.

The methods used in Phase 2 were all based on storytelling via prompted narratives.

They aimed to prompt descriptions of third parties to avoid both, stereotyping by self-describing and putting participants in the spotlight by talking about oneself.

SESSION	TRIBE	LOCALE	METHODS
Session 4 Phase 2	ovaHerero	Pastoral – Otjinene	Storytelling/Prompted Narratives
Session 5 Phase 2	ovaHerero	Pastoral – Erindiroukambe	Storytelling/Prompted Narratives
Session 6 Phase 2	ovaHerero	Pastoral – Okomakwara	Storytelling/Prompted Narratives

Table 8. Sessions, Phases, Tribe, Locale and Methods deployed in Phase 2.

The objective was to carry out activities focused on co-designing persona artefacts, and so gain an understanding on how ovaHerero engaged with this activity, what artefacts emerged, and how and if the latter would make sense regarding persona artefacts or relevant elements thereof. Participants were prompted to relate scenes of their choice with individuals in them to find out whether and what characteristics, traits, drives and behaviours would appear, and if they could be persona artefacts.

Sessions below are described in chronological order and they account for both, outcomes and methodological learnings and method's fruition as sittings evolved.

4.4. OTJINENE (PART II)

This session happened in the village of Otjinene on the 20th of November 2014.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This session revolved around the narration of scenes that could occur in the locality. The participant for this was the female elder from the previous session in Otjinene. The session took place in the yard of her homestead again and was facilitated by local researcher Gereon Koch Kapuire –who accommodated questions as earlier.

METHODS AND THEIR RATIONALE

Revisiting Otjinene, the elder was prompted to style the appearance of a school girl. This was further detailed into a scene whereby the girl was sought for by her father. Next, the elder was suggested to describe the girl having now become a grownup. Lastly, she was proposed to draw both, the girl and the woman in a sheet of paper.

In regards to drawing, it is believed that it can entice a further subjectivity apropos further information that may otherwise pass utterly unperceived in the narration.

SESSION	TRIBE	LOCALE	METHODS
Session 4 Phase 2	ovaHerero	Pastoral – Otjinene	Storytelling/Prompted Narratives

Table 9. Phase 2: Method deployed in Otjinene.

Hence, the ultimate aim was to entice the description of third parties rather than refer to the first person –and so to avoid stereotyping via self-descriptions, as well as to evade putting the participant in the spotlight by describing/talking about herself, and to obtain graphic exemplifications of both, the individuals and the other specifics manifested during the session.

METHOD 1: STORYTELLING – DESCRIBING A GIRL

The session opened greeting the elder, reminding her of our aims about the National IK project, and then by suggesting her to describe a regular school girl. Yet this puzzled the elder, who stated she needed further contextualisation to scaffold from.

A concrete scenario was further proposed: The elder would have first seen a school-girl walking past in front of her house, and sometime after the father of the girl would have passed-by, and asked the elder if she may have seen his daughter around.

The elder began by stating that her narration would certainly vary depending upon whether the girl was in a hurry, looked calmed, or she was holding a jumping rope –she would look very different in each of the different contexts, the elder indicated.

The elder exemplified that, if the girl was part of a group with other girls, the narration would then hold on to whether the girl had, for example, made a mistake, case in which she was bound to be circled around and put in the spotlight.

Asked on the girl's physical appearance, the elder indicated she would be a clean, well-dressed and groomed girl, and that she would also be a respectful girl.

METHOD 2: STORYTELLING – THE GIRL TURNED INTO A WOMAN

After describing the girl, the elder was asked on the girl having become a woman. The elder described the woman as a respectable wife who looked after the house. Yet, she remarked this woman will now likely carry her personality from childhood. To exemplify the above she contrasted a good girl –the one described above– versus a bad girl –clubbing, drinking and looking scruffy– to clarify on traits and on adopted behaviours that would be carried about all the way into her adulthood.

METHOD 3: DRAWING – THE GIRL & THE GIRL TURNED INTO A WOMAN

Asked for a physical representation, the elder drew and coloured both on a notepad. She complemented the drawing reiterating that the girl would be well-groomed and wearing an impeccable school uniform, and the woman would be wearing a typical ovaHerero dress and would also be holding her arm up as a symbol of combativeness, defensiveness and of defiance against colonial invasion (Figure 8).

Asked on how she would transfer all the detail in the session if, for example, an outsider like the persona researcher would like to take all this information with, the elder claimed that ovaHerero as a tribe are orally-bound; therefore she could readily repeat it all again for the researcher to annotate and take it with.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session the elder was asked to describe a girl, a woman, and to draw both.

The elder needed a scenario to embed the person rather than model it in isolation. When she got a setup for the girl to function, she conveyed a narrative largely made of emotional states like the girl looking apprehensive, playful, or as being spotlighted by her own peers, which depended on a deeper contextualisation of the scenario. Scenarios are typically put into practice only once personas have been generated: *Persona will then be used as the material for creating scenarios of use* (Cooper, 1998, pp.179-200). In this session with the elder this formulation was overturned: the application of a scenario triggered a successful conceptualisation of personas based on traits and characteristics that then got further illustrated in the drawings. Thus, it can be argued scenarios on third-parties were useful to scaffold personas.

On physical aspects, the description elicited aspects such as being well-groomed, while in terms of behaviours the girl would have been respectful and well-behaved. The description of the girl as a woman was uttered conditioned to her upbringing.

She would have carried forward personality traits from youth that would make her to either have adopted drinking habits and a scruffy look, or be polite and respectful. Comparing the emotional states provided to the good girl and the good woman, the girl's description carried more emotional states than the woman's. This can be argued because of the conformity of woman's social role within ovaHerero culture, which confirms the attitude conveyed by the elder and her husband previously, though it comes as contradictory to what the widow in Okomakwara specified.

The elder drew and coloured the girl and woman as full-size physical portrayals. She reiterated the girl well-dressed and wearing flawless attire and the woman wearing a traditional ovaHerero dress with the arm up –symbol of combativeness. The physicality of the arm-up is a critical descriptor and a meaningful gesticulation: an explicit military form of defensiveness from, and defiance versus the colonial repression by the Germans during the 1904-1908 genocide (Sarkin-Hughes, 2009). This was verified as a tradition in ovaHerero celebrations the day after attending the crowning of a new ovaHerero Chief for the Mbanderu ovaHerero (Figure 8).

The elder stated she would only express facts orally as this is the Herero practise. This is also claimed as one of the paramount ways for ovaHerero to gather and preserve their historical legacy, for instance, through the *omitandu* (Kavari and Bleckmann, 2008). The use of orality emerges as a vital feature ovaHerero participants sustain when creating persona artefacts themselves. As such a further sort of persona-based artefacts, *oral* personas, may be way forward to empower a relentless engagement of, and respect towards ovaHerero communities. This is something that LeRouge et al. (2013) state and document in the study whereby the input options stressed by users included voice and a limited amount of handwriting.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first and second questions this thesis aims to answer refer to (1) how the ovaHerero elder in Otjinene took-on, understood and co-designed persona artefacts and (2) what cultural assumptions emerged. In this session they came intertwined.

The elder in Otjinene took-on and understood personas as a result of a certain scenario to then orally transmit emotional situations based on the given situation, so reversing how usual personas often get built first and then played in scenarios. The elder also took-on this process as a means to convey key distinctions about the physicality of individuals, although this was less important than the emotional. Equally important, the need to bring about a scenario first seemingly contradicts the prevalent persona codes and concords as typically stated in the literature. She also showed a high reliance on personalities developed in childhood and their weight in being carried into maturity. This arguably makes her understanding about embodying personas as an ongoing, holistically consequential journey rather than a snapshot approach. This is significant to bear in mind when deploying persona artefacts for these locales, which refers to what Dearden and Rizvi (2008) pointed out in their study in India regarding users utilising *life stories over a period of months or years* instead of *focusing on specific information exchange events* (2008, p. 224). Finally, the elder exhibited an explicit preference to illustrating full blown bodies. Such representations corroborated core elements she expressed orally, while they also provided further nuances otherwise unnoticed, (i.e. the combative arm-up). Localised assumptions emerged in the consistently oral characterization of the persona descriptions versus the usually written narratives noted in UCD personas; the status of nuanced, dependable emotional states versus the likely physicality, and in the need to represent full bodies rather than passport-size photograph depictions typically used across the varieties of UCD personas shown in literature.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

A visual takeaway from this user-created persona session could be as follows:

SESSION 4: OTJINENE

PROMPTED NARRATIVES

Girl:

- Look depending on Emotions (distressed, playful, spotlighted)
- Physicality (groomed or scruffy look)

Woman:

- Personality from childhood (respectful or drinking)
- Looks after the household
- Establishing Fine Detail (i.e. woman's hand is up towards combativeness)

DRAWING PERSONAS



CONSISTENCY IN HOW THE ORAL DESCRIPTIONS PERVADED INTO THE DEPICTIONS DRAWN →



IF THE SESSION WAS TO BE TRANSFERRED OUTSIDE OTJINENE, THIS WILL CONSIST OF SOMEONE WRITING IT

Figure 8. ovaHerero results from the Fourth Session – Otjinene.

FURTHER WORK SUGGESTED

As descriptions of third parties via prompted narratives worked well in this session, these are to be sought-for in further ovaHerero locales for comparison and study. Yet, scenario will be proposed upfront to avoid lacking context to build personas.

As meaningful full-size depictions of individuals have also emerged in this session, this is to be verified as a way forward to co-design further user-created personas.

Orality is also to be observed as means ovaHerero state traits and characteristics.

Last yet nonetheless, to have followed plans, protocols, and recommendations by the local researchers has become inestimable in obtaining the above findings.

4.5. ERINDIROUKAMBE (PART II)

This session occurred in the village of Erindiroukambe on November 21st 2014.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This session got participants relating two individuals, an elder versus a youngster. The five male elders and youth from the previous session and a further elder and a youngster also took part in the session. It occurred under a tree at Gereon's homestead, who translated questions.

METHODS AND THEIR RATIONALE

Phase 2 in the methodology still is: *User-Created Personas with Team Dynamics*.

The method proposes a scenario on how an elder and a youth would climb a tree.

SESSION	TRIBE	LOCALE	METHODS
Session 5 Phase 2	ovaHerero	Pastoral – Erindiroukambe	Storytelling/Prompted Narratives

Table 10. Phase 2: Method deployed in Erindiroukambe.

As in Otjinene, the rationale behind this method aims to circumvent stereotyping. Since in Otjinene young and older females had been represented by the local elder, the intention here was to trigger descriptive examples for a male versus a youngster to depict individuals like those taking part in the session, i.e. male elders and youth. Encouraging the description of third parties rather than the first person via a simple scenario situation –climbing a tree– was future as this activity is often performed in this locale, hence it would be arguably stress-free to recognise and engage with it.

To get graphic examples was also aimed so as to verify the findings in the prior session in Otjinene and to find if the elder was portrayed with the stick, hat and chair.

METHOD: STORYTELLING – ELDER VS. YOUNGSTER CLIMBING A TREE

The session opened suggesting participants to express the needs, requirements and the traits of an elder against those of a youngster when climbing onto a tree.

They manifested descriptions one at the time, first the elder's then the youngster's: They agreed it would be tough for an elder due to weak bones and lack of agility, while his strong bones, flexibility and dexterity would easily enable the youngster.

When asked for a physical illustration of individuals they suggested drawing them, though they agreed a youth must do it due to the lack of skill by elders (Figure 9).

A youth commenced to draw the elder, which occurred as a co-designed exercise where the elders debated and guided on the elements to include in the drawing. They pointed essential the hat, chair and stick, while elements of the locale such as homestead, holy fire, and tree were agreed as essential to add to the drawing.

Once the session had finished, all participants and researchers went to eat together. The persona researcher cooked and set the table and food. In the extension of the day, locals debated and gave the persona researcher the ovaHerero name Pamue. When the latter asked for the meaning and the rationale behind such an appellation, the explanation by Gereon was as follows: *One value of Ubuntu is togetherness. The Hereros practice Ubuntu without realising that they do. They practice it heavily. It's like saying your pain is my pain, your salvation is my salvation. Even when Hereros are working, they do it harmoniously together. And Pamue in English is together. The eldest loved when you were working with them, and it was done together. So they named you Pamue remembering and resembling us all working in a unity together.*

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session weaknesses and strengths of an elder versus a youngster in climbing up a tree were compared by a group of elders and youth in Erindi.

The proposal of working upon a scenario-based situation upfront provided enough context for the participants to initiate the narration with no problem nor hesitation. As such they first described elements and traits of an elder in climbing a tree and, in turn, they contrasted such aspects with those embedded in a younger individual: Fragile bones and lack of agility were adhered to the elder, while his strong bones, flexibility, and dexterity would enable the youngster to climb up the tree effortlessly.

As in the prior session in Otjinene, physical depictions of individuals were proposed, with locals starting to co-design without difficulty, though appealing for a youngster to draw and elders to lead the efforts. They explicitly stressed to add the homestead, the tree and the holy fire in full size to the drawing, all surrounding the elder in full length as well, with his chair, hat and stick (Figure 9, cropped due to quality issues).

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first and second questions this thesis aims to answer refer to (1) how the ovaHerero elders and youth in Erindi took-on, understood and co-designed persona artefacts and (2) what cultural assumptions emerged. Questions came intertwined.

In this session, as previously in Otjinene, scenario-based third-party accounts could elicit relevant data that enabled the user-created persona aims this thesis intends.

To provide a scenario upfront was enough for participants to initiate the narration. They designated traits to the elder first and then to the younger individual as well. Like earlier in Otjinene, using a scenario first played well to embed characters in it and enabling to *focus upon users' goals, requirements, traits* (Putnam et al., 2012a) of bodily physical impairments of an senior versus the strength of a youngster:

Fragile bones and lack of agility were adhered to the elder, while his strong bones, flexibility and dexterity would easily enable the youngster to climb up the tree easily.

The physical appearance of the elder that the participants sketched emerged *depicting dimensions of ecosystems where users function* (Lecomte et al., 2013). This matches depictions previously observed in this locale as well as in Otjinene, seemingly signifying the importance of the locale for ovaHerero communities.

So, when drawing the elder locals held the homestead and tree and holy fire as vital. Such elements are not as common a visual feature in mainstream persona artefacts. Further, the elder was drawn in full length too (Fig. 9 cropped due to quality issues) –a feature that contrasts with customary portrayals of persona passport size photos.

The corporeal illustration of the elder with his hat, his stick and his chair reoccurred. They keep appearing deeply enrooted and so enabling *to circumvent stereotypes and make assumptions about user as explicit as possible* (Pruitt and Adlin, 2006).

Full-size depictions emerged in the last two sessions, pinpointing their importance in portraying ovaHerero personas of female and male seniors and female youth. And while in the session in Otjinene the female elder emphasised the arm-up for combativeness, in this session the stress of the full-size representation arguably falls onto the importance of the stick, the chair and the hat worn by the male elder.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

A visual takeaway from this user-created persona session could be as follows:

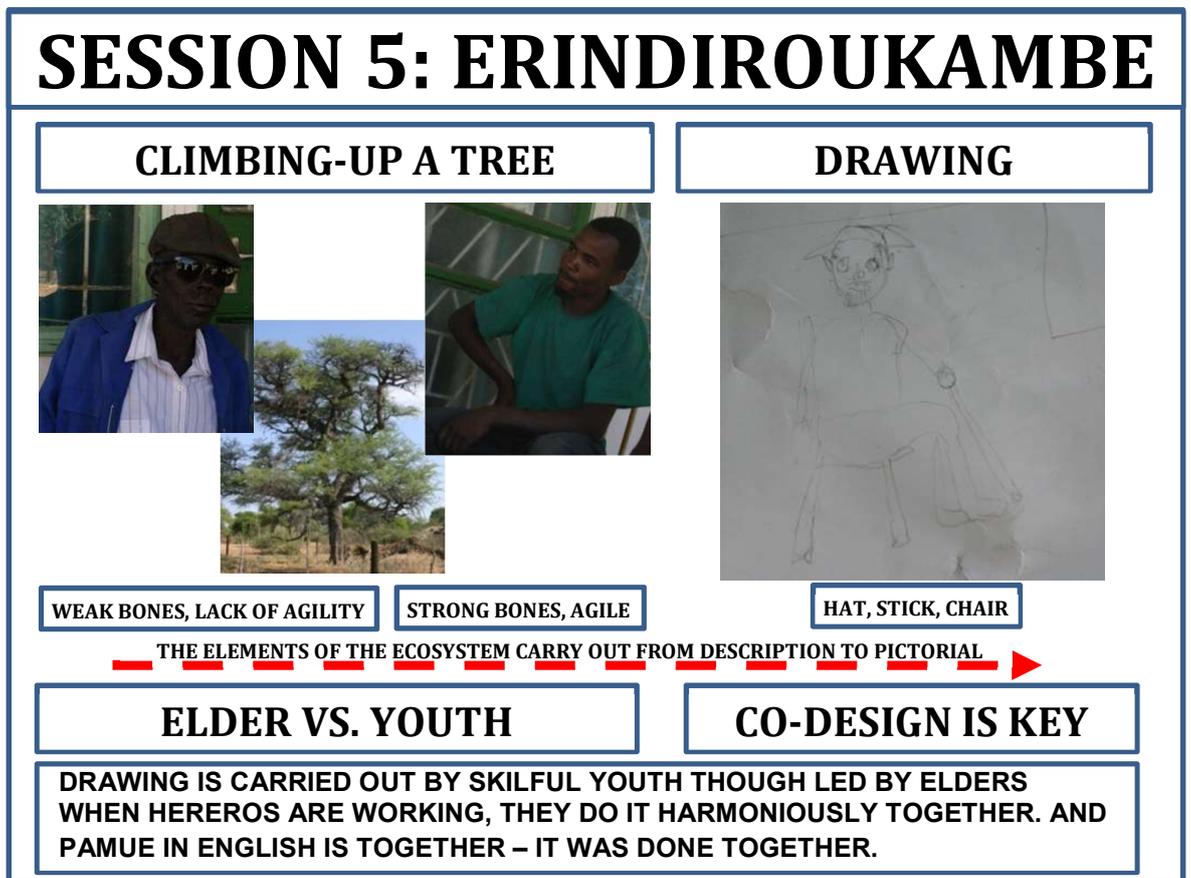


Figure 9. ovaHerero results from the Fifth Session – Erindiroukambe.

FURTHER WORK SUGGESTED

Findings in this and earlier sessions invite to verify the full-size depictions and to bring scenario-based narratives into further, ampler, more meaningful narratives. Such a narrative is to be verified in the next session.

Aware that the sojourn in Namibia was to last until 1st December and that sessions had started to reveal vital elements on how to co-design personas with ovaHerero, the initial rapidity with which data was *wanted* to emerge had now turned into a clear realisation that returning to Namibia to do at least one more session with ovaHerero, and at least a further study with another tribe, and so contrast the two, was the way.

4.6. OKOMAKWARA (PART II)

On returning to Namibia, the below occurred in Okomakwara on March 4th 2015.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This session entailed a descriptive illustration of (1) a sequence of events in a scenario, (2) traits of persons included, and (3) a drawing of one of the individuals. Elders –2 men, 3 women– who had not co-designed with local researchers joined.

METHODS AND THEIR RATIONALE

Still in Phase 2 of the methodology, participants were asked to narrate a story that could be likely seen on a TV movie once characters were suitably shaped.

SESSION	TRIBE	LOCALE	METHODS
Session 6 Phase 2	ovaHerero	Pastoral – Okomakwara	Storytelling/Prompted Narratives

Table 11. Phase 2: Method deployed in Okomakwara.

Having obtained simple scenes and characters in the last two sessions, the attempt now was a more complete sequencing and the characters taking part in the action so as to find about elicitation of characters' traits and participants' own requirements. Since media outlets such as TV are typically appealing forms of depicting people, the aim was also to find how this medium would work with this ovaHerero community as a methodological means to elicit and generate persona artefacts.

METHOD: STORYTELLING – A PREGNANCY LEADING TO A WEDDING

The session opened greeting and explaining participants the Crowdsourcing tool.

After their appreciation of such tool, they were asked to tell a story of their choice that could be likely to appear on TV once the characters were suitably shaped.

The TV idea was not understood so it changed to narrate a story of their choice.

Participants chose to describe the unexpected pregnancy of a young local couple. The couple would first update families and then take on duties on the pregnancy. This would lead to marriage and they explained how bride and groom would be and act apropos traits, behaviours, skills learnt, and duties to foster once married:

The woman got styled as raised by her mother, who would have been taught her household chores and responsibilities. The young man was described as gentle, taught farming by his father and trained to be skilled to look after house and cattle.

Yet participants claimed that the above is no longer possible as youngsters today are all long gone from the village in pursuit of further careers in urban areas. They though indicated earlier generations of ovaHerero were devoted to vital crafts like stick-making and horse-training, despite such crafts are almost now extinguished.

On fun activities they evoked young men as hunters, horse riders, and really skilful catching cows and putting them down; also as visiting the field contemplate cattle leisurely. Females would milk cows, carry domestic chores and play *catch-the-girl*.

They also claimed that despite the cultural changes in recent times, responsibilities for youth in the village are still the same, and that when the male youth return to the village during the school holidays they are still taught how to look after the cattle, slaughter a goat, and how to look for cow footprints to find where a cow has gone. They specified such skillset is still paramount even if one lives in conurbations.

They also indicated for urban girls to become women they must be well groomed and work on the way they walk as ovaHerero¹¹, to look decent. They also stated that

¹¹ Because of the historical importance of cattle to the trade and subsistence of ovaHerero, females traditionally train to walk by simulating the walking of a cow (explanation by local ovaHerero colleagues).

despite school educates children, they must follow tradition and customs when they are in the village and that, for example, *the sun may not rise while one is still in bed*.

As per wedding procedures, they described the practise of “the stick of the Elder”: The father gives the bride a stick on her journey to her in-laws that she would take back to her parents’ household later on. Then, a participant grabbed a set of sticks from inside a house to explain the diverse connotations each stick carries about.

Then, a female participant was asked to draw the pregnant girl on a hand drawing app in an Ipad the research team provided (Figure 10).

Lastly they were asked about activities such as football, modern music, technology. One participant stated those are bad things due to the amount of time they take away from youth, though the other contributors stated them as not being that bad.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

In this session a group of elders described a typical young couple’s pregnancy.

Proposing the elders to embed a sequence traditional to ovaHerero as a TV movie was not well understood, so it got repurposed into telling a scenario of their choice –a story whereby a couple of youngsters would have become suddenly pregnant. This again shows a local and foreign misalignment in appreciating and signifying.

Narrating and organising the story participants elicited (1) the sequencing of the set of actions that ensued and (2) two main characters, a young man and woman, who in turn they modelled with uniquely detailed upbringings, traits and behaviours.

Participants described orderly activities in preparation to celebrate the wedding, such as announcing the pregnancy to the parents, taking-up responsibilities by the parents-to-be, and some of the prolegomena on preparations toward the wedding.

They provided detail such the way the young couple would have been educated, each of them by the same-gender parent, and the duties assigned to each of them.

Overall, it is noticeable characters were suitably shaped and given a good amount of traits and behaviours to get a good idea on how they would be and behave.

Peculiarly, once the elders completed the sequence they stated this was the way things were, and that it was no longer so but the way the village thrived in the past. Such descriptions and characteristics, therefore, revealed an archetypical longing, since the telling is no more how things work in the village due to urban migration. Qualities like where from and how to achieve traits for the young couple have hence shaped desired ovaHerero archetypes rather than actual existing personas.

Acknowledging youth having vacated the rural environment for urban settings such as the capital Windhoek, thus, translates into the changing habits and customs. And yet, elders stated that when staying in the village, youth must accommodate behaviours to the locale and also to traditions. This reinforces an archetypical understanding of ideal ovaHerero entities that no longer exist among the youth.

This session revealed once again the importance of the stick in ovaHerero culture, and the dissimilar implicit meanings sticks carries with them in ovaHerero culture: There are sticks for pointing to cattle, for bachelors, sticks for men to marry, sticks for those already married (already held as elders), and for the very old too.

As per physical depictions, the pregnant woman drawn on the IPad was once again represented in full-size. Representations of individuals in full size keep, hence, consistent with earlier sessions such as in Otjinene and Erindi.

Orality has been observed again as the means ovaHerero express themselves.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHerero participants in Okomakwara took-on, understood and co-designed persona artefacts.

Localised methods provided data to produce user-created persona artefacts.

In this session, yet again, scenario-based narratives about third-parties elicited meaningful elements arguably *providing clear and comprehensive images and scenarios* (Hudson, 2013) and indicating the persona artefact *complementary enhance methods like scenario and philosophies like PD* (Grudin and Pruitt, 2002).

The way elders told the sequence, though, did not add elements of suspense or dramatic effects, but a single line of events and descriptions, which may impede to *facilitate design professionals to empathise with users* (Nielsen, 2012a).

Traits, behaviours, skills learnt and duties to foster once married emerged in the groups of individuals the elders depicted, i.e. a young female and a young male. This *focuses on specific users rather than the “everyone”* (Pruitt and Adlin, 2006), while *providing a focus on users’ goals, requirements, traits* (Putnam et al., 2012a). However, and paradoxically, these developed as desires and ambitions from elders rather than genuinely belonging to the individuals depicted. This implies a sense of archetypical absence and lost that participants counteracted with what once was.

The second question aims to answer what cultural assumptions emerged.

The elders embodied what once was as a longing rather than depicting how it is. Hence, the production of false, desired archetypes implies that the commonly held definition of personas as archetypes (Cooper, 1999) is arguably flawed, as in this case the perfected ovaHerero archetypes of young men and women no longer exist.

And yet, when representing an apparent stereotypical objectification like the stick, it may well be the case this reoccurrence is in fact an archetypal ovaHerero feature.

The reappearance of the stick in Okomakwara consistently demonstrates that this may arguably be an invaluable feature to add to elder ovaHerero persona artefacts; oral descriptions are also verified versus the written; full-size imagery –the pregnant female drawn on the iPad– are also consistent with sessions in Otjinene and Erindi.

Last if not least, there has been a reoccurrence across ovaHerero locales on how gender roles are epitomized as per how and by whom women and men are raised: women taught by mothers on household chores and duties, milking cows, walking as an ovaHerero, looking decent and well-groomed, and playing *catch-the-girl*; men trained by fathers on how to look after the house, manage the cattle, slaughter a goat, spot cows' footprints and find them, as hunters, horse riders and skilfully catching cows and putting them down, in crafts like stick-making and horse-training, and as liking visiting the field and contemplating the cattle leisurely.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

A visual takeaway from this session in Okomakwara could be argued as follows:

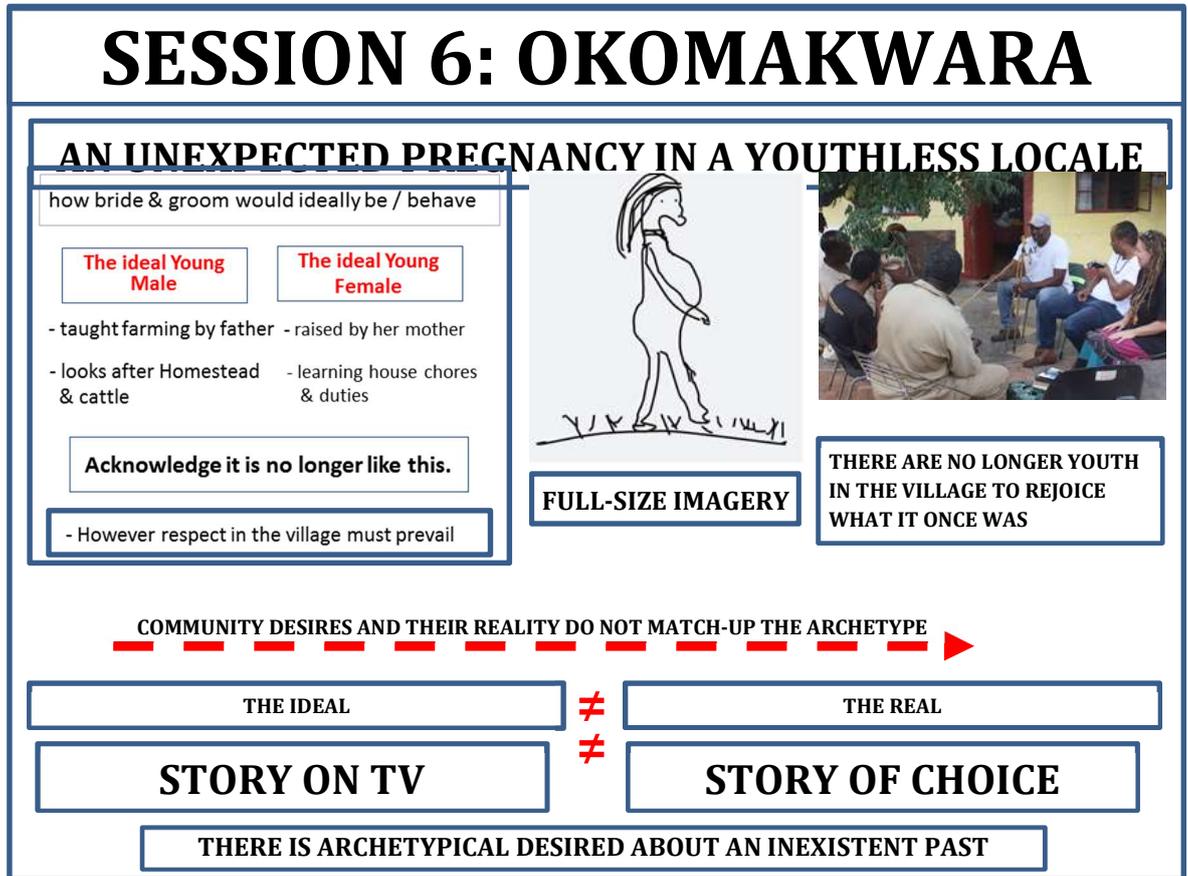


Figure 10. ovaHerero results from the Sixth Session – Okomakwara.

FURTHER WORK SUGGESTED

No more persona co-design sessions took place with other ovaHerero communities. Data obtained in the form of persona artefacts and their elements thereof would be held as sufficient to state a series of conclusions and to appraise findings.

Further evaluations of findings with the communities themselves would be desired, yet within the scope of this study there has not been considered to hold room for it.

These are not ruled out at a later stage once this thesis has been finalised.

4.7. CONCLUSIONS ON OVAHERERO FINDINGS

The first user-created persona case-study took place with ovaHerero communities. It produced data from which conclusions are stated in the following paragraphs. Main findings are both, methodological and about elements in persona artefacts.

CONCLUSIONS AT A METHODOLOGICAL LEVEL

In terms of the methodology, the exploration in Phase 1 worked at a personal level and equally paid off as a researcher. On the latter, to have come to a distant milieu with a plan in place, have collected data and have departed as such, could have been a misleading and neglecting exercise towards the local communities studied. To be foreign in a team of local scholars and to not have built good team dynamics could have been disheartening but also counterproductive, and ultimately fruitless.

Proactivity in being part of the local team from the start, thus, allowed to be given a chance, but also to progress in appropriate ways –with their guidance and advice. Being new to ovaHerero communities, it was well understood that this exploratory phase would support *Understanding Users & Team Dynamics* towards forging strong dynamics with local researchers with whom the work was to be executed. Even so, the beginnings of a new venture are not always stress-free and so first moves were fairly clumsy and even jeopardised the return to do further research.

The first 3 sessions were two-step sittings with methods by different researchers. Three takeaways from operating this way: (1) It became a fecund mode of working for the persona researcher to contrast techniques to function with other overseas scholars (i.e. first session in Okomakwara) and to observe the local researchers' modus operandi into performing Participatory Design – i.e. Otjinene and Erindi. (2) It also allowed making research low(er) cost. In a world where time and money

seemingly prevail, this approach aided saving time and costs to the researchers. (3)
Even if rookie errors arose, this style facilitated the gathering of useful data.

In terms of methods, replicating methods did not work well with ovaHerero. Utilising props as playful triggers or a rapid ethnography tactic was futile, arguably, due to the different mental models and local versus foreign levels of signifying. Yet, it may still be that such a set of methods were not properly deployed in-situ, and that they thus have a better adaptability and reproducibility in ovaHerero sites.

Attempting to generate personas directly emerged as a complicated venture, mainly because the persona artefact showed to be alien to ovaHerero participants. So it was not easily taken on, with locals using self-stereotypes as seen in Erindi. And yet, when personas were repurposed into choosing the best parts of different vehicles to build a better one, participants in Erindi understood this localised event.

In the persona literature interviews are typically held as a customary method to elicit data to then create personas. Yet, this procedure did not work well in Erindi. Three-hour of interviews did not finally elicit as much relevant detail about users, but about a series of the elements that they considered as vital in their ecosystem. Yet, focus groups like those in the last sessions in Erindi and in Okomakwara both, proactively engaged participants and produced significant elements of personas.

Equally important is to comply with the protocol established by local researchers. So once an initiation had been done, a certain degree of *Understanding Users* was achieved and a strong set of *Team Dynamics* with local researchers was attained.

Methodologically, thus, the exploration in Phase 1 paid off as acceptance by local researchers enabled the return of the persona researcher to continue the probing.

So a successive set of sessions and methods made Phase 2 in the methodology: *User-Created Personas with Team Dynamics*. Sessions at this stage had a clearer object –to build personas by finding key elements users generated themselves.

So narratives about third parties were sought-for in the same three locales. Deploying this approach with single scenarios worked well in the first 2 sessions, while the in third session an ampler approach to a set of scenarios was obtained. A fruitful scenario approach to a single scene in the Otjinene and Erindi sessions led to narrate a sequence made of various scenes by inhabitants in Okomakwara. Results in the 3 sessions shaped an enriching set of traits, conducts and features that confirm this as a valid method to create personas with ovaHerero populations.

Moreover, descriptions of third parties revealed that, unlike what persona literature prescribes, scenarios were first needed to then generate personas artefacts.

Hence, the fruitfulness of the third-party descriptions via prompted narratives is to be sought-for in further locales in Namibia to contrast and validate this method.

CONCLUSIONS ABOUT ELEMENTS IN THE PERSONA ARTEFACTS

This section draws conclusions in terms of rhetorical inclinations, narrative content and physical layout of the persona artefacts co-designed by ovaHerero locals.

On the subject of rhetorical preferences ovaHerero exhibited certain propensities.

An inclination not to lose face occurred in the preliminary session in Okomakwara. Group agreement prevailed among elders even if inconsistencies were later shown.

On expressing gender roles and egalitarianism there was a clashing discrepancy between the eight ladies in Okomakwara and elders in Otjinene and Okomakwara. The former complained about the state of affairs, while the latter seemed satisfied.

In Otjinene personality traits carried forward in life were stated as reliant on rearing: The elder claimed that childhood manners were being taken forward into adulthood.

A key rhetorical point was that of ovaHerero depicting archetypes and stereotypes: the expression of potential reminiscent archetypical aptitudes like gardening and preserving flowers hints this community is motivated to retrieve what it once was. And so, where the second sitting emerged as *things of concern* of past, present and future, participants seemingly voiced aims to bring the past into their future.

Another misguiding archetype emanated in the girl drawn by the elder in Otjinene. Despite the elder claimed that a girl should be well-dressed, groomed and behaved, the reality in this milieu seems more aligned with alcohol intakes and scruffy looks. The elder herself raised this as a present concern, which it was observed by researchers at night in Otjinene, and it has also been confirmed by other ovaHerero.

A last archetypical distortion materialised in the second session in Okomakwara. Here the emergence of traits, skills and behaviours in the young couple represented got dismantled by the elders acknowledging those were qualities from the past.

On stereotypes, personifying the male elder with the hat, chair and stick have defined ovaHerero elder in two locales, while the last session in Okomakwara reaffirms the relevance of the stick. This *a-priori* a stereotypical depiction is now argued an attribute to ovaHerero elder personas for the status the objects provide.

On the content included in narratives, ovaHerero expressed certain predilections.

To include dimensions of the ecosystem where communities live was reoccurring. In all sessions central elements from the surroundings such as the household, the tree next to it, the cattle, and the holy fire in front of it got acknowledged as vital.

Besides, these features hold further connotations than the mere utilitarian usage. Markedly, such elements are scarce features in dominant persona renderings.

On the physical layout, orality and full-size bodily portrayals emerged across locales.

Across sessions orality was a prevalent apropos how ovaHerero create meaning. The female elder in Otjinene clearly stated the oral character of ovaHerero, which also was observed in all other sessions in Okomakwara, Erindi and in Otjinene itself.

As per pictorial representations, when sessions invited scenario-based recounts orality was complemented by illustrations producing reasonably stimulating results. The sketched drawings implied nuances that made explicit historically traditional elements that, according to a benefit stated in persona literature, *enable the social and political nature of design decisions to surface* (Grudin, 2003). An example of this was the depiction, also in Otjinene, of the woman marching holding her arm-up. This nuance would have been missed should the drawing not had been outlined.

Also, the full size physicality provided elements of the ecosystem were locals live, denoting a holistic liveable vision. Such as holism is fused in ovaHerero culture in the artistic figure of the *omitandu* which bounds people, cattle and land together (Kavari and Bleckmann, 2008).

Overall, five ovaHerero persona artefacts were depicted across the six sessions: female and male elders, male and female youth and a girl. Such groupings cover a range of ovaHerero population, which makes this case study a constructive one.

5. USER-CREATED PERSONAS: PASTORAL OVAHIMBA

This chapter presents the case-study on user-created personas with ovaHimba. Chronologically, this study began as the second of the four case studies presented.

Four sessions occurred in March and October 2015 in two villages in the Kunene area of Namibia: One in Ohandungu, with six females with their kids, and three in Otjisa with an extended family formed by male elders, women, some youth and kids.

Sessions formed a set of data from the sessions outline on Table 12 below, and from which initial results and conclusions continue the empirical path of this thesis.

This case study began as Phase 2 in the methodology and it consisted on observing first how local researchers deployed co-design sessions, while the focus related to user-created personas was to position storytelling methods to elicit such portrayals.

SESSION	TRIBE	LOCALE	METHODS
Session 7 Phase 2	OvaHimba	Pastoral – Otjisa	Observing Local Researchers doing PD
Session 8 Phase 2	OvaHimba	Pastoral – Ohandungu	Storytelling of a Typical Life Event as a Sequence
Session 9 Phase 2	OvaHimba	Pastoral – Otjisa	Supporting Local Researchers in a Usability Validating Session
Session 10 Phase 2	OvaHimba	Pastoral – Otjisa	Storytelling of a Typical Life Event as a Sequence

Table 12. ovaHimba Case Study: Session, Phase, Tribe, Locale and Methods.

Contents in this case study draw on these publications: *OvaHimba Knowledge through Storytelling and Personas: Technologies, Methods and Challenges Ahead* (Cabrero and Winschiers-Theophilus, 2015), *An UX and Usability expression of Pastoral OvaHimba: Personas in the Making and Doing* (Cabrero et al., 2016a), *A Hermeneutic Inquiry into User-Created Personas in different Namibian locales* (Cabrero et al., 2016e), *Challenges in Designing Cultural Heritage Crowdsourcing: Tools with Indigenous Communities* (Stanley et al., 2018).

PHASE 2 OVAHIMBA: METHODOLOGY, METHODS & THEIR RATIONALE

Having studied the co-design of User-Created Personas with pastoral ovaHerero; sharing smooth team dynamics with local researchers, thus mutual confidence; revising prior research with ovaHimba by local researchers (Kapuire et al., 2015), and with a fairly solid literature review upon the long-standing accounts of technology co-design and research sessions alike in various Namibian localities, ample experiences have now been gained on how to open and also lead sessions. As such, what methods can work locally and how to place them had been learnt.

Hence, persona co-design with ovaHimba groups was approached as Phase 2, which consisted of observing on how local researchers did PD with ovaHimba first to get an *Understanding of Users* with existing *Team Dynamics* now enabling it. This tactic was believed to lead towards a further advancement of Phase 2 in a way that *User-Created Personas with Team Dynamics* could be attained fruitfully.

Sessions revolved around efforts by local researchers to digitise ovaHimba heritage.

The research on personas was aimed as complementary to the crowdsourcing project led by local Herero researcher Colin Stanley (Stanley et al., 2013, 2015).

Methods proposed mainly concentrated upon storytelling. Yet, the first sitting served to observe local researchers position PD with ovaHimba, while the second enticed the storytelling of an emblematic event –a wedding. Like the last session with ovaHerero, this sequencing aimed to establish how ovaHimba situated and told stories, the elements these contained, and the main people involved, to then deepen into protagonists details via both, roles in the group and their given traits. The third method was again observational –on how local researchers carried out a Usability validating session, although this time proactively seconding the sitting by providing

a narrative-prompting that addressed if goals of UX played a pivotal role. The fourth method also attempted to prompt the storytelling of a traditional event –i.e. a funeral in this case. Building on the second session, this sequence aimed to verify the way ovaHimba recounted stories, to find key elements emerging in them, and the main characters involved and their traits and roles in the community.

The overarching object was (1) to find what aspects of Usability and UX were considered important and could hence serve to generate persona artefacts based upon the needs, requirements and ambitions conveyed during the observations, (2) to array storytelling methods to find how participants took-on, understood and co-designed persona artefacts, and (3) to analyse what cultural assumptions materialised from the findings in the activities undertaken.

Findings revealed notions of humanness in the community, persona collectives rather than individual personas, and the relevance of attire and their usage.

Sessions are chronological and their account is both, on methodological learnings, outcomes achieved, and the evolution of methods as the different sittings evolved.

5.1. OTJISA: AN OBSERVATION OF CO-DESIGN WITH OVAHIMBA

This session occurred in the ovaHimba village of Otjisa on March 11th 2015.

INTRODUCTION TO THE LOCALE

OvaHimba are seminomadic and so session participants had just moved to Otjisa. Locals in Otjisa practise cattle herding and agricultural activity as means of survival. Researchers initially went looking for the *Super User* (see below), Uaraike, who was later found in a maize field he was looking after with other of his family members.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This session was a Usability test for the first prototype of the crowdsourcing tool. The model was based on a basic interaction design produced by the researchers. Participants were two male elders, some youth, small children and various women. The local driving force as per the crowdsourcing tool is community leader Uaraike. He became *Super User* out of respect to ovaHimba tradition, where elders are first, and also due to his enthusiastic, proactive and continuous interest in the IK project. Three local researchers and the persona researcher were also part of the session.

METHOD AND ITS RATIONALE

This sitting aimed to witness local researchers positioning PD with the ovaHimba. This observational approach was opportunistic and allowed the persona researcher to make findings via a method, lens and positioning consisting of contextual enquiry.

The objective was to understand about the users with team dynamics now in place, and so to be able to observe the way researchers led the dynamics of the session. A further objective aligned with the persona co-design endeavour was to annotate UX goals and Usability constructs to evaluate their initial degree of importance for the community and their embeddedness in ensuing persona co-design sessions.

METHOD: OBSERVING AND NOTATING A USABILITY SESSION

Data collecting began entering Otjisa. *Respectfully*, researchers waited until being asked the reasons for visiting. They proposed locals to carry a research session, and on agreement they proposed to do it inside a gazebo they brought along with chairs, to cut the *heat* and avoid the *glowing sun* as an issue to view the interface.

Uraike, another male elder, a teen and Colin Stanley sat on the chairs inside the gazebo, while youth, women and the other researchers sat on the dirt (Figure 11). The researchers introduced themselves *reminding* locals last time they visited¹². Then they *openly* explained the agenda that had brought them back to visit Otjisa. This was done to ensure locals understood and agreed with the aims of the session.

Uraike was first presented the tool and then he was handed the digital tablet with the crowdsourcing software. Meanwhile, the rest of the attendees remained sat around and carefully listening. As the conversation evolved, others entered the dialogue voicing their opinion or adding further detail on what was spoken about. Then Uraike was proposed to test the tablet by attempting to record some videos. He merrily stood up, got the tablet to the bush, and suggested to dig a tree's roots. He transferred the tablet to one of his sons and began the excavating of the roots, while explaining what he was doing and what usages the root holds for ovaHimba. Towards the end of the session Uraike learnt that the tablet was to stay with him, so he promptly thought of how to *carry* it around the bush and how to protect it best. He pointed to a *hand-made leather bag* on sight and provided detailed advice on how to redesign it on size, length, and other features. His wife and other women offered further detail on the applied redesign and usage of the bag to keep the tablet.

¹² This would be a customary protocol to comply with *local ethics*. Yet, since ovaHerero and ovaHimba are close kin, this serves to introduce one another and so to find if family surnames of local ovaHerero researchers may have been known to natives, which they actually were.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session entailed observing how local researchers lead and deploy PD.

By entering the session as an observer data emerged in an abundant manner. Protocols on how to enter the locale provided invaluable nuances as goals of UX i.e. *togetherness, respect, openness, ethics, engagement, honesty, decisiveness, a hand-made leather bag, curiosity, excitement, heat*. Some goals came as seemingly abstract, although inspirational to convey qualities to enhance persona artefacts. Yet, they emerged as collective features the community values as their way of life.

On the dynamics about how to intervene in conversations Uaraike led the communal talk with others orderly completing missing details like those about the leather bag. This displays a hierarchical order about who to address first –the community leader.

When Uaraike suggested digging tree roots he handed over the tablet to his son and excavated rather than record. This shows an orchestrated choice of actors subject to levels of IK. In all the other cases Uaraike had held the tablet himself.

When informed the tablet was to remain he thought how to carry it and protect it. The absorption of a new device to the locale called for a further contextual element –*a hand-made leather bag* that the women claimed understood how to redesign.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHimba participants in Otjisa took-on, understood and co-designed persona artefacts.

To sidestep creating personas directly, other means of data gathering were sought for in the opportunism of this session where persona methods were not deployed.

To observe local researchers in action enabled the persona researcher to elicit goals of UX that produced invaluable data to obtain an initial understanding of the users.

Protocols on how to enter and behave in the local context were found to enable generating a relevant provision of localised needs, requirements and also ambitions. Such features can be held as instrumental elements of humanness and behaviour that may, in turn, relate to co-designing persona artefacts to design technologies.

The ordered functioning of the community enabled to understand group dynamics: Intervening participants in the dialogue showed the community leader at the top, the elder sat next to him afterwards, the women then, and the teenagers and kids last, *which steadily enabled communication amid all partakers* (Grudin and Pruitt, 2002).

The embedding of new tools to the existing environment propped a further element – *a hand-made leather bag* as a means to carry and protect the new instrument, but also a further interaction where all members in the community expressed their thoughts *to provide focus on users' goals, requirements, traits* (Putnam et al., 2012a) towards the redesign of the leather bag to cater for the digital tablet.

Ultimately, it can be argued that this observational session has been productive due to strong team dynamics, which has avoided trial and error as with ovaHerero.

The second question aims to answer what cultural assumptions emerged.

The UX goals elicited in this session enabled the persona researcher to observe the inner workings of the community, for example, by noting the particular ways through respect by local researchers was carried to introduce the session with an openness, ethics and honesty that produced genuine engagement and curiosity, among others, and that appeared as essential elements to co-design with ovaHimba.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

A visual takeaway from this session in Otjisa could be argued to look as follows:

SESSION 1: OTJISA

OBSERVING AND NOTATING A USABILITY SESSION



ELDERS HANDLE THE TABLET WHEN A VIDEO ON IK IS TO BE SHOT & DELEGATE IT TO THE YOUTH WHEN THEY TALK

*TOGETHERNESS, RESPECT,
OPENNESS, ETHICS, ENGAGEMENT,
HONESTY, DECISIVENESS, HEAT
A HAND-MADE LEATHER BAG,
CURIOSITY, EXCITEMENT*

CONVERSATIONS BASED ON HIERARCHICAL DYNAMICS & CONDUCTS OF MUTUAL RESPECT

ELDERS HANDLE THE TABLET WHEN A VIDEO ON IK IS TO BE SHOT & DELEGATE IT TO THE YOUTH WHEN THEY TALK

Figure 11. Researchers and ovaHimba inside and around the gazebo.

FURTHER WORK SUGGESTED

Goals of UX that have appeared are going to be verified in next session in Otjisa, while the usages of the hand-made leather bag are also going to be substantiated.

The hierarchical workings of the community and the groups of individuals are also going to be verified in subsequent sessions based on what has been learnt so-far. To elicit traits for each of the groups forming the community will also be sought for.

Last but not least, storytelling keeps being the main focus in next persona sittings. So narrating stories is to be attempted in the next session to find how ovaHimba display situations, props, common people and their traits to generating personas.

5.2. OHANDUNGU: A TRADITIONAL OVAHIMBA WEDDING

This session occurred in the ovaHimba village of Ohandungu on March 12th 2015.

INTRODUCTION TO THE LOCALE

Ohandungu is a village situated around 30km north of the regional capital Opuwo. It is a wooden-fenced compound with five huts surrounding the sacred fire (*kraal*), and where near 20 people dedicate to cattle and farming as means of sustenance.

INTRODUCTION TO THE SESSION & PARTICIPANTS

The session aimed to find portrayals of personas by proposing the contributors to narrate a story to be aired on TV as a movie once characters were shaped aptly.

Six local females with their kids and babies, a male elder, a local facilitator –John, three local and the persona researchers took part. Participants ranged different ages and had also different statuses in the community. They sat down in the dirt on an ample leather cloth, while the researchers sat on the chairs the team carries with.

METHOD AND ITS RATIONALE

Previously local researchers have provided with the initial *understanding of users*. Phase 2 now attempts to find out how ovaHimba co-design personas via storytelling.

This sitting was planned to invite participants to narrate a characteristic event that could be aired as a motion picture on TV once protagonists were suitably shaped.

The aim was to find how ovaHimba tell stories, the props and depictions adapted, and to find upon characters' details as per roles in the group and traits assigned.

The rationale was to attempt to verify if this proposal would work for the ovaHimba, to compare this with the findings in the previous session with community in Otjisa, and to contrast results with the way it did not work with their relatives the ovaHerero.

As previously, Gereon translated the questions posed by the persona researcher.

METHOD: STORYTELLING – A WEDDING

The intense hotness brought the session under a tree within the village compound. The session opened with a customary welcoming protocol of politeness and greetings (local researchers were asked about the families they belong to), and then explaining the purpose of the visit (i.e. digitalisation of IK towards its preservation).

Then the ovaHimba community were proposed to narrate a characteristic passage in local life as they would visualise it to be eventually represented on TV as a film. The eldest female instinctively took the lead and spontaneously began narrating the day before, the very day, and day after a traditional ovaHimba wedding (Figure 12).

The below is the Otjiherero-English translation by Bolle, a Namibian translating for researchers. The extract depicts the storytelling and the characters that emerged:

[Referring to an ovaHerero local researcher] *The Herero Uncle when being called on, he would then go on to the kraal where the wedding ceremony was taking place / [Baby Male] Born like this one, then you just say this one is for Kambambatjii (her brother's child), when they grow up they will marry, that will then be his wife / [Bride] makes herself well up and stays inside the house and not among people. She will be fed in the house...; [on wearing attire to suit the conventions] in the presence of people she will not eat and she will put her things (ornaments) back, [Herero Uncle traits] Uncle is a sat, silent individual expressing himself solely by deep humming sounds / [Bride] sitting is in the manner of fearing people; that she should not sit with like men, for instance, and should know that this is but the culture in our culture.*

The transition from childhood into adulthood was then styled through another vital event for ovaHimba –i.e. a first menstruation of a teenager who, after this central event, she would have become a woman and therefore would be ready for marriage.

Participants echoed the shyness and humbleness of the teen, the role these play at some stages in her life, and the physical markers of phases shown in her attire. They went on proposing a scenario where two young females were alone working together in the maize field, and where they would converse about things, participants informed, that they would not otherwise comment on in front of others.

Nevertheless, before the females narrated with the fine detail of the conversation they requested for the male elder sitting in proximity to absent himself from the area, so they could express themselves about such private things of women (Figure 12).

The ladies talked of two girls, one slightly older than the other who tells the other about a young man who fancies her, so to keep a good eye back on his interest.

After a few joint chuckles researchers shifted the debate to the use of technology. A young female removed a cell phone from a hand-made leather bag (Figure 12).

They claimed elders use it despite their lack of technological skill, though making or receiving calls, or when showing it functioning, it was youngsters who handled it. Workarounds were explained, such as the link between people's numbers and inbuilt icons to recognise who calls, or how to select who they would like to call.

Related to the leather bag where the phone was kept, participants were asked to, and so provided details on its daily usage, its origins, and its meaning to ovaHimba.

This exchange led to talk about other objects in the attire, like ornaments ovaHimba female wear on their heads, and their meaning in representing marital statuses.

Since it was getting late and they had to get on with cooking, the session finished. Yet, they cheerfully stated that in a subsequent visit they would perform examples of their wedding dances to further illustrate diverse scenes of nuptial celebrations.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session probed methods to learn how ovaHimba communities practise self-representation via storytelling, and so inspire co-design events to create personas.

OvaHimba females got enticed to narrate a traditional local scene as seen on TV. Unlike with ovaHerero, the TV approach worked and the eldest female took the lead. However, the storyline was leaving loose ends that in turn others picked and filled. So it got completed by cut-up scenes that, yet, delivered a meaningful sequence. Thus, the narration came as a circular delivery of sequencing, set, attire, props locals tore apart and shaped in twists and turns until they got it clear themselves. This enabled the storyline to make sense and to organise the plot of the full story.

The selection of characters delivered characters with distinct roles and unique traits, i.e. *The Herero Uncle*, who sat silent and solely expressed deep humming sounds; or *the bride*, whose shyness and meekness got granted as part of her character. Such behaviours in the bride were expanded by adding physical indicators like those designated in terms of specific clothes and garments in a particular circumstances –i.e. unambiguous make-up for brides, ornaments depicting marital statuses, etc.

These additions were further detailed as they held rank and status in the storyline. The storyteller signalled the items in real time for they were worn by some females –i.e. *Now, she can put all that on and wear all that when you are home. When there are visitors like you, then she can wear like this. She is a newly wedded.* To tradition in the nuptials–i.e. *shy and humble* bride, the storyteller also spoke of challenges like young spouses leaving the hut –to have an affair– after marriage.

Then they flashbacked to a scene about the bride-to-be still as a single, and talked by another youngster on intimacies and the potential suitors in the surroundings.

The intimacy needed, so females could talk freely, led to send the male elder away. This denotes openness to talk about private issues, and so explain cultural facts to do with a particular segment of ovaHimba populations, yet respecting the elders.

The dialogue evolved into the technologies they used and how, and the hand-made leather bag where they kept and from where they withdrew the cell phone device. This revealed further data on who handles the phone when a call is to be made (i.e. youth), and who leads the talk once the connection is established (i.e. elders), as well as on their design perspective on how to adapt new tools to the milieu.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHimba participants in Ohandungu took-on, understood and co-designed persona artefacts.

Telling a typical event in the ovaHimba culture, participants showed to engage with the movie plot and got on well with creating the story, the players, props and events. As the narrator began the storyline, she armed those around her with characters to whom she conferred with societal roles as a unique set of portrayals of characters. Such depictions were filled-in with enriching traits both, descriptive and embedded. This arguably *assist design professionals to empathise with users* (Nielsen, 2012a), as it *provided clear and comprehensive images and scenarios* (Hudson, 2013), *depicted dimensions of ecosystems where users function* (Lecomte et al., 2013), as well as *focused on specific users rather than the “everyone”* (Pruitt and Adlin, 2006).

For example, behaviours and actions expected in the newly married girl emerged: *as she is passing by people, she will love to be told “you now are a grown woman”;* *as she walks, she won't elevate her arms as she'll be walking holding her dress...*

The same occurred with the Herero Uncle and his humming and silent occupation. These *provide focus upon users' goals, requirements, traits* (Putnam et al., 2012a).

The second question aims to answer what cultural assumptions emerged.

Storytelling keeps emerging as fruitful to co-design personas in pastoral Namibia. A proclivity to the performative showed along with a collectivistic style in telling stories. The main storyteller became absorbed in her role so she altered her tone of voice, at times inviting the belief in the first person performative nature of specific, passionate and evocative flashes –i.e. looking around the elder relator swiftly asked: *Who are those? Who is walking? I am going from my place to the marriage place.* This skill for storytelling and proclivity to the performative could *engage the product design and the development teams with the sets of users* (Pruitt and Adlin, 2006). This is not a common method that literature on personas proposes as meaningful.

Apparels like the leather bag appeared again as meaningful, which verified from the session the day before in Otjisa (Stanley et al., 2018). Ornaments illustrating marital statuses like the headdress from animal skins that married women wear were also detailed by the storyteller, who simultaneously pointed to the wore around by others. These are arguably a good degree of persona pointers that designers can able to visualise without a written narrative or written data on persona psychographics.

Such features emerged as goals of UX seemingly embedded in ovaHimba culture. A newly hosted device such as a digital tablet can hence be absorbed by design into the attire, ensuring an embodied UX beyond direct “uses” of technology itself.

Last of all, no character in the story was given specific names, nor any specific age. The Uncle Herero, the bride and the baby simulating the birth of the male suitor.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

As a visual takeaway from this first user-created persona encountering session, it could be argued an initial persona representation could be as follows:

SESSION 2: OHANDUNGU

NARRATING A WEDDING



Personas Groom (Male) & Bride (Female)

how the wedding would ideally be & bride & groom behave

<p style="color: red; font-weight: bold; margin: 0;">The ideal Young Male</p> <ul style="list-style-type: none"> - Run after other women - looks after Homestead & cattle 	<p style="color: red; font-weight: bold; margin: 0;">The ideal Young Female</p> <ul style="list-style-type: none"> - shy and humble - obedient to husband & cattle
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FEMALE INTIMACIES



NARRATING INTIMACIES IS A GENDER-BASED AFFAIR. RESPECT TO ELDERS PREVAIL, AND SO THE LATTER ARE BEING ASKED NOT TO BE PRESENT

Acknowledge it is no longer like this.

Protocols of how it used to be.

WHO HANDLES THE PHONE WHEN A CALL IS TO BE MADE (I.E. YOUTH), AND WHO LEADS THE TALK ONCE THE CONNECTION IS ESTABLISHED (I.E. ELDERS)



THE ARCHETYPICAL IMAGERY IS OPENLY ACKNOWLEDGED AS BELONGING TO THE PAST

Figure 12. Results of Persona elements expressed in Ohandungu.

FURTHER WORK SUGGESTED

Upcoming sessions aim to verify the narration of further typical sequencings to elicit additional traits both, for the same groupings and also for others in the community. So the understanding of their wider social structure and who form it will be the foci. The absence of names and ages in individuals in the stories will also be considered. Goals of UX found in the first session are to be verified in the following session too.

5.3. OTJISA: A USABILITY FEEDBACK SESSION

This session took place back in the village of Otjisa on October 10th 2015.

INTRODUCTION TO THE LOCALE

Between March and October the local researchers undertook a further trip to Otjisa where they tested and left with Uaraike a second iteration of the crowdsourcing tool. The persona researcher had not attended that trip for it was not in the local agenda.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This was the first sitting of four that ran consecutively the same day and the aim was to further inspect the new prototype of the crowdsourcing tool through a Usability test only with *Super User* Uaraike. The tool was a more developed interface design.

METHOD AND ITS RATIONALE

In terms of persona research this session initially consisted on observing how local researchers would lead another meeting until the persona sitting would take place. Yet, the persona researcher had some confidence in understanding users and local protocols, so instead of seeing how things ran, he proactively joined-in the sitting.

So, while the initial aim was to perform a Usability test of the tool left with Uaraike this evolved during the session into verifying the goals of UX from the session in March, and if some constructs of Usability would then emerge throughout the sitting. This shift was suggested in-situ by the persona researcher, as the session was not providing the initially expected. Uaraike was eager to narrate details and anecdotes he had experienced, and so the sitting shifted attention to substantiation of UX goals that emerged through the experiential activities and ambitions first, and so trigger issues about Usability as Uaraike narrated his activity. As described in the following and in literature (Stanley et al., 2018) this style proved useful in all sittings that day.

METHOD: USABILITY FEEDBACK TEST

The sitting initiated by asking Uaraike about his experiences in utilising the tablet. He stated *pride* in collecting his IK knowledge and defined the experience as *gratifying*, as it gave him a firm *understanding* on how to operate the table himself. However, he claimed *sadness* in not knowing how to recover audios and videos he had fruitfully recorded, so he did not know if he was using the tool right or wrong. For this he detailed he felt a severe *headache*, though in hindsight he thought it must have come from something else. Overall, he felt *motivated* as he lastly thought that researchers would come back and *help* him to sort out the challenges he faced.

He also indicated that the physical space –10-inch screen– was somewhat limited, as well as that the screen provided a constant glare due to the intense sunshine. Then he was explained that the functioning of the crowdsourcing tool would imply creating existing physical imagery into 3D digital ones by international designers. So an agreement should take place on how this could bring ovaHimba in contact with others worldwide to attend to their potential needs, requirements, and desires. Uaraike clearly specified *human values* and *respect* are paramount in such a case.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This sitting entailed eliciting goals of UX and constructs of Usability via feedback. Persona research was set as observational to the Usability test by local researchers. Yet, this time the persona researcher proactively seconded the sitting by suggesting to focusing on the storyline that Uaraike seemed more encouraged to describe, and from there to focus on goals that played a pivotal role and also Usability constructs.

The goals of UX produced in the session in March stretched further into *pride*, *gratification*, *understanding*, *sadness*, *motivation*, *help*, *human values*, *respect*.

Constructs of Usability appeared as *lack of feedback, screen reflection and tablet's limited space*. This implies more goals of UX appeared than Usability constructs.

While the lack of response of the tool is a matter of adapting it until perfected, scalability and low visibility are to be borne in mind to aid a positive, gratifying UX. The telling of operational and functioning aspects of the tool seem highly dependent on the goal situated in the experiential. And so findings related to persona co-design with ovaHimba seemingly appear as more experiential than practical goals.

Moreover, UX got further conveyed via emotional kindness by end-user Uaraike, and where human values such as respect would be key elements, not only within the community but also if the crowdsourcing would imply making existing local IK and imagery into 3D graphics by designers internationally.

This arguably provides a deeper understanding on what things ovaHimba value within and when interacting with others worldwide, and so to satisfy by respecting it some of their needs, requirements and ambitions.

users by having them working out the table operations and functionalities on their own. So, to elicit goals of UX was a proposal found worthwhile carrying out to co-design personas with ovaHimba.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHimba participants in Otjisa took-on, understood and co-designed persona artefacts.

This sitting occurred with a single individual, so generalising would not be sensible. Uaraike narrated his experiences with the tablet, which restated goals paramount to fulfil his inner feelings as a user as well as the respect to the community he leads.

These goals seem clear *needs, requirements and ambitions* (Williams et al., 2014) focused on respect, ethics and how interactions occur amid users and tech suppliers, *enabling so the social and political of design to the surface* (Grudin, 2003).

The second question aims to answer what cultural assumptions emerged.

To focus on goals of UX to instigate depictions of community members showed a worthy stage of data gathering to build on the co-design of persona artefacts with ovaHimba, as it came as a respectful, engaging and endowing way of interacting, while it also provided a series of issues to do with the Usability of the tool.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

SESSION 3: OTJISA

GOALS OF UX FOR A USABILITY SESSION



SCREEN SCALABILITY AND LOW VISIBILITY

PRIDE, GRATIFYING, UNDERSTANDING, SADNESS, MOTIVATION, HELP, HUMAN VALUES, RESPECT,

LACK OF FEEDBACK, SCREEN REFLECTION AND TABLET'S LIMITED SPACE

HIGHLY DEPENDENT ON THE GOAL SITUATED IN THE EXPERIENTIAL

Figure 13. Usability Feedback Session with Uaraike in Otjisa.

FURTHER WORK SUGGESTED

This sitting elicited a further set of UX goals voiced by one participant and it enabled a fruitful integrated collaboration between local and persona researchers.

Having a feedback session mainly about the individualities of the operation and functionality of table and crowd-source app have not brought any collectivisations. These are also going to be checked in the next sitting to see if they are consistent.

The focus for the upcoming sitting is on how ovaHimba form groupings, what traits and behaviours they assign to whom, and to validate the telling of further typical sequencings to ascertain the way ovaHimba tell stories and whether this method can be considered useful to eliciting persona artefacts worth considering in HCI.

Likewise, the lack of people's names and ages in stories will also be scrutinised.

5.4. OTJISA: GROUPING OVAHIMBA & A TRADITIONAL OCCASION

Concurrent to the above, this sitting occurred in Otjisa on the 10th of October 2015.

INTRODUCTION TO THE SESSION & PARTICIPANTS

The second session aimed to find how ovaHimba group themselves, what traits and behaviours they allocate to each grouping, and how a typical local story lays this. Uraike, another elder, three youth and two kids participate and Gereon translated. Elders, a teen, and researchers sat on the chairs the team carries with.

METHOD AND ITS RATIONALE

Phase 2 within the methodology with ovaHimba focused on methods for storytelling. A focus group aimed to elicit how participants understood and portrayed their social structure, the different people who form it and their traits, and ultimately how each stratum would use the crowd-source tool in a life scenario of the participants' choice. Building from the second session earlier in this case study, storytelling a sequence of choice also aimed to validate the way ovaHimba narrate stories, the main characters that emerge and the elements they include while utilising the tool.

METHOD: STORYTELLING – GROUPING OVAHIMBA FOR A FUNERAL

The sitting opened asking participants to define who the community members are. They stated males and females create the structure and that the roles and functions are (1) male elders think and arrange daily duties; (2) male youngsters butcher, slice and prepare livestock, and (3) women collect firewood, water and do the cooking.

Asked to tell a story with groups using the crowd-source tool a funeral was chosen: Male elders organise, male youngsters slaughter livestock, and women ensuring food is cooked, ready, and timely served to the guests and hosts joining the funeral. Enticed to provide further differentiations between the older and younger females,

they stated that everybody puts-in an equal amount of labour and effort, and that younger females assist elder females to collect firewood and water and fixing meals. On who would use the tool, they specified elders as most suitable, with youth having the aptitude, though what eventually counts is the will to use it and to learn with it, and that supporting each other regardless of the event is what triggers collaboration. They continued narrating that the closest individual affected by the bereavement would *call upon the cousins; then my elder father that I call on (ritually), then any other person like a neighbour we live together, I tell them about this “wedding”...* Finally, they claimed it is the love to console and to help not to cling too much on the death what gathers and keeps the community together, and that, they detailed, they don't reunite for the food per-se but to demonstrate true love to one another.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session aimed to inform researchers on how locals group themselves and how the community displayed the roles of each grouping in an account of their choice.

Participants defined the basic structure as formed by males and females. Asked about age between younger and older females, they overturned the question stating all provided equal effort and resolve, though younger females often assisting elders. Defining roles with this community showed different groups intertwining efforts in community –with elder males organising and younger males and women catalysing. Asking for scenarios where each group would use the IK crowdsourcing tool, participants reversed the individualisation and interpreted it as a collectivisation via a scenario about a funeral/wedding, and how each of the group complementary worked together according to the culture, the given ritual and their expected roles. Yet they stated they are wiser about IK while youngsters are gifted with technology, although what it finally counts is the determination to utilise it and to learn about it.

This reveals contradictions, traits and ambitions towards learning and the needed curve to amplifying experiences that happen and are connected to technologies.

During the recount Uaraike personified himself as the main affected by the death. This performative technique also showed in Ohandungu, which makes it recurrent regarding ovaHimba's dexterity to recount stories projecting themselves into them. Exchanging a funeral for a wedding emerged as a purposeful turn in the narration. They held what makes them to work together is helping one another and love rather than the food. This shows their collectivistic and collaborative approach.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the ovaHimba participants in Otjisa took-on, understood and co-designed persona artefacts in this last session.

Locals described their social structure, those forming it and their roles and traits: (1) elder thinking males, (2) youngster achieving males, (3) elder realising females. A fourth group are (4) younger females assisting, not due to age but aiding elders. On traits and behaviours emerging from the use of new technologies, participants stated that what it counts the most is the willpower to operate and learn about tools. Hence they consider learning and its arc as key in learning technological practises.

The second question aims to answer what cultural assumptions emerged.

As per collectivisations, ovaHimba grouped roles in scenarios as jointly intertwined. UCD personas barely consider this, and it is only Matthews et al. (2010) or Giboin (2011) who so far discuss on collective personas. And yet, a core element further uniting the wider ovaHimba community is love, another human value.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

A visual takeaway from this sitting could comprise the elements that ensue:

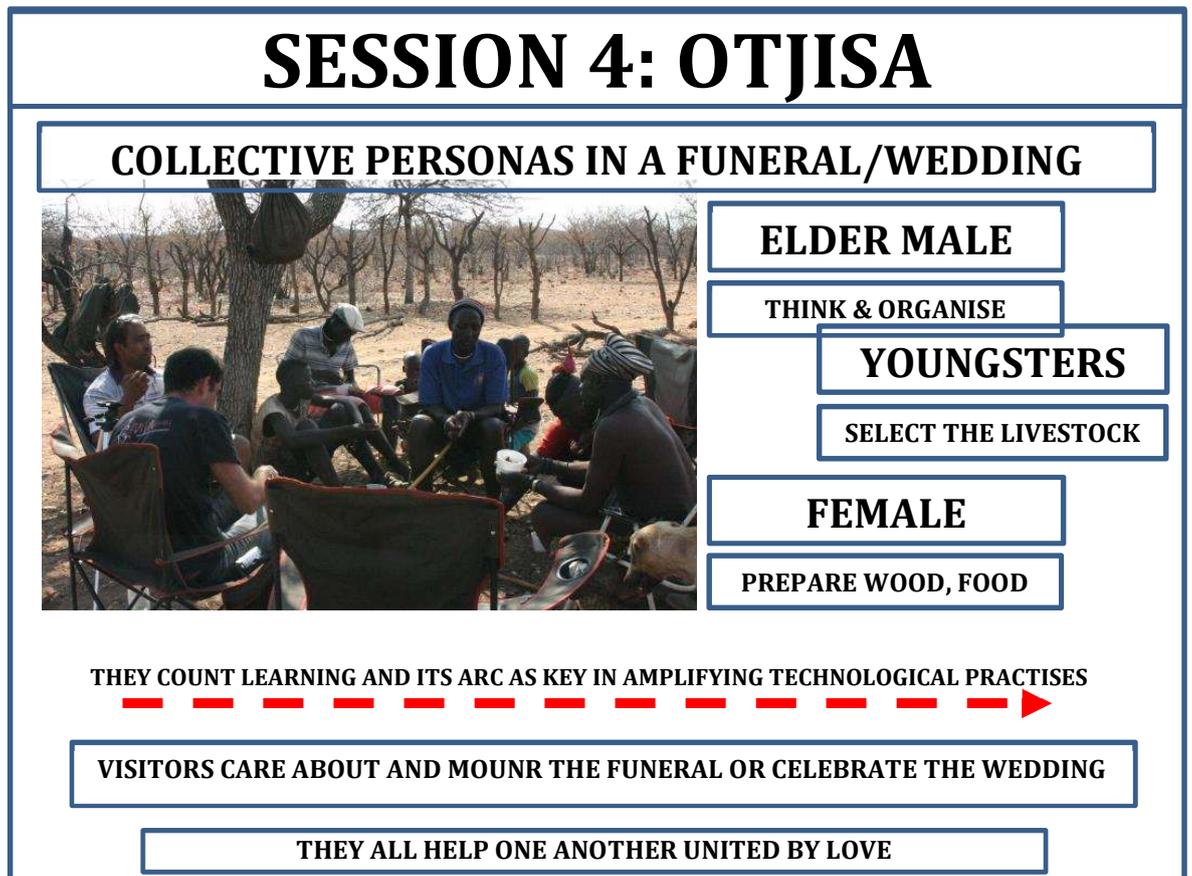


Figure 14. Results of ovaHimba Groups & Scenario Detailed in Otjisa.

FURTHER WORK SUGGESTED

No more persona co-design sessions took place with other ovaHimba communities. Data obtained in the form of persona artefacts and their elements thereof would be held as sufficient to state a series of conclusions and to appraise findings.

Further evaluations of findings with the communities themselves would be desired, yet within the scope of this study there has not been considered to hold room for it. These are not ruled out at a later stage once this thesis has been finalised.

5.5. CONCLUSIONS ON OVAHIMBA FINDINGS

The second user-created persona case study was with ovaHimba communities. It produced data from which conclusions are stated in the following paragraphs. Main findings are both, methodological and about elements in persona artefacts.

CONCLUSIONS AT A METHODOLOGICAL LEVEL

To initiate Phase 2 as an observer instead of active researcher was invigorating for it permitted to appreciate local researchers working in PD with local communities, and to identify techniques to enter ovaHimba settings to make research low(er) cost.

Being new to ovaHimba sites this exploratory phase aided *Understanding Users*. To have relied upon existing *Team Dynamics* allowed to progress in suitable ways. Observing, the persona researcher learnt entry points in the community, what some of the things that matter to them are, and how they understand and face such things. This came as recounts based on the experiential, arguably aligned with UX goals.

Storytelling proved to be a suitable method with which ovaHimba chose a wedding as scenario and embedded generic individuals from the community to whom they assigned traits and behaviours like parts typically contained in persona artefacts. In Usability testing the focus of the sessions on the free recount by Uaraike of the situations related to the experiences with the technology resulted in three groupings and a subgroup emerged: male and female elders, young males and young women. Together with the diverse goals of UX that got uttered in the first and third sittings, the above satisfies the basic designation of persona as it appears in the literature: a proxy for groups of people with commonalities apropos needs, wants and drives.

As per the methods deployed, focus group with an entry point via the community's social activities led to scenarios of technology use providing an opulent set of data

–i.e. own cultural structures led participants to recreate scenarios of technology usage that were fruitful to discern collective depictions of distinct groups of people. This is verified in sessions held throughout time with ovaHimba (Cabrero et al., 2016a; Rodil et al., 2014; Stanley et al., 2013, 2015, 2018).

CONCLUSIONS ABOUT ELEMENTS IN THE PERSONA ARTEFACTS

This section states a series of conclusions regarding the rhetorical preferences, narrative content and physical layout of the persona artefacts that emerged.

On the subject of rhetorical preferences ovaHimba displayed certain tendencies.

Storytelling is a rhetorical style that pervaded both, in Ohandungu and in Otjisa. Recounting stories detailed traits and behaviours of generic groups of ovaHimba like male elders emerging as thinkers that in turn instruct male youngsters as doers, while female are also accomplishers who had youngsters assisting with the chores. Despite the clustering, interdependences were equally stated in that they all are and work as a joint collective. This is rhetorical feature arranging and intertwining stories which was further emphasised with love as the thing joining ovaHimba communities.

Dimensions of the ecosystem where locals move were clearly included in the story: Huts, woods, holy fires, and walking fro & to and in & out places got stated as vital. Such elements hold additional meanings and associations such as the hut and its usage beyond the utilitarian, like when a female teen undergoes her first periods; the holy fire representing a place for praise to the ancestors and a place for key moments in important celebrations such as the prenuptial and nuptial celebrations. These elements are unusual criteria in dominant persona artefacts.

Apropos the physical layout, orality prevailed in all sessions to generate meaning; dancing was cited a key factor to add to the way personas are typified by ovaHimba.

6. USER-CREATED PERSONAS: URBAN OVAMBO

This chapter hosts the case-study on user-created personas with Ovambo youth. Chronologically, this the third out of the four persona co-design cases proposed.

Three sessions occurred in March and April 2015 in Havana, an informal settlement in Katutura, Windhoek, which is where black people were relegated by apartheid. Sessions produced data in two concurrent sittings and one more happening later. This study revolved around Phase 2 with methods around storytelling and personas. Results and conclusions move the study from rural co-design to urban areas.

SESSION	TRIBE	LOCALE	METHODS
Session 11 Phase 2	Ovambo	Urban – Windhoek	Walking Havana
Session 12 Phase 2	Ovambo	Urban – Windhoek	User-Created Personas
Session 13 Phase 2	Ovambo	Urban – Windhoek	Grounding Personas

Table 13. Ovambo Case Study: Sessions, Phases, Tribe, Locale, Methods.

The contents in this case study draw upon the following available publications: *User-Created Personas: A Micro-Cultural Magnifier revealing Smart Workplaces in thriving Katutura* (Cabrero et al., 2015b), *User-Created Personas: A Micro-Cultural Lens into Informal Settlement's Youth Life* (Cabrero et al., 2015c), *A Challenge-based Approach to promote Entrepreneurship among Youth in an Informal Settlement of Windhoek* (Winschiers-Theophilus et al., 2015a), *ICTD within the Discourse of a Locally Situated Interaction: The Potential of Youth Engagement* (Winschiers-Theophilus et al., 2015b), *A Hermeneutic Inquiry into User-Created Personas in different Namibian locales* (Cabrero et al., 2016e), *Promoting Entrepreneurship amid Youth in Windhoek's Informal Settlements: A Namibian Case* (Winschiers-Theophilus et al., 2017).

PHASE 2 OVAMBO: METHODOLOGY, METHODS & THEIR RATIONALE

Phase 2 began as a review of the literature about the historical roots of the locale: The past history of Katutura in general and the present situation in Havana in today. This was further contextualised with a review of literature produced from the project by Namibia University of Science & Technology (NUST) (Ongwere et al., 2014). These provided an understanding of users who lived and still live fragile situations.

Empirical methods aimed to elicit characters for a TV-series and served as training to engage the youth in activities aimed at improving the lives of Havana dwellers. Three sessions probed methods to promote the co-design of persona artefacts so as to gain an understanding about how Ovambo engaged with the activities planned, what artefacts emerged and how these would make sense in the narration formed.

Walking Havana locals provided an in-situ understanding of context and challenges in Havana through a *recce*, a filmmaking term referring to seeking locations to film.

Looking for characters for a TV-series they first devised typical local residents that revealed needs, requirements and ambitions via main and secondary characters and local features embedded in collectively engaged stories of families in Havana. In a further session, the youth grounded the characters with traits and user stories, and profiled further local stakeholders in the story like politicians and the police.

Hence, the objective of these three sessions was to find how the generation of user-created personas may assist to understand needs, requirements and ambitions of Havana's youth by scaffolding from a Reality TV-based methodological approach, and how such personas may in turn benefit the development of the set of services and technologies proposed in the way of a job-search device amongst others.

Sessions were filmed and photographed for the TV film and for research analysis.

6.1. WALKING HAVANA

This session occurred in the Havana location in Windhoek on March 19th 2015.

INTRODUCTION TO THE LOCALE

Havana is an informal settlement in the Katutura township that got founded in 1992. Today Havana is one of the largest slums in Windhoek, and where in 2009 there were around 4002 shacks (The Shack Dwellers Federation of Namibia, 2009). Havana is mostly inhabited by Ovambo migrants from the Northern parts of Namibia who came to live in Windhoek looking for jobs and for entrepreneurial opportunities. Due to the fast increasing rural-urban emigration in Namibia (Nghikulwa, 2008), public infrastructures and services lag behind in some locations such as Havana. This includes infrastructures such as schools, roads and electricity among others.

At the time youth in Havana engaged in a two-year funded R&D community outreach project to co-design technology and services for the marginalised, and started by the School of Computing and Informatics at Polytechnic of Namibia, currently NUST. Initially local and overseas students studied challenges and technologies in Havana and found the need for a job-search system due to the high rate of unemployment. A second intake of students and Havana youth engaged in work analysis to launch a community centre and the technological job-search tool firstly identified as a need. Both proposals aimed to ease unemployment providing training and work prospects. Activities started to happen at the Kabila Community Centre (KCC) in Havana, which consists of a main building serving both, as day-care centre and church, two consignment containers for storage, a small office and a crèche at the back, and a small shack where the caretaker, meme Albertina, lives with her children.

Walking Havana as well as the subsequent sessions began and ended at the KCC.

INTRODUCTION TO SESSION & PARTICIPANTS

Walking the surroundings of Havana was the objective of this sitting, while the aim was to entice locals to display the conditions where they live, and to start filming for a reality TV show to be recorded and eventually made into a short film.

Seven locals walked five scholar and student researchers around the vicinity so as to initially identify local realities by mapping-out the area's physicality (Figure 43).

METHOD AND ITS RATIONALE

Walking Havana aimed to elicit local realities and socio-technical gaps by mapping out the peoples, the geography and also the physicality of Havana's whereabouts. This was proposed as a *recce* typically used in film and TV productions with the objective of enabling youth to take-on the role of location scouts and to identify sites, scenes and characters capable of representing real life in Havana for a TV series.

METHOD 1: WALKING HAVANA

Youth were asked to walk the researchers around and show them the surroundings.

Participants showed researchers the overall lack of electrical reach, the grim access to potable water, wastelands around shanties, drunkenness and a lack of hygiene where public decaying open-showers barely serve locals for sanitation (Figure 13).

They accompanied the walk with talking about social ills such as high crime rates, alcohol abuse and prostitution, together with an overall lack of job opportunities.

Youth also highlighted that many *informal* inhabitants survive on casual jobs and micro-businesses like shebeens, barbershops or selling meals and other items.

They stated that others would have a main job or that they would be studying at the very same time that they held additional, unspecified jobs on the side.

Further, regular power cuts (as it happened during the persona session below) were stressed, with locals connecting to the electricity network. Youth also highlighted an increase in building brick edifices and construction sites intermingled with shanties.

Returning back to the KCC, participants stated that they enjoyed a strong sense of community in Havana and that they had many friends around the location.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

Walking Havana aimed to get to know the surroundings in the eyes of the youth, and to utilise the recordings for post-situ analysis and the co-creation of a movie.

Youth were openly resolute to show “the real life in Havana” and emphasised concerns like schooling in tents, shared toilets and showers in public unhygienic spaces, public water collection points, scarce electricity links, huge wastelands polluting the surroundings, and high alcohol consumption during day and night. These are issues usually stated in the news, such as the evictions of illegal shelters, which at the time of writing were timely regulars in Namibia’s local press:

Small business owners operating in the informal settlements of Havana have vowed to continue connecting power illegally as long as the City of Windhoek continues to turn a blind eye to their cry for electricity.

(Nhongo, 2015)

Equally, the method showed a way to engage the youth through the reciprocity of filming what by then had now become a movie making process as well.

Overall, the Walking Havana method revealed socio-technical issues typically attributed to slums (Wyche, 2015) for their basicness in both, needs and nature. Probing this method for walking the neighbourhood thus provided researchers with an indication of challenges faced as shown and elucidated by youth participants.

The tour of Havana enabled researchers to understand the site in which locals dwell, while probing a film-based method to co-design persona artefacts scaffolding from contextualising slums and a film-based immersion of participants in the activity.

As importantly, stimulating scenarios as referred by Cooper et al. (2007) in the Goal-Directed Method™ approach, the *context* or *a-day-in-the-life* of Havana residents was spontaneously created at an early phase to use these to explore, at a high level, how a technological product could best serve needs of personas to “help create initial user requirements before the specifics of the product are understood” (ibid).

For the purpose at hand, all this seemed material enough to propose participants to co-design persona artefacts inspired by local residents and their environments.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the Ovambo youth in Havana took-on, understood and co-designed persona artefacts.

The film-like *recce* provided an exploratory method as a point of entry in Havana. *Walking Havana* to search for characters inspired by a Reality TV provided these. Hence this method can be argued as a valid approach to entice scenarios and inspiration, to then attempt to create persona artefacts of local representativeness.

The second question aims to answer what cultural assumptions emerged.

Walking Havana elicited scenarios from which to instigate the creation of personas rather than the typical creation of personas first and then relate scenarios to them.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

As a visual takeaway from this first user-created persona encountering session in Havana, it could be argued an initial persona representation could be as follows:

SESSION 1: HAVANA

WALKING HAVANA AS A RECCE FOR A FILM

- Living in Shacks/Fire
- Lack of Hygiene
- Drunkenness
- Lack of Electricity

↓

Slum

A COLLAGE ON HYGIENE, SPIRITS, ILLEGAL WIRING, WATER, WASTELANDS

Figure 15. Participants Walking Havana and the Findings in the Slum.

FURTHER WORK SUGGESTED

Based on Walking Havana, the next step in the subsequent sitting is to propose participants generating representations of characters illustrating life in Havana.

6.2. USER-CREATED PERSONAS

This sitting occurred concurrent to the Walking Havana sitting aforementioned.

INTRODUCTION TO THE LOCALE

As power failed and was dark indoors, the sitting befell in the forecourt of the KCC.

INTRODUCTION TO SESSION & PARTICIPANTS

The object of this sitting was to identify local depictions of typical Havana dwellers.

The aim was (1) to find who got depicted, (2) the basis for choices of persons and features, (3) if facts echoed topics from walking, and (4) how youth shaped people.

The youth from Walking Havana plus two late-arrivals got enticed to develop characters depicting locals to conform and design characters for the TV series. They split into two groups and were provided with pen, paper and a 20min time.

METHODS AND THEIR RATIONALE

Walking Havana fruitfully prompted to enter into the community where it provided a confrère with the youth and material to build situations for personas, and so to attempt the co-design of locals as persona artefacts picked by the youth.

The object of the sitting was to identify local depictions of typical Havana dwellers.

The aim was manifold (1) to observe who in the community they get characterised; (2) and what information would emerge from and in characterising Havana locals; (3) to explore the reasoning behind such choices in characters and characteristics; (4) to find if the facts resonate with issues encountered in the walking session, and (5) to find how attendees build and depict characters on their own footing.

So participants were enticed to point out typical local characters for a reality-based TV-series based on current and planned film recordings of this and other sessions.

METHOD: USER-CREATED PERSONAS

Youth split into Group A and Group B, got pens, markers, newspapers, magazines and A4/A1 paper, and the directive to create local characters for the TV series.

After 20 minutes each of the groups figured and presented the following:

Group A presented *Living as Slaves – Havana Location*, a written narrative about 19 year-old Eddy came to live in Windhoek aged 16, currently lives in a shanty, cooks with firewood, and has no direct access to electricity or water (Appendix I).

Group B created a narrative by means of a collage entitled *Unemployed Youth*. The story came from press cut-outs and handwritten text below them (Figure 14).



Figure 16. “Unemployed Youth”: Collective Personas - Holistic Stories.

The collage covered collective characters and several joint-background scenarios that explain why and how a young local female and a male respectively, and in time, turned into a prostitute and a gang fellow under hostile conditions in the area:

“Tselestina and her friend undergo hardship and decide to stand outside a club “for hunting” foreigners looking for escorting (Fig. 4, centred); Sequentially, Alomgombe

and Johanes got stopped and arrested to custody in a shopping mall (centre right). Meanwhile, 5 year-old Tselestina, Alomgombe and Johanes are “playing at their location” while dogs eat from a dumping site beside (top left corner). Top right corner, a press cut-out and written text tell on parents rallying against (1)high youth unemployment, (2)children standing by dumping sites, and (3)to get better housing. This is further supported by another cut-out (far right top) where there is a casserole with the words Education and Success embedded and steaming from it; and a burning fire underneath with the words Teachers, Parents, Pupils rooted in the logs. Bottom-left, the pictorial shows people rioting with burning tires, while the narrative describes shanties burnt because of paraffin stove and candles’ indoor use”.

(Cabrero et al., 2015a, p. 63)

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

The aim of the sitting was exploring depictions of persona artefacts via storytelling, while the object was to give a picture of typical Havana people for the TV series. So, the youth got enticed to point out typical local characters for a reality-based TV-series based on current and planned film recordings of this and other sessions.

Having walked Havana and identified existing challenges both groups presented personified narratives in which they expressed unambiguous and implicit needs, requirements and ambitions for advances to ease a more humanly progress in life. These got represented through leading characters portraying identities of Havana locals such as the Eddy narrative and the prostitutes and mobsters in the collage.

Group A set a written narrative for *Eddy*, a 19 year-old who migrated to Windhoek aged 16 and who lives in a shack with no power or water -cooking with firewood. This portrayed a description on Eddy as a typical Havana inhabitant whose housing situation makes him *living as a slave*. Yet, such a representation delivered no further detail about situated roots, Eddy’s life effects, or any of his goals in life.

Group B, though, produced a collage from press cut-outs and handwritings entitled *Unemployed Youth*. Such a pictorial provided interpersonal relational causes and

consequential effects for the central characters through an associational narrative made out of graphic and text associations in the narratives of two main characters.

Hitherto, the collage involved collective characters and joint-background scenarios telling the why and the how local teenager females (i.e. Tselestina and her friend) and males (i.e. Alomgombe and Johanes) turned into prostitutes and gang members respectively through time and the unfavourable conditions in the vicinity.

Such an interrelation of main and secondary characters came from the Group B as (1) an interwoven of Tselestina and Johanes' background stories from childhood, (2) an implementation of the mothers as secondary, auxiliary roles and characters, (3) rioters playing as 'extras' in the consequential climatic background of the story, (4) dogs, food leftovers, and vehicle wheels as commonly encountered props, and (5) local sceneries as backdrops, all of them in a relational way (Figure 17).

On the above, Group B seemingly showed an intuitive understanding in regards to (1) characterising main actors, (2) depicting and interlinking background stories, (3) creating supportive, engaging and realistically justified secondary characters, (4) extras such as the rioters, and (5) props assisting and enhancing scenarios.

As importantly, Group B also showed a natural skill toward constructing customary narratives compounded of a preparation (i.e. childhood), a climax (i.e. characters' present situations) and an ultimate resolution (i.e. mothers protest and others riot). This approach hence enabled the youth in Group B to eliciting the risks undergone by youth in Havana, as well as potential sociotechnical gaps to be accomplished.

Group B also showed a precise pairing of pictures whereby people (i.e. personas) and locations (i.e. scenarios) were presented side-by-side throughout the collage. As a consequence individuals' personal issues came together depicting a strong

sense of community support. This illustrates the enrooted sense of holism in family union and public resilience usual amid locals before apartheid (Wagner, 1951), while it parallels politically loaded accounts with ovaHerero in prior UCP research and where foreign invasion also showed present in people's tells (Cabrero, 2015). Further, counts and key issues expressed by dwellers seem to resemble previous narratives collected with unemployed youth in the capital (Ongwere et al., 2014).

Thus, it can be said that using a serial deployment of the *Walking Havana* and *User-Created Persona*, societal issues, collective depictions and sociotechnical gaps initially emerged. Equally, it can be primarily argued that a scenario recce assisted participants to assemble and imagine a myriad of personas illustrative of Havana locals, and which participants, in the use of the press cut-out on the top right, reimagined into education and work opportunities, enterprising, community cohesion, and overall alleviation and life improvement when creating the personas.

Furthermore, participants got on well with the *personas as actors* approach and derived depictions of "realistic" personas. Yet, frustration in the context of slums emerged in other sessions with Havana youth when trying to bring change (ibid).

All the above hints to the fact that this method of creating persona artefacts can arguably be a usable approach to create local representatives with commonalities as per needs, requirements and ambitions towards the design of technologies.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the Ovambo youth in Havana took-on, understood and co-designed persona artefacts.

Participants got on well with the initial understanding and subsequent creation of *personas as actors* as an approach, and derived depictions of "realistic" personas.

Youth expressed contextualised local realities with typical characters embedded in such scenarios, and as intended towards forming part of the TV series proposed. Thus, participants shaped full scenarios by building the lives of personas in them.

Whereas the Eddy narrative stated current facts without showing any ambitions, the Unemployed Youth collage became a rounded approach upon the needs, requirements and ambitions expressed via main personas and secondary ones. Moreover, the youth came up with a narrative of collective, interrelated personas that seemingly shared backgrounds, present situations and ambitions that became expressed through the frustration of the consequentiality expressed in the rioting.

As such, and based on what Nielsen (2004) states as per an engaging persona having a bodily expression, psyche, background, present emotions, and opposed character traits and idiosyncrasies, this sitting arguably delivered the achievement of this objective while simultaneously obtaining data for personas and scenarios. Yet, as the frustration in the context of slums has surfaced in other sessions with youth in trying to bring change to Havana, further persona grounding is needed.

Before an engaging persona can enter a scenario the designers must consider the engaging persona's needs and situations (Nielsen, 2004, p. 6). This stage has been achieved, though in an inverted fashion as needs and situations got elicited.

The second question aims to answer what cultural assumptions emerged.

Storytelling continues to be a fruitful approach to co-design personas in Namibia. Youth conveyed contextual local realities with characters they held as typical and that they embedded in scenarios intended to form part of the TV series proposed. This led to a series of two parallel narratives that collided into a one climatic scene –parents and others rioting due to the antagonistic situation of Havana dwellers.

Hence youth shaped full scenarios by building the lives of personas in them, rather than building personas first and after the scenarios as persona literature advises.

In addition, the storytelling method by means of the collage became a rounded approach on needs, requirements and ambitions of main and lesser personas that, despite arguably missing elements to making them grounded enough, this type of persona segmentation is unprecedented in the persona predominant literature. This way of crafting personas, besides, occurred in one session of two ensuing interrelated sittings that allowed scenarios and personas to emerge in unison.

Moreover, the youth came up with a narrative of collective, interrelated personas that seemingly shared backgrounds, present situations and ambitions that became expressed through the frustration of the consequentiality expressed in the rioting. And yet, the picture at the top right corner clearly established ambitions as to what can be proposed as potential solutions to solve the problems suffered in Havana.

And though collectivism arose with clear foreground and background characters, their interrelations and interdependencies emerged as a strong set of cooperative livings and a collective unionising of human togetherness in living and in the doing. Hence, a united engagement and a firm sense of reciprocity can be deducted.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

The visual takeaway from this user-created persona session could be as follows:

SESSION 2: HAVANA

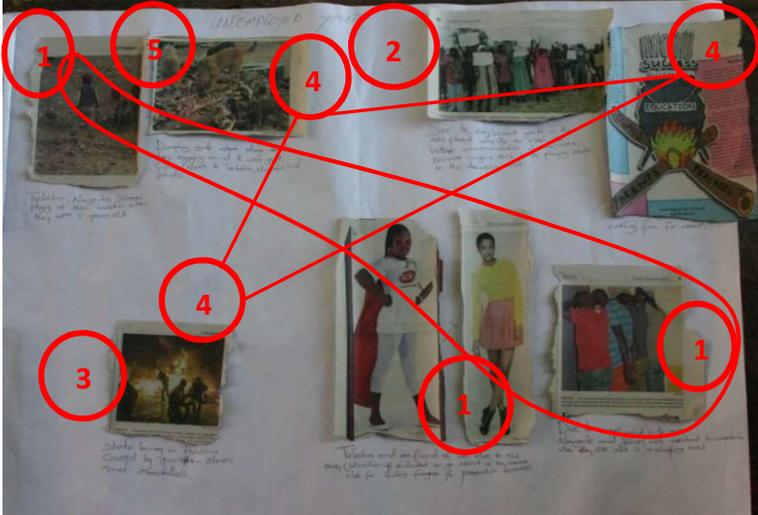
COLLECTIVE PERSONAS & INTERRELATED SCENARIOS



Havana informal settlement



**PARTICIPANTS CO-DESIGN
LOCAL CHARACTERISATIONS**



**THE CHARACTERS HAVE A PRESENT, AND A PAST AND
CONSEQUENCES ARE SHOWN**

TWO GIRLS, A GANG OF CRIMINALS, MOTHERS & RIOTERS, KIDS IN THE SLUMS

Figure 17. Results of User-Created Personas expressed in Havana.

FURTHER WORK SUGGESTED

While Eddy's narrative stated facts without portraying ambitions, the *Unemployed Youth* collage became a rounded approach on needs, requirements and ambitions expressed via main personas and secondary ones that need further validating. So, because the frustration in the context of slums has surfaced in other sessions with youth in trying to bring change to Havana, further persona grounding is needed.

Verifying, hence, the grounding of the personas above and certifying them by including further participants in an extra session is the next step in the process.

6.3. GROUNDING PERSONAS THROUGH SCENARIOS

This session occurred in the informal settlement of Havana on April 25th 2015.

INTRODUCTION TO THE LOCALE

The session occurred within the outdoors premises of the KCC.

INTRODUCTION TO THE SESSION & PARTICIPANTS

The aim was to validate and ground the personas created in the previous sitting. Sixteen attendees with an overlap in youth from the previous came to this session, while local researchers and students and the foreign researcher were too present.

METHOD AND ITS RATIONALE

Phase 2 has transpired as a fruitful and single session producing valuable data. Yet, there is a need to verify findings and to observe if they may further evolve. Hence, this session aimed to ground the personas co-designed in the previous session.

From the various persona-characters that emerged in the previous persona sitting, this session attempted to reassess, align, and consolidate sociotechnical gaps by certifying and possibly further developing the characters planned for the TV series.

Sixteen participants (eight new in this sitting) were orally and visually reminded of, or introduced to the previous persona outcomes. The aim was for them to observe and work together in grounding the characters elicited by the previous session.

As such, the method consisted in presenting or reintroducing the youth the prior outcomes in order to learn whether such judgments are worthy for them, and to find whether these were complemented with further traits, behaviours or any other characteristics the youth would see as worthwhile including in the TV characters.

METHOD: GROUNDING EXISTING USER-CREATED PERSONAS

Youth were first reminded of, or presented the personas from the earlier session. Then, they split to 2 groups, Group C & Group D, got provided with pens, markers, Sticky-Notes™ and both, blank A1 posters and the existing persona posters.

Group C was formed of children and teens and facilitated by a student researcher. Group D was compounded of grownup participants with no aid from facilitators, and with some of them possessing a genuine attentiveness into entrepreneurship. The rest of the local and foreign researchers stood back merely as observers.

The facilitator for Group C opened the session emphasising that the aim was to further shape the characters created by Group A to include them in the TV series. The facilitator interweaved the words person, persona and character in the outline.

Group C scaffold from the characterisations of Tselestina, her friend, Alomgombe and Johanes (Figure 50) and started to further build upon them –first by debating findings in the existing poster, then proposing further themes, storylines, concepts and ideas summarised in Sticky-Notes™ they tucked to the poster (Figure 48).

Among the topics highlighted, they reiterated matters identified in *Walking Havana* –i.e. poverty, delinquency, hygiene, health, littering, and lacking water and power. Other issues emerged like food, malnutrition, transport, money, care and parents.

A Sticky-Note™, for example, stated the following apropos parents and transport:

1. In our areas everyday parents walking a long way to fetch water and collect firewood. 2. Walking a long distance for Hospital and take child to school.

Further walking matters like the collection of firewood, by having to walk about too, added further socio-technical issues such as the one in a paired Sticky-Note™:

Cooking everyday: By the use of firewood, gas and paraffin stoves can result in burning of shacks.

Regarding the lack of electricity participants created another Sticky-Note™ stating:

Electricity for children/students to study properly at night for the tests and exams.

They also contemplated and debated oral accounts of what a particular persona would sometimes say or think and if this would be relevant to include in the poster.

And though all accounts were fully deliberated, not all were included in the poster.

Finally, Group C decided to summarise their findings into two character profiles typical of UCD personas proceedings: a learner/student and a parent (Figure 16).

Meanwhile Group D engaged in the local politics involved in the issues at hand, and so they stepped aside from the physicality of the first personas from Groups A & B.

They argued and briefed issues on political leaders and others in Sticky-Notes™:

Our leaders they don't use to delivered information on time, they use to keep information; they don't use to come to people to look around to see the location.

They also stated the community needs to remain together to counteract positions:

People they must work together in the location to fight unemployment like to provide training to the people.

A further Sticky-Note™ identified governmental programmes as current let-downs:

Decentralisation program for government services is far from people.

They also conveyed needs in regards to Namibia's Police forces and local crime:

Namibian Police should patrol at Havana location, and workers who use to work during the night should be dropped at their homes.

The session finished with the participants thanking researchers for what they have learnt in the sitting, and eagerly requested when the next session would happen.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session aimed to verify and then ground the personas from the prior sitting.

As participants group themselves by heterogeneous ages, results were as follows:

Group C were youth who reused the *Unemployed Youth* collage and grounded the personas by adding Sticky-Notes™ with scenarios that they tucked to the collage. First, they debated among themselves what a persona would say or think at times, and then decided relevant themes and recounts to tuck-in to the existing collage. Like in the previous session, they continued pairings of some of the issues stated. For example, they related long walking distances to the time and attention this takes away from parents, and that cooking can result in shacks setting up on fire, and so looking after and making sure children were left safely in the household was vital.

This way, the personas were given further scenarios and reasoning for situations, which also added further traits to ground the personas.

Markedly, secondary personas like parents evolved in more detail than main ones. Arguably, main personas had enough traits and behaviours from the first session, so the youth now focussed on the causes that led them to where they were now. Foundations are hence worked out top-down –from the parents to their children.

Meanwhile older participants matured their ideas about other community members. Group D, all of them elder fellows with a strong flair for entrepreneurship ventures, laid challenges anew from the initial personas, and stressed formal, bureaucratic, and explicit ways of involving further stakeholders within Havana such as councils, political representatives, police forces, etc. They summarised a list of political issues directly related to topics formerly elicited and named them as politicians and police. And though Group D did not provide further insights into the existing characters, the

debating of politics and inclusion of other stakeholders enticed the group to plan additional interactions to co-tackle issues at hand by presenting such stakeholders the personas and the issues faced that resulted from these sessions.

As such, Group D grounded the initial personas and reimagined them into enterprising, work prospects, community harmony, and overall alleviation and life upgrading related to challenges stated in Winschiers-Theophilus et al. (2015a).

Ultimately, in grounding the persona artefacts from the first session, the main personas became part of the background and serve as a trampoline to dig further into the core issues that would have provoked the situation where they currently are.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the Ovambo youth in Havana took-on, understood and co-designed persona artefacts.

Youth in Havana got on well with the persona artefacts generated in the first session. They understood and engaged with the TV narrative and followed it with no difficulty. They gave personas traits, behaviours, and scenarios intertwining individual stories with other actors, and the origination, development and consequentiality of the plots. For example, the youth associated long daily walks by parents to children exposure to fires in the shacks while parents were out. The resulting maintained the persona posters with the visuals and storytelling, while parents were further characterised with traits and issues they face using Sticky-Notes™ to outline scenarios on them.

Group D placed new challenges and highlighted formal, explicit ways of involving further governmental stakeholders such as councils, political reps, and the police.

Apropos age, the leading personas were more relatable to youngest participants, while older participants focused on other civic members like politicians and police. Yet, when it came to causality younger and older participants both worked upon the roots of the problems towards forming community harmony and an overall alleviation, and so they equally prioritised secondary and additional personas.

The second question aims to answer what cultural assumptions emerged.

Proposing a TV based technique to create personas provided a clear mutual aim, engagement, an instant reciprocity, and a sense of gratification in the provision of ongoing entertaining and a tangible outcome by filming these and further sessions. While this approach is not common among the predominant literature on persona, it enters into a debate with the way TV and film characters enter the designer's mind toward the co-designing of personas participatorily (Pruitt and Grudin, 2006). This thus comes in conflict with typical methods that persona literature convenes as prevailing in the creation of persona artefacts for the design of technologies.

The interdependency of societal collectives emerged with Ovambo youth as well. Secondary parents' personas during this session became the foreground of the activity, adding causalities and consequentiality rather than via segmentation.

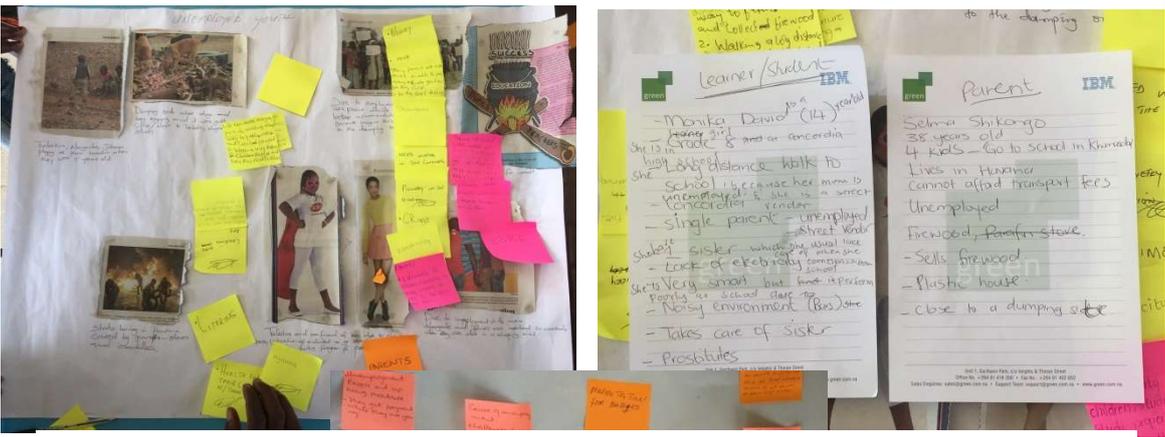
Meanwhile, a new set of profiles such as politicians and the police came about as antagonising personas with liabilities set to them on some of the troubles in Havana.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

As a visual takeaway from this third and last user-created persona session with Ovambo youth, it could be argued a persona representation could be as follows:

SESSION 3: HAVANA

GROUNDING PERSONAS, EMPHASISING COLLECTIVES



SCENARIOS GROUNDING STORIES

LEARNER/PARENT PROFILES

POLITICIANS AND THE POLICE WERE ALSO PROFILED AS IMPORTANT, LIABLE MEMBERS TO TAKE PART IN THE DEVELOPMENT OF THE COMMUNITY

PARENTS RECEIVED THE MAIN ATTENTION TO PROTECT THE KIDS' UPBRINGING

Figure 18. Results for the Grounded User-Created Personas in Havana.

FURTHER WORK SUGGESTED

No more persona co-design sessions took place with other Ovambo communities. Data obtained in the form of persona artefacts and their elements thereof would be held as sufficient to state a series of conclusions and to appraise the findings.

Further evaluations of findings with the communities themselves would be desired, yet within the scope of this study there has not been considered to hold room for it.

These are not ruled out at a later stage once this thesis has been finalised.

6.4. CONCLUSIONS ON OVAMBO FINDINGS

The third user-created persona case study occurred with Ovambo youth in a slum. It formed data from three sessions at the KKC in between March and April 2015. Initial conclusions from all sessions are highlighted in the succeeding paragraphs. Main findings are methodological as well as to do with basics of persona artefacts.

CONCLUSIONS AT A METHODOLOGICAL LEVEL

Starting Phase 2 as a literature review provided an initial *Understanding of Users* on the past and recent history of Katutura, and the situation of Havana in particular. This and an overview to the project by NUST led the persona researcher to better understand the context and the existing challenges in Havana, and so to position methods that aligned with the background and the aims of the overarching project.

Walking Havana worked at personal and research level to further understand users. Experiencing being in an informal settlement in the African region for the first time, the persona researcher understood basic aspects held by locals such as their candour, proximity and affability, but also the awareness of 'being an *oshilumbu*'¹³.

To challenge the denomination of *oshilumbu* from the start -where expectations were that the white man *gives-away*- built positive *Team Dynamics* with participants and established clear aims. In turn, this provided suitable *Team Dynamics* with local researchers as trust was further gained due to the openness.

Walking Havana was a fruitful approach to observe the locale the youth lived-in: They showed their neighbourhood, the daily challenges they faced, and interacted with some locals, while this also reduced the need for researchers to lead a session.

¹³ This term commonly denotes being a foreigner / white man (<http://www.serasphere.net/Extras/oshiwambo.htm>), though it also holds connotations of being greedy, which seemingly is the meaning more often utilised.

Therefore, this observational approach provided data on community entry points and revealed key challenges to the local community –the aim during this phase.

Phase 2 scaffold from *Walking Havana* and produced abundant findings about the relationship between contextual realities and depictions of local persona artefacts. Central characters, prostitutes and criminals, emerged surrounded by secondary ones, parents and rioters. The former were provided with traits and behaviours that were enclosed in causal roots from the past and consequential effects in the future, and which together provided a set of needs, requirements and ambitions.

When leading characters were brought forward into a further session, they were given an additional contextualisation and provided of interdependencies with the subordinate characters (i.e. *the parents*). And yet, in this session parents were assigned further traits, behaviours and stories of their own that complemented why *Tselestina* and *Alomgombe* became prostitutes and *Johanes* a gang member. Moreover other characters were profiled from Group D, who specified *politicians* and *the police* as parties to work with to solve the challenges faced in Havana.

The above methodology showed appropriate as a method to allow Ovambo youth to co-design persona artefacts with traits, behaviours, ambitions and storylines.

As part of the commitment of the youth in the activities embedded in this project, developing characters for a TV-series served as training on filmmaking. The aim was to create a short film rendering life in Havana and the realisations by the youth to improve their living and prospects (Winschiers-Theophilus et al., 2015a). Therefore, and from a methodological point of view, using Reality TV as a design research method is a medium that showed fruitful and a genre relatively new to HCI.

CONCLUSIONS ABOUT ELEMENTS IN THE PERSONA ARTEFACTS

This section states a series of conclusions regarding the rhetorical preferences, narrative content and physical layout of the persona artefacts that emerged.

As far as rhetorical preferences are concerned, Ovambo showed some leanings.

The personas represented as prostitutes gang members and scenarios as revolts have been stated as exaggerations surfacing in other sessions with youth when attempting to bring about positive change to Havana (Cabrero et al., 2016). Yet, situations recounted and characters described seem to equal circumstances often itemised in the local news. Such loci got illustrated and narrated during *Walking Havana*, and attuned with the personas firstly styled and finally grounded. As per narrative content Ovambo youth demonstrated a sophisticated approach towards storytelling their identities, their surroundings, and their daily experiences. They showed innate skills to create plots where (1) *preparation* showed how childhood in Havana typically is, (2) *climax* presented current personas situations, and (3) *resolution* depicted mothers protesting and others also revolting. This approach revealed menaces undergone in Havana and sociotechnical gaps. The plots created also triggered the grounding of personas in terms of causes, such as the issue with the distances travelled by parents and the subsequent exposition by these to danger for their children. Other causes emerged in terms of further personas such as the invocation of local governmental powers and police.

Results portraying physical results emerged as pictorials and collectivism. Youth created a meaningful pictorial collage of interrelated plots through which they communicated their identities, their surroundings, and daily experiences alike. Regarding collectivism, the circular plots and the poster of political issues displayed the community interrelations while also showed the political nature of design.

7. USER-CREATED PERSONAS: URBAN SAN

This chapter presents the fourth and last case study, which occurred with San youth. Chronologically, this the fourth out of the four persona co-design cases proposed.

Two sessions took place in Windhoek in August and September 2015 respectively. They happened with a group of San youth living and studying in the capital city.

Sessions formed a dataset from the one single site with two asynchronous sessions, and from which initial results and conclusions end the empirical path of this thesis. The case study revolved around two sessions forming Phase 2 in the methodology: one consisting of a set of paired methods, and one with a single method deployed. This study aimed to find self-depictions of persona artefacts for technology design. The main objective was to observe storytelling methods stirring such renderings in regards to how the group of San youth self-represented themselves both, amongst themselves and researchers, and in front of other Namibian local ethnic groups.

SESSION	TRIBE	LOCALE	METHODS
Session 14 Phase 2	San	Urban – Windhoek	Self-Expressions Workshop
Session 15 Phase 2	San	Urban – Windhoek	Self-Representations Workshop

Table 14. San Case Study: Sessions, Phases, Tribe, Locale and Methods.

Contents in this case-study draw upon the available publications *A Hermeneutic Inquiry into User-Created Personas in different Namibian locales* (Cabrero et al., 2016e) and *Follow my Shadow, See me to Suffer; Track my Spirit, Empathise with Me: Uncovering Khoisan Marginalisation via a Live Healing Performance* (Cabrero and Fernandu, 2016).

PHASE 2 SAN: METHODOLOGY, METHODS & THEIR RATIONALE

Phase 2 aims to generate *User-Created Personas with Team Dynamics*.

Sessions aimed to couple activity by local and European researchers on the PARTY project ("PARTY: H2020," n.d.). They aimed to probe methods for transformational change and to co-create services, careers, and support infrastructures to achieve sustainable livelihoods and wellbeing. Methods centred on games and storytelling. The persona researcher aimed to study self-expressions and self-representations that the San youth would make of themselves in this and the following workshop.

The first session deployed *Anonymity* and *Copy&Paste* as complementary serial methods aimed to facilitate self-depictions and relations in everyday life: *Anonymity* called on *being proud of, feel lucky for, would love to, want to change*; while *Copy&Paste* was about writing/drawing evocative things and people; applying these to a collective wall-collage built for the occasion, talking things and people through, and making new masks of the individuals as themselves and their evolving stories.

The second session was another observation of results in a workshop where *Youth Unemployment* was the theme of debate among a group of local youth from different ethnic groups. The aim was to observe the depictions emerging from the San in this session and compare with the depicted in the *Anonymity* and *Copy & Paste* sittings.

Findings reveal that when making self-expressions the San articulated clear and positive objectives, ambitions and drives in their lives. Yet, self-representing themselves in front of others thematised their ostracising.

Methods in both cases were deployed by PARTY researchers and Marlon Parker from RLabs, and got exploited as observational material by the persona researcher.

7.1. SAN WORK ON THEIR OWN & SELF-EXPRESSIONS

This session occurred in the city of Windhoek on August 22nd 2015.

INTRODUCTION TO THE LOCALE

It took place in the premises of the Namibia Business Innovation Institute (NBII). NBII is a body attached to NUST and dedicated to host events of many kinds, especially to do with business, entrepreneurship and innovation funded by NUST.

INTRODUCTION TO THE SESSION & PARTICIPANTS

This was a one day workshop with ten youth from different subgroups of the San, who originate from different places all across Namibia, and that were in Windhoek for schooling and to further their skills in different industries like health and law.

Some youth are proactive in the community and created the *//Ana-Djeh San Trust* (2018) to promote the rights of San and to enable access to education. The aim of the session was to help relations in everyday life and self-expressions.

There was a mixture of foreign and local researchers who facilitated the workshop.

METHODS AND THEIR RATIONALE

On persona research the object was to explore self-expressions by noting the use of different methods for youth to convey their feelings and aspirations in confidence. This objective aimed to achieve *Understanding Users* by seeing them in-action.

METHOD 1: [RE]PRESENTING THEMSELVES IN/TO THEMSELVES

The sitting opened with the participants plus some researchers playing *Anonymity*. This consisted in wearing a mask (i.e. paper plate – Figure 17, top right) and a blank A4-paper tucked-in to their backs and to act as per the instructions orderly given as:

(1) stand up; (2) run around; (3) stop; (4) get to next person, (5) complete a phrase on the A4 for: (a) I am proud of; (b) I feel lucky for; (c) I'd love to; (d) I want to change.

METHOD 2: OBSERVATIONAL OCURRANCES

Participants were then called to played *Copy&Paste*: (1) sketch ten things in life; (2) ten people; (3) draw things & people; (4) cut them out; (5) paste them to a collective wall (Figure 17, left); (6) tell stories via objects and people represented, (7) make masks anew as themselves and the stories (Figure 17, bottom right).

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session involved a group of San and researchers depicting self-expressions. The aim was to understand what and how protocols enable youth to convey their ambitions and feelings with confidence. Youth got on well with the session, seemingly enjoyed, and mingled among themselves and researchers with no issue.

Overall participants provided a common theme throughout the A4 writings as per: (a) I'm proud of *been a San*; (d) I want to change *discrimination against San; how people think; defend rights of people, especially San; everybody's life; how the youth uses Social Media platforms; people who use drugs and people who abuse to better live*. Accounts on *career goals, families and feelings* came as per (c) I love to and (b) I feel lucky for, and in the ten images and people each participant crafted on paper, cut out, and pasted on the wall.

Due to time constrains youth eventually rushed together a mapping on who "they" were [non-specified if individuals/group] within the settings and with the things depicted in the wall as stories and through the late masks they created (Figure 17).

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the group of San in Windhoek took-on, understood and co-designed persona artefacts.

By applying the initial *Anonymity* method participants expressed their feelings and their ambitions with what seemed a good degree of self-confidence in two senses:

They conveyed a mutual sentiment of being ostracised while proud of their origins. Their ambitions, hence, sustained defending their rights as San, but also to achieve their career goals, maintain close ties with their families and feel blessed. Through the *Copy&Paste* effort they also came up with meaningful depictions on what was important to them, and they placed these together in the final collage.

Applying such successive methods aligned a convincing set of self-expressions.

The second question aims to answer what cultural assumptions emerged.

In this session too storytelling surfaced as effective to co-design persona artefacts. Participants produced self-expressions through pictures and narrative accounts that voiced their needs and requirements, though more so their desires and ambitions. They included people other than themselves as critical in their self-improving lives. This conflicts with the components that persona literature convenes as substantial, in that UCD personas typically focus in the individual and not any collaborators.

7.2. SAN WORK WITH OTHERS & SELF-DEPICTIONS

This session also occurred at the NBII in Windhoek on September 22nd 2015.

INTRODUCTION TO THE LOCALE

The session happened as part of the *Youth for Youth* celebrations hosted by NBII. The event display realisations of projects with which Namibian youth can create a stable income by studying and utilising ICTs (Winschiers-Theophilus et al., 2017). On this day, Marlon Parker from RLabs SA ran a sitting on *Youth Unemployment*.

INTRODUCTION TO THE SESSION & PARTICIPANTS

Parker requested attendees to split in groups to discuss, write about, and present to the rest of groups their results on the issue of *Youth Unemployment* in Namibia. When presenting conclusions each group would be successively asked 'why' both, to each written statements as well as to the ensuing replies they would provide.

Sixty-three predominantly youth participants attended the workshop led by Parker. The youth belonged to various local tribal groups, including the cluster of San.

METHOD AND ITS RATIONALE

The understanding of users gained in the first session seemingly appeared lacking. San are generally and publicly held as an ostracised (//Ana-Djeh San Trust, 2018), and yet youth had stated legitimate desires and ambitions to improve their lives.

Due to the opportunity the method deployed in this session was again observational. The rationale was to compare such statements with those in the previous session as a form of appraisal on the self-expressions and self-representations produced in the first and the below sessions, and so infer the portrayal of persona artefacts.

METHOD: SELF-REPRESENTING IN FRONT OF OTHERS

The session was multi-culturally populated and fused in groups of ethnic disparity. The group of San, nevertheless, willingly sat and stood together at a table and they stayed so for the entirety of the session, interacting only among themselves.

Groups argued and wrote replies on *why there is youth unemployment in Namibia*. To present results groups allocated a presenter, who stood in the middle, presented the outcomes, and was continuously confronted with “why” enquiries.

The question/answer flow by the San group emerged as: *Why are you uneducated? Why are you discriminated and bullied? Why are you uncivilised? Why are you not exposed to technology and modern lifestyle? Why are you afraid to try and explore new things? Why are you exploited? Why are you the weak tribe in the world?*

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session observed self-representations proposals by the San in front of others, and compared them with those they created and expressed in the previous session.

Attending a mixed workshop the San showed a clustering of themselves into their own group rather than intermingling with the rest of participants as others did. Further, they thematised their marginalization as noticed in the sequencing above.

It is peculiarly striking that, contrary to the first session, where current life and ambitions were readily thematised within a positive context and connotations, in this session the San placed themselves in the spotlight as being marginalised.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The first question this thesis aims to answer refers to how the group of San in Windhoek took-on, understood and co-designed persona artefacts.

The San did not have doubt how to self-represent themselves in front of others. They clustered themselves at the start of the activity rather than socialising with others, so they thematised their marginalization in attending a diversified workshop. Instead of telling their best talents and drives, they stated ostracism and demotion.

The second question aims to answer what cultural assumptions emerged.

Personas in literature usually express commonalities in needs, requirements and ambitions, though they do not necessarily portray paradoxes and contradictions. This relates to Chavan (2012) stating personas do not always have to be good.

PRELIMINARY USER-CREATED PERSONA VISUALISATIONS

The above was the last user-created persona session carried out for this thesis. The representational takeaway in a graphic form from this user-created persona session with the group of San youngsters could be depicted by the following:

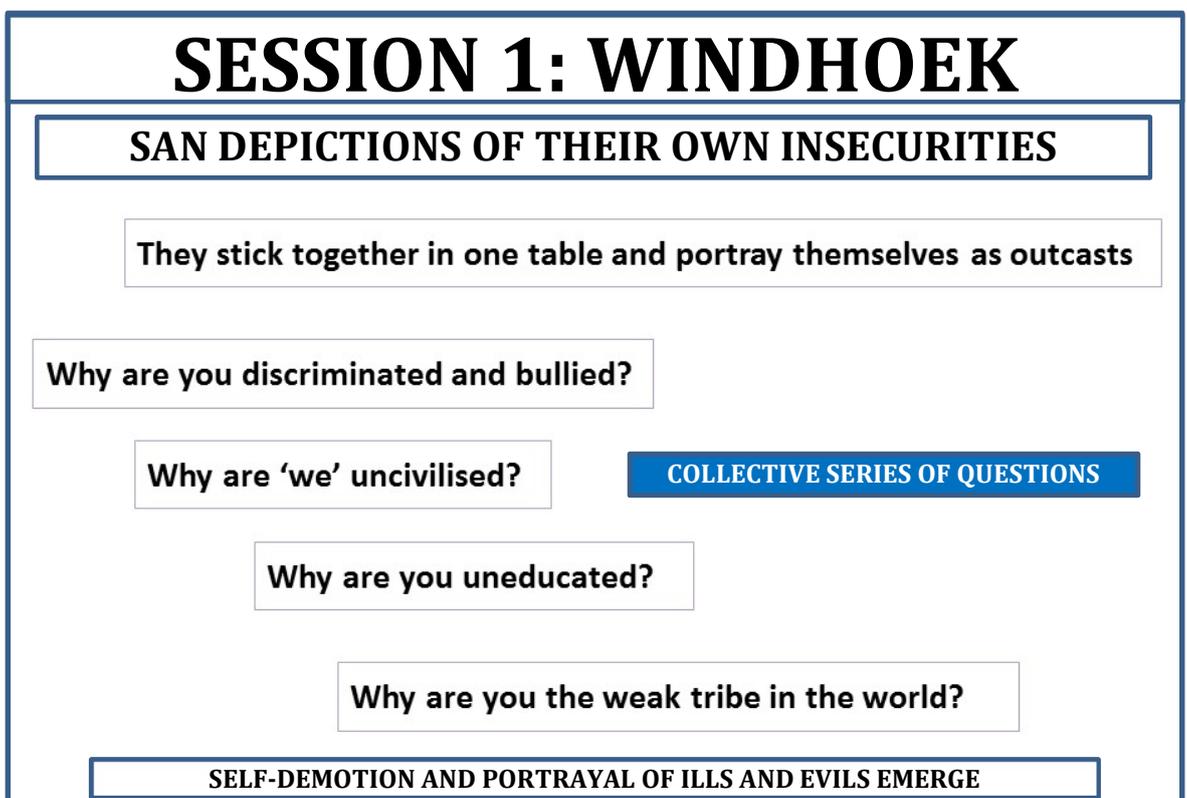


Figure 20. Results of san Youth in the Unemployed Youth Workshop.

FURTHER WORK SUGGESTED

No more persona co-design sessions took place with this or other San communities. Data obtained in the form of persona artefacts and their elements thereof would be held as sufficient to state a series of conclusions and to appraise findings.

Further evaluations of findings with the communities themselves would be desired. Yet within the scope of this study there has not been considered to hold room for it. This are not ruled out at a later stage once this thesis has been finalised.

7.3. CONCLUSIONS ON SAN FINDINGS

The final case study occurred with San youth. Main findings are methodological as well as regarding basics of persona artefacts.

CONCLUSIONS AT A METHODOLOGICAL LEVEL

This case study was arrayed by local and persona researchers as an observation to discern representations by San youth in Windhoek. The persona researcher observed and annotated as much as possible from the session without intervening.

Probing hence Phase 2 as an observer worked at a personal and researcher level.

To be an observer allowed seeing further other researchers in action with the locals.

Observing rather than actively leading ultimately provided data on how San depicted themselves in two settings, one of self-expression on their own in the first session and one of self-representation in front of others in the session by Parker.

Storytelling transpired as an effective approach to co-designing persona artefacts with the San participants. They created self-expressions with pictures and narrative descriptions that voiced their needs, requirements and ambitions, and which comply with the typical definition of, and the elements typically making-up persona artefacts.

CONCLUSIONS ABOUT ELEMENTS IN THE PERSONA ARTEFACTS

This section states a series of conclusions regarding the rhetorical preferences, narrative content and the physical layout of the persona artefacts that emerged.

On the subject of rhetorical preferences the San showed openness to express their ambitions and aims in life among themselves, while in facing other local groups they chose to claim being 'the ostracised'. And so a rhetoric of relegation emerged as rather embedded in, at least, some of the San youth.

As per narrative content, the San employed representations including other people's exemplifications as well as themselves, and also some meaningful daily objects. These images indicated an inspirational value of these people to the participants. Equally, the discourse itself was a compelling tool for clarity and ambiguity together.

This offers answers to the first question on the take-on of personas by San, while it also adds critical depictive information about the duality in representations. Such a dichotomy though is rare in the way personas come usually portrayed.

Conclusions on content are on text, imagery and collective thematisation.

Written testimonials displayed needs, requirements and drives on starting avowals in line with (a) I'm proud of; (b) I feel lucky for; (c) I'd love to; (d) I want to change: (a) I'm proud of *been a San*; (d) I want to change *discrimination against San; how people think; defend rights of people, especially San; everybody's life; how the youth uses Social Media platforms; people who use drugs and people who abuse to better live*. Explanations on *career goals, families and feelings* came as per (c) I love to and (b) I feel lucky for, and in the images and people participants crafted on paper, cut out, and pasted on the wall collage.

8. USER-CREATED PERSONAS: APPRAISALS

This chapter covers a set of appraisals on the user-created persona case studies.

Four sessions took place in February and March 2016 in three different locales, namely Windhoek in Namibia, Copenhagen in Denmark, and London in the UK. Sessions formed a dataset from three sites in two asynchronous sessions in Windhoek and one single session both, in Copenhagen and London respectively.

SESSION	COMMUNITY	LOCALE	METHODS
Session 16 Phase 3	Namibian Students	Software Engineering Class	Personas Overview & User- Created Personas Appraisals
Session 17 Phase 3	Danish Designers	Software Engineering Class	User-Created Personas Appraisals
Session 18 Phase 3	HCI Scholars	Academic Gathering – London, United Kingdom	User-Created Personas Appraisals

Table 15. Appraisals: Sessions, Phases, Communities, Locales and Methods

Part of Phase 3 in the methodology the aim was to find how effectively the persona artefacts obtained communicated their purpose to others in the design process.

Hence, seeking meaning from the persona artefacts portrayed was the vital foci. The objective was to present the findings generated in the four case studies to a set of different design audiences in Namibia and overseas, and to collect and analyse their impressions, interpretations and their feedback on the user-created personas.

PHASE 3 APPRAISALS: METHODOLOGY, METHOD & THEIR RATIONALE

Phase 3 in the methodology consisted of an appraisal of the data generated in the case study with the Ovambo youth as material to compare across sessions.

The aim was to find out the meaningfulness of the user-created persona elements, and so obtain designers' critique to verify the acceptance and reliability of results, and if the persona artefacts presented could have any use to professional designers. This is found a sensible approach to keep adding to the advancement of published evaluations focusing on methods to produce personas (Chapman and Millan, 2006).

Ideally, this set of sessions would have kept participants devoted to analyse all the outcomes from all four case studies. Yet, time did not allow to host a workshop with all the groups analysing all data, nor a long session or a set for the entire scrutiny.

Appraisals were time-bound and embedded into other activities. This got tackled by (1) carrying out a workshop where data from each ethnic group was proposed to, and appraised by a class of final-year software engineering students in Namibia; (2) presenting all the results from the four case-studies, although assessing only one case study, the Ovambo youth, with professional designers in Denmark, and (3) presenting and reviewing the same case with the Ovambo youth in Havana with scholars from the discipline of HCI in the UK.

The method entailed presenting the data via slide deck projected on a screen and (1) giving printouts of the slide-deck assembled by tribe to students in Namibia, and (2) providing the handout with results from the Ovambo case and a handout stating ten benefits commonly attained by personas to the participants in Denmark and UK.

Despite more benefits are included in the literature chapter for this dissertation, when appraisals took place there were ten main benefits considered:

- (1) to generate a solid, grounded understanding of the targeted set of end-users,
- (2) to make available early design needs, requirements and drives from users, and
- (3) to introduce and/or reinforce design thinking all through (Williams et al., 2014);
- (4) to inspire a shared vision of user needs for efficiency (Mulder and Yaar, 2006);
- (5) to provide focus on user goals, requirements and traits (Putnam et al., 2012a);
- (6) to depict dimensions of ecosystems where users move (Lecomte et al., 2013);
- (7) to complementary enhance other methods such as PD and scenario, as well as
- (8) to steadily enable communication amid all partakers (Grudin and Pruitt, 2002);
- (9) to encourage design partakers to empathise with users (Nielsen, 2012a), and
- (10) to enabling the social and political of design to the surface (Grudin, 2003).

Participants in Denmark and London were asked to state in the handout benefits the material provided to their understanding, and to add notes if found pertinent.

Overall, results indicated the class of final-year software engineering students in Namibia took-on well and understood the persona artefacts and their nuances, and based on this they enriched the debate engaging with and adding to specifics.

Practitioners in Denmark largely appreciated the user-created persona proposal, with some participants finding it innovative, refreshing, and proportionately useful, while other contributors left unconvinced or arguably having wasted their time.

The interaction with HCI scholars in UK showed different opinion toward the results, with some arguing what was reported were not personas, some offering the persona researcher to come to their locations and attempt to perform this type of research, and other participants appreciating the outcomes and stating positive perspectives.

In the ensuing, sessions are contextualised, described, analysed, and reflected on, and the third and final question proposed in this research project is answered.

8.1. LOCAL APPRAISAL IN WINDHOEK, NAMIBIA

The sessions below occurred at NUST on February the 23rd and 1st March 2016.

The ultimate aim was to appraise the persona findings in the local surroundings.

INTRODUCTION TO THE LOCALE

The sessions occurred in one regular classroom of software engineering at NUST where students have individual desks with a CPU and a monitor attached to them.

INTRODUCTION TO SESSION & PARTICIPANTS

The object of these sessions was to present UCD personas to the students, the gap in the literature about studies of situated persona artefacts, and to create a dialogue between smaller groups of students about the artefacts provided, and how students would take-on, understand and relate the elements based on what interpretation.

Twelve students in their final year of software engineering took part in the sessions. All students showed a genuine interest towards their studies.

METHOD AND ITS RATIONALE

Phase 3 in the methodology refers to *User-Created Personas* –verification of data. Students were invited to evaluate the meaningfulness of the persona artefacts.

An initial session introduced UCD personas, their used in technology design, and gaps existing in the literature. This aimed to introduce personas to the students and gather their understanding. A week later the students were invited to split in four groups of three and evaluate the outcomes from the four case studies.

They were provided with handouts showing the findings from the four case studies and asked to debate in groups how useful each of the persona artefacts was to convey needs, requirements and ambitions of each ethnic group and in what sense.

METHOD: LOCAL APPRAISAL WITH STUDENTS

The session opened with an introduction of the persona researcher and students. The former presented UCD personas, their benefits according to literature, and the need for persona research, i.e. lack of (1) empiricism, (2) consensus on its meaning, and (3) research on how users may take-on, understand and co-design personas. The *Bollywood technique* (Chavan, 2002) was presented as an example of cross-cultural forms of creating representations for contextual technology design.

Then the first research question in this thesis was introduced: *How do different indigenous communities in Namibia understand and design persona artefacts?*; the methods deployed across the case studies in Namibian locales were presented, and students were asked to state if and when they may have heard about personas. A student stated he heard the term persona in a song from a favourite local band and where it meant regular people. Others just heard about personas in this session.

At the end of the session the researcher asked students to read the definition of personas on interaction-design.org (Nielsen, 2013) as homework for a next session, and to email him their names, nationality, ethnic group, age, job, brief description of themselves and their understanding of the term personas previous to this session.

A week after, a further session introduced all the persona artefacts by case study. Students split in four groups, each with a set of handouts with findings from one tribe –ovaHerero, Ovambo, ovaHimba and San. Students were asked to debate findings for forty minutes and present their impressions to the rest of the class in twenty.

Representations for ovaHerero took students time to find meaning and consensus, needing some clarification from the persona researcher or students in other groups.

For example, students did not understand the meaning of the cattle dung depicted, the fire made with matches, or the drawing of a pregnant woman beyond pregnancy.

That objects have specific meanings was understood from the ovaHimba imagery, which helped students to make sense of the nuances and the collective character. Students well understood the importance of the collectivist effort in the community and appreciated the way in which the stories elicited detail important to ovaHimba. And yet, they would need added resources to consider the personas fully evocative.

Findings about the San youth were well understood by some students in the group, while others did not know much about San in general. Yet, students agreed the depictions showed paradox and that this, though, helped to identify spaces for ideas.

Three of the four students who worked with the Ovambo case study initially stated to not have much knowledge about Havana or the Ovambo tribe in general, while an Ovambo student stated to live nearby Havana and had no problem in identifying the actors and scenarios presented, nor in pairing them with his own knowledge. During their presentation, the three students claimed to have gained a fairer understanding of needs, requirements and ambitions of youth in Havana, as knowledge of their colleague served to confirm the realities depicted, and so they agreed that lives represented seem credible for the locale they illustrated.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

Introducing first UCD personas and an outline of state of literature across locales, this appraisal aimed to develop and understanding on how a class of software engineering students in Namibia took on and understood the persona artefact overall, and the findings from the four cases studies in particular.

Students engaged with the exercise and discussed the persona materials provided, which, depending on the ethnic origins of the students forming the different groups, they either needed some clarifications about meaning of certain portrayals or textual representations, or found them clear to gain meaning from.

Overall students made sense from the persona artefacts insofar as nuances were explained by others with knowledge or relatability to the group or locale depicted.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The third question this thesis aims to answer is how effectively the persona artefacts obtained communicate their purpose to other participants in the design process.

Overall, students in Namibia took on well the data presented and found it helpful. They mostly understood all elements, particularly when nuances were further detailed by others with relatability to ethnic groups or locales, which in turn generated a further provision of empathy related to the experiences of student colleagues. Hence, at a high level it can be argued the materials suggested worked.

FURTHER WORK SUGGESTED

In addition to appraisals with local Namibian communities from to the case studies, this and the upcoming appraisals serve to complete an initial study of the results.

8.2. OVERSEAS APPRAISAL IN COPENHAGEN, DENMARK

This session took place at IT University of Copenhagen (ITU) on March 8th 2016.

INTRODUCTION TO THE LOCALE

The meeting materialised at a large lecturing classroom at ITU.

INTRODUCTION TO SESSION & PARTICIPANTS

This was a two-hour event steered by persona expert Lene Nielsen (InfinIT, 2016).

The persona researcher facilitated the sitting detailed below, while local researcher

Charlotte Albrechtsen presented a case study on persona co-design in Denmark.

Thirty seven people working and interested in design, as well as Nielsen and

Albrechtsen attended the sitting –with Merl Hardley videoing and taking photos.

METHOD AND ITS RATIONALE

Phase 3 within the methodology consists of a series of appraisals of the personas –the validation of data. The aim was to find how effectively the persona artefacts presented to other stakeholders in the design process communicate their purpose.

An outline on UCD personas and the lack of studies across locales were introduced.

Then the case study with the Ovambo youth was suggested as a hands-on exercise

where handouts with the persona artefacts created by the youth and a handout

stating ten benefits that persona is commonly known for were distributed to groups

of three to four people across the room. The aim was to learn what benefits

designers found explicit and their further notes of the persona artefacts presented.

METHOD: APPRAISAL OVERSEAS WITH PROFESSIONAL DESIGNERS

At the very start of the session two handouts were distributed among all attendees,

one containing the ten central benefits persona is known to realise and another one

containing the persona artefacts from the Ovambo case study with youth in Havana.

The persona researcher began by greeting the designers and introducing himself; then outlined UCD personas, pinpointed a scarcity of persona empirical research, in particular in across cultures, and summarised results from the four case studies.

Next the Ovambo case with Havana youth was introduced via an extract a short film youth created, and that exposed the slum scenario and the needs as per lack of basic services and the goals of the community, who aimed to build a community centre and to obtain technologies to supporting the youth in finding employment.

Then, the collage that the youth had co-designed was further referred to (Figure 15) and designers invited to think individually or discuss in small groups which ones, if any of the ten persona benefits may be conveyed through the illustration displayed.

After ten minutes the group session reconvened and a discussion opened.

A designer asked what task youth were given to prompt the co-design of personas. The persona researcher answered to 'develop characters for a reality TV program'.

Another designer claimed to have gained a rather empathetic feeling and a very raw imprint where it was noticeable that no designer had digitally enhanced the collage. The designer felt this was a helpful portrayal, as it offered a wide approach to issues revealed, though it equally missed more defined needs to start proposing designs.

A third designer concurred with the raw richness of the depiction and stated that many of the ten persona benefits proposed were contained in the persona collage. Yet this designer also stated the collage needed slightly deeper interpretation.

Another person agreed on the wealth of the depiction and the need for interpretation, though stated a lack of clarity on who the main characters were from all the depicted.

A fifth designer claimed visuals being enriching and abundant, while they similarly missed on emotions –which made the appreciation of their situation less poignant.

A last designer agreed on the richness of raw, though required further explanation on how to relate the TV series lens to design-thinking, and argued these are two different approaches and that further contextualisation into the latter was needed.

To close the sitting, designers were thanked for their contribution and involvement and Albrechtsen ensued presenting the sitting on persona co-design in Denmark. At the end of the session all persona handouts were gathered for further analysis.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session consisted on an appraisal with professional designers in Denmark.

The aim was to find appreciation or criticism on the persona artefacts presented, while the objective was to discern if such artefacts would help to design technologies fit for the needs of the users represented, and if and how the depictions would provide any of the ten persona benefits presented in the handout.

There was a general agreement around the richness of the harshness depicted, although there was also a feeling for an extra interpretation of findings displayed.

A designer claimed to have gained an empathetic feeling while pinpointing that no designer had *sanitised* the collage. Chavan claims there is a tendency to create personas that are *good* and that, on the contrary, personas not always have to be good but depictions of the realities they represent (2012). This, though, enters in conflict with literature that claims personas need to feel ‘realistic’ and tells the way in which personas may ultimately be tweaked in their appearance (Cooper, 1998).

Designers overall felt the collage offered a large amount of critical needs and claimed that a more defined set of priorities would enable the advising of solutions. They also suggested a need for more clarity about who the main users were.

Likewise, the richness of visuals was recognised though lacking emotional weight.

Overall, practitioners in Denmark said they appreciated the user-created persona proposal. Some found it innovative, refreshing, and proportionately useful, while others left sceptical or arguably –as heard of– wasting their time in attending.

The persona benefits distributed in the handouts were analysed. From the sixteen handouts that the participants returned there were one-hundred and sixty times benefits stated: 101 attained, 23 showed vacillation and 27 were denied as existent.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The third question this thesis aims to answer is how effectively the persona artefacts obtained communicate their purpose to other participants in the design process.

Practitioners in Denmark largely appreciated the user-created persona proposal. Some participants found it innovative, refreshing, and proportionately useful; other contributors felt there was a need to define priorities, while some left unconvinced.

FURTHER WORK SUGGESTED

After the appraisal, a survey was to be distributed among the participants. By the time the survey arrived the organisers, though, they had sent a thanks-email to the participants so the survey was not circulated.

To obtain additional feedback a further appraisal took place in London in the UK. This time the focus on the problematic, the technology proposed, and the approach to co-design personas building on a reality TV approach would be clearly explained.

8.3. OVERSEAS APPRAISAL IN LONDON, UNITED KINGDOM

This session took place at University of West London (UWL) on March 10th 2016.

INTRODUCTION TO THE LOCALE

The session took place at a large lecturing classroom at UWL.

INTRODUCTION TO SESSION & PARTICIPANTS

This was the IFIP TC13 Open Symposium on HCI 2016 (IFIP TC13 Group, 2016), where a set of talks and a general meeting occurred over the two-day symposium, and with international academics meeting to discuss latest developments in HCI.

The aims and objectives were the same than in the previous session in Denmark: to focus on the Ovambo case study and find appreciation or criticism on materials reported, and to entice participants to state if the persona artefacts complied with persona benefits, and if the full proposal would be helpful to design technologies.

Thirty individuals (counting the main supervisor of this thesis) joined the session. Merl Hardley assisted videoing and taking photos of the session for further analysis.

METHOD AND ITS RATIONALE

Methodology, methods and logic were identical to the previous session in Denmark. Yet, length was condensed into 20 minutes and attendees now were HCI scholars.

METHOD: APPRAISAL OVERSEAS WITH HCI SCHOLARS

Like in previous sessions, greetings, an outline about UCD personas and an overall lack of research, mostly across locales, were briefly outlined due to time constrains. The persona researcher presented the case study with the Ovambo youth through an overall contextualisation of the project and the issues the youth in Havana face –e.g. lack of employment and the technologies proposed –i.e. job-searching tool.

Then the same extract of the short-film was shown, though this time the persona researcher stated the reality TV approach was the framework for persona co-design.

With the persona collage and benefit handouts, participants split into heterogeneous groups asked to debate findings for ten minutes. Participants engaged with the task.

The dialogue, though, opened to all as an attendee stated to the audience that the collage showed no personas and that this would be something difficult to apply to South African contexts and how differently this would work in the slums over there.

Another participant called the researcher to claim that those were not personas and that, therefore, they did not serve to debate persona artefacts in the first instance.

After ten minutes the groups reconvened in search for last comments and feedback.

An attendee stated that though the collage had a UX angle, the persona findings also offered the viewpoint of socio-technical systems (STS) and so it was a valid idea for contributions to research where STS are at the core of a scientific enquiry.

Another scholar said that it would all depend on the lens and contextual scrutiny it would be looked at, and explained that if looked from the perspective of STS, the last benefit in the list *–to enable the social and political of design to the surface–* would be considered a gestalt practice. But because he had looked at the findings from a UI lens, some of the benefits proposed did not map onto the personas. However if looking at the last picture in the collage, the scholar claimed, it would then be possible to derive a persona from it and then develop the benefits better.

A last contributor enquired whether it may be possible for a person that does not belong to a culture to interpret the aspects that conveyed via a persona artefact.

Finally, the persona researcher thanked all participants and the session finished.

RESULTS, THEIR INTERPRETATION, AND A REFLECTION

This session consisted on the appraisal of findings with HCI scholars in London, UK.

The aim was to find appreciation or criticism upon the persona collage presented.

The objective was to perceive if the collage complied with what persona benefits, and also if the overall proposal would aid to design technologies fit for these users.

The proper contextualisation of the character of the exercise, the problems the youth in Havana faced and the technological proposal offered, –e.g. unemployment a job-searching tool, and to indicate that reality TV was the framework to proposed the community the co-design of personas seemingly benefited the achievement of a firm focus and understanding by participants, as no query emerged in these regards.

In terms of divergences in viewpoints, some scholars found hard to see persona artefacts in this activity, although others found value in it and provided other insights. A scholar, for example, saw value in these personas if looked from a STS angle, as they enabled the social and political of design to the surface which he found of value as it would be possible to derive a persona from it and develop some benefits better.

As a closing, the persona benefits circulated in the handouts were also analysed.

Their examination focused on benefits designers detailed that the collage contained.

From the seven handouts scholars used, there were seventy time benefits ticked: thirty-two attained, eleven showed doubt and twenty-two were claimed inexistent.

There were two further sets of handouts which returned with no answers provided.

ANSWERING THE QUESTIONS THIS THESIS PROPOSES

The third question this thesis aims to answer is how effectively the persona artefacts obtained communicate their purpose to other participants in the design process.

Overall, the interaction with HCI scholars showed mix feelings towards the results. Some argued that what was reported were not personas and invited the persona researcher to come to their localities to try carrying out this type of research there, and with others appreciating the outcomes and stating constructive perspectives.

Based on the data gathered, it can be argued the persona collage and the features in it were taken on as legible representatives that got understood by and were meaningful to most academics, while some could further see the difficulty in understanding nuances depicted in personas in other milieus than their own.

FURTHER WORK SUGGESTED

As with the appraisal in Denmark, a survey was proposed as a session follow-up. Yet the survey only got completed by three participants, so the data is not applicable. Else, a deeper study of the data reported and an appraisal with tribes in Namibia would be a next mandatory step, which the situation at the time still did not permit. Yet, this could occur only later in time.

8.4. FINAL CONCLUSIONS ON THE APPRAISALS

This chapter detailed and studied appraisals in Windhoek Copenhagen and London.

Namibian students took-on well and engaged with the nuances of persona artefacts.

This was especially so with the Ovambo case-study, as a student belonged to this tribe and lived in the area. This aided to verify data represented, and added further facts on life in Havana. OvaHimba and San findings were also fairly understood and aided to make sense on the meaningfulness of nuances and of the generics as well.

On the contrary ovaHerero findings took some time to make sense of, and needed some prompting from the persona researcher and others to make them intelligible.

Practitioners in Denmark largely appreciated the user-created persona proposal.

Some of the designers found it innovative, refreshing, well-balanced and useful.

Others left the sitting unconvinced or arguably having wasted their time attending.

There was general agreement the crudity aided to better realise the situation, while there was also a propensity to designerly ways of orthodox open thinking.

Mainstream design thinking also emerged through some participants in the UK, where scholars showed multi-coloured feelings towards the outcomes presented.

Some maintained that what was reported to them were not personas as such; some invited the researcher to come to their countries and try to perform this study there.

Others appreciated the outcomes and stated positive perspectives and aptitudes, while some questioned whether a foreigner could ever understand a local persona.

At a collective level, locals engaged with the persona artefacts and related to the material presented in the appraisals than overall designers in Denmark or London.

With the latter there was a mixture of feelings between positive and reticent.

9. INTERPRETATIONS, CONTRIBUTIONS, LIMITATIONS & FURTHER WORK

This chapter offers a set of interpretations as contributions to the four persona case studies in rural and urban Namibia, and a series of limitations and further work proposed draw the thesis to a close.

A high-level interpretation of outcomes as elements usually assigned to mainstream personas –a photo, a name and a narrative is presented and conclusions are drawn. At a lower interpretational level, themes are highlighted in terms of how the persona co-design evolved methodologically, what methods, tools and techniques per case, and how this contributes to answer the questions proposed for each case study.

The section on limitations articulate possible biases and deficiencies in this study, while further work on user-created persona research is pinpointed as needed in general and in Namibia in particular.

This chapter feeds from available publications, namely *User-Created Persona: Namibian rural Otjiherero speakers* (Cabrero, 2015), *Reconceptualising Personas Across Cultures: Archetypes, Stereotypes & Collective Personas in Pastoral Namibia* (Cabrero et al., 2016d), and *A Hermeneutic Inquiry into User-Created Personas in different Namibian locales* (Cabrero et al., 2016e).

9.1. OVAHERERO USER-CREATED PERSONAS

This section presents an interpretation of elements that appeared from the activity undertaken to co-design persona artefacts with ovaHerero communities.

PHOTOGRAPHIC REPRESENTATIONS: OVAHERERO

UCD personas tend to be formed of ID photo sizes or medium shots where nuances, unless detailed, usually go unnoticed. OvaHerero personas were full-size drawings. This was recurrent in all three locales where the research ensued. The drawing of the elder in Erindi was surrounded by the homestead, holy / cooking fires and cattle. Others like the girl and the lady in Otjinene were drawn in full-size, clearly groomed and tidied, and with the Herero woman emphasising the arm up marching. And yet, when a photography was used, this had all community members in the portrait, which arguably reemphasised the sense of community and togetherness. In studies across locales full-size depictions may arguably be another benefit in personas.

NAME ENDOWING: OVAHERERO

In no session rural ovaHerero communities specified names to their depictions beyond those of the groupings themselves: male elders, a young male and a female, a woman and a girl were all depicted, yet not nickname was provided, nor any ages. The most significant provision of names was attempted with ovaHerero in Erindi, who ended stereotyping themselves as the *elder*, *good*, *youth*, *doctor* and *the funny*. Nielsen states that depicting groups of people using one trait stereotypical descriptions is one of the common challenges in UCD persona generating (2012). Yet, the aforesaid occurrences can arguably emphasise the collectivist character of the communities and the equal importance of everyone within the community.

NARRATIVE MODES: OVAHERERO

In the first session in Okomakwara a proclivity not to lose face revealed a false reciprocity disguised, one could argue, as courteous respect. Challenging what was said triggered critique about the status quo of tradition in gender, family and status. In the sessions in Otjinene the female elder stated that ovaHerero are orally-bound. When asked how to take away the information she narrated in the second session, she stated she would repeat it all again for researchers to take notes and take with. Orality in ovaHerero locales has also been verified by ovaHerero researchers and confirmed in other sessions carried out by further colleagues (Gallert et al., 2016). Also in literature, where Kavari and Bleckmann state the status of orality in the transmission of the community history generationally is akin to a reference library in literate societies, and where seniors function as sources in the archive (2008).

OVAHERERO REALITY VERSUS ROMANTICISM: SYMBOLS & VALUES

The co-design of persona artefacts with ovaHerero communities established the geographical locale and the traditional values and signifiers as recurrent themes. The ovaHerero woman drawn in Otjinene signifies core values and attitudes underpinning an archetypical way of life, i.e. typical ovaHerero woman wearing traditional attire and with the elevated arm up for the marching against the enemy. The posture validates the correctness of her representation in the same way that the ovaHerero male elder is repeatedly associated with the stick, the hat and chair. The *Bride & Groom* scenario in Okomakwara embodies nostalgias based on history and values, with the stick working as symbol of family honour, unity and respect. This confirms earlier results found by Bidwell and Winschiers-Theophilus (2012), and where ovaHerero equally described the locales effortlessly by means of objects. The merging of both, spaces, symbols and also values in ovaHerero contexts provide the emergence of potential features of personas as set in time and in space.

This translates into rich, valuable, tangible accounts of persona artefact quality in: hierarchical arrangements in the societal and cultural fabric, related ecologies, oral accounts, empathetic traits, and implicit meanings in the physical artefacts such as the stick or in the women's costume, or in bold actions like the hand-up marching. These series of data tentatively setup and profile the persona artefact illustrations.

Substantial differences between idealised people and realities were also found in the *Bride & Groom* persona artefacts in Okomakwara, where participants first defined how ovaHerero individuals *should be*, and how nobody yet remains as such. To such antagonism ovaHerero still showed a *sense of pride* in relating to *idealised* perfected human-beings that, yet they no longer exist nowadays as they once were.

OVAHERERO: PERSONA TAKE-ON, UNDERSTANDING AND CO-DESIGN

The co-design of persona artefacts initially emerged as a problematic endeavour. Proposing mainstream methods did not fully engage the ovaHerero communities: Looking for engagement with respectful questions, for example, elicited but a tailing of ratifications in the opening session with the eight female elders in Okomakwara. Mainstream literature sustains qualitative interviews as fundamental to elicit data and then segment such data to create personas. Yet, interviews in Erindi led to stating elements from the ecosystem rather than about participants; while proposing them personas directly ended in self-stereotyping. Rapid ethnography via playful triggers in Otjinene showed divergent levels of signifying and understanding between locals and the persona researcher, and so no fruitful personas emerged.

With invaluable advice by local researchers, the persona researcher appreciated that storytelling was the way forward. Proposing prompted narratives in the same three locales relevant findings emerged in regards to traits, narrations and physical

depictions. Yet, trying other methods such as proposing a TV movie to represent members of the community the abstracting of this idea did once again succumb.

Telling stories, moreover, played an instrumental role in that it was through scenario-based approaches that personas emerged rather than personas first scenarios later. This all enters into conflict with the predominant persona literature, its reporting, and the usual steps proposed regarding how persona artefacts must be produced (Cooper, 1998; Mulder and Yaar, 2006; Pruitt and Adlin, 2010; Nielsen, 2012).

Segmentation equally appeared naturally via storytelling, grounding the following ovaHerero personas –male and female elders, a school girl, and a young couple, none of which corresponds with steps or phases stated in leading persona literature.

Ultimately, the depictions showed ideal personas that, despite they do not exist, are archetypes loaded with nostalgia that acknowledges reality for the youth is evolving.

9.2. OVAHIMBA USER-CREATED PERSONAS

This section presents an interpretation of elements that appeared from the activity undertaken to co-design persona artefacts with ovaHimba communities.

PHOTOGRAPHIC REPRESENTATIONS: OVAHIMBA

OvaHimba implicitly proposed full body models in the expression of bodily gildings. Their accounts depicted human bodies with meaningful ornaments attached to them that need contextual knowledge for recognition. For example, a woman wearing a specific head ornament refers to marital status; necklaces state the conjugal status, hence hierarchy in the community; while iron-bead trinkets in the ankles state the amount of children. Situated garments wore by female hold vital data head to toes.

NAME ENDOWING: OVAHIMBA

In no session with ovaHimba communities specific names got given to the group depictions beyond those of the groupings themselves. Men, women and youth were detailed yet not nickname was provided. This can be argued to emphasise the collectivist character of communities and importance of everyone in the societies.

NARRATIVE MODES: OVAHIMBA

Rural ovaHimba communities have clearly stressed their proclivity to storytelling. This emerged in sessions both, in Ohandungu and Otjisa. Participants used verbal illustrations adding emphasis using the first person to set the mood to dramatize the wedding in Ohandungu; while in Otjisa Uaraike included himself in the story apropos the funeral / wedding. Overall all sessions showed orality part of the cultural norm.

Lacking inclusion of age and names among others is arguably a form of collectivism.

UNCOMMON PERSONA ELEMENTS: OVAHIMBA PHYSICAL SIGNIFIERS

Another reoccurring theme with ovaHimba communities is the meaningfulness and particulars of their traditional outfit in accompanying all the stages of a woman's life. For example, from teenage years, to menstruation, to marriage celebrations, and being finally married, and so executing husbandry and specific community chores. This arguably explains prior unsuccessful attempts by a foreign designer unfamiliar with ovaHimba customs to fittingly model an ovaHimba female (Stanley et al., 2015); while it also adds unambiguous detail about patterns, materials and goals of UX by which an ovaHimba persona gets, maybe implicitly to foreign eyes, embodied.

OVAHIMBA REALITY VERSUS ROMANTICISM

Contrary to ovaHerero, ovaHimba detailed how reality currently is, partly as a performative storytelling, partially as a recounted narrative where, while a sense of loss is clearly depicted, and self-realised, this needed not being "the idealised".

In these understandings of reality portrayals through persona representations, ovaHimba presented their recounts "as is" –without a story further added, while ovaHerero exaggerated the archetypically positives of "the idealised" individuals.

There are also differences found between idealised people and realities as found in the *Bride & Groom* personas by ovaHimba and how an ovaHimba person really *is*, while for ovaHerero individuals the representation was depicted still as it *should be*.

OVAHIMBA: PERSONA TAKE-ON, UNDERSTANDING AND CO-DESIGN

Proposing prompted narratives of characteristic scenarios from the locale assisted to elicit core findings regarding traits, descriptions and physical signifiers that complemented the bodily signifiers conveyed in meaningful female ornamentations. A garnish carried on the head or an ankle is relevant data for persona segmentation.

Local storytelling was instrumental for ovaHimba to build personas from scenarios, while the TV film got well taken and understood and enabled the persona artefacts.

Based on how ovaHimba intertwine survival efforts, thus roles in the community, collectivisations were explicitly specified as vital. Collectivisations are a by-product that, yet, they barely appear in persona literature (Giboin, 2011; Judge et al., 2012). Persona collectives and the problematic these bring out to the dominant persona literature has been stated, and worked around by Putnam et al. (2012). This underpins the idea that working outside main settings of technology design, collectives must be well borne in mind and cater for if respect is to be looked for.

9.3. OVAMBO USER-CREATED PERSONAS

This section presents an interpretation of elements that appeared from the activity undertaken to co-design persona artefacts with Ovambo communities.

PHOTOGRAPHIC REPRESENTATIONS: OVAMBO

Characters were depicted in full size press cut-outs, while others just got profiled. The collage “Unemployed Youth” by the Ovambo youth had evocative press cut-outs -auxiliary captions- and a rich informational load through imagery depicted as a holistic, collective, consequential timeline storytelling rather than isolating people.

The characters were collectively depicted via joint scenarios of past, present and future explaining why and how a series of main personas, young males and females, turned into a prostitutes and gang members, and how this affected the community. The collage contained hints of causality such as the child playing in the rubbish and ideas for possible futures where mothers and others protest the situation.

NAME ENDOWING: OVAMBO

Ovambo youth assigned names to the central characters of the initial stories, namely *Eddy* and *Tselestina and Alomgombe*, and *Johanes* in the collage with prostitutes and the gang (Figure 16). The other personas, including those during the grounding session, were named after groups such as *mothers*, *rioters*, *politicians*, *police*. All these representations were all together aimed at fighting maladies in the vicinity. Also, it is worthwhile noting Ovambo participants intermixed person, persona and character indistinctly when referring to people talked about and issues discussed.

NARRATIVE MODES: OVAMBO

The Ovambo youth utilised written narratives in both the persona artefacts created. While the in-print account of the *Eddy persona* was a description entirely written, it

did not deliver detail about family, friends or ambitions. Conversely, it depicted his gender, educational level, his age and a glimpse on his past and present life story. The informational load in the imagery and the overall storytelling of the collage on the “Unemployed Youth” contained written sections the personas usually have too.

UNCOMMON PERSONA ELEMENTS: PERSONALISED & PRAGMATIC PLOTS

The plots proposed included scenes of the past and present intermingled with future consequentiality in the development of the storytelling, something not common in persona literature and at times altogether not advised (Dearden and Rizvi, 2008). The leitmotif of personalised plots with the Ovambo youth creating persona artefacts elicited maps readily observed in ordinary conversations with the Ovambo people: The spoken is often personalised through using typical names, venues and objects. This enables the audience to follow intricate storylines through a stand-in proxy. These practical and adaptable narrative behaviours were tangible in all interactions with Ovambo and they were equally reconfirmed in the persona co-design sessions. And when the preliminary characters were appraised, further needs, desires and scenarios were grounded in the secondary personas, who came to the foreground, as well as to a plan for actions of future involvement of politicians and the police.

OVAMBO REALITY VERSUS ROMANTICISM

The Ovambo youth arguably over-exaggerated and generalised the conditions they live-in, though their accounts are verified by ongoing news in the local press related to crime, prostitution and other ills. This issue needs further study beyond this thesis.

OVAMBO: PERSONA TAKE-ON, UNDERSTANDING AND CO-DESIGN

Storytelling also prospered with Ovambo. *Walking Havana* displayed local realities and the TV show enabled a series of stories and plots providing a collective thread

of different personas and typical scenarios from the locale, that contain traits, behaviours and physical signifiers, and temporal interrelations between characters.

All characters were assigned some traits, behaviours and consequential destinies, although this occurred in turns: Primary and secondary personas got embodied first, with the latter –the mothers and the rioters– as supporters of the central personas. In the second session main characters were verified, the secondary balanced out with traits and scenarios, and antagonists like police, politicians were also profiled.

Characters intertwined with scenarios provided from two levels of abstraction: (1) individuals were embedded into an explicit past of struggle and absence and consequential present of ills and evils, although equally (2) individuals formed part of a cohesive community with mutual support added by the secondary characters.

The TV-based film functioned well and an approach and the short film produced was presented at academic conferences as an integral piece of contextual support.

9.4. SAN USER-CREATED PERSONAS

This section presents an interpretation of elements that appeared from the activity undertaken to co-design persona artefacts with the San youth.

PHOTOGRAPHIC REPRESENTATIONS: SAN

If introduced by researchers, the San used figurative masks and a mural to create first depictions together with written narratives; while due to the nature and proposal of the second workshop they masked themselves on written demoting statements. Singing and performative activities, though, were further conveyed as means and prospects to embody personas beyond its physicality. This was verified through the performance by the group of San in a study by Cabrero and Fernandu (2016).

NAME ENDOWING: SAN

The San youth embodied themselves as a grouping with no names given in any sessions beyond that of their ethnic group as the disempowered and ostracised.

NARRATIVE MODES: SAN

Having offered the San youth masks, a mural and a performative space, writing may be held as arguably limiting expressiveness. In no manner the San assigned names to their representations, though as part of their ambitions they visibly spoke out features such as education, job and life goals, likes, families, friends, and life stories.

UNCOMMON PERSONA ELEMENTS: OSTRACISM & SELF-EMPOWERMENT

The thread of self-empowerment versus self-marginalisation with the San youth became highly apparent in the two sessions this thesis described, while a healing process ensued in the performative style stated by Cabrero and Fernandu (2016).

To work amongst themselves revealed the desire and attitudes of the San towards self-empowerment and to fulfil desires and objectives in life, while marginalisation and ostracism was the tonic of their self-representation when in front of others.

The emergence of such contradictory portrayals provides potential features of personas as set in contradiction depending on the decorum and situational space. This renders paradoxical, if invaluable accounts of persona artefacts in that the societal and cultural fabric where humans work and move about makes depictions highly dependent on contexts, moments and inner feelings. The performance stated in Cabrero and Fernandu (2016) dealt with and showed such dichotomies.

SAN REALITY VERSUS ROMANTICISM

For the San youth the nostalgic sense of the past distorted their perception via the otherness they have historically internalised.

SAN: PERSONA TAKE-ON, UNDERSTANDING AND CO-DESIGN

While these sets of representations by the San youth are contradictory a-priori, they precisely depict the nature of humans subject to the situations we are put at. This shows that personas must not always be shown as 'good' (Chavan, 2012).

9.5. APPRAISALS OF THE USER-CREATED PERSONAS

The last question in this thesis aims to find how the persona artefacts co-designed in Namibia depicted persona artefacts understood by, and relevant to designers. On this three appraisals occurred in Namibia, Denmark and in the UK.

PERSONA ARTEFACTS APPRAISED IN WINDHOEK, NAMIBIA

Students took on well the persona artefacts presented and found them beneficial. They mostly got the nuances due to support by colleagues who knew the given tribe, and which in turn allowed them to generate a further provision of details and to relate some of the findings to own experiences. It can be argued findings got appreciated.

PERSONA ARTEFACTS APPRAISED IN COPENHAGEN, DENMARK

Practitioners in Denmark largely found the user-created persona proposal innovative, refreshing, and proportionately useful; others left unsure or arguably having wasted their time attending. There was an overarching feeling and approach to the fact that persona is a design artefact, and that so it must comply with attitudes that encompass design-thinking and sanitation at the core of the design endeavour.

PERSONA ARTEFACTS APPRAISED IN LONDON, UK

The workshop with HCI scholars showed a mixture of feelings towards the results. Some argued that what was reported were not personas and challenged the persona researcher to come to their localities to try undertaking this type of study, although others appreciated the outcomes and identified constructive outlooks. Based on the data gathered, it can be argued the persona collage and the features in it were taken-on as legible representatives that got understood by, and resulted meaningful to most scholars, while some could further see the difficulty in understanding nuances depicted in personas in other milieus than their own.

9.6. LIMITATIONS OF THE STUDY

The limitations articulate a series of possible biases and deficiencies in this study.

Intrinsically, and historically, ovaHerero based their antiquity upon oral recounts. This is specifically highlighted in the *omitandu*, a distinctive praise illustrating the relationship between landscape and memory as highly valued. This is due to both, its aesthetics and its historical and political content (Kavari and Bleckmann, 2008). Sources like the *omitandu*, praising songs for distinctive places which bound people, cattle and land together, and that act as claims to rights for water and grazing (Wallace and Kinahan, 2011), may contain further vital insights about ovaHerero's self-representations. Yet, this has not occupied a space in this thesis. This can be argued similarly with the other three tribes. Hence a deeper, more anthropological literature ought to be paid in order to better understand prospects.

Appraisals in Denmark and UK would have been presented all cases for analysis. While the findings in the appraisals in Denmark and UK were exactly as found out, the appraisal with software engineering students was tainted in that the persona researcher showed findings escorted by some indicative text of his own interpret. Findings, nonetheless, ought to have been presented as they were encountered.

Another limitation was lacking time in the appraisals to involve the technologies researchers are deploying in Namibia. Should these have been added to the appraisals, they could have arguably provided further enriching dialoguing. By the same token, this would have also entered the realm of whether techno-solutionism would have played a greater role than the one of the study of the representations.

Equally, appraisals of findings with local communities would have been desired. Yet, by grounding personas in a second session with Ovambo, it could be argued these

persona artefacts were locally appraised, as well as the findings with San, who read, and approved, the text in this thesis that was concerning to them. Appraisals with local communities would have also allowed presenting verified results to technology designers to further verify this approach in creating personas.

Lastly, to have carried a fully legitimate RtD project, there is still a need to involve further members of local communities in the verification of the persona artefacts. Despite further work is needed to ratify and consolidate the argumentation upon user created personas, this thesis argues UCP is a vital communicational object across cultures in establishing practices and values needed for sensitive designs.

9.7. FURTHER WORK: PERSONAS IN NAMIBIA & ACROSS LOCALES

This section recommends further work to continue the persona artefact research in Namibian locales in particular and overall in studies that may occur in other locales.

The literature review in this thesis states that seven types of contributions to HCI knowledge have evolved over time and apropos foci of research and deliverables: (1) empirical, (2) artefact, (3) methodological, (4) theoretical, (5) data-set, (6) survey and (7) opinion (Wobbrock and Kientz, 2016).

The contribution by this thesis arguably corresponds to design science research, with (1) empirical, (2) artefact, (3) methodological and (4) theoretical underpinnings. However, since this thesis acknowledges its limitations further empirical work on the creation of persona artefacts in Namibia and in other locales is suggested, deploying other methodologies or attempting UCP to keep theory and practise evolving.

9.8. CLOSING STATEMENT: PERSONAS ACROSS CULTURES

Merging UCD and PD attitudes in technology design is smart, useful and needed. Building on the mainstream use of the UCD persona artefact, this project proposed and studied the use of the User-Created Personas (UCP) for self-representations in technology design. UCP was deployed with ovaHerero, ovaHimba, Ovambo and San communities in rural and urban Namibia. It aim to implement to empirical persona research for Usability and UX, particularly in locales beyond western thought and influence, and so assess the value of UCP.

Findings show diversity on how UCP artefacts got depicted according to the different cultural group co-designers belonged to; while depending on locality or foreignism, appraisers generally accepted (i.e. local) or disregarded (i.e. overseas) the UCP presented in each site.

Outputs reveal a contextual need to research locally diverse populations and their depictions, instead of unclearly try to universalise methods, tools and techniques. Eventually, such a localised positioning ought to affect how technologies are developed, designed and deployed according to the local nuances communicated.

To reach constant negotiation across locales, and so avoid user misrepresentations, this thesis postulates that UCP bring out specific characteristics of the particular locale by enabling laypeople to co-design personas in their own terms and footing. And so, using UCP assists design processes as an instrumental agent and enabler to create desired ways of depiction toward useful and gratifying technology designs.

London, UK, January 2019

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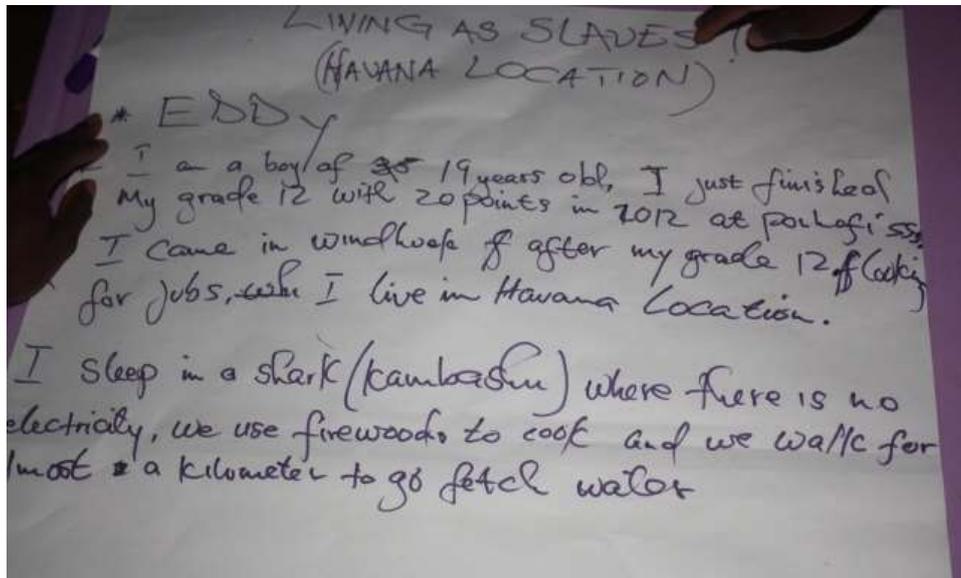
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APPENDIX I

The persona artefact created in Havana as Eddy emerged as follows:



APPENDIX II

ARCHETYPES, STEREOTYPES & COLLECTIVE PERSONAS

In the sessions specifically run with ovaHerero and ovaHimba in pastoral Namibia there was a further attempt to figure out whether conceptualisations of personas carry paramount situated differences. Looking at personas from this perspective has brought up a set of subsequent questions around the persona artefact in relation to archetypes, stereotypes and collective portrayals. These are described and analysed in the following subsections.

The rationale to embrace these questions came from realising about occurrences of archetypal, self-stereotyping and collective representational accounts, although as far as this research evolved, the cause for such variants can only be speculated by posing the ensuing queries:

- (1) To what extent persona user representations are stereotypical or archetypal?
- (2) If stereotypical depictions such as the stick, hat, and chair depicting ovaHerero elders prime, to what degree UCD personas are still useful as a method to embody users of designed systems or in the process of design? And,
- (3) How can designers and researchers ultimately interpret accounts not conforming to mainstream individual persona descriptions but to collectives?

In an attempt to answer the above questions, and in order to better understand the added problematic to the persona artefact in depicting users in technology design, the following sections group sessions with ovaHerero and ovaHimba as archetypal, stereotypical and collective representations were realised.

The section on archetypes analyses two sessions in Okomakwara, that with eight female ovaHerero elders in October 2014 and the one with four male and two female elders in March 2015. The section on Stereotypes analyses the persona session in Erindiroukambe with the four male elders and the youngster self-stereotyping and the scenario narration of the girl and the woman in Otjinene with the female elder. The section on Collective Personas analyses the session with the two ovaHimba elders and the youths in October 2015 in Otjisa.

Archetypes

Carl Jung (1981) notes that *the archetype concept derives from the often repeated observation that myths and universal literature stories contain well defined themes which appear every time and everywhere. We often meet these themes in the fantasies, dreams, delirious ideas and illusions of persons living nowadays* (p. x).

This archetypal, nostalgic depictions emerged in both sessions in Okomakwara, in that ovaHerero mythic characters still reside within the collective when describing an ideal set of female and male youngsters; Also when telling about family relationships and elements in the ecosystem such as the flora. Rather than unconscious fantasies, the people depicted, i.e. the young man and woman, have yet emerged as utterly acknowledged in the existing circumstances. They emerged, as claimed by persona practitioner Lene Nielsen (2012), in that they are synthesised from personality traits built on ideals of basic human patterns expressed as combinations of stabled features describing the individual people. This occurrence has been similar in Otjinene, where the elder clearly referenced dimensions characterising psychological preferences and traits of an individual like the school girl as being extrovert or introvert depending upon the emotional state, as well as through the possibilities she offered to this scenario apropos feelings. Equally the

girl-turned-into-a-woman she described as a humble and modest wife. This is consistent with other ovaHerero accounts, hence bordering the archetype and self-stereotype. Yet, such dimensions and traits have shown to be engaging to the participants' conception of validity which upholds tradition in ovaHerero sites. The above portrayals can hence be argued to be capable of communicating vital user-data to the design process, as pointed out by Nielsen (2012), yet they need further analysis to differentiating realities, underlying values and archetypical traits.

Furthermore, Jung (1981) states people are subconsciously attracted to archetypal stories like those of heroes. In the ovaHerero culture heroic stories are, arguably, still rather embedded due to the recent genocide endured (Sarkin-Hughes, 2009). As such, and perhaps in a rather subconscious manner, these pastoral ovaHerero seemingly find self-comfort in the remembering of lives they have had in the past.

Yet, archetypical accounts and the nostalgic rest problematic in ovaHerero milieus. The way youth nowadays search for further careers in the city has placed the archetypical representations recounted in an endangered, unrealistic grey zone whereby pastoral lives are praised, while youth idealise them as going to the village on holidays, to celebrate weddings and funerals and other short-term traditional achievements and events. On the other hand, there have been several cases the persona researcher has witnessed, and whereby ovaHerero younger compeers long to live in the village as a constant. Yet they do not show pragmatic signs of an imminent return, perhaps, due to pressures, constrains and influences of the current system of modern career progress and the success embedded in it.

On the other hand, this shift in values, tradition, obligations, etc. from idyllic archetypical self-descriptions open-up to designerly opportunities as an inflection

point of change defined by Chavan and Gorney as a “culture strain” (2008), and where the tension between cultural ideal and cultural practice leave room for more.

For members of an emerging economy, dynamism—the explosive growth of a thriving market and a technological infrastructure that changes almost daily—coexists with the timelessness of an ancient culture. Life is lived in a kind of dual reality, in which choices must be made every day between ever more divergent sets of cultural requirements.

(p. 39)

Archetype is slightly different from the traditional persona that is being used in helping with the design of user interface. Nevertheless, it creates a far more potent influence on human for it understands the most important part of being a person, their life value and life goal

(Cheng and Sun, 2013, p. 127)

Stereotypes

From the first session in Erindiroukambe, a tendency to self-stereotyping emerged. Nielsen (2012) recommends avoiding stereotypes for personas as they create flat, one-trait characters –neither creating engagement nor a genuine identification.

Yet, when considering the representation of an ovaHerero male elder through the hat he wears, the stick he carries about, and also the chair where he sits-in, such features have reoccurred across sessions and different ovaHerero locales. These material objects seemingly work as features that, even if they may at first seem stereotypical, they carry a deep significance within the ovaHerero culture. Hence, and contrary to the current theory on personas, it could be argued that in a cross-cultural context stereotyping, or as noted with ovaHerero self-stereotyping, contributes to the creation of empathy toward and understanding of the end-users.

Collective Personas

Describing other people rather than oneself played well in engaging ovaHerero and avoiding stereotyping. This provided significant insights on traits, emotional detail

and physical look too. People defined occurred by relating to others in narratives. Describing others through a scenario narrative also worked well with ovaHimba. Having hence observed a firm sense of community and aptitudes to work on scenarios of interrelated people, it can be argued collaborative personas seem more suitable to both of these groups than the individual persona representations.

Attempting to co-design personas with ovaHimba revealed divisions into groupings –elder males, male youngsters and females– that, yet, they work collectively to maintain their social structure and their cooperative organisation and doings. Roles and functions stated for each grouping denotes this way of understanding.

Neither the age nor any names of the persons described became as significant as the marital status or the role and the functions in the communal of ovaHimba. Besides, the approach with an entry point through their own social arrangements led to scenarios of technology usage that provided the data that was aimed at. Scenarios did also depict ‘love’ as a key source in interactions and interrelations.

Archetypes, Stereotypes, Collective Personas: General Conclusions

To engage rural ovaHerero and ovaHimba in the co-design of UCP was a difficult task, as incomprehension on the concept of personas came about excruciatingly. Exploring cultural variants thus did not allow typifying typical persona descriptions. Thus, different triggers like probes and narrations got deployed as a work around. While initial probes and designating meaning to objects clearly failed at first, narrations constructed by communities themselves were more fruitful.

And yet, in locations such as Namibia’s multicultural milieus, tendencies towards stereotyping and archetypical depiction need a much deeper analysis to ensuring interpretations of narratives are contextualised fittingly.

Reoccurring accounts such as the hat, stick and chair of the ovaHerero male elder are apt signs that they are truly illustrative cultural markers and not stereotypes. This was established by own observations, such as when the persona researcher married in actuality to an ovaHerero, and got given the stick of the elder marrying, as well as when discussing the matter with native ovaHerero researchers.

A comparable case emerged in the depiction of the ovaHerero female elder. Additionally, the descriptions of conventional individual personas seemed inappropriate within the pastoral, collectivistic community contexts across Namibia. An indication of this has been the interrelatedness of the personas generated and the hinting at community persona. This opens further possibilities for deploying Information Systems that enable interactions where multi-user environments hold the potential of presenting interactive basics like emotion, drive and satisfaction.

Therefore, it can be argued that the collective persona can assist in addressing challenges on modelling groups and therefore a desired community collaboration.

The above sections argued an in-depth interpretation of persona artefacts elicited. Local understandings of situated practices have emerged through a set of themes: Ethnical and physical signifiers, connections between the individual and collective, personalisation and storytelling of plots and stories, romanticism versus reality, and the archetypical, stereotypical and collective implications of all the above have shown the particularities in the way persona artefacts have been brought about.