UNIVERSITY OF WEST LONDON
The Career University

UWL REPOSITORY

repository.uwl.ac.uk

Human-computer interaction for development (HCI4D): who, what, where, when and how

Beale, Russell, Dearden, Andy, Dray, Susan, Jackson, Alan, Jones, Matt, Kam, Matt, Abdelnour-Nocera, Jose ORCID logoORCID: https://orcid.org/0000-0001-7935-7368 and Winters, Niall (2009) Human-computer interaction for development (HCI4D): who, what, where, when and how. In: Conference on Computer Human Interaction (CHI 09), 2009.

This is the Accepted Version of the final output.

UWL repository link: https://repository.uwl.ac.uk/id/eprint/648/

Alternative formats: If you require this document in an alternative format, please contact: open.research@uwl.ac.uk

Copyright:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy: If you believe that this document breaches copyright, please contact us at open.research@uwl.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Rights Retention Statement:

Human-Computer Interaction For Development (HCI4D): Who, What, Where, When and How

Russell Beale
University of Birmingham
Edgbaston
Birmingham B15 2TT UK
+44 (0) 121 414 3729
r.beale@cs.bham.ac.uk

Andy Dearden
CCRC, Sheffield Hallam University
Sheffield, UK
+44 114 225 5555
a.m.dearden@shu.ac.uk

Susan Dray
Dray & Associates, Inc.
2007 Kenwood Parkway
Minneapolis, MN 55405 USA
+1 (612) 377-1980
susan.dray@dray.com

Alan Jackson
Aptivate – The Humanitarian Centre
Fenner's – Gresham Road
Cambridge CB1 2ES UK
+44 (0) 1223 760887
alan.jackson@aptivate.org

Matt Jones
Swansea University
Singleton Abbey
SA 28PP UK
+44 (0)1792295708
mattjonez@gmail.com

Matt Kam
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213 USA
+1 (412) 268-9805
mattkam@cs.cmu.edu

José Abdelnour Nocera
Thames Valley University
St. Mary's Road, Ealing
London W5 5RF UK
+44 (0) 208 280 0251
Jose.abdelnour-nocera@tvu.ac.uk

Niall Winters
London Knowledge Lab
23-29 Emerald Street
London WC1N 3QS UK
+44 (0) 20 7763 2153
n.winters@ioe.ac.uk

ABSTRACT
This Workshop is intended to .

Categories and Subject Descriptors
H.5.2 [**User Interfaces**]: *User-centered design.*

General Terms
Design, Economics, Human Factors

Keywords
Interaction Design, International Development.

1. INTRODUCTION
There is increasing interest in finding ways to bridge the "Digital Divide" by using the techniques, approaches and mindset of human-computer interaction (HCI) or user-centred design (UCD) when developing new technology for use in the so-called "Developing" world. This new sub-discipline, called variously "HCI for Development" (HCI4D), "Human-Centered Computing for Development" (HCC4D), or "UCD for Development (UCD4D) among other things, is growing rapidly as an exciting mix of students, academics and practitioners are finding ways to collaborate and developing a new community of practice. This topic, introduced in the early part of this century [6], is the basis of a series of workshops that have been held at a variety of conferences and venues [1,2,3,4,5,8] in order to be inclusive and to build the community. These workshops have succeeded beyond the organisers' wildest dreams and have lead to a vital community that is actively sharing and working together to exchange and critique ideas, share funding resources, develop methods, and engage in critical discourse about the philosophical, ethical, technical, organizational, academic and practical factors that will influence its long-term success.

Within the HCI community more broadly, HCI4D answers the recent call to reflect "human values in the digital age" [7]. However, in order to build capacity outside of our own sub-community, wider participative engagement is needed. The purpose of this workshop is to develop and share that vision. It

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

Conference'04, Month 1–2, 2004, City, State, Country.

Copyright 2004 ACM 1-58113-000-0/00/0004…$5.00.

opens up HCI4D to all, by presenting a series of case studies and expertise from a variety of people, with two intentions.

- The first is to share experiences within the HCI4D community, to combine knowledge and expertise, and provide cross-fertilization of ideas and concepts.
- The second is to run HCI4D activities in a grounded, accessible manner, so that people who are not involved in the activities can come along and find all about it.
- The third is to examine in detail different organizational arrangements that can be applied in seeking to develop the role of HCI in economic and community development activity.

It is therefore in a middle ground between an academic workshop and the educational approach of a tutorial.

2. PARTICIPANTS

We invite three forms of participation:

- Group A: People who are active in HCI4D and want to present a case study to the audience, to increase awareness and the profile of the activity, and to gain additional insights and suggestions from participants. We anticipate that up to roughly 2/3 of the participants will be part of this group.
- Group B: People who have heard of HCI4D, are intrigued, but have no previous involvement or understanding.
- Group C: People working generally in the development field who wish to engage in a dialogue to assist the learning of this field.

Those who present a case study (Group A) should submit a 2 page paper giving a description of the project or activities, including the purpose, process, and lessons learned. In addition, each paper should include at least 2 questions that the submitter is interested in discussing with the group. The papers should try and address/highlight the key tenets of the workshop (Who, What, Where, When, Why and How)

Those interested in learning more about the field (Groups B & C) should submit a 1 page paper describing either what motivates their interest in this area, their impressions of HCI4D and/or outlines how they feel HCI4D can bring to their areas of expertise (and vice versa) thus creating potential avenues for interdisciplinary research.

3. PLAN FOR THE WORKSHOP

3.1 Before the Workshop

All accepted papers will be shared before the workshop on a wiki, and we expect that all participants to read the papers before meeting. Organizers will pose questions to the group and will facilitate discussions. The goals will be to identify key questions that both groups of participants have and to stimulate preliminary interest and discussion. The wiki will be linked in with the outputs from other workshops in this field. The organizers will conduct a clustering exercise on the questions that have been developed from the submissions and the pre-workshop discussions.

3.2 During the Workshop

We will begin the workshop with a "Madness"-style introduction (similar to CHI), where each participant will have one minute to introduce themselves in rapid-fire, round-robin fashion. Those in Groups B & C will also pose at least one question during this time.

Following this, the organizers will present an overview of the field as an introduction and to set the context for the case studies.

During the rest of the morning and early afternoon, those with case studies to share (Group A) will briefly present them (e.g., 15 minutes, followed by 5 minutes of follow-up questions.) Papers will be presented in 3-4 themes that emerged from the pre-workshop analysis.

Following these presentations, we will a "critical friends" panel session with development specialists reflecting on the case studies and raising issues. We will then have small group discussions we will have small group discussions of the remaining questions that those in Groups B & C have submitted. These discussions will be used to develop a workshop report to share with the wider community & with the HCI 2009 conference delegates and to identify next steps, including an outline of *key challenges for HCI4D*.

3.3 After the Workshop

We are looking into a potential venue for possible publication of the case studies, cross-themes and findings following the Workshop. Potentially, we might be able to have a workshop report in the HCI4D special issue of ITID. Other potential avenues for dissemination include: the London International Development Centre (http://lidc.bloomsbury.ac.uk), the EPSRC's BGDD programme (http://www.bgdd.org/Wiki.jsp) and the ICT4D Collective (http://www.ict4d.org.uk) and in particular both their links with the 'developing' world.

In addition, we anticipate using the wiki to continue the conversations. Alternatively, it may make more sense to fold the subsequent discussions into the other wikis being used by this community.

4. ORGANIZERS

Russell Beale is a Research Lecturer and leads the Advanced Interaction Group at University of Birmingham. His interests range broadly across the border between computing & communication systems and society.

Susan Dray is President of Dray & Associates, Inc., and has worked with HCI professionals in "developed" and "developing" countries to help them build their communities and adapt user-centered design approaches to make them useful in economic development projects. In addition, she works with clients to help them understand the conditions in these countries so they can design more appropriate ICT systems and products for the "developing" world.

Alan Jackson is Chief Technical Officer of Aptivate, an NGO and not-for-profit organisation that provides IT services for

international development. Alan was a key figure in establishing the UK's Bridging the Global Digital Divide research.

Matt Jones is a Reader in Computer Science at the Future Interaction Technology Lab, Swansea, UK. He is the co-convenor of the UK's Bridging the Global Digital Divide Network (www.bgdd.org) and has helped lead several digital divide projects and initiatives in New Zealand, South Africa and India.

Matthew Kam is an Assistant Professor at Carnegie Mellon University where he investigates how to draw on the latest education research to design e-learning applications that impact literacy and language learning among underserved communities throughout the world using participatory techniques.

José Abdelnour Nocera is a Senior Lecturer and Head of Centre for Internationalisation and Usability in the School of Computing at Thames Valley University where his main research interest lies on the co-configuration of people, culture and IT.

Niall Winters is a Research Fellow at the London Knowledge lab with special interests in technology enhanced learning and ICT for development.

5. REFERENCES

[1] Aykin, N., Chavan, A.L., Dray, S., & Prabhu, G. Global Innovation Design. Panel at *Human-Computer Interaction International.* Beijing, PRC, August, 2008.

[2] Best., M., Dearden, A., Dray, S., Light, A., Thomas, J., Aykin, N., Buckhalter, C., Chetty, M., Kam, M., Krishnan, G., Maunder, A., & Sambasivan, N., HCI for Community and International Development. 2008. Workshop at *CHI 2008*, Florence, Italy, April, 2008.

[3] Best, M., Dearden, A.M., Dray, S.M., Light, A., Thomas, J.C., Buckhalter, C., Greenblatt, D. Krishnan, S. & Sambasivan, N. 2007 Sharing Perspectives on Community-Centered Design and International Development. In, *Proceedings of Interact 2007*, 696-697.

[4] Dearden, A., Best, M., Dray, S., Light, A., & Thomas, J. 2007 User Centered Design and International Development. Workshop presented at *CHI 2007*. San Jose, CA, April, 2007.

[5] Dearden, A.M., Dunckley, L., Best, M., Dray, S.M., Light, A. & Thomas, J.C. 2007 Socially Responsible Design in the Context of International Development. In, *Proceedings of Interact 2007*, 694-695.

[6] Dray, S., Siegel, D. &d Kotzé, 2003 Indra's Net: HCI in the Developing World. *interactions, 10*, 2, 28 – 37. [Special Issue on HCI in the Developing World.]

[7] Sellen, A., Rogers, Y., Harper, R., and Rodden, T. 2009. Reflecting human values in the digital age. *Commun. ACM* 52, 3 (Mar. 2009), 58-66. DOI= http://doi.acm.org/10.1145/1467247.1467265

[8] Thomas, J., Dearden, A., Best, M., Winssheirs, Dray, S., Aykin, N., Chetty, M., Kam, M., & Maunder, A. 2008 Building an International Community: Designing Interactive Systems for/with Communities in the Developing World. Workshop at *Designing Interactive Systems (DIS 2008)*, Cape Town, South Africa, February, 2008.