HCI Education Across Borders: Collaborating to Teach HCI in African Universities and Innovation Hubs

'Maletšabisa Molapo
University of Cape Town
Rondebosch, 7701, South Africa
mmolapo@cs.uct.ac.za

Abstract

This is a proposal seeking collaboration from HCI educators, researchers and practitioners in Africa, to work towards building an African HCI Educators Network. The role of the network will be to improve HCI education in African universities and in innovation hubs that are growing in all African countries. The vision is to work towards a shared (localizable) *HCI curriculum for Africa,* HCI summer schools, and other initiatives that can help bring a new HCI-driven thinking to young African technologists.

Author Keywords

HCI Education; HCI4D; ICT4D; Africa; Innovation Hubs; Collaboration.

ACM Classification Keywords

H.5.m. Information interfaces and presentation

Introduction

In many African countries today, there is a new rise of "innovation developers" - young people who use ICTs to solve different challenges within their countries and communities. These rising developers use mobile and web technologies to foster improvements in health services delivery, education, agriculture, informal trade,

etc., and their rise is encouraged by an increasing number of innovation hubs in and around many African cities and small towns. The majority of these young developers are undergraduate students of Computer Science, IT, etc., recent graduates in the same fields, or those who recently learned to program. While some do not identify as ICT '4D' practitioners, most of them work in low resource settings, and develop solutions for the low literate, the differently abled, and those living in rural areas.

As someone who has lectured at the National University of Lesotho, working directly with these rising developers, and having served on mentoring roles for local innovation hubs and a judge in mobile application development competitions, my experience is that almost all these rising '4D' practitioners need training in HCI. The undergraduate curriculum in Lesotho (and in many African countries) is still devoid of sufficient (or any) HCI training, any introduction to human factors around technology development, or any exposure to participatory approaches to technology design [2].

My experience has also taught me the benefit of exposing undergraduate students to HCI research projects, for them to learn HCI approaches and methodologies in the field, which are not currently taught in the classroom. In my fieldwork in Lesotho, I work with undergraduate students as research assistants, and have seen their mentalities shift from "developers" to "developers who understand the human side of the technology development process, especially in resource-constrained areas like rural areas." This suggests a premise that beyond teaching quality HCI in classrooms, there is value in exposing learners to real-life projects where they can see the benefits of correct

HCI at play, either through direct involvement or through access to good case studies.

The Proposal

The proposal is to collaborate, as HCI researchers, practitioners and educators around Africa, to teach HCI in different African universities and innovation hubs. There are several Africans (and researchers or practitioners living in Africa) who have had excellent training in HCI, whose skills can be useful in raising the next generation of African designers and innovators, who thoroughly understand the challenges and opportunities around technology use for development in Africa. The goal is to transform mentalities of young African technologists, and those aspiring to develop ICT solutions within Africa, to enable a towards a shift from the "getting apps out, quick" mentality, towards that of involving people and their communities in the technology development process [1].

The proposed collaboration would bring together the expertise and experiences of those with HCI training to improve HCI Education in Africa, while working towards developing a common understanding across African countries, of what will be called "African HCI" - *how to do human-related computing right in Africa.*

Previous Related Efforts

At INTERACT 2013, SIGCHI and the HCI4D Community organised a dinner for HCI Educators in Africa, to begin conversations around how to support one another (and African universities in general) in improving HCI Education in Africa. At that dinner, many useful connections were made, which all centered on a common realisation that deliberate, collaborative efforts are necessary to improve the delivery of HCI courses at

African universities. Many educators who were present at that dinner left keen to begin this collaboration and these efforts.

The proposal, at this stage, then, is to continue this conversation at the HCI Across Borders workshop at CHI with those who will be present, and to leave CHI with plans on how to involve the wider community upon return to Africa.

The Proposed Approach

The following plans are proposed, subject to reshaping by the rest of the African HCI Educators Community:

- *Collaborative Compilation of HCI Education Content:* Researchers, practitioners and educators would work together across different countries to generate priority topics that need to be taught. Members of the African HCI Educators Network would contribute towards shared materials that can then be localised to each country and context.

- *Summer courses at universities:* These could include guest lecturers from other African countries in order to capture a diversity of experiences from different countries and contexts. Lectures would include case studies on successes and failures experienced in different HCI projects. Not all lecturers may need to travel to the course venues in country - online methods of content delivery could be explored, to extend reach. For example, an HCI researcher based in Kampala could record a lecture and compile related materials, case studies, demos, etc., which could then be used during HCI summer courses offered in Maseru, Kigali, Port Elizabeth, Lilongwe, etc.

- *Courses at innovation hubs:* These could be run the same way as at universities, but also offering practical assistance on projects being developed in such hubs.

- *Facilitate involvement of learners as research assistants/volunteers in HCI4D projects:* for first hand experience of "HCI Done Right".

At the end of the first year of running the first HCI courses in different African countries, the network would have an idea of the challenges and limitations that exist among learners and communities of developers, and then, in the next year, content and approaches would be improved, and the next steps would include:

- *Training of trainers* across different countries: offering "African HCI" training to lecturers and other educators and trainers at different institutions and hubs, providing guidelines and reference materials.

The Envisioned Future

The long-term vision is a network of HCI Educators in Africa, one that will work towards developing the first African HCI Curriculum, which will be incorporated as part of the CS/IT degrees in African universities. The vision also includes, eventually, HCI degrees offered at African universities, and HCI short courses for those who are developers or technology designers but have not gone the formal education route.

Collaborations Sought

This venture seeks collaboration and participation from any African or Africa-based HCI educator, researcher or practitioner, or anyone from outside Africa who wants to contribute to the new age of HCI education in Africa.

References

1.   Cogburn, D.L.HCI in the so-called developing world: what's in it for everyone. *interactions 10*, 2 (2003), 80.

2.   Kotzé, P.Directions in HCI education, research, and practice in Southern Africa. *CHI '02 extended abstracts on Human factors in computing systems - CHI '02*, ACM Press (2002), 524.