Bridging the Gaps between Theory and Practice through HCI Education

ABSTRACT
Rapid technology changes have strongly influenced the ways theories and concepts of Human Computer Interaction (HCI) are taught in the universities and the ways these are actually practiced in the industry. It is not only difficult for most HCI educators to adapt course materials to ever-changing field, it also carries the challenge of bridging the academia-industry gap which often widens with such rapid paradigm shifts. In response to the call to contribute for evolving state of HCI education, specifically in Asia-Pacific, we propose a workshop of HCI education, which will serve as a platform to deliberate and seek action towards a common goal of improving the curriculum and delivery of HCI education and bridging the gap between theory and practice of HCI education.

1. Workshop
1.1 Purpose
Human-Computer Interaction design has faced rapid paradigm shifts in the past two decades, including activities such as user interface (UI) design, interaction design (IxD), service design, and user experience (UX) design. HCI is also located in a wide range of settings within universities, including cognitive psychology, design, information sciences, computer sciences, ergonomics and industrial engineering. Further, the technology used in designing interactive artefacts changes rapidly. Such rapid changes strongly influence the ways theories and concepts of HCI are taught in the universities and the ways these are actually practiced in the industry. It is not only difficult for most HCI educators to adapt course materials to ever-changing field, it also carries the challenge of bridging the academia-industry gap which often widens with such rapid paradigm shifts. Further challenges arise because of the differences in the settings of different countries – this includes differences in the infrastructure, industry, culture and socio-economic parameters such as education, age, languages, and income.

The workshop aims to bring together educators, researchers and practitioners from South Asia including Asia-Pacific countries, who are interested in furthering HCI Education into the future, and want to prepare to face the challenges triggered by the rapid advancement of technology and the opportunities and benefits it offers to the people in the region. The workshop will focus on the understanding of challenges HCI educators currently face and discuss on how to improve the HCI curriculum in a way that it keeps itself up-to-date and ready to address industry needs.

1.2 Workshop Description
1.2.1 Duration
We propose a full-day focused workshop. It may be adjusted to a half-day format based on the contributions and programme constraints.

1.2.2 Target Audience
HCI educators, researchers, developers, R&D professionals, potential employers, and anyone else with an interest in HCI education, its problems and solutions in the Asia Pacific region.

1.2.3 Description
The workshop at India HCI 2015 with an overall theme of “Bridging the gap between Theory and Practice of HCI Education” intends to bring together HCI educators and practitioners to build a shared understanding of HCI education in India, Asia and Asia Pacific region. It hopes to discuss specific educational research issues of HCI with respect to its very nature and changing landscapes due to emerging technologies.

Following, but not limited to, would be the questions for discussion at the workshop:

- What are the challenges we currently face and how do we strategize to overcome these in the face of emerging technologies?
- How do we make teaching methods and curriculum industry-relevant yet somewhat independent of the immediate technological development?
- What do we foresee from the technology-yet-to-be-developed to be included in the HCI education?
- How do we continue to embed traditional theories and practices of HCI in the curriculum in view of paradigm shifts of HCI?
- What are the essential tools and technologies that should be made integral part of the HCI education for the next 5 years or so?
- Given the diversity of the disciplines that HCI is taught in universities, what contents should we consider to be common to all? What contents should be consider to be unique to each discipline?
- What can we learn from each other’s experiences in developing HCI in different parts of the world? How should HCI education vary according to culture, industry and economy?
- Experience reports or “war stories” based on real-life experiences from the classroom.
- What are the unique challenges and opportunities for the educators and practitioners in the Asian regions?

1.2.4 Outcome / Benefits to the attendees:
Through this workshop we hope to create a network of HCI educators and practitioners who are interested in forwarding the cause of HCI education. We also hope to establish the need for rigorous enquiry in the domain, and to showcase the complex nature of the problem.
1.3 Workshop Plan

1.3.1 Overall Structure
The workshop will comprise of the following:
- two Invited talks or keynotes
- a position paper presentation session
- a brain-storming session
- a discussion session

Each position paper will consist of a 15-min presentation, followed by a discussion. The final program will depend on the contributions received. Depending on the response to the workshop, the duration of the position paper presentation session may be varied, and the session could be divided into multiple sessions.

There will be two keynotes or invited presentations, a brainstorming session, and a final discussion session that will consolidate what emerges out of the thematic sessions and will identify areas for further collaborations. A summary of discussions will be circulated to all participants in the form of a report. We propose a companion proceedings of INDIA-HCI’2015 to include the accepted papers of workshop.

1.3.2 Submissions
We expect 6-10 submissions of position papers. A position paper is expected to be 4-6 pages long. The program committee will review all submissions for quality, relevance, and their potential to trigger discussions at the workshop. At least one of the authors of each accepted paper will be required to register for the conference INDIA-HCI and present the paper at the workshop. All the papers and a set of pre-readings will be made available to all participants before the workshop.

1.3.3 Timeline
We propose the following timeline for the workshop:
- Notification of workshop proposal: September 2015
- Identification of reviewers, website, and call for papers for the workshop: 20 September 2015
- Submission deadline for workshop papers: 20 October 2015
- Notification of acceptance: 30 October, 2015
- Author Registration to the workshop: as per conference registration guidelines
- Website update: Early November once Author registration confirms
- Final copy of the paper, Authors’ Bio: 1 November, 2015
- Workshop: 17 December, 2015

1.3.4 PROGRAM COMMITTEE MEMBERS
We are currently in the process of communicating to possible PC members. The names will be confirmed once the workshop proposal is accepted.

2. Discussion Leaders

2.1 Bimlesh Wadhwa
Bimlesh Wadhwa is currently a Senior Lecturer at the School of Computing, National University of Singapore. She has been a University educator since 1990 and has spent many years teaching and researching in the area of Software Engineering and Human Computer Interaction. She has widely published and presented at various journals and conferences including ICSE, CHI, APSEC, AsianPloP, APCHI, and ISEC. She was one of the pioneers in India in the research area of Software Metrics in late 1980s. Her recent work is in the areas of HCI education, Gender in design, and Context-Aware Computing. She is passionate about use of technology in education and has notable voluntary work to her credit. She has served in various roles in organising committees of similar Conferences and Workshops including ASEAN Symposium @ CHI2015.

2.2 Anirudha Joshi
Anirudha Joshi is a professor in the interaction design stream in the Industrial Design Centre, IIT Bombay, India. He teaches HCI and related topics. He was one of the first teachers to introduce usability and ethnographic user studies methods to design education in India. Anirudha is involved in designing interactive products for users in developing economies. He has done user studies, interaction design, and usability evaluations for diverse domains including healthcare, literacy, Indian language text input, banking, education, industrial equipment, and FMCG packaging. His work has been for users in urban and rural India and on a variety of platforms including desktops, the web, mobile phones, ATMs, and custom hardware.

2.3 Ishtiaque Ahmed
Ishtiaque Ahmed is a PhD student at the Department of Information Science of Cornell University with Prof. Steve Jackson. His study and research are being supported by the International Fulbright Science and Technology Fellowship for the first three years of my PhD. He is being funded by Intel ISTC for Social Computing. Most of his research interests involve design and critical analysis of socio-technical systems. Before moving to United States, he had graduated with both bachelor and masters degrees in Computer Science and Engineering from Bangladesh University of Engineering and Technology (BUET). He formed and still directs the first-ever Human-Computer Interaction (HCI) research group in Bangladesh.

2.4 Nova Ahmed
Nova Ahmed is an Assistant Professor at North South University, Bangladesh. She has come back to her own country to give back after completing her PhD from Georgia Institute of Technology. She comes from the traditional Computer Science background focusing on distributed systems, mobile computing with hard core systems focus. However, her passion to work with various challenges faced by urban female has placed her in the research work and collaboration in HCI which is emerging in Bangladesh. She has been working on Harassment, Education, Traffic Systems and Technology Transfer in developing country context.

2.5 Thashika Rupasinghe
Thashika Rupasinghe currently teaches in the Department of Industrial Management, Faculty of Science, University of Kelaniya. She received her Ph.D. and M.Sc. degrees in Industrial Engineering from Clemson University in USA. She has taught
both undergraduate and postgraduate students in the Clemson University and the University of Kelaniya and won several awards for her teaching skills and contributions. She was part of the research team to work on two United States National Science Foundation (NSF) funded grants to support Aviation and Automotive Technical Education using Virtual Reality technology. She has won the award for the best research project at the National Academy of Engineering (NAE) Advanced Learning and Computation category at the Grand Challenges Conference held in Durham, North Carolina, USA in the year 2009. After completing her graduate studies she had joined the corporate sector and worked at SYSCO Corporation, USA as a Senior Supply Chain Analyst and later promoted to the management. She has gained expertise in designing and planning analytics to optimize inventory management, master data, and ERP systems for complex supply chains. Her areas of interest in teaching, research and consulting are in Industrial Engineering, Supply chain Management, Advanced learning, Operations Research and Optimization.