Interaction Design in India – Past, Present and Future

Anirudha Joshi
Assistant Professor
Indian Institute of Technology, Bombay
anirudha@iitb.ac.in, +91-22-2576 7829

ABSTRACT

In many parts of the world, Human-Computer Interaction (HCI) emerged as an interdisciplinary activity between the fields of Computer Science, Cognitive Psychology and / or Human Factors. Elsewhere, the field of Information Sciences gave birth to the discipline now recognized as Information Architecture (IA).

In India however, it emerged as Interaction Design, largely based in the field of Design. In this paper, I talk about this experience, give a summary of current status in industry and research and suggest an agenda for the future, particularly for interaction design education.

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General Terms: Design, Human factors

Keywords: Interaction design, Human-Computer interaction, India, HCI education.

INTRODUCTION

HCI has been influenced by several overlapping traditional disciplines – Computer Science, Cognitive Psychology, Behavioral Science, Anthropology and Ethnography, Communication Design, Product Design, Ergonomics, Human Factors, Writing and Rhetoric, Library Sciences and Business Process Re-engineering.

In the past 25 years, HCI has been offered as Masters level programs by departments of cognitive psychology and human factors, usually with the name of "Human-Computer Interaction" or "Usability Engineering", by departments of library sciences or information sciences with the name of "Information Architecture" and occasionally in Departments of Computer Science or Information Technology. Courses in Interaction Design, as offered by design schools have been relatively newer.

ROOTS OF HCI IN INDIA

India has a large number of engineering colleges and universities, and most of them have well-established departments of Computer Science and / or Information Technology. However, barring a few recent exceptions, none of them offer courses, let alone programs, in the field of HCI. Neither do Indian schools of cognitive psychology and information sciences.

Indian designers neatly fell into this void. In many parts of the world 'design-based' HCI professionals have been a minority. In India, miniscule though it has been, the HCI community has been clearly dominated by people who crossed over from a design background sometime in the past fifteen years.

A small part of the credit for this goes to the design education in India – most of it is located in a broad-based, multi-disciplinary atmosphere. But a large part of the credit goes to the attitude of Indian designers. In addition to 'creativity' and 'artistic expression', many Indian designers consider design to be 'a problem-solving activity' and prefer to work in an area of 'unmet demand'. This has often required them to get into new fields and instilled in them abilities of self-study and continuous learning. When opportunities in HCI arrived, many Indian designers taught themselves useful techniques from other disciplines – techniques in usability evaluation, user studies and software prototyping for example.

Some pioneering Product and Visual Communication designers began to take interest in the field of HCI from the late 80s (see Figure 1). Others entered the field through design of multimedia CD ROM titles, and computer based training programs and subsequently in design for the web.

Figure 1. An early usability test from year 1989.
[2] © Industrial Design Centre, IIT Bombay

DESIGN BASED HCI IN INDIAN INDUSTRIES

Freelance designers and small design firms of Indian origin have been consulting in HCI in India and aboard. Companies in e-learning and new media that emerged in early 90s were the first to hire designers for Information Architecture, Instructional Design, Visual Design and Interaction Design.

For the past few years, some mainstream IT companies in India hire designers for HCI activities. Some international companies, who otherwise hire people from human-factors backgrounds elsewhere, started hiring design professionals in their usability / HCI groups in India.

RESEARCH IN HCI

HCI is a small field in India. HCI research is more nascent. But small beginnings seem to have been made. Computing appears to be at the threshold of a new turning point. Current paradigms in HCI are targeted to office-going, English-speaking, educated upper and middle class people. These paradigms are being questioned in universities and corporate research groups in India, and search is on for the human-computer interfaces for the next generation of users from developing countries. Again designers and design schools seem to be taking the lead here, but there are also significant contributions from other fields.

HCI AND HCI EDUCATION

The analogy I would like to draw here is that of a film director, where one person has absorbed enough of at least four professions – script writing, cinematography, acting and editing. Some have more than just basic understanding – some write their own scripts, others prefer to shoot or edit themselves. Some early directors also acted in their own films. But essentially, the role of the director in film making is well-understood – he is the sole person responsible for all creative aspects of the film. He is the *film maker*.
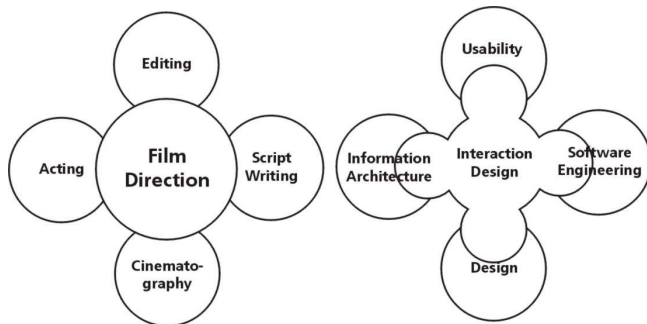

Figure 2. Film direction and interaction design.

The analogy suits nicely to HCI, which like film making is part creative and part 'technical'. An HCI designer may have special inclination, but he needs to have significant understanding of all areas.

Lahiri Chauhan suggests that professionals from Human Factors backgrounds are up-to-speed from day one for following usability processes and evaluation protocols, while designers need training before they start contributing in these areas. On the other hand, she felt that designers are far better at coming up with brilliant creative ideas to solve interaction design problems, something which people from Human Factors backgrounds often struggle with. [1]

Designers with exposure to Human Factors inputs will be very effective in tackling many HCI problems. With additional exposure to information architecture, they will be able to organize and communicate information effectively. With further inputs in prototyping skills and software engineering, they will be able to demonstrate their ideas and communicate them to team mates

On the other hand, there will be more clearly focused definition of roles. Some esoteric activities that an interaction designer is not able to absorb will grow into specialized roles. Others may move to a position of external advisors.

From the lessons learnt in India, I feel that an 'HCI designer' of the future will be more inter-disciplinary, with significant professional inputs from four streams – Design, Information Sciences, Human Factors and Software Engineering. This person will be centrally responsible for the delivery of an interactive artifact, very much like a director is centrally responsible for the delivery of a film. At the same time, professionals from each of these fields will continue to grow, specializing deeper.

Design schools offering programs in HCI will do well by becoming more interdisciplinary. In addition to design, future interaction design students need to learn about in current usability practices, software engineering and information organization.

CONCLUSION

The future will see the birth of a new profession, based in design, but drawing additional strengths from several fields that influence interaction design today. The HCI designer of tomorrow will absorb many skills that are the domain of specialists today. This is not to threaten the current practice of specialists – they will evolve, as others have done in the past.

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