UCLIC@10: the changing face of interaction design

Ann Blandford

2001 is often associated with *A Space Odyssey*, featuring HAL, a malfunctioning computer. Less notoriously, it is also associated with the foundation of UCLIC (University College London Interaction Centre) under the directorship of Hal (Harold) Thimbleby. So this year, 2011, UCLIC is celebrating its tenth anniversary which is an excuse to reflect on the developments of the past ten years.

Ann Blandford was Director of UCLIC from 2004 to 2011.

UCLIC is the successor to the Ergonomics Unit (EU) at UCL, and came into being when John Long, who had directed the EU for many years, retired. The joint commitment to set up UCLIC from two departments, psychology and computer science, is an example of UCL's overall approach of fostering interdisciplinary working. This 'dual belonging' has served UCLIC well; our research and teaching do truly span the disciplines and UCLIC has been a test-bed and role model for interdisciplinary working and management that has been copied elsewhere around UCL.

UCLIC is now co-located with Computer Science, where we have a classic usability laboratory, with eye tracker. This is mainly used for controlled experiments; a reconfigurable 'white space' for studies involving larger equipment such as a driving simulator and motion capture devices. We also have a newly established Interaction Research Lab for designing, prototyping and testing novel ubiquitous technologies. These spaces are available for students and others to use. For many studies, though, the world is our laboratory, as we study the situated use of technologies in control rooms, hospitals, museums, homes and even on the street.

UCLIC inherited a highly successful Masters programme that had been developed over many years, and has evolved from having a Human Computer Interaction option within Ergonomics to offering a degree in HCI with Ergonomics. While there are year-on-year fluctuations, student numbers have remained strong. The shape of the programme has, of course, shifted to respond to changing demands within industry and the evolving research agenda, with a growing emphasis on user experience and design innovation. This continues to be underpinned by a strong focus on theory of cognition, emotion, situated interaction, design, etc., together with practitioner skills for application to interactive systems, products and environments.

The programme retains strong links with the IEHF: the students regularly participate in the annual student conference and, in the past ten years, four UCLIC students have been awarded the IEHF Ulf Aberg Prize for their MSc dissertations. Students from the programme have gone on to a variety of careers, in both research and practice. Some have joined established companies, while others have set up their own businesses, for example, last year, Ashton King was awarded a London Entrepreneurs' Challenge Innovation Central Bursary to set up Tigersense, a search engine optimisation company.

One of the frustrations of the artificial split between teaching and research is although all our teaching is research-led, sending well qualified graduates forth into the field is not regarded (by those who measure these things) as 'impact'. For us, the MSc programme is an important element of a broader knowledge transfer (or impact) agenda. Another element of it is direct working with industry though research collaborations and consultancy. One example is a Knowledge Transfer Partnership with Paperstone, an e-commerce company in the stationery business, who were concerned about their conversion rates from visitors

to sales. The KTP worked on redesigning key aspects of their site, for example, the checkout feature, which has contributed to the ongoing success of the company. A second example is work with Lexis Nexis UK, with whom we have run workshops, tutorials and training sessions employing an apprenticeship model of knowledge transfer, to give them skills in running user studies. In the short term, this resulted in a set of personas, product concepts, and scenarios that were used by Lexis Nexis to generate and test new design ideas. Over time, this work led to cultural change. Ethnographic research is now embedded within the organisation, so that there is now an expectation that customer needs will be identified very early in any product development lifecycle. It also identified opportunities that led directly to the development of new products that are now successful in the legal market.

Increasingly, we are using social networking technologies such as blogs and videos to communicate HCI to a broader audience. For example, Dominic Furniss (a post-doc) was recently awarded a Provost's teaching award for his work with Rachel Benedyk and the MSc students on digital stories, and another award for a video on 'microwave racing'.

The early focus for UCLIC was on the design and use of complex information spaces. Research in this area has moved from studying digital libraries as a technology, through how people search for information and how technology can be designed to support that search, to sensemaking and how people interact with information, contributing to the broader research agenda on exploratory search, sensemaking, visual analytics and serendipity.

With the arrival of Anna Cox and Duncan Brumby, UCLIC acquired substantial strength in cognitive modelling, focusing on visual search and multi-tasking respectively. Some of this work uses driving as an application domain, but more of it is now applied to people's interactions with healthcare technology.

Underpinning the research on healthcare technologies, we have an EPSRC Platform grant, jointly with the Future Interaction Technology Lab in Swansea, on "Healthy Interactive Systems in Healthcare". This is pump-priming research on several aspects of healthcare: how to ensure that health technologies are as safe as possible; how systems can help people make better sense

of health information; and how systems can be designed to support health-related behavioural change. Focusing on patients' affective experience, Nadia Berthouze is leading research on the quantitative analysis of body movement from both kinematic and affective perspectives for pain management.

An EPSRC Programme Grant (CHI+MED) is studying the design and use of interactive medical devices. Our focus is on patient safety, and particularly on how an understanding of human error, situated interaction and device design can be applied to improve the safety of interactive medical technologies. This work is in collaboration with the FIT lab at Swansea, the Interaction, Media and Communication group at Queen Mary, University of London, local hospitals, manufacturers, policy makers, and other stakeholder organisations.

Overall, UCLIC is pioneering research directions that improve people's quality of life – whether enabling them to work more effectively, improving people's health and safety, or creating enjoyment and facilitating self-efficacy. UCLIC was founded with three researchers. This year, as Yvonne Rogers takes over as Director, we have grown to 21 researchers. Yvonne comes with a 'Dream Fellowship' which will allow her to 'dream up' research ideas around the theme of wisdom, cooking and technology.

Looking to the future, UCLIC has a strong research agenda on empowering people through the design of new technologies, to grow in wisdom and to live more healthily. This is, in turn, an empowering agenda for future research, teaching and knowledge transfer. ❖