Final Project Report (UXCodes) – Marianna Obrist

UXCodes (*Decoding User Experience Qualities with and through Technology over Time*) was a two-year IEF Marie Curie project lead by Dr Marianna Obrist at Culture Lab at the Newcastle University, UK (10/2011 to 09/2013).

The key goal of this project was to investigate the qualities underlying peoples` interaction with and through interactive technologies. Dr Obrist conducted a variety of user studies investigating the temporal characteristics of user experiences and its detailed synchronic configurations at particular moments. Next to aiming for a richer understanding of older peoples` experiences with interactive systems, Dr Obrist also explored novel interaction modalities for future experience design in Human-Computer Interaction.

With a rapidly changing digital landscape, older people with no prior exposure to the Internet are at risk of falling behind and missing out on important aspects of the social life of their close relatives. One case study within the UXCodes project focused on **older peoples` interaction and experiences** with a mobile video messaging system which allows them to stay in touch with their loved ones. While there is quite some research done on social connectedness through new ICTs there is however no clear understanding on the long-term acceptance and experiences of new systems over time, in particular for ICT illiterate people. Within this project we developed a video sharing system, PigeonVideo and investigated its incorporation into daily routines over two years, closely observing older peoples` experiences in relation to several transition phases in the software lifecycle and hardware iterations. The system features were improved based on user feedback along with changes of the platform, starting from Tablet PCs with MS Windows operating system to android tablets, each with different form factors and screen sizes. The in-depth study of a family split between the UK and Italy followed an auto-ethnographic approach, highlighting some of the challenges of staying connected and giving (IT-) support over distance. The participants' usage experiences and trajectories revealed insights on the relevance of persons or types of media through which people can find, access and learn to use knowledge that is currently beyond their own digital literacy horizon. The work is currently prepared to be released as an Android App (to come http://www.pigeonvideo.com/) and written up for a scientific publication in cooperation with Andreas Reiter, PhD student at Nottingham University. In an intermediate publication the sharing of video messages was visualized through a novel technique called Panopticon, allowing participants to explore past experiences in times of reunion (see Obrist, M., and Jackson, D. (2013). Personal Past Experiences Seen Through the Panopticon. Paper at CHI workshop on 'Changing Perspectives of Time in HCI'. – see Publication List).

Figure 1. Longitudinal study (2 years) on the integration and adoption of a mobile video messaging system for older people, closely observing the experiential trajectories along the device/technology trajectories. The far right uses a novel visualization technique (Panopticon) to capture the shared video messages.

Another case study focused on the **exploration of tactile experiences**. A common problem with designing and developing applications with tactile interfaces is the lack of a vocabulary that allows one to describe or communicate about haptics. In collaboration with the Bristol Interaction and Graphics group, who developed a novel tactile system, Dr Obrist conducted a study exploring participants' verbalizations of their tactile experiences across two modulated tactile stimuli (16Hz and 250Hz) related to two important mechanoreceptors in the human hand. The study applied the explicitation interview technique (a novel user experience

methodology) to capture detailed descriptions of the diachronic and synchronic structure of tactile experiences. The findings are presented in form of 14 categories for a human-experiential vocabulary tied back to neurophysiological and psychophysical data on the human hand (see Figure 1). The work was published at CHI2013, the largest HCI conference (Obrist, M., Seah, S. A., and Subramanian, S. (2013). Talking about tactile experiences. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '13). ACM, New York, NY, USA, 1659-1668). The findings provide the basis for further explorations of users' verbalizations on tactile experiences in relation to the other mechanoreceptors in the hand and the body. The studied system (UltraHaptics) and related experiences are recently discussed in the NewScientist magazine (7th October 2013: Invisible force field gives touchscreens a new feel).

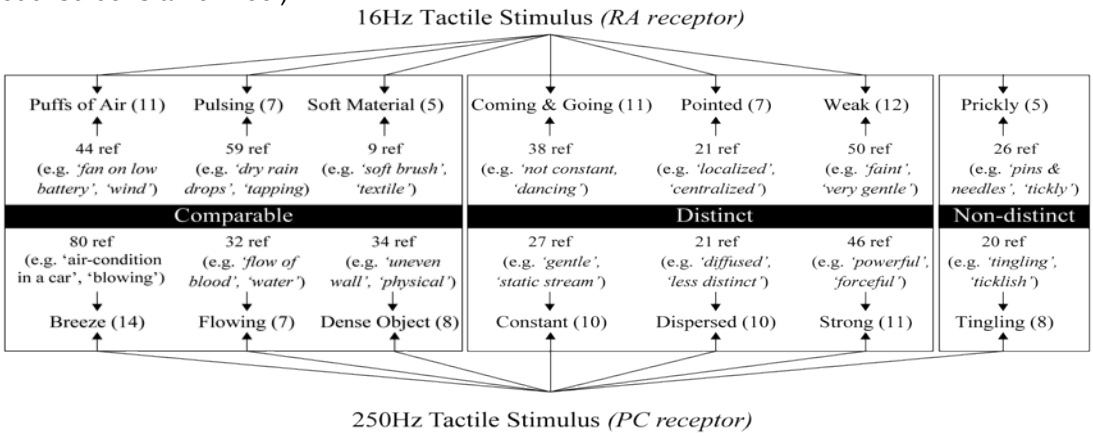

Figure 1. Overview on the 14 categories (6 comparable, 6 distinct, 2 non-distinct) with number of participants, number of references (ref) and example verbalizations for both tactile stimuli and related mechanoreceptors (Obrist et al 2013)

The project contributes a richer understanding of experiential qualities of user experiences, its synchronic and diachronic structure. This project also contributed to the methodological and theoretical discussion around user experience within and beyond the Human-Computer Interaction community. Dr Obrist was engaging actively in the discourse about the theoretical foundations for user experience research and design practice. She organized a series of special interest groups, workshops, panels on this topic and will continue the collaboration on this basic foundations in user experience with Professor Peter Wright from Newcastle University. This collaboration continues beyond the two-year fellowship as the Newcastle University granted Dr Obrist with a Visiting Researcher role.

With October 2013, Dr Obrist now started as Lecturer for Interaction Design at the University of Sussex, UK and will explore further the experiential qualities relevant in the design of interactive technologies. In particular, her research will expand towards multi-sensory experiences with interactive systems, including the study of our sense of touch, taste, and smell, which holds a rich potential for future innovative experience design projects.

More information on her research project, the outcome and follow up activities can be found on her website: http://www.obrist.info/