

Using Digital Cultural Probes in Design with Children

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ABSTRACT

This poster presents *digital* cultural probes as a way of advising the design of children's technology.

Keywords

Design with children, digital cultural probes

INTRODUCTION

The 'Cultural probes' method as introduced by Gaver et al (1999) has been utilized within the field of designing with families (Westerlund et al 2001, Mattelmäki, T. & Battarbee, K. 2002) but more work is needed in this area to further explore the method in a context with children.

In the NetWorking Kids (www.networkingkids.dk) project, an 8 month research project, children have been actively involved in designing location-based support for educational use, based on Nokia 7650 terminals and GPS technology. In particular, we have focused on technology that allows the children and teachers to move the education outside the classroom and into the real world. This technology should provide children with better means of collecting, producing and presenting project work by combining and integrating traditional IT equipment (primarily PC's) and pervasive technology in school settings.

DIGITAL CULTURAL PROBES

Children are experts in their everyday life. In our approach, we cannot design future technology to children without involving the experts. Consequently, digital cultural probes were utilized to gain basic knowledge of children's practice and learning. As described in Graves Petersen (2002), it is a great challenge to move research into people's homes. In our context it was neither possible nor convenient to follow the children from school to observe their after-school activities and home life on a regular basis. We see cultural probes as a way of getting some information about what is important in children's' lives in a way that puts the children in control. Their choices alone govern when and what to photograph and send to us.

With *digital* cultural probes we have taken the idea of cultural probes and transferred it to a digital medium, in our case manifested in Nokia 7650 mobile phones with camera and Dictaphone functions. We encouraged the

children to send us lots of pictures and audio-clips to put up on a restricted web-page for the class, which served two purposes: it created a self-organized forum where the children could share fun stuff and inspire each other and it provided us with insight into what the children thought was fun, interesting or relevant to them at any given moment. In addition, the *digital* cultural probes could be saved and shared by children as well as researchers. Approximately 150 photos and audio clips were received from the children during the 2 month trial period. The photos and audio clips were analyzed and used as *springboards* in the prototype design with the children (Engeström 1987).

LESSONS LEARNED

Cultural probes are useful when designing with children because they provide access to children's everyday lives which are not easily accessible through conventional studies. Furthermore, we discovered that *digital* cultural probes based on Nokia phones motivated spontaneous use by the children because mobile phones are key artifacts in the children's lives and thus well-known and easily accessible. This spontaneous use of the probes is highly beneficial to design because it provides us with insight in children's informal practice, which combined with in-depth interviews offer a rich collection of cultural material.

REFERENCES

1. Engeström, Y. *Learning by expanding*. Orienta-Konsultit, Helsinki, 1987.
2. Gaver, B., Dunne, T. & Pacenti, E. (1999): Cultural Probes. In *interactions*, 6 (1), Jan. + Feb., pp. 21-29.
3. Graves Petersen, M. (2002) *Designing for Learning in Use of Everyday Artefacts*. PhD Thesis, Department of Computer Science, Aarhus University, 2002.
4. Westerlund, B., Lindquist, S. & Sundblad, Y. (2001). Cooperative design of communication support for and with families in Stockholm. In *1st Equator IRC Workshop on Ubiquitous Computing for the domestic environment* in Nottingham 13-14 September 2001.
5. Mattelmäki, T. and Battarbee, K. (2002) Empathy Probes. In *Proceedings of the Participatory Design Conference*, 23-25.6 2002, Malmö Sweden.