

Half-Day Tutorial: Evaluating Interactive Products for and with Children

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Abstract: This tutorial offers participants an introduction to evaluation methods and techniques that can be used to assess usability and fun, where the users are children. It includes discussion of ethical, legal, and practical problems that can arise, and includes a number of practical exercises for the participants.

Keywords: Tutorial, Evaluation, Children, Usability, Fun, Ethics.

1 Introduction

Many evaluation methods have been devised, documented, and used successfully in situations where the intended users are adults. These methods include observational and survey methods that involve representative users, and methods such as walkthrough that do not involve users directly but assume a knowledge and understanding of their actions. Most of these methods need special approaches, if they can be used at all, when the intended users are children. In addition, most evaluation methods used with adults are concerned primarily with the usability of a product; with children, usability remains important, but evaluating fun is likely to also be a major concern.

We have used a variety of evaluation methods and situations involving children, evaluating both usability and fun. Our aim in this new tutorial is to pass on some of our experience of what works and what doesn't to developers who may need to carry out evaluations of interactive products for children.

We define children to be people aged under 16 years, but most of the tutorial is concerned with working with children under 12 years.

The goals of participants in this tutorial will be:

- To understand the roles a child can play in the evaluation process.
- To become familiar with some evaluation methods that have proved useful with child users.
- To gain practical experience of at several different evaluation techniques that can be used with children.
- To appreciate the challenges and rewards of working with children as evaluators.

The tutorial is aimed at developers of interactive products for children who may need to carry out evaluation studies. Both experienced evaluators and people new to the field will find the tutorial useful.

2 Activities

We will begin with an introduction to the tutors and a review of the tutorial's objectives. We will then give an overview of the range of evaluation methods that are available, and identify those that are potentially suitable for use with children, taking into account the differences between children and adults. We will provide some guidelines for choosing appropriate evaluation methods in different

situations. This will be followed by a short practical exercise on selecting an evaluation strategy.

We then move on to providing more detail of methods that involve the observation of children who are using the products or prototypes to be evaluated. This will include talk-aloud, collaborative and peer-tutoring evaluation methods. There will be several practical exercises using video clips of children, and possibly a role-play exercise. We will also consider the logistical difficulties of recording data when using observational methods, including the use of video cameras.

Next we will consider the ethical and legal issues that arise when doing evaluations with children. For example, to what extent is it possible for children to give 'informed consent' to take part in a study? When is it acceptable to make video recordings? What data can be legally stored? Participants will then consider some case studies.

Then we will discuss the use of survey methods (interviews and questionnaires) with children. These methods are tempting because they appear to be cheap and easy; there are many hazards in their use with children. It is not as easy as it sounds to ask a child how good a product is! Participants will do practical exercises in designing surveys, and in interpreting data previously collected from children.

To conclude, we will provide a summary of research in this field, and some pointers to useful resources.

3 Presenters

Stuart MacFarlane lectures in HCI, and has a PhD in interface evaluation methods. He is currently involved in several research projects involving interface design and evaluation for children, and is supervising three PhD students in this field. More detail of the work done by Stuart MacFarlane and Janet Read can be found on the Child-Computer Interaction Group's website at www.chici.org.

Janet Read is a lecturer in HCI who is currently nearing completion of a PhD on the use of novel interface technologies for text entry by children. She has a number of publications on evaluation of

usability and fun for children (Read *et al* 2001, 2002, Read and MacFarlane 2000).

Johanna Höysniemi is a PhD student focusing on designing and evaluating the usability of physically and vocally interactive user interfaces together with children (Höysniemi *et al* 2002). She has several years' professional experience in the HCI field with major Finnish telecommunication companies.

Panos Markopoulos is an assistant professor in user-centred engineering. His recent research concerns awareness systems to support informal cross-generational social interactions, (e.g., between grandparents and grandchildren) and methodological issues for usability testing with children (Donker and Markopoulos 2002, Markopoulos and Bekker 2003).

4 References

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