Methodological Reflections on Working with Young Children

Matthias Korn  
mkorn@cs.au.dk  

Department of Computer Science  
Aarhus University  

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Inter-cultural computer clubs for children and parents in German elementary schools (Stevens et al. 2005)

- Children at the age of 6 to 12 years old
- Computer-mediated project work on a shared topic
- Construction of personally meaningful artifacts (games, animations, videos, stories, photo stories, ...)
Setting

Designing an interactive system for use by children in the clubs
- Participants meet voluntarily for 2 hours each week in the school’s computer lab
- Children from families of diverse backgrounds: migrational, educational and economical
Setting (cont.)

- 18 evaluation sessions during 9 club sessions in May/June 2009
- 13 children at the age 7 to 10 yrs (9 male, 4 female)
- 7 out of 13 w/ migration background, new and old participants
- Evaluation during regular club hours in the clubs’ localities
- Documented as screencast and audio/video of the participants
Approach

Evolutionary & Participatory Software Development Process

- Further development of an initial non-functional prototype with user feedback from the field
- Evolutionary
  - Iterative completion of individual modules/functionality
  - Re-evaluation of these modules after each iteration
- Participatory
  - Involvement of children in each development cycle
  - Use of the prototype in scenarios
  - Gathering feedback from observations of trying out the prototype together
Findings

- Evaluation in groups of two or three children, not individually
- Make clear (demonstrate) that their opinion is taken seriously
- Iterative prototyping fruitful, but sequential order of introduction of modules is crucial
- Scenarios help to draw comparisons between existing practices and new prototype
Findings (cont.)

- In-situ modifications of the software prototype together w/ the children hardly possible
- Offering many obvious opportunities to tinker with the system (free exploration)
- Use of artifacts previously created by the children themselves
- Easy to gather insights pertaining usability problems, but difficult to capture understanding of underlying concepts and ideas by children
Conclusion

Children are much more sensitive to good evaluation design

- Pairing children yields better results than evaluating with each child individually
- Consider low-tech prototyping in early phases
- Include many obvious opportunities for exploration
- Make extra clear that their opinion is valued and taken seriously
Thank you! Questions?

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Approach

Pre-study developed an initial non-functional prototype

Evolutionary & Participatory Software Development Process

- Spiral model (Boehm 1988), STEPS model (Floyd et al. 1989), Cooperative Prototyping (Bødker & Grønbæk 1991)
- Insights on working w/ children by Druin (1998)
- Pair evaluation informed by Constructive Interaction (Kahler 2000)
Splatch 2 – Main Window

1. Visitenkarte und Umlaufbahn
2. MetadatenWidget
3. VersionsBrowserWidget