Colocated, Collaborative Storytelling for Children: what does technology bring in?

Culén, A. L., Karahasanovic, A. and Herstad, J.

Institute of Informatics,
Group for Design of IS,
University of Oslo,
Norway

Contact: almira@ifi.uio.no

Abstract

The overal goal of our research is to develop a tool for colocated collaborative writing for school children.
Children are actively involved in the development process as informers of the design.
As a first step we explored how children collaborate when using web-based collaborative writing tool, digital pen, multitouc table, and pen and paper.
This knowledge will be fed back to the design of a tool that is better suited for the purpose.

Key words:
co-designing with children
participatory design
contextual inquiry
mixing ideas

Workshop 1

Goal: introducing the problem, allowing children to experience each interface
Participants: 6 boys and 6 girls age 9-11

Figure 1: children learning what they can do with livescribe pen

Figure 2: Children explorir web based interface

Figure 3: eploring multitouch table

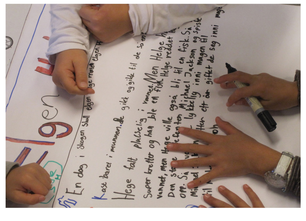

Figure 4: exploring pens and paper in the context of collaborations

Workshop 2

Goal: accomplish the task of writing a short story of own choice using each of: smart pen, computer or multitouch
Participants: 4 girls, 2 boys in three groups

Figure 5: Children type on virtual keyboard on multitouch

Figure 6: Screen could also be used for free hand drawing and writing

Figure 7: Children using the pen to make a short story togeather

Figure 8: Children using web based platform (Adobe Buzzword)

Workshop 3

Goal: Open interview and brainstorming on design of device for cooperation
Participants: Two girls and one boy

Figure 9: Children drawing their ideas

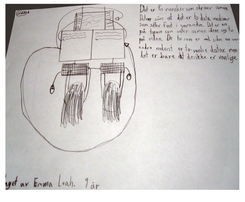

Figure 10: Design idea 1: **Two pupils have thir own working area, but can se each others as well (up and on the side) and common area (middle)**

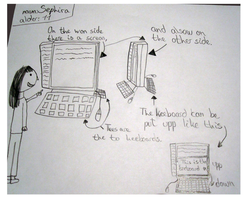

Figure 11: Two pupils working with screens between, but key board can be lifted to see the other person, while their work is displayed on the side

Method

We have based our approach largly on rich research by Druin (Druin, 1999, 1999), (Druin, 2004). Cooperative Inquiry and mixing ideas are technigues that are adapted to work with children and are based on methods from cooperative design, participatory design, and contextual inquiry.

Platforms

At the start of this project, we were almost certain that the interactive table and activities around it (see (Morris et al, 2005), (Nielsen et al, 2009) and (Stewart et al, 1999)) would be the most interesting one for children.
Livescribe pen can record sounds, play music etc.
However, all groups of children involved placed web based platform in the center and design efforts were in developing this option further.

-

Lessons learned at workshop 1:

-too many children were included due to their interest to be part of the project; optimal size would have been around 6
-we have allowed them to separate naturaly into groups and groups became gender based and exibited quite different behaviour; would have been easier with mixed groups

Lessons learned at workshop 2:

15 minutes per tool was too short time for children to start working together
- a familiar interface (web-based tool) was the best for collaboration
- new technology (digital pen and multitouch screen) was too interested and children were not able to focus on the tasks

Lessons learned at workshop 3:

there was no planned time limit, works great!

References

Druin, A. (1999). Cooperative Inquiry: Developing New Technologies for Children with Children. Proceedings of CHI'99, ACM Press.

Druin, A. (1998) The Design of Children's Technology. Morgan Kaufmann Series in Interactive Technologies, Morgan Kaufmann

Guha, M. L., Druin, A., Chipman, G., Fails, J., Simms, S., and Farber, A. (2004). Mixing ideas: A new technique for working with young children as design partners. Proceedings of Interaction Design and Children (IDC'2004)

Morris, M. R., Piper, A. M., Cassanego, A. and Winograd, T. (2005) Supporting Cooperative Language Learning: Issues in Interface Design for an Interactive Table. CSTR 2005-08 9/22/05

Nielsen, R., Halskov, K., Fritsch J. and Brynskov, M. (2009) Out of the Box – Exploring the Richness of Children's Use of an Interactive Table. Proceedings of Interaction Design and Children (IDC'2009)

Stewart, J., Bederson, B., and Druin, A. (1999). Single Display Groupware: A Model for Co-present Collaboration. Proceedings of CHI'99, ACM Press.