Story Spaces: Interfaces for children's voices

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ABSTRACT
Interactive narrative was, until a couple of years ago, more a topic of discussion in ACM Multimedia than in the CHI community. And where children were concerned, the issue was mostly how to make storybooks for children more interactive by adding sound, animation, etc. More recently, however, both narrative and interfaces for children have received significant attention. The two concerns join in the topic of how to create *storytelling spaces* to support children's own storytelling voice. Until now, nevertheless, there has been no comprehensive discussion at CHI of what it means to design for children to produce narrative in the context of technology. This panel, then, gathers researchers with a diverse set of perspectives to discuss what it means to support children as producers of tales.

Keywords
Storytelling, interfaces for children

INTRODUCTION
Technology is increasingly incorporated into artifacts for children. For the most part, however, such artifacts are programmed to talk *to* children rather than to listen to them. But talking – storytelling in particular – is a primary way that children come to understand their role in the world, and to practice raising their own voices, in both the metaphoric and literal sense. There is, then, a need for spaces for children to tell their own fantasy or personal stories, as way to explore issues of concern to them, and a way to practice language use and literacy skills. Storytelling spaces for children also raise issues of including children as designers and not just end users, and issues of technology to allow exploration of human values, as well as the acquisition of knowledge.

Among researchers working on story spaces for children, there is general agreement on these underlying principles, but interesting diversity in approach. Storytelling tools can be the outcome of a co-design process with children [3]. Technology can be incorporated into story-evoking artifacts, such as stuffed animals and play mats to remember children's stories [2]. Storytelling can be incorporated into technological games to empower more girls to enter the world of technology [1]. Children can be invited to engage in culturally-appropriate storytelling as a way of motivating them to read [4]. Professional storytellers and school teachers can invite children to join the rich world of storytelling for its own sake.

In this panel, we explore motivations and directions for these kinds of active toys and tools for children. Is storytelling a way for adults to motivate or teach children about technology? Is storytelling a vehicle incorporated in technology for children to express themselves? What are the spaces for storytelling, in thinking about interfaces and technology to support children's voices?

PANEL FORMAT
This panel will take a form of 1) a debate about the role of technology in children's storytelling (and vice-versa); and 2) a discussion of how to build storytelling applications for children, and their role in supporting other kinds of development, school-based learning and literacy.

We begin by asking each panelist the following fundamental and provocative questions:

1. Why should we support children's storytelling in the first place?

2. Is it appropriate for technology to serve as listener for children's secrets and stories?

3. What is the role of technology in storytelling?

4. In comparison with traditional storytelling, what is the advantage or disadvantage of technology for storytelling?

5. What role should storytelling technologies play with respect to child users: peer or teacher? collaborator or mentor? or some other role altogether?

For the last portion of the panel, we will elicit responses and questions from the audience.

POSITION STATEMENTS

Justine Cassell (Moderator)

I hope that this panel will uncover a number of novel positions with respect to the design of computational systems: (1) support for children as producers and *implementers* of content, rather than recipients and users; (2) applications that engage children in identity formation and learning about language arts and culture, rather than the more typical computer-supported topics of math and science, (3) systems that take the role of peer rather than expert with respect to a child. Although each of these positions is phrased in terms of children, I believe they have important and more general applicability to the design of all technology.

Allison Druin

From zoomable storytelling software to storytelling robots, our research has focused on developing opportunities for children to express themselves in ways that are meaningful and empowering. We believe that new storytelling technologies should not merely "tell" stories to our children. We believe it is important to support children as authors, where children can tell stories and share them with their peers, teachers, or parents. A critical component of these storytelling experiences is the collaborative nature that storytelling offers. Therefore, it is our belief that storytelling technologies should offer opportunities for distance collaboration, as well as "shoulder-to-shoulder" collaboration. I will present examples of storytelling technologies that support children as authors and collaborators. The artifacts of children's storytelling with these new technologies will also be shared.

Jack Klaff

Because I grew up in Africa, my introduction to storytelling took place around campfires. But I am today a writer, performer and presenter, as well as technological consultant, and my career has encompassed a variety of technological media, including Radio, CD recording, Television and Film. I will discuss my own activities as a storyteller (and do some real-time storytelling), and discuss the storytelling activities at Starlab, including projects involving children and camcorders, educational computer games for toddlers, and a novel dealing with artificial intelligence.

Brenda Laurel

When we talk about children, we often say that we would like to "empower" them to do various things; for example, to learn, to play in certain ways, or to express themselves. It is interesting to note that in such sentences, children are not the subject but rather the object of the verb, "to empower" - the construction contains an inherent contradiction. Rather than being the recipients of our largesse, what if children were the agents of their own empowerment? Speaking in one's own voice and telling one's own stories are fundamental experiences of personal power. I am interested in interfaces and systems that enable children to find and use their voices.

Nichole Pinkard

My research interests focus on understanding the interactions among culture, technology and instruction, particularly as it relates to the development of educational technologies for children. I hypothesize that designing technology around the lived experiences of children will lead both to better engagement and cognitive gain. I will discuss how children using web-based technologies can serve as developers of community-based interactive narrative histories. In the process of collecting and reporting on these oral histories, students therefore actively incorporate cultural funds of knowledge in developing school-based literacies (i.e., listening, reading, and writing skills). Students' integration of both the oral and research reports into recorded accounts of their community's history subsequently facilitate instruction at the first grade level as well edify communities beyond the school site.

Kimiko Ryokai

Children rarely have the chance to listen to their own stories. However, by supporting children's voices in their everyday play, a computer can provide a space for children to reflect on and practice their language and imagination skills. I believe the point is not to make the computer smart enough to tell interesting stories to children, but to make it smart enough so that it can provide a space where children's own imaginative and fantastic stories can be heard. It is also important that such technological support in children's storytelling play happen within their natural play space in order to make the interface emotionally engaging for them. For example, telling stories with stuffed animals or on a soft play mat where children can move their body freely is better than sitting in front of a desktop computer and telling stories, especially for young children. Technology can augment everyday story-evoking objects to support children's natural narrative activities.

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