

# StoryMat: A Play Space with Narrative Memories

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## ABSTRACT

In this paper, we present the design and the prototype of a work-in-progress, StoryMat: a soft intelligent play mat that records and recalls children's storytelling activities.

## Keywords

Storytelling, recording and recalling stories, soft interface

## INTRODUCTION

Storytelling plays an essential role in children's daily activities. Listening to others' stories and sharing their stories with others are activities through which children make sense of their inner world [2] and the world around them [1]. While computers are emerging in children's world by means of educational tools or games, there is a considerable lack of computer mediated systems that simply support children's everyday storytelling activities.

## STORYMAT

StoryMat offers a child-driven play space by recording and recalling children's own narrating voices and the movements they make with their toys on the mat. As an example, Mary tells a story as she moves her stuffed bunny on the mat. Her narrating voice is recorded with the associating movements of the bunny she makes. Later, Rob comes to the mat and tells his story. When he finishes telling his story, Mary's story revives on the mat because Rob's story was told at the same place on the mat, with the same stuffed bunny as Mary's. What Rob sees is a projected image of the bunny moving across the mat with Mary's narrating voice. Mary's lively story was recalled on the mat with Rob's story being the trigger. Yet, Mary's story triggers Rob's next story because now Rob is about to tell a sequel to Mary's story.

## Objective

StoryMat was designed to support children's everyday narrative play. Its fundamental function is to become a play space where children can collaboratively tell and listen to their own stories. Through such activities, children inspire and become inspired by others as well as their own past stories.

## The Soft Interface

Telling stories in front of a keyboard and a monitor is different from telling stories with a soft toy on a soft mat.

This is especially true for children. We made the mat and the toy with soft cotton, and chose to have the voice and the movement children produce as input especially for that purpose.

## The Prototype

A wireless radio frequency sensor was embedded in a small stuffed animal to translate its movement on the mat. In a prototype, we manually combined this movement and the voices recorded digitally from a microphone near the mat, into movie files, and saved them in the computer to be played at appropriate positions of the mat. Each movie was then played via projector installed above the mat and a pair of speaker near the mat, when new input was made at the same place on the mat as the movie. We have yet to conduct formal user testing. In general, children enjoy telling stories as they travel around the mat with a toy. In listening to others' stories, they also seem to tell more interesting stories as they incorporate others' story elements into their stories.

## FUTURE WORK

Automating the process of translating the recorded voice and movements into a movie file is currently under development. We will continue to refine and test the ways of layering children's collaborative storytelling activities.

## CONCLUSION

This paper presented the design and the prototype of StoryMat. We believe that StoryMat is an important advance in supporting children's everyday storytelling.

## ACKNOWLEDGMENTS

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