

# Children's Contributions to New Technology: The Design of AdventureAuthor

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## Keywords

Narrative, virtual environments, authoring tools, software design with children.

## INTRODUCTION

This poster describes the design of AdventureAuthor, a tool which allows children to author their own interactive stories for 3D virtual role-play environments. Using AdventureAuthor, children can select characters, objects and settings for a story. They then develop the plot structure of the story as a series of branching paths, which create multiple possible dialogues in the story. In doing so, children define the choice points which occur in the story at each conversational turn as a result of interaction with story objects and dialogue with other characters. The children's specifications are then realised in a 3D virtual environment. The child's peers can participate in the story by playing the roles of the various characters.

AdventureAuthor is different from traditional story writing in many ways. Firstly, the story encompasses a variety of media: graphics, animation, sound effects and voice, all of which are incorporated in a 3D virtual environment of commercial quality. Secondly, and of most interest from a research and design perspective, children must deal with a non-linear plot which can evolve and change as a result of the dialogue of each character. Such an environment requires novel ways of representing information about characters, setting and plot structure with which the child can work as she is developing the story.

The interface to AdventureAuthor was designed by a group comprising two researchers and six children. Space precludes a description of the interface which resulted from these design sessions, therefore we will focus on the design process used with the children.

## DESIGN SESSIONS

Work on AdventureAuthor began with 7 design sessions with a group of six children, aged 10-11 (the target age group for the software), of mixed gender and ability levels. The sessions were designed to move from familiar to less familiar activities, and were intended to facilitate creativity by giving a structure to the activities while providing a flexible and informal environment conducive to design.

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**Phase 1 – introduction and warm up:** this phase included an explanation of the study, icebreakers, and questions about stories, writing, and computer games.

**Phase 2 – storytelling:** in order to provide material for use in the story planning activities, children were told four stories by the second author (also a children's storyteller).

**Phase 3 – paper and pencil story planning:** this phase explored the children's current representations for planning stories. After discussing story planning techniques, children planned out a story of their choice using their preferred technique.

**Phase 4 – evaluation of story planning software:** children critically evaluated three pieces of commercial story development software. This phase moved from more familiar to less familiar representations: starting with text based representations, then a combination of text and graphics, and finally, a simple multimedia representation including graphics and audio.

**Phase 5 – design of a story planning tool:** in this phase, we asked children to design a story planning tool and develop the interface to it.

**Phase 6 – 3D virtual adventures:** children interacted with *Treasure Hunt*, a 3-D virtual adventure game [1]. This gave them an idea of the type of game which could be developed using AdventureAuthor, and illustrated various features of interactive stories including scripted dialogue, lighting, music, sound effects and character design.

**Phase 7 – interactive story planning:** the last session focused on the dialogue aspect of interactive stories. Children were first shown different ways of representing branching dialogue structure, and then developed their own representations for multiple choice conversations.

## CONCLUSIONS

Based on these design sessions, we have developed an interface to AdventureAuthor which incorporates the features which children deemed necessary and desirable with regard to story development software.

## REFERENCES

1. Forbes, D. (2002). *A Children's Interface to a Virtual Authoring Tool*, 4th Year Project Report, Division of Informatics, University of Edinburgh.