

The StorySpinner Sculptural Reader

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ABSTRACT

This demo is of a hypertext reading system called StorySpinner. It follows the sculptural hypertext methodology and has been used as a test bed for experimenting with the authoring of narrative flow in automatically generated stories. Readers are able to select and read one of two available stories. Reading a story involves selecting tarot cards which are mapped to chunks of story text based on possible interpretations of the cards and information concerning current story state.

Categories and Subject Descriptors

H.5.4 [Hypertext/Hypermedia]: Architectures

Keywords

Hypertext, narratology, sculptural hypertext, authoring.

1. INTRODUCTION

The StorySpinner system generates narratives based upon symbols selected by users, allowing them to read stories and explore hypertext in a novel fashion.

The idea comes from the novel 'The Castle of Crossed Destinies' by Italo Calvino [4]. In the novel, the narrator arrives at a castle inside which no-one is able to speak. To communicate their stories the other travellers use tarot cards, with the symbols on the cards representing events and characters in their tale. The narrator interprets the tarot cards forming the particular story of each traveller.

StorySpinner follows the sculptural hypertext model of authoring; here, nodes are initially scoped by their available connections to cards through interpretations. As cards are played, connections are effectively removed from the possible readings [1]. Metadata attached to the nodes, cards and card interpretations allows the author to control the pacing of the narrative.

Readers generate a story by selecting tarot cards from an available set and the StorySpinner engine generates a narrative based on a set of pre-authored nodes and possible interpretations of the particular tarot card. The next section discusses StorySpinner in more detail. Issues surrounding the authoring of narrative flow were investigated and results, observations and conclusions from initial user trials form the remainder of this paper.

2. THE DEMONSTRATOR

Readers are presented with a set of 22 tarot cards, and during the reading choose a sequence: the generated tale is based upon interpretations of this sequence, with early cards affecting the meaning of later ones; different card sequences generate different stories.

The 22 cards each have 10 to 15 possible interpretations from a set of just over 200. These are used as links between the cards and the story nodes. Each card is linked to a number of interpretations (for example, the card 'The Fool' has interpretations including 'joy', 'optimism' and 'new beginnings'). Similarly, each story node is linked to a subset of the interpretations from the list. Readers are not necessarily presented with these interpretations.

Figure 1 shows a partial screenshot of the StorySpinner prototype interface. A selection of cards are available in the upper half of the screen, with the current reading displayed below.

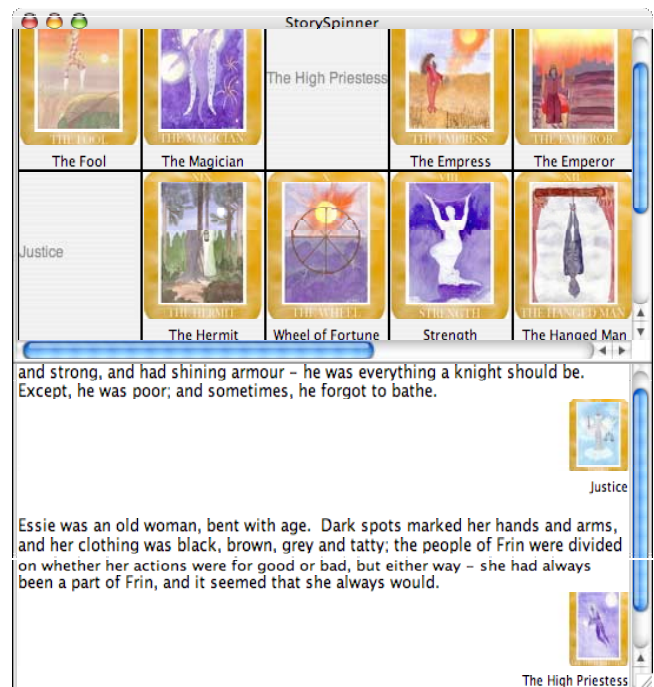


Figure 1. StorySpinner screenshot.

StorySpinner is primarily an authoring test bed; it has been used to investigate the effects of different strategies for storytelling, for example as will be shown later, altering the proportion of description within a particular hyperfiction.

StorySpinner implements a simple backtracking system which is used in the event of a dead end (a reader selecting a card which offers no links to a suitable story node, when the story is not considered completed): in this instance, the card is replaced onto the deck, and the reader may choose an alternative.

There are many models of story structure, in terms of temporal flow [5] as well as mythical structures such as those identified by Propp [7]. StorySpinner adopts a less formal structure, based around three 'acts'. In the traditional sense, these are used to establish the setting, build hurdles, and finally resolve tensions.

Previous narrative engines include StoryBook [3], Card Shark [1] and the HEFTI (Hybrid Evolutionary-Fuzzy Time-based Interactive) storytelling engine [6]. Like the Card Shark and the HEFTI system, StorySpinner is a tool to organise narrative segments, rather than a generator of text itself.

When the reader makes a choice, StorySpinner seeks out story nodes which closely match the chosen card i.e. the system seeks the story node with the greatest number of interpretation matches. It considers story constraints; these are of type time (e.g. ordering two nodes, to enforce a chronology) and logic (e.g. disallowing two nodes from both being shown in one story, avoiding mutually exclusive events).

To examine issues of narrative flow, the system was configured to operate with different biases, depending upon the chosen reading style. StorySpinner offers five styles of reading; these are standard, brief, descriptive, no logic and explore:

Standard - makes full use of the 'three act' structure of narrative.

During act one, nodes marked as descriptive are given priority; thus, a descriptive node with three matching interpretations will be chosen over a non-descriptive node with five matches. During act three, nodes marked as required events in the current story are given priority. The intention is to increase the pace of a story as it moves through the arcs of introducing characters, building plot, and finally reaching a resolution.

Brief - seeks out required events only.

Descriptive - gives preference to descriptive nodes.

Illogical - considers all nodes and ignores all constraints, leading to a possible lack of chronological order, repetition and seeing mutually exclusive events occurring.

Explore - considers descriptive nodes only, and again ignores all constraints. It might be viewed as a tour of the story's world.

3. CONCLUSIONS

StorySpinner currently acts as both a reading mechanism and an authoring test bed: it allows exploration of the effects of constraining the tale in terms of descriptive nodes and logic constraints. Although the initial prototype focused on a simple three act structure, future versions may look at manipulation of stories according to characters, locations, chronology and mood.

It is intended that the StorySpinner prototype will act as a test bed to allow authors to play with and relax constraints. The problems of authoring stories using sculptural techniques has been discussed previously [2]. The connection of cards to interpretations is assumed fixed for the tarot deck used in the current implementation and a visual interface to easily allow story nodes to be associated with interpretations would seem to be appropriate. The three act structure allows simple episodic scoping but more work is needed for more complex plot development. Also, the division of required and descriptive may be too simplistic, but it provided a useful starting point for the implemented readings styles.

A fuller investigation of how readers choose and interpret the cards' meanings is also planned. The characters in Calvino's story are assumed to be familiar with Tarot cards and their interpretations. Readers using the StorySpinner system are less likely to. Alternative symbols could be used instead with more intuitive interpretations. This would probably limit the interpretations available to the author but might put some of the story control back with the reader.

The StorySpinner system has investigated control of narrative flow in hyperfiction stories through implementation of different reading styles. The system's ability to generate 'sensible' stories as well as general perceptions of this type of hyperfiction have been examined through user feedback.

4. ACKNOWLEDGMENTS

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