



Narrative Hypermedia

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Narrative <-> Hypermedia

Contradiction in terms!

- Narrative:
storyline with beginning, middle and end
<http://www.uni-koeln.de/~ame02/pppn.htm>
- Hypermedia:
collection of linked fragments,
no required boundary



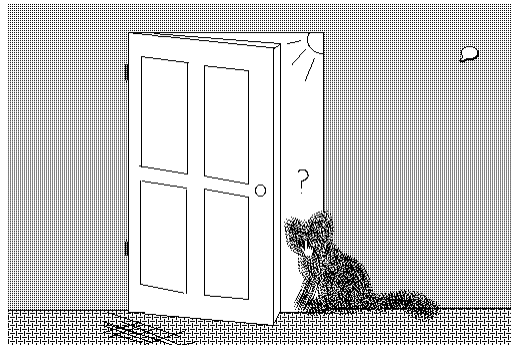
Hyperlinks in Film

- **Different forms of hyperlinks:**
 - Choice point (Lola runs)
 - Different perspectives in parallel



Hypertext community

- Experiments with stories '80s onwards
 - Michael Joyce: Afternoon, a Story 1990
 - Shelley Jackson: Patchwork girl 1995
 - Stuart Moulthrop: Victory Garden
 - M.D. Coverley: Califia 1999
- http://en.wikipedia.org/wiki/Hypertext_fiction
- Loops/choice points or events from different perspectives
 - Amanda Goodenough: Inigo Gets Out 1987
 - Author maintains some control by making new material accessible only after reader has read all required passages





Hyperlinked comics

<http://www.scottmccloud.com>



Temporal flow

- A story has a beginning, a middle and an end.
- The events being talked about also have a temporal order – these do not have to be the same
Arundhati Roy, The God of Small Things
- When constructing a hypermedia narrative challenge is even greater, since author has less control on what the reader reads next
- Luesebrink explains different temporal layers in a story: cognitive time and interface time
- Presentation itself also has time
Hardman et al., Do You Have the Time? Composition and Linking in Time-based Hypermedia
<http://doi.acm.org/10.1145/294469.294515>

Human->machine

- So far discussed stories/narratives created by humans
- What do we need to understand to allow a computer to do this too?
 - topic of the story
 - intended listener
 - representation of discourse

Semantics->Presentation

- Rutledge et al. explores extracting some human consumable form of semantics from machine-processable domain semantics
- Bocconi et al. use rhetorical annotations for generating video documentaries

Discourse model components

- A discourse model has knowledge about:
 - genre composition;
 - discourse structure building;
 - discourse structure population.
- genre: a distinctive type of literary composition that defines characteristic attributes of this composition e.g. a flow of discourse.
- discourse structure: identifies the flow of discourse by specifying concepts and their order plus situation of these concepts within sections and subsections.
- order: a meaningful order based on semantic relations between items
- A generation process uses knowledge in the discourse model to generate a final presentation

Insights from existing experiences

- Genres differ in discourse flows
 - Essay, biography: informative genres, oriented on providing information
 - Newspaper article: stronger narrative structure in which climax is essential
- Different mechanisms are required to support different genres
 - Essay, biography: find a set of relevant concepts, decide in what order they should be presented
 - Newspaper article: identify climax, find relevant concepts

Falkovych & Bocconi, Creating a Semantic-based Discourse Model for Hypermedia Presentations: (Un)discovered Problems
<http://www.cwi.nl/~media/publications/HTW05Falkovych.pdf>



Rhetorical Annotations for Video Documentaries

- Statements annotated:
<subject> <modifier> <predicate>
e.g. war best solution
- Thesaurus contains:
 - Terms 155
 - Relations between terms:
similar 72, *opposite* 108,
generalization 10, *specialization* 10
 - E.g. war *opposite* diplomacy
- 1 hour video annotated:
15 interviews, 120 statements

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Argument generation in video

- Vox Populi
- Database of video clips
- Annotated with topic and agree/disagree
- Argumentation model (Toulmin)
- User specifies query and video sequence generated

- Stefano Bocconi,
ICME 2005



Video Sequence Generation Process

- Using the thesaurus, generate related statements and query the repository
e.g. from “war best solution”
“diplomacy best solution”
“war not solution”
- Create a graph of related statements
 - Nodes are the statements (video segments),
edges are either *support* or *contradict*

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Conclusions

- Hypermedia narratives are still very much an experimental art form
Marc Bernstein <http://www.eastgate.com/>
Online magazine Tekka
<http://www.eastgate.com/catalog/Tekka.html>
Online writing centre <http://trace.ntu.ac.uk>
- We can't generate rich hypermedia narratives (yet)
- We can make small steps from domain knowledge to human-consumable information
- We can add rich rhetorical information and generate video sequences