



Narrative Hypermedia

Lynda Hardman TU/e

<http://www.cwi.nl/~lynda>

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

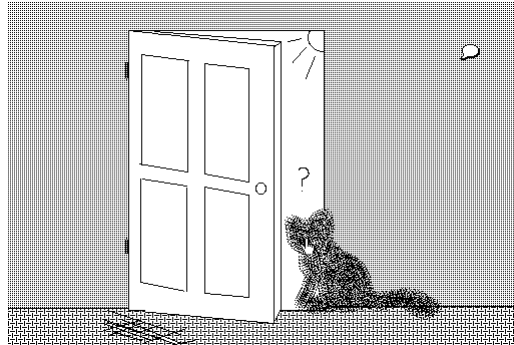
Hypertext community

- Experiments with stories '80s onwards
 - Michael Joyce: *Afternoon, a Story* 1990
 - Stuart Moulthrop: *Victory Garden* 1992
 - Shelley Jackson: *Patchwork girl* 1995
 - 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 can maintain some control by making new material accessible only after reader has read all required passages





Hyperlinks in Film

- Different forms of hyperlinks:
 - Choice points with different scenes
 - Choice points with alternative storylines (Run Lola Run 1998, Sliding Doors 1998, Groundhog Day 1993)
 - Different parallel perspectives (TV movie on different channels)

Hyperlinked comics

Scott McCloud:

Understanding Comics (1993)

Reinventing Comics (2000)

Making Comics (2006)

Juxtaposition of frames “forces” reader to fill in the gaps, thus developing a “narrative”

<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
Do You Have the Time? Composition and Linking in Time-based Hypermedia, Hardman et al.,
<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

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

The Role of Genre

- 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

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 et al., ICME 2005
Using Rhetorical Annotations for
Generating Video Documentaries



Analysis of the Example

Two billions dollar bombs on tents



Claim

contradict

Claim

I cannot think of a more effective solution

weaken

Concession

I am not a fan of military actions



Claim

support

War has never solved anything



Video Sequence Generation Process

- Using the thesaurus, generate related statements and query the repository
 e.g. "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*

Vox Populi interface

Question		Interviewee		Opinion		
Why did they do what they did? What do you think of the casualties among civilians? What do you think of the Afghanistan war? What are the consequences of the war? What are the roots of the problem? What do you think about the Anthrax?		Cameroun Parking Guard at Stamford Lawyer in Harward		War in Afghanistan - Pro		Position
Age	Education	Employment	GeoLocation	Race	Religion	Sex
Middleage Old Teenager Young	HighEducated LowEducated MediumEducated	HighIncomeJob LowIncomeJob MiddleIncomeJob Retired Student	NotUSA USA	AmericanIndian Asian Black Hispanic White	Atheist Christian Muslim	Female Male
						First Character
Age	Education	Employment	GeoLocation	Race	Religion	Sex
Middleage Old Teenager Young	HighEducated LowEducated MediumEducated	HighIncomeJob LowIncomeJob MiddleIncomeJob Retired Student	NotUSA USA	AmericanIndian Asian Black Hispanic White	Atheist Christian Muslim	Female Male
						Second Character
Strategy		Bandwidth	Intercut	Caption		
<input type="radio"/> None <input checked="" type="radio"/> Create Clash <input type="radio"/> Create Support <input type="radio"/> Vox Populi		<input type="radio"/> Low Bandwidth <input checked="" type="radio"/> Medium Bandwidth <input type="radio"/> High Bandwidth	<input checked="" type="radio"/> True <input type="radio"/> False	<input type="radio"/> On (can cause problems) <input checked="" type="radio"/> Off		
Done		Reset				

Conclusions

- Hypermedia narrative is still 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>