Media Transformation
Vorlesung

WiSe 2018–19
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Woche 6
Dialogism

- Dialogue between people talking
- Dialogue with historical sources
- Dialogue with natural environment
- Text and text interpreter
- Bakhtin: literary texts are dialogical
  - intertextuality
- Forming thoughts through dialogue
  - learn what we know by saying it
Affordances

• Based on the verb “to afford” (Gibson)
• Complementarity animal—environment
• Relative to the animal
  – surface of the lake for a flea and for a dog
• Intention irrelevant
  – a tree is shelter against the rain
  – this is not the purpose or intention of the tree
In dialogue with our surroundings

- Using affordances
  - natural
  - language: potentials in concrete utterances (Linell)
- The language is part of the dialogue
- Context of interaction
- Interaction at many levels
  - with each others
  - with tools
  - with landscape...
Interhuman communication

• Talking to each others
• Happens in context
• Significant shared background
  – common affordances
• Face to face
  – sound, sight, smell, touch, ...
• Mediated
  – narrower in varying degree
Intercultural communication

• Less common affordances
  – language differences
  – cultural differences
• Emotional differences
  – culture and the individual
• Common languages
  – football
  – laughter
  – rituals
• Communication always possible
  – but can be hard
Interspecies communication

- Human to animal
- Animal to animal
- Animal to plant
- Less symbolic
  - words play a different role
- Intentionality unclear
  - does the dog want to interact with me?
  - the tree?
Communication with the dead

- Religion/mythology
- Literature
  - “Sapho speaks to me”
  - (but do I reply?)
  - model reader → author instance in text
- Talking to fictional persons
- Art
  - falling in love with a painting – or the motive?
- Virtual reality
  - talking to historical persons?
Wayfinding as communication

- Being-in-the-landscape
- Finding the way through interaction
- Senses
- Maps
- GPS
Tools

- Using a pen to write
  - or using your hand
- Fitting tools
  - axes
  - magic wands
- Thinking tools
  - take part in our cognitive processes
Humans and computers

- Tool usage
- Interactivity
- Controlling
- Being controlled
- Steering
- Being steered
Programming and interactivity

An example, taking from a conference presentation

(Digital Humanities, Lausanne 2014)
Text representation and modelling

In this paper, representations of texts are divided into three groups:
1. Linear (text as stream)
2. Hierarchical (text as tree)
3. Graph based (text as graph)

<table>
<thead>
<tr>
<th>Type</th>
<th>Text representation system</th>
<th>Example of modelling tool type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Linear</td>
<td>Plain text</td>
</tr>
<tr>
<td>2</td>
<td>Hierarchical</td>
<td>XML encoding</td>
</tr>
<tr>
<td>3</td>
<td>Graph based</td>
<td>RDF encoding</td>
</tr>
</tbody>
</table>
Editor presentation: line and tree

Peter Schnitler, «grensemajoren», stamfaren til den store og ansette norske slekt Schnitler, var født på Christianshavn i København 17. januar 16904 som sønn av den tyskfødte kjøbmann Lorentz Schnitler og hustru Dorothea Hansdatter Nobel.


Moren var datter av en kjøbmann i Christianopel i Blekinge, Hans Mortensen Nobel, som etter at Blekinge ved Roskildefreden 16584 var avstått til Sverige, hadde flyttet til København. Innen hun blev gift med Lorentz Schnitler, hadde hun endelig vært gift med presten Peder Hoffgaard, som døde på St. Thomas 16844.

Smlen. E. A. Thomle: Familien Hoffgaard i Norge.

Oxygen XML editor ver. 14.0 (Syncro Soft SRL)
Someone is the odd one out.
Of course, I see the links, but...
Links as attributes

- The current tools for manipulating texts are based on sequence and tree
- There are many tools for displaying and manipulating graphs
  - but these are not integrated into text manipulation tools
- Links as attributes work but does not give good overview
Another tool: GeoModelText

- A tool for critical stepwise formalisation
- Implements a type of modelling
- 1 developer
- 1 user
- 1 dataset
- 1 screen size
Dette tilægger Viidnet til oplysning angaaendes
<name type='place'
xm:ld='Schn1_42920'>Svanesteenen</name>: jmellem de østligste gaar<milestone type='inWord'
unit='line'></milestone>der i <name type='place'
xm:ld='Schn1_42924'>Nordre Finlje</name> og
dend Første nærmeste Gaard i <name type='place'
xm:ld='Schn1_42930'>Jemteland</name> <name
type='place' xm:ld='Schn1_42933'>Strøms
Aanex</name> <name type='place'
xm:ld='Schn1_42936'>Hilsand</name>. er, Som
melt, 20 gamle Miile; j dette mellemRom ligger <name
type='place'
xm:ld='Schn1_42940'>Svanesteenen</name> 2:
Miile længere bort paa den østere kandt, nemlig Saa
meget nærmere dend bemelte Svenske gaard <name
type='place'
xm:ld='Schn1_42944'>Hilsand</name>. 

<table>
<thead>
<tr>
<th>Link ID</th>
<th>Link type</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>link733</td>
<td>part-of: eastern</td>
<td>node306</td>
<td>Schn1_42924</td>
</tr>
<tr>
<td>link734</td>
<td>part-of</td>
<td>Schn1_42933</td>
<td>Schn1_42930</td>
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<tr>
<td>link735</td>
<td>part-of</td>
<td>Schn1_42936</td>
<td>Schn1_42933</td>
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<tr>
<td>link738</td>
<td>distance: 9 gamle Miile</td>
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<tr>
<td>link1549</td>
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<td>Schn1_42944</td>
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<tr>
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<td>distance: 11 gamle Miile</td>
<td>node306</td>
<td>Schn1_42940</td>
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<td>Schn1_42940</td>
</tr>
<tr>
<td>link736</td>
<td>distance: 20 gamle Miile</td>
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<tr>
<td>link1551</td>
<td>direction: east</td>
<td>node306</td>
<td>Schn1_42944</td>
</tr>
</tbody>
</table>
Graph example: Co-reference

```
Graph: div

p

placeName
placeName
placeName

co-reference

p

placeName
placeName

co-reference

p

placeName
```

Universität zu Köln | Historisch-Kulturwissenschaftliche Informationsverarbeitung | Dr. Eide
The tool connects from place references in text to place references in register.

Also links between each co-refering place reference.

These links can be visualised.

They can be manipulated in tool.

Still... the graph not very clear, is it?
Why do I feel I “see” the graph?
Why do I feel I “see” the graph?

The links are still just ID values
Why do I feel I “see” the graph?

The links are still just ID values

Where is the graph?
The graph is here...?
Being an encoder

1. Create a tree model of the text
2. Formalise that model in TEI/XML
3. Reify the model into the editing tool
Being a programmer

- The DOM tree: Document Object Model
- A node in the tree is indeed in the tree
  - has a parent, siblings, children
  - cannot break the tree structure as a DOM object
- But ... a DOM object is also just an object

- Objects encapsulating DOM objects
  - can link to whatever and from whatever
  - can be used as part of graphs or any other structure expressible in the programming language of use

- The triple nature
  - graph object
  - DOM object
  - ... and the text
The three natures of representation

- Textual nature
- Tree node nature
- Java object representing XML node
- Graph node nature
The triple view: sameness

- A object in the DOM hierarchy includes a text
- The DOM object is a node in the tree
- The DOM object is encapsulated in a graph object

- The DOM object is the same.

- So...: any changes made from any of the three sides will change the same object
- (cf. call by address – all three addressing same object)
A visualisation problem

- Being a programmer I can “see” the structure
- But how to make it available to the text tool user?

Why do I see?

- Seeing through manipulation
  - I see what happens when I change things
  - that way I know what the structure is

...but how can we operationalise object manipulation?

How can a tool user be enabled to see through manipulation?
Seeing through manipulation

• As programmers we can see through manipulation
  – making the world real by interacting with it  
    (Piaget)
• Tool users
  – response
  – feedback mechanisms
Modelling

• Creative process of thinking/reasoning
  • meaning made and negotiated through creation and manipulation of external representations

• As research strategy:
  • process by which researchers make and manipulate external representations (“imaginary concreta”, Godfrey-Smith 2009) to make sense of conceptual objects and phenomena
Digital humanities modelling

• Making sense via practical thinking
  – making in order to understand

• How do we learn from models
  – interacting with them
  – observe the new
  – test what we think we know

• Models or modelling
  – activity
  – interactivity
Learning by doing

- Interacting with the world around us
- the people around us
- the computers around us
- the books around us
- the reality around us
- the virtual reality around us
- the stories around us
Storytelling

The taxi drops you off in front of a big white house. The house looks desolated. You walk over to the side of the house, through the half meter of grass. You hear a low humming sound from an open window.
Events

- drops you off
- (looks desolated)
- walk over
- hear a sound

*Story as a movement through events*
Storytelling with branches

The taxi drops you off in front of a big white house. The house looks desolated. You walk over to the side of the house, through the half meter of grass. You hear a low humming sound from an open window.

Do you go closer to peep in? (Y/N)
Branching

- drops you off
- (looks desolated)
- walk over
- hear a sound
- go closer
- peep in

1. taxi drops you off
2. walk over to house
3. hear a sound
4. peep in
   - yes
   - no
Interactive storytelling
Do you **go closer to peep in?** (Y/N)

- **Y:** You see a gas bottle with the valve open and a candle lit in the corner. You **jump in** and **close the bottle**

- **N:** You wait for a few minutes for the others to arrive. There is suddenly a loud noise and **everything goes black.**
Interactivity

- drops you off
- (looks desolated)
- walk over
- hear a sound
- go closer
- peep in
- jump in
- close bottle
- goes black

Taxi drops you off
Walk over to house
Hear a sound
Peep in
Yes
Jump in
Close bottle
Goes black
No
Choice

- Choose what to do
- Choose who to be
- Choose to play again
  - re-birth
- All choices are within limits
  - the human condition?
Decision trees

You don’t look like you’re from around here.

I’ve lived here all my life! I came here from Newton.

Oh really? Then you must know Mr. Bowler.

Newton, eh? I heard there's trouble brewing down there.

Mr. Bowler is a good friend of mine! Who?

I haven't heard about any trouble. Did I say Newton? I'm actually from Springville

You liar! There ain't no Mr. Bowler, I made him up!

Don't you worry about it. Say, do you have something to eat? I'm starving.

By Dcoetze - Own work, CC0, https://commons.wikimedia.org/w/index.php?curid=12067659
Limitations of choice

Limitations of choice

- How many ways to the mountain?
  - can follow the path
  - or another path
  - or off path

- Continuous choice

Limitations of choice

- How many train routes to Hamburg?
  - can follow one track
  - or another track
  - not off track
- Discrete choice
Movement

• Through
  – a landscape
  – a train network
  – a text
  – a painting
  – a VR game

• Like painting and poetry
  – no absolute differences
  – different expressions
  – different humans
Games and life

“I would like people to play it once...because that’s life. Life you can only play once...I would like people to have this experience that way.”

[...] it is a game, and Cage understands that people will naturally want to go back and play through again, and even perhaps reload a previous save point to avoid unpleasant results that might occur because of actions taken in the game.

To this, Cage says, “I’m fine with that, but the right way to enjoy Heavy Rain is really to make one thing because it’s going to be your story. It’s going to be unique to you. It’s really the story you decided to write...I think playing it several times is also a way to kill the magic of it.”

Music and singularity

➢ What are you doing in ten years from now?
➢ Play. I hope that one day I will manage to gather all the threads in this one tone that will knock down all the human beings on Earth. Aarrgghhh!!!
Beyond the limits

- Music of one tone
  - simplicity
- Games only played once
  - life
- The aim to get beyond the limits of the medium
Freedom in storytelling

- Telling a story
- or
- Creating a story?
Freedom of text based stories

- High: telling story
- Being told story
  - this is where interactivity is most relevant?
- Low: reading story
Freedom in storytelling

• Before the story is told
  – freedom

• After the story is told
  – locked

• When the walk is walked it is fixed
  – but we can always walk again
  – and tell new stories
How close can one get?

- The aim for reality
  - confessional literature
- Write your life
  - play your life?
  - design the game of your life?
  - of others' lives?
- Can we make continuous choices in games?
  - or in life?