Knowledge Building Through Collaborative Hypervideo Creation

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How do we learn?

(in general)
How do we learn?

by making connections between resources
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- we link two pieces of information through a meaningful connection

- we share / exchange these connections with others
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How do we learn?

by making connections between resources

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\( \rightarrow \) network of associative connections that tells us more about a subject than the sum of it's facts
How can the web help?
How can the web help?

Hypertext-Network, based on connections between document fragments (links)
How can the web help?

Hypertext-Network, based on connections between document fragments (links)

- enables us to bring associative connections into a form that is usable for others
How can the web help?

But:
How can the web help?

But:

- if we want to share / exchange pieces of that "knowledge-network"
- we can only share a connection from a to b (jumplink)
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If that was the way we learn, learning would mean vocabulary training
How can the web help?

Original Hypertext Ideas

Memex (Memory Extender)

"Device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory"
How can the web help?

"Trails" in the memex
How can the web help?

"Trails" in the memex

- sequence of links through your personal document collection
- can be shared with others, who include it in their own memex & merge it with their trails
How can the web help?

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→ We build knowledge by creating, sharing & merging sequences of information!
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Sequences of information → Stories
What does this have to do with video?
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→ Film already works in sequences
Considering the increasing use of video on the web, we should start making use of it in the way we use hypertext!

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But:

- linear
  - closed source / prerendered
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But:

- linear
- closed source / prerendered
What does this have to do with video?

To be part of a dynamic information architecture, medium has to be open / remixable
What does this have to do with video?

Recent web technology developments: integrate film in the basic architecture of the web

Before:
What does this have to do with video?

Recent web technology developments: integrate film in the basic architecture of the web

Before:

- Video only as a Plugin (Flash, etc.)
- not accessible / controllable from the outside
- all you could do is press a play button & use a few other controls (if provided)
What does this have to do with video?

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integrate film in the basic architecture of the web

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What does this have to do with video?

Now:
What does this have to do with video?

Now:

- include video like any other element
- control video playback by programming code
- react to events at certain points of time
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Aufgrund der engen Verknüpfung von Lehre und Forschung können die Studierenden in nationalen und internationalen Interface Design- Forschungsprojekten mitwirken. Dank der guten Verbindungen zu lokalen und europäischen Kunstinstitutionen nehmen die Studierenden an Ausstellungen und Festivals teil und lernen die wichtigsten Veranstaltungen und Künstler kennen.


What does this have to do with video?

Example 2

Tooltip in the video
What does this have to do with video?

This is great, but:
What does this have to do with video?

This is great, but:

We are still including timebased content in a hypertext document

(even Youtube is a textpage including videos)
What does this have to do with video?

This is great, but:

We are still including timebased content in a hypertext document

(even Youtube is a textpage including videos)
Steps towards a time-based web
Steps towards a timebased web

From hypertext to hypervideo
Steps towards a timebased web

From hypertext to hypervideo

- time as the main controlling instance
- other web contents included in timebased content, not vice versa
- linked fragments of moving images that become an navigable network
- (imagine a www, consisting of just film)
Steps towards a timebased web

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Steps towards a timebased web

Openness!
possible through new web technologies & standards, but
Steps towards a timebased web

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possible through new web technologies & standards, but

- not just a matter of open technology

- authors have to actively preserve the pre-rendering state, to allow collaboration
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Open Hypervideo

"Hypervideo on the web that works like the web"
Open Hypervideo

- Framework to enable creation, reception and remix of hypervideo contents
- Approach towards hypervideo on the web that does justice to hypertext functionalities (remixable fragments), as well as filmic properties
- Collaborative hypervideo creation
Open Hypervideo

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- Collaborative hypervideo creation
• Focus on filmic interface & network, not only annotations

• Document access through non-linear narrative
Open Hypervideo

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Open Hypervideo

Use Case
Open Hypervideo > Use Case

"Knowledge Space - Elementary Particle Physics"

Goal:
make complex scientific research accessible and comprehensible to a broad public
Open Hypervideo > Use Case

Project:
Project:

- 21 video sequences on the subject
  - shot partly by professionals, partly by pupils
  - annotated with additional materials / documents
Open Hypervideo > Use Case

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→ merged into one hypervideo project
Open Hypervideo > Use Case
Supersymmetrische Teilchen-Kaskaden jenseits des Standardmodells

Open Hypervideo > Use Case
Materie (Physik)

Materie (von lat. materia – Stoff) ist eine Sammelbezeichnung für alle Beobachtungseigenschaften der Naturwissenschaften, die Masse besitzen. Raumbereiche, die keine Materie enthalten, bezeichnet man als Vakuum. Elektromagnetische Wellen wie zum Beispiel Licht werden nicht zur Materie gezählt.

Materie, die in makroskopischen Mengen vorliegt, lässt sich mit Hilfe messbarer physikalischer Größen quantitativ beschreiben. Sie tritt in verschiedenen Erscheinungsformen oder Aggregatzuständen auf, deren Eigenschaften sich stark voneinander unterscheiden. Materie setzt sich aus Förmchen zusammen, die meist Atome mit einer inneren Struktur aus Atomkern und Elektronenhüllen bilden.

Eigenschaften

Erscheinungsformen

Aufbau

Vorkommen

Entstehung von Materie

Siehe auch
Quark (Physik)

Einer von zwei up-Quarks und einem down-Quark besteht ein Proton. 


(Quelle: Wikipedia, über das Projekt)
Open Hypervideo > Use Case
Open Hypervideo > Use Case

It's all open!
Open Hypervideo > Use Case
Open Hypervideo > Use Case
Open Hypervideo > Use Case

What's next:
What's next:

- rework player and editing environment
  - player will be rebuilt based on the needs & knowledge of filmmakers
  - editing will take place directly in the hypervideo
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- player will be rebuilt based on the needs & knowledge of filmmakers
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What about "collaborative knowledge building"?
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Back to the beginning:
What about "collaborative knowledge building"?

Back to the beginning:

"we build knowledge by creating, sharing & merging sequences of information"
What about "collaborative knowledge building"?

But most important:
What about "collaborative knowledge building"?

But most important:

We have to keep in mind how important that openness of standards and technologies is and do everything we can that it stays that way.
Thanks!

More Info:

http://www.open-hypervideo.org

http://filmicweb.org

Twitter:

@OpenHypervideo