

Blurring Boundaries: Intelligent Video Interaction

Marian Ursu

Department of Theatre, Film and Television
University of York

TVX2014



stories

screen *storytelling* : film



screen *interaction* : games





but then they started to move towards each other

film screen grammars transferred to games



game screen grammars transferred to films



interaction brought to TV

iPlayer

TV Channels

Radio stations

Categories

Last 7 Days

A to Z

◀ Back

Impressionists (23)

Satire (45)

Sitcoms (32)

Sketch (12)

Spoof (3)

Standup (18)

Variety Shows (23)

Entertainment & Comedy

TV highlights

TV and Radio **TV only** Radio only



Radio highlights



All Entertainment & Comedy

Programme title ▼

Duration

Days Left

Channel / Station

▶ Alan Titchmarsh with Melodies for You
Episode 3, Series 2

30 minutes

3 days left

BBC Radio 2

▶ An Actor's Life for Me
Show episodes

-

-

BBC Four

▶ Anthea Turner: The Perfect Housewife
▶ Ep3 Dirty Washing

-

-

BBC Three

30 minutes

6 days left

BBC Three

Last played



04:30 / 25:30

▶ Torchwood
2/6. Attack of the Cyberwoman

▶ The Chris Moyles Show
Mon. Radio 1

▶ Edith Bowman
Mon. Radio 1

More like Torchwood



video footage brought into games



multi-platform storytelling and interaction



there are clear signs of attraction and convergence

... but can stories be interactive?

the mirrored question being: can stories be told via games?

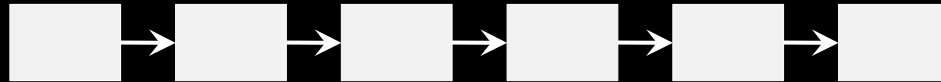
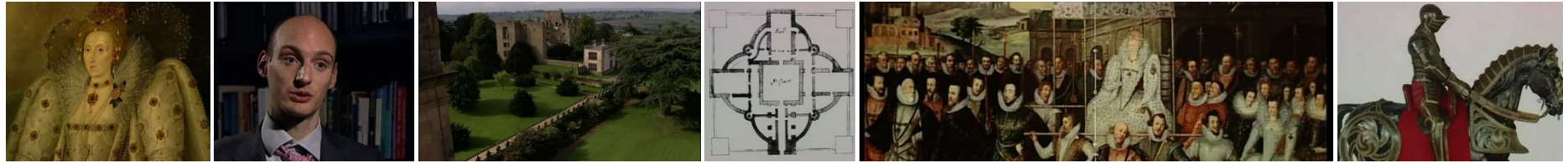
we took the linear story as the starting point
and aimed to make it interactive



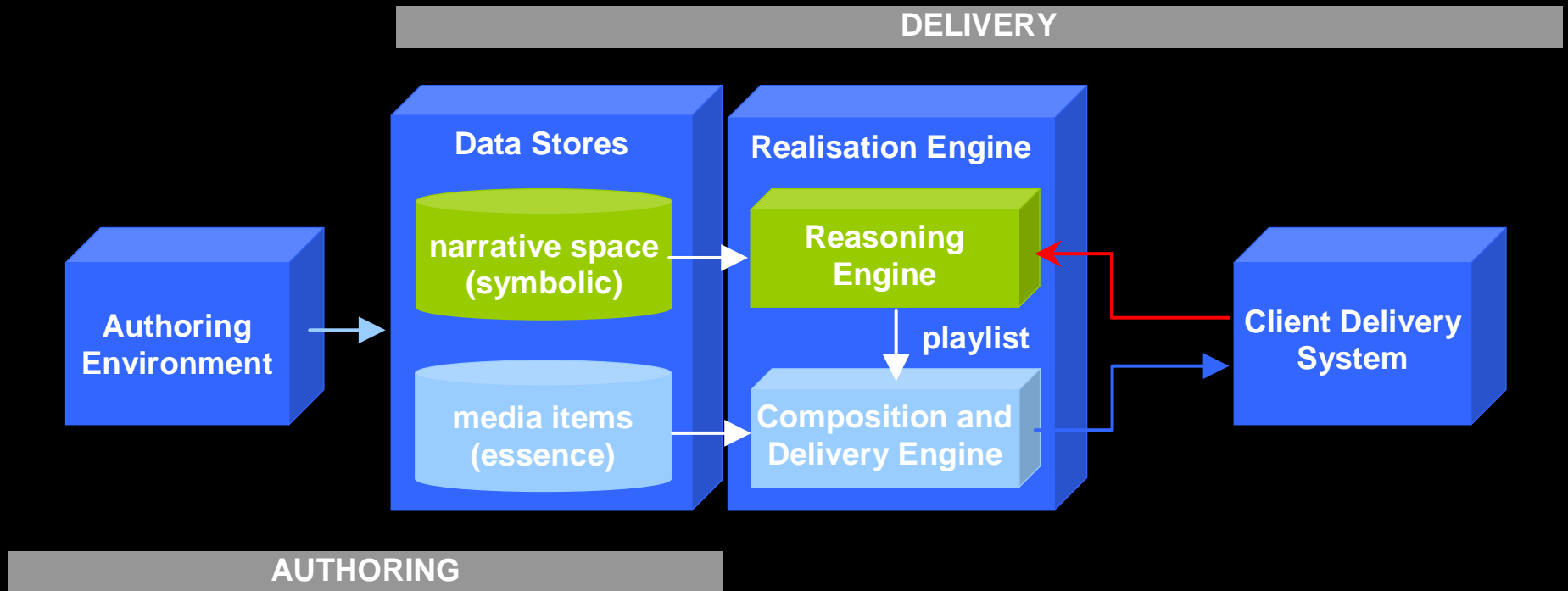
main requirement

each particular story should be of the same quality
as if it were manually crated in a linear fashion

basic representation of a linear moving-picture story



our approach: empower the authors



authoring tools : narrative structures

The screenshot displays the ShapeShift Tools - Accidental Lovers interface, which is used for authoring narrative structures. The interface is divided into several panels:

- Bins:** A list of media items including audio, video, animations, and text files.
- Media Item Browser: VO:** A table listing media items with their names, in-points, out-points, durations, and annotation summaries.
- Narrative tree:** A hierarchical view of the narrative structure, showing elements like 'big heart glow', 'sync1', 'sync2', and 'video_vo_sms_delayedbin'.
- Properties [video_vo_sms]:** A panel for editing the properties of the selected media item, including its name, start item, and editing rule.
- Narrative Canvas:** A visual representation of the narrative structure, showing a complex network of nodes and connections.

The **Media Item Browser: VO** table contains the following data:

Name	In-point	Out-point	Duration	Annotation Summary
J114_T_K	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (2B), Destiny (K), Ke...
J115_MR_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (2A), Destiny (L), Ke...
J116_MR_L	00:00:00:00	00:00:18:04	00:00:18:04	Character (J), Deck (1, 1to2A, 2A), Dest...
J117_MR_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (2A), Destiny (L), Ke...
J118_MR_L	00:00:00:00	00:00:17:04	00:00:17:04	Character (J), Deck (2A), Destiny (L), Ke...
J119_MR_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (2A), Destiny (L), Ke...
J119_T_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (1, 2B), Destiny (L), ...
J120_MR_K	00:00:00:00	00:00:05:23	00:00:05:23	Character (J), Deck (2A), Destiny (K), K...
J122_R_K	00:00:00:00	00:00:21:17	00:00:21:17	Character (J), Deck (1, 2C), Destiny (K),...

The **Properties [video_vo_sms]** panel shows the following details:

- Name:** video_vo_sms
- Start item:** act1.1
- Editing rule:**

```
can_only_follow_since_play(  
  '1_vjr_07_lehtivaras2',  
  '1_vjr_04_lehtivaras1',  
  '0_musicvideo'),  
only_play_one_of_since_play(  
  '2_v1jr_07_rane_koru',  
  '2_v2jr_19_rak_ovella',  
  '2_v3jr_33_j_rak_ovella',  
  since('0_musicvideo')),  
only_play_one_of_since_play(  
  '2_v1jr_08_noname',  
  0  
  0_00_tama_nainen  
  0_01_tama_nainen  
  0_02_tama_nainen  
  0_03_tama_nainen  
  0_musicvideo  
  1_musicvideo
```

The **Narrative Canvas** panel displays a complex network of nodes and connections, representing the narrative structure. The nodes are organized into a hierarchy, with 'video_vo_sms_delayedbin' being a prominent element. The canvas also includes a toolbar with various icons for editing and navigating the narrative structure.

authoring tools : metadata (the magic word!)

The screenshot displays the ShapeShift Tools - Accidental Lovers software interface, which is used for managing and authoring media content. The interface is divided into several panels:

- Bins:** A list of media bins on the left side, including 1_sync_audio (25), 2_sync_audio (43), 2_videos (43), Animations (30), Import, Rane_audio (10), Rane_text (39), Transition_scene_audio (37), Transition_scenes (36), VO (864), emergency_SMS (100), and Filler (6).
- Media Item Browser: VO:** A table listing media items with columns for Name, In-point, Out-point, Duration, and Annotation Summary.

Name	In-point	Out-point	Duration	Annotation Summary
J025_T_L	00:00:00:00	00:00:07:09	00:00:07:09	Character (J), Deck (1, 2B), Destiny (L), Keyword (elton, haitaa, hitti, i*am, john*, juulia*, kestää, kokemus*, kokenut, pop, pystyssä, rock*, rokki*, standing, still, sähkökita*, sähköskit*), Mood (T)
J026_MR_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (1, 2A), Destiny (L), Keyword (elämä*, jaksa, jaksaa, käärme*, menopaussi*, ourobo*, rannekor*, sormuks*, sormus, suoni*, vaihdevuo*, vanhan, veri, vielä, virtaa), Mood (MR)
J026_T_L	00:00:00:00	00:00:09:12	00:00:09:12	Character (J), Deck (1, 2B), Destiny (L), Keyword (*sydän*, elossa*, juulia, kuumen*, lämmit*, lämpen*, nuorek*, polttaa, punai*, punert*, suoni*, vanha*, veri, vetre*, vielä, virtaa), Mood (T)
- Properties [J026_MR_L]:** A panel showing the properties of the selected media item. It includes fields for Name (J026_MR_L), Id (9b0703428c87a39c984796aae4), Media (ideot/VL_VO/J026_MR_L.wav), In-time (00:00:00:00), Out-time (00:00:05:00), and checkboxes for General, Media Content, Comment, and Script.
- Annotations [J026_MR_L]:** A panel showing the annotations for the selected media item. It includes a tree view of the media item's structure (Character, Deck, Destiny, Focus, Juulia, Roope, both, Index, Keyword) and a table of annotations.

Classes	Name
Keyword	elämä*
Keyword	sormus
Keyword	käärme*
Keyword	ourobo*
Keyword	jaksa
Keyword	vielä
Keyword	vanhan

authoring tools : metadata (the magic word!)

ShapeShift Tools - Accidental Lovers

File Edit Import View Window Help

Bins

- 1_sync_audio (25)
- 2_sync_audio (43)
- 2_videos (43)
- Animations (30)
- Import
- Import
- Import
- Import
- Rane_audio (10)
- Rane_text (39)
- Transition_scene_audio (37)
- Transition_scenes (36)
- VO (864)
- emergency_SMS (100)
- Filler (6)

Media Item Browser: VO

Name	In-point	Out-point	Duration	Annotation Summary
J025_T_L	00:00:00:00	00:00:07:09	00:00:07:09	Character (J), Deck (1, 2B), Destiny (L), Keyword (elton, haitaa, hitti, i*am, john*, juulia*, kestää, kokemus*, kokenut, pop, pystyssä, rock*, rokki*, standing, still, sähkökita*, sähköskit*), Mood (T)
J026_MR_L	00:00:00:00	00:00:05:00	00:00:05:00	Character (J), Deck (1, 2A), Destiny (L), Keyword (elämä*, jaksa, jaksaa, käärme*, menopaussi*, ourobo*, rannekor*, sormuks*, sormus, suoni*, vaihdevuo*, vanhan, veri, vielä, virtaa), Mood (MR)
J026_T_L	00:00:00:00	00:00:09:12	00:00:09:12	Character (J), Deck (1, 2B), Destiny (L), Keyword (*sydän*, elossa*, juulia, kuumen*, lämmit*, lämpen*, nuorek*, polttaa, punai*, punert*, suoni*, vanha*, veri, vetre*, vielä, virtaa), Mood (T)

Properties [J026_MR_L]

☒ General

Name: J026_MR_L

Id: 9b0703428c87...9e4796aae4

☒ Media Content

Media: ideot/VL_VO/J026_MR_L.wav

Generate stripe image and keyframes

In-time: 00:00:00:00

Out-time: 00:00:05:00

☐ Comment

☒ Script

Annotation [J026_MR_L]

Classes

Classes	Name
Keyword	elämä*
Keyword	sormus
Keyword	käärme*
Keyword	ourobo*
Keyword	jaksa
Keyword	vielä
Keyword	vanhan

conceptually feasible in professionally authored narratives

authoring tools : testing

The screenshot displays the ShapeShift Tools - Accidental Lovers interface, which is used for video authoring. The interface is divided into several panels:

- Narrative Canvas:** This panel shows a timeline with four video clips arranged in a 2x2 grid. The clips are labeled: 1_vj_05_lehtiansa1, 1_vjr_03_tikat, 1_vjr_04_lehtivaras1, and 1_vjr_12_ajo. The clips are represented by icons and text labels.
- Preview Narrative:** This panel shows a preview of the video content. It includes a video player with a scene of a city at night. The text "VAHINKOLAUKAUKSIA" is visible on the screen. Below the video player is a progress bar and a time display showing 00:03:17:13.
- Interaction window:** This panel shows the interaction settings for the video. It includes a "Name" field with the value "Path", a "Timeout" field with the value "00:00:30:00", and three radio buttons labeled "Roope", "Juulia", and "Both". The "Both" option is selected. A "Submit" button is located at the bottom of the panel.
- Playlist:** This panel shows a list of video clips arranged in a table. The table has columns for time and clip names. The clips listed are: 00:02:48:21, 00:02:50:21, 00:03:00:17, 00:03:08:23, 00:03:17:21, 00:03:22:14, and 00:03:22:14. The clip "1_vjr_04_lehtivaras1" is highlighted in blue. A tooltip is visible over the clip, showing the file path: "C:\Documents and Settings\AvidXPress5\Desktop\uudet_videot\1_vjr_04_lehtivaras1.wmv" and the time range: "In time: 00:00:57:20, Out time: 00:01:33:13, Start time: 00:02:48:21".

interactive documentary

set level

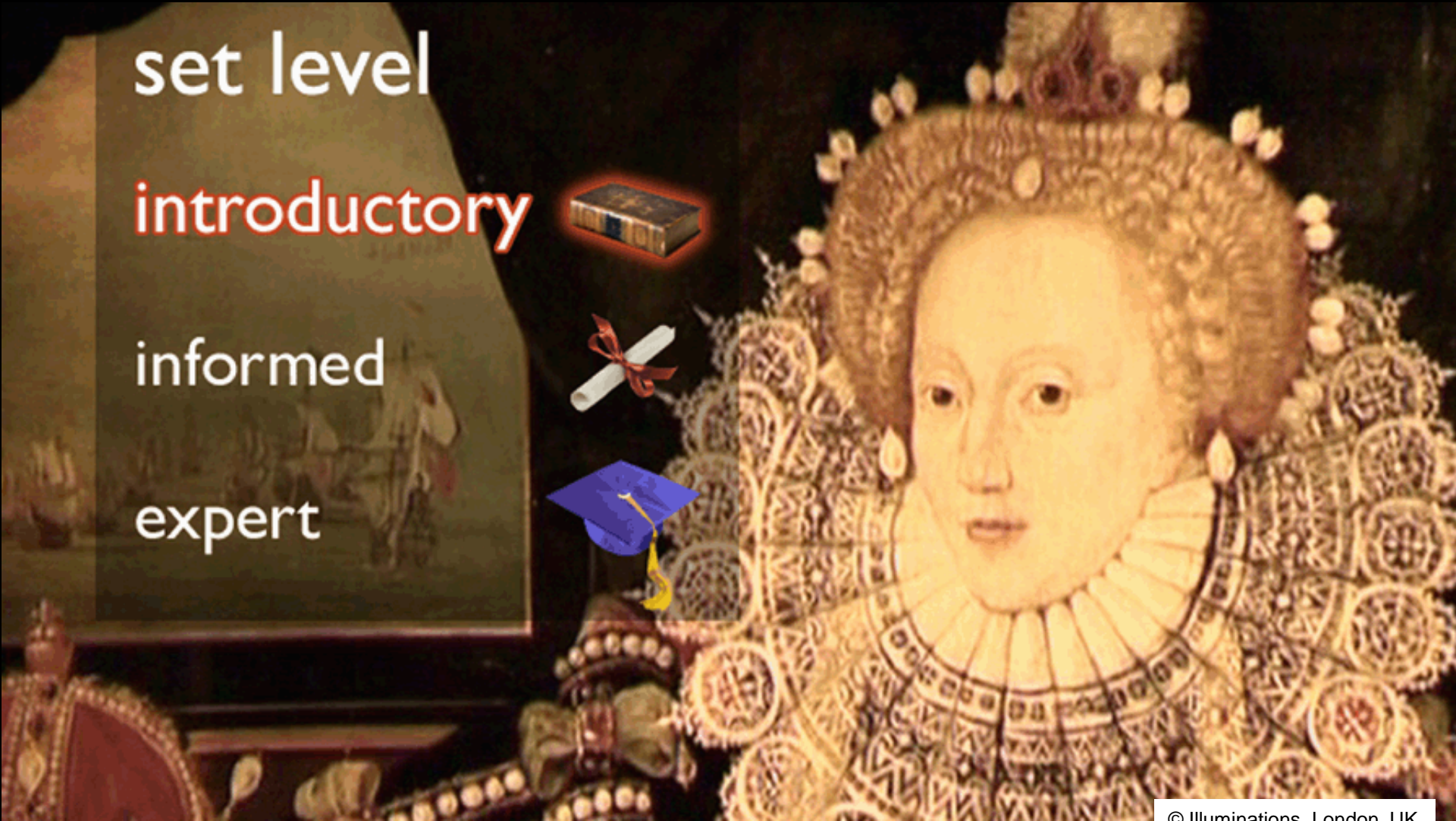
introductory



informed



expert



interactive soap



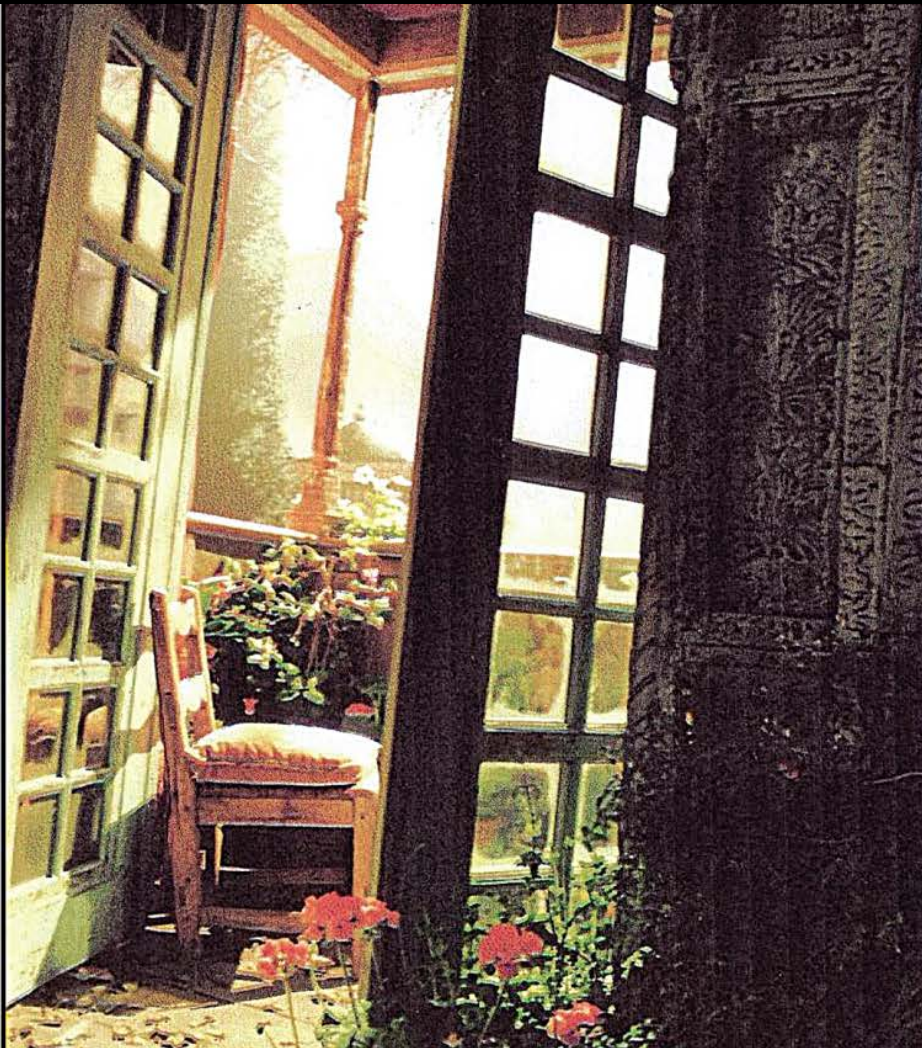
Accidental Lovers

YOUR TEXTMESSAGE CAN CHANGE DESTINY | SEND YOUR MESSAGE TO 17113



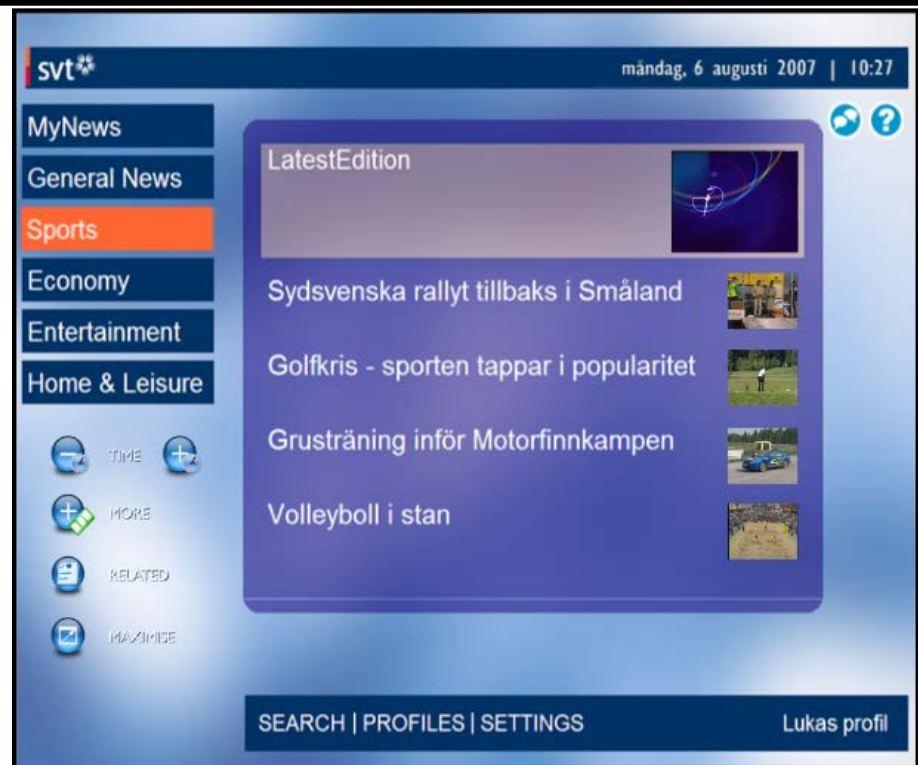
- ♥ I'm glad to be here. I'm always on the channel, so this is really a pleasure!
- ♥ Well then, let's dive into the questions.

interactive drama



© BBC, University of Cambridge and Hobbs/Thomas

interactive news



where is the (artificial) intelligence?

where is the (artificial) intelligence?

in making authoring effective

challenges

- find stories that can be told in interactive fashion
- develop natural interaction interfaces
- develop interactive storytelling “grammars”
- develop effective “delivery” mechanisms
- develop effective testing mechanisms
- understand the economic value of the proposition
- ...

A solid red circle is centered on a black background. Inside the circle, the letters "UGC" are written in a white, bold, sans-serif font.

UGC

... can UGC be shared as stories?

political events



public performances



we adopted the same approach to interactive storytelling
and aimed to apply it to UGC



characteristics

limited annotations

poorer quality

quite a lot of content (including redundancy)

authoring of narrative structures still done by professionals

the assets are created by non-professionals

school concert

MyVideos school orchestra



1 subjects



2 style

select movie style

> song
compilation

3

enter movie duration

0 0 1 mins

4 preview

hit go to preview

GO



challenges

structured recording and uploading
automatic annotation and fragmentation (seed with manual)
optimum between automatic and manual story crafting
automatically guided recording

...



live
comm

... can video be used in more complex communication setups?

starting point



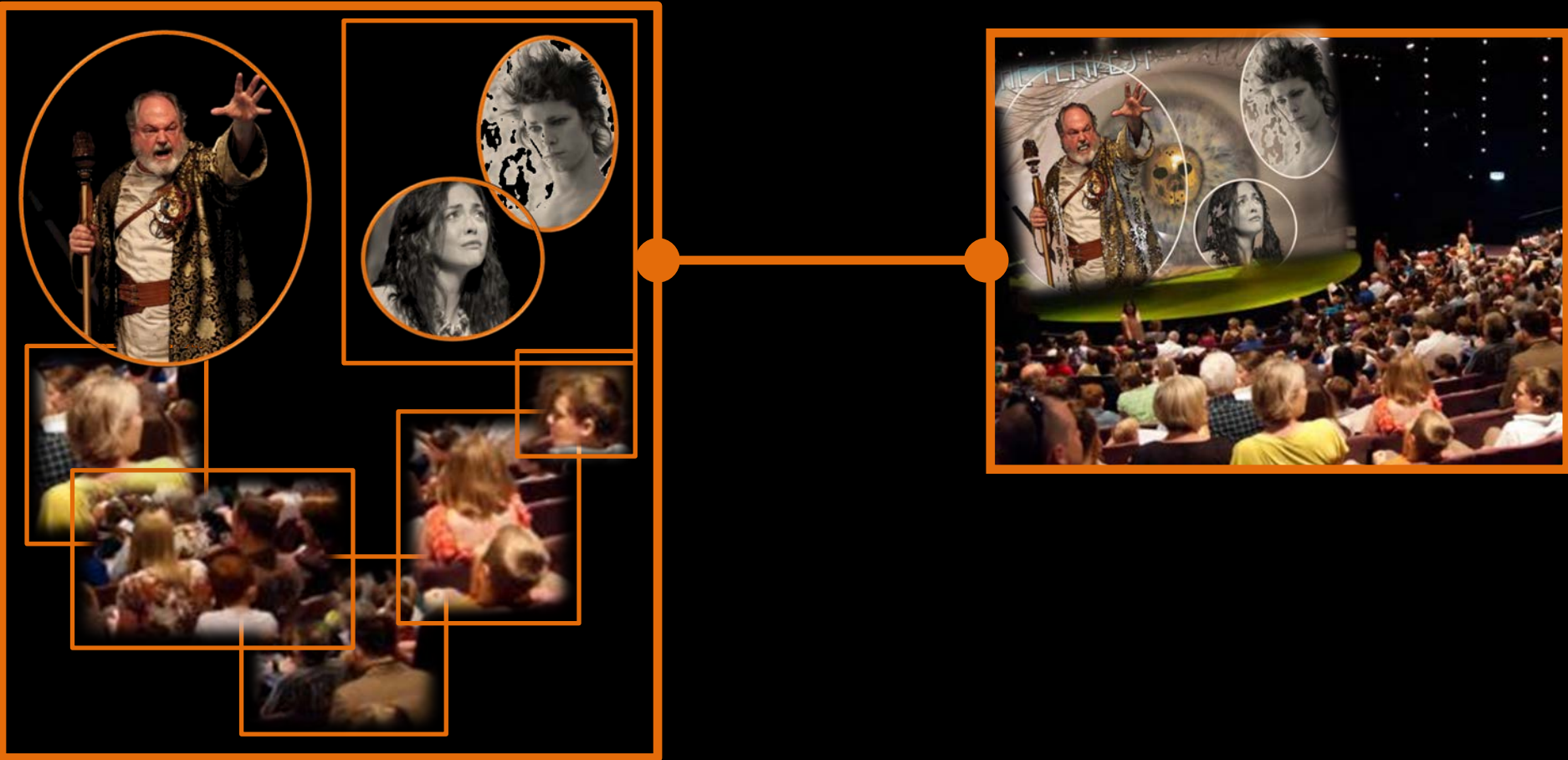
natural conversations
family and friends



NT Live format



collaborative performance to remote audiences



we adopted the same approach to interactive storytelling
but moved it to real time interaction



characteristics

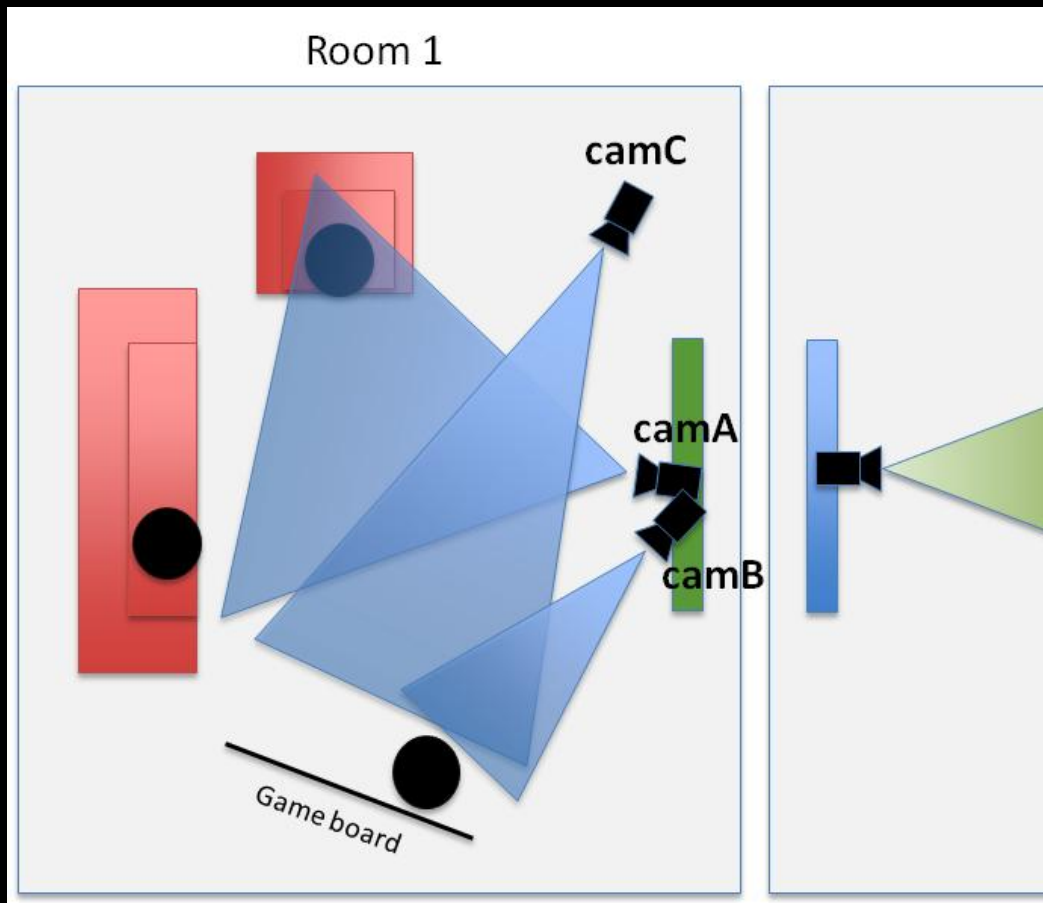
clips become streams

metadata become cues

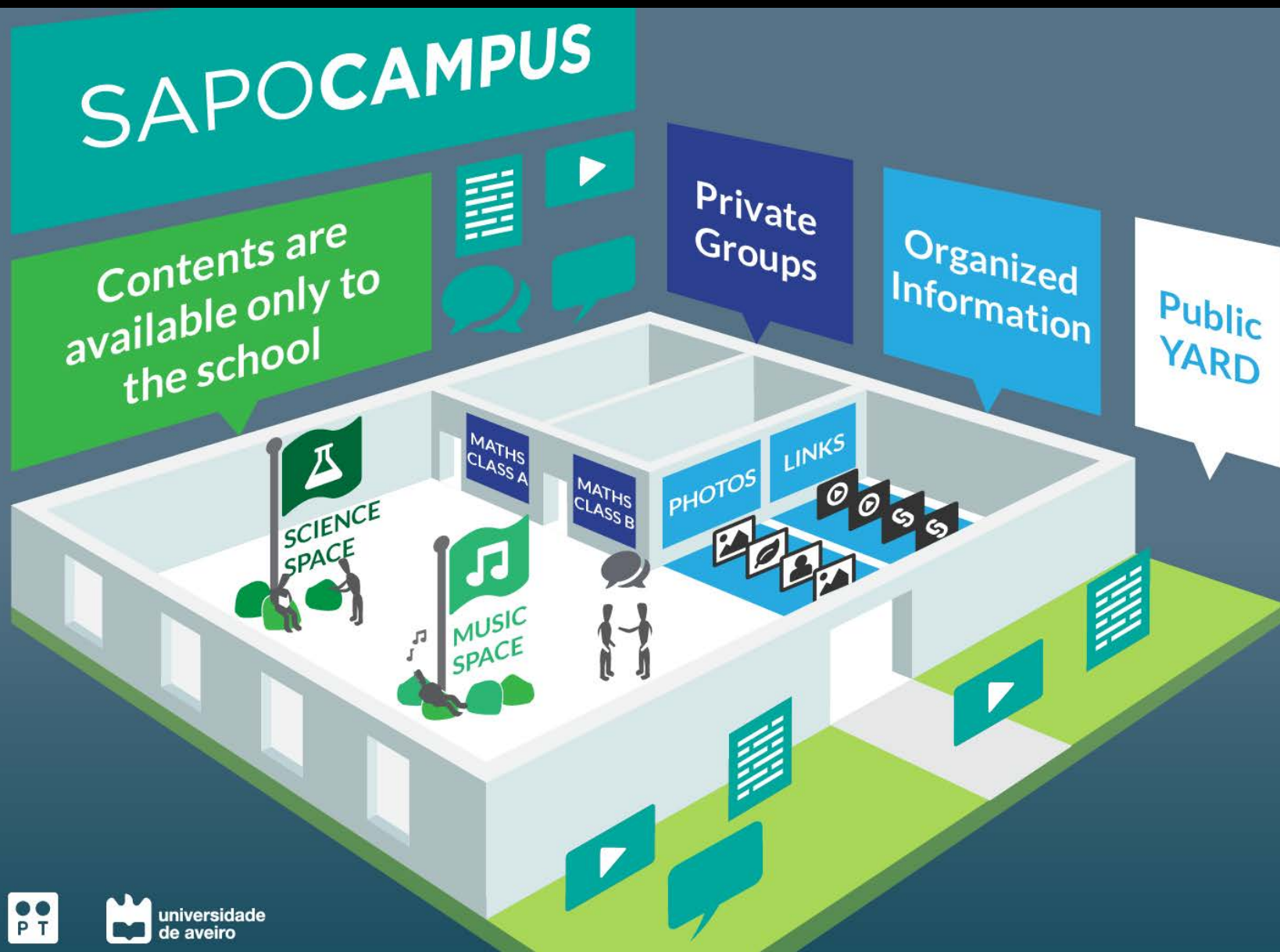
narrative structures become intercommunication rules

narrative aim becomes communication aim

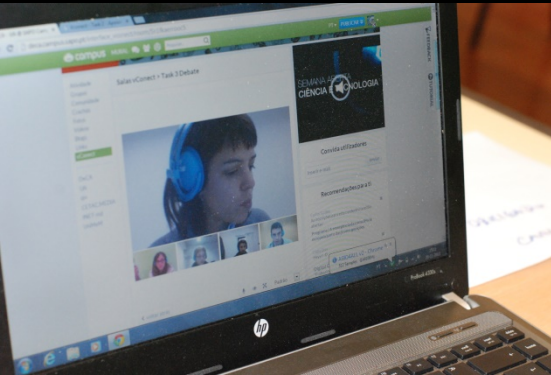
orchestration



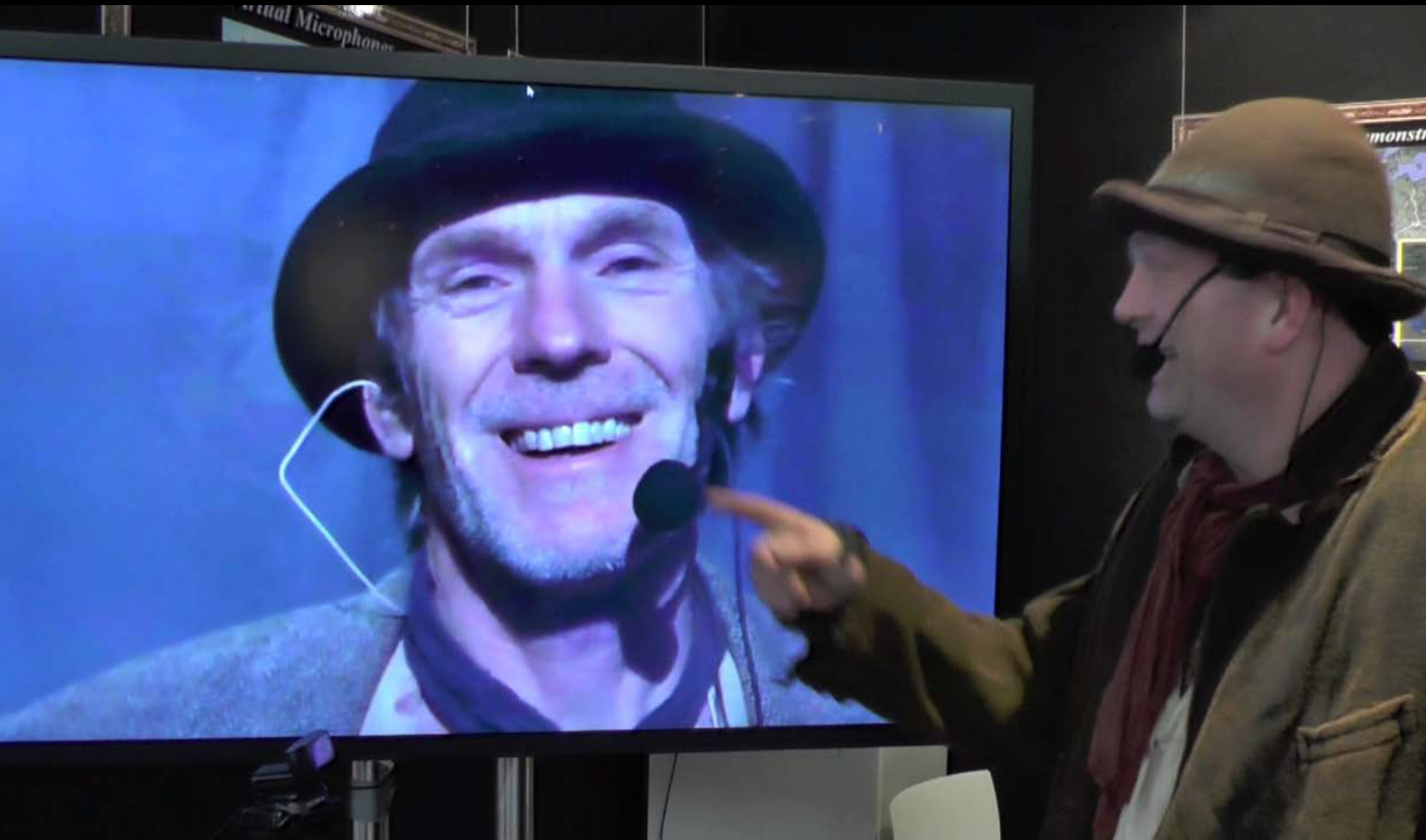
SAPO Campus with video communication



SAPO Campus with video communication



shared theatre experiences



challenges

scope *generic* communication setups

(communication topologies, peripherals, activities ...)

create orchestration logic (including social signal processing)

create logics for network optimisation

communication protocols : orchestration and optimisation

new methods to evaluate user experiences

...

