

Audio Spatial Organisation Tool to Support Audio Knowledge Work

Kirstin Lyon & Peter J. Nuernberg

Department of Software & Media Technology
Aalborg University Esbjerg, Denmark

Outline

- Introduction - scenario
- Organising audio data
- Computer supported knowledge work
- Tool to support audio knowledge work
- Future work

Introduction - Scenario

- A focus group of 12 people discuss the bus network of Esbjerg. The chairperson has a list of issues to cover within a one-hour period, such as cost, timetable, efficiency, etc. Each attendee has opportunities to express their views about those points, as well as other issues that may arise during the time.

Introduction – scenario (contd)

- Capturing audio
 - Digital or analogue
- Transcribing
 - Transfer to text, labour intensive, error prone etc.
 - Some information lost
- Analysis
 - Use questions as a guide
 - Look for different themes
 - Use a tool such as Atlas/ti to group themes
- Report results

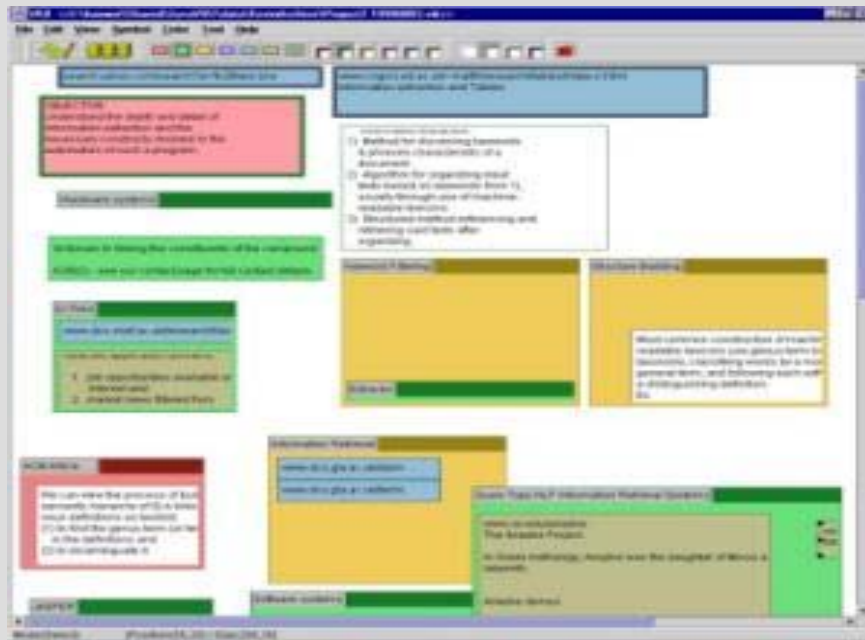
Organising audio

- Organising information helps analysis
- Difficult to organise effectively (re-find)
 - Takes time to organise
 - Unknown problem
 - Placements change over time
 - Where to place something that belongs in several places?
 - Where to place something that has no obvious place?
 - Audio is time-based medium

Computer supported knowledge work

- Automatic
 - transfer to text, search by keyword,
 - leave as audio, search with speech recognition tools
- Manual
 - computers work on easily automated tasks, people work on user – intensive tasks
 - Hypermedia/Hypertext (e.g., associative and spatial)

Spatial hypermedia



Visual Knowledge Builder



Data Mountain

Spatial hypermedia

- As information level increases, visual overload may occur
- Possible solutions
 - Increase dimensions
 - Introduce visual cues
 - Introduce other modalities

Audio

- Linking
- Previewing
- Feedback

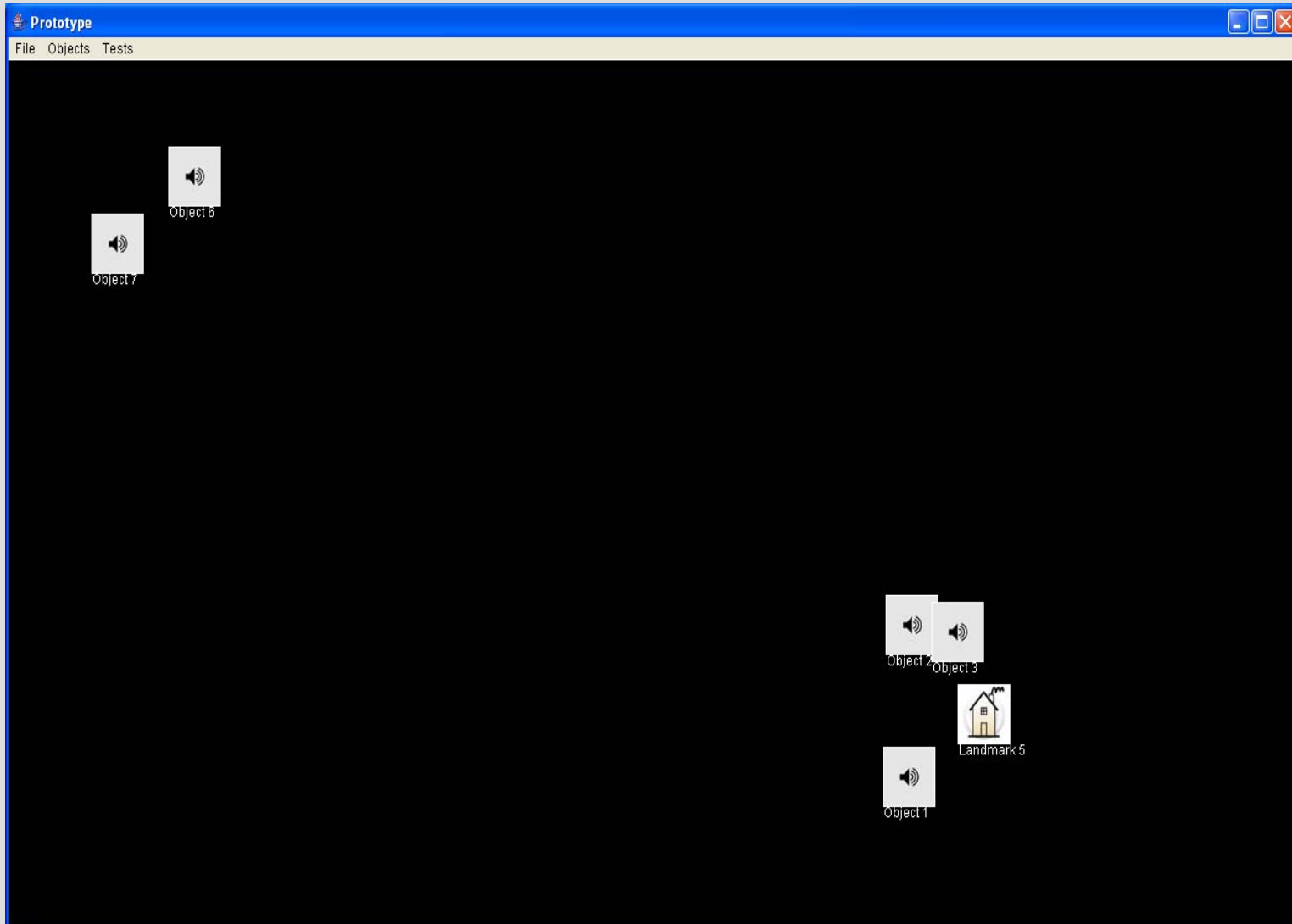
Current work

- Audio information imported, not transcribed
- Spatial hypermedia
- Introduce additional cues to support remembering process
- Transfer some visual load to audio cues

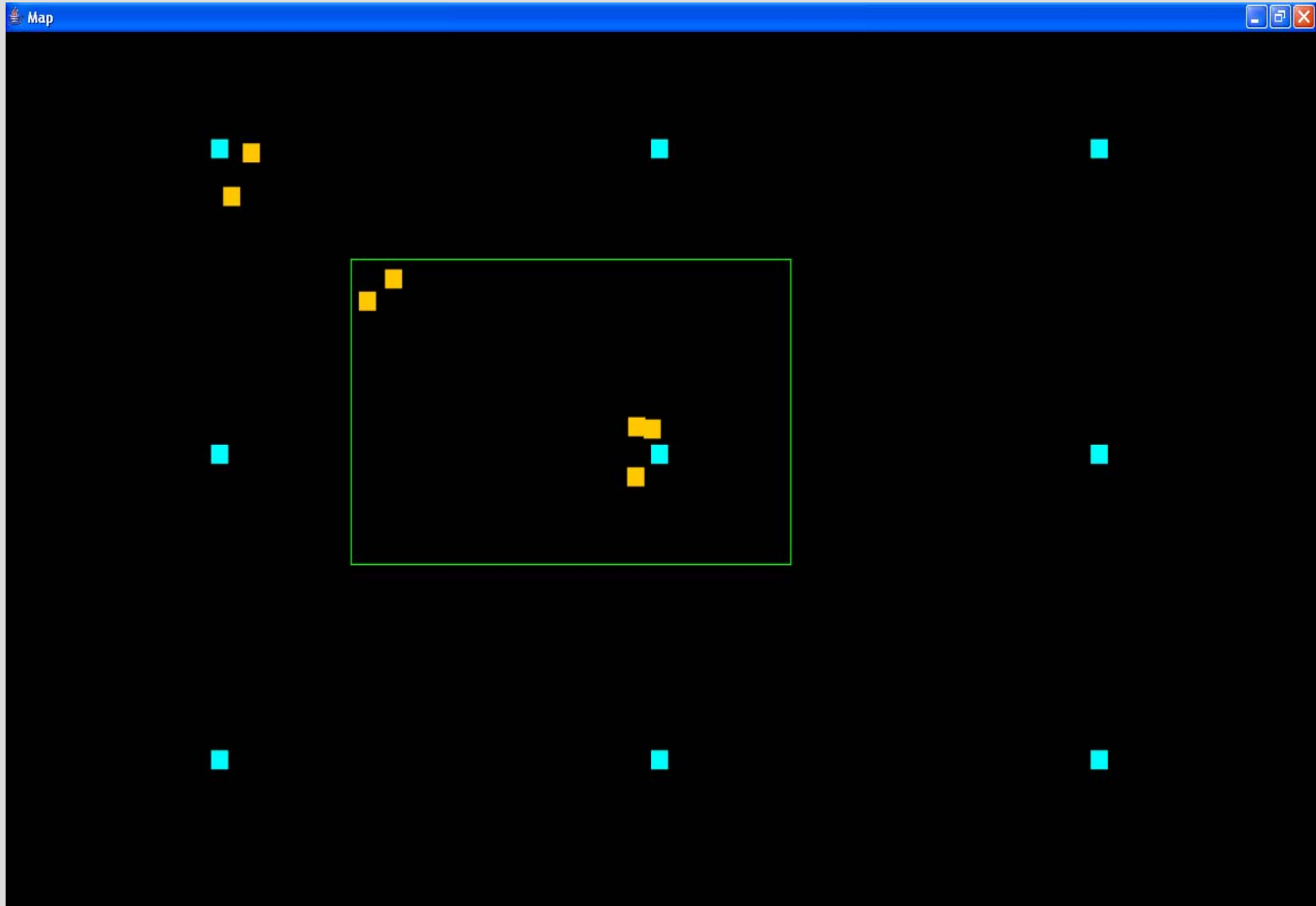
Tool to support audio knowledge work

- Audio–visual spatial hypermedia tool
- Navigation aids: viewport, mini-map & landmarks
- Audio cues: landmarks, sound objects
- 3D sound, 2.5D graphics
- Designed for headphone use

Viewport



Mini-map



Future work

- User testing
 - Measuring time, error rate
 - Varying density levels
 - Comparison of visual only and audio-visual interface
 - Controlled experiment for re-find single tasks, groups of objects

Thank you!