How can MBUI help me?
Web of Things and Multimedia

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Some Open Source Projects

X-SMILES
an open XML browser for exotic devices

MDCS
Multimodal Interfaces & Multimedia

AMBULANT Open SMIL Player
IEEE Multimedia. Special issue on Mobile and Ubiquitous Multimedia
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Intelligent Multimedia Presentation in Ubiquitous Multi-Device Scenarios
This intelligent multimedia adaptation and delivery framework tailors to ubiquitous environments, so that users can experience multimedia content using multiple devices in various mobility situations.
MDCS: Scenes

a) Content guide selection

b) Synchronised content delivery (high quality video - TV)

c) Session transfer (low quality video - mobile) when leaving the hotel room
The Multimodal Decision and Control System (MDCS) focuses on:

1) **deciding** how to deliver a particular service to a particular user, using available resources
   - Defining the user’s Distributed Communication Sphere
   - Modeling service sessions through “Bindings”

2) **enforcing** these decisions through
   - non-monolithic rendering,
   - multimodal interaction,
   - and session mobility.
MDCS: Architecture

(a) Multimedia service
   - Multimedia presentation description

(b) Resource coordinator
   - Presentation model
   - Internal data tables

(c) Content Management
   - Transformation description

(d) Session control / scheduler
   - Device tailored presentation description

(d) Personalisation
   - Device recommendation
   - User situation assessment
   - Learned user preferences

(b) Presentation Processor

(d) Device Agent

- Monitor or display unit
Ambulant Annotator: Secondary Screens
Ambulant Annotator: Secondary Screens

Social Viewing

Personal viewing:
- Extra information
- Content browsing
- Lightweight authoring
Future: Tele-immersion

- **Solutions**
  - Teeve in the USA (NSF)
  - Three active nodes in the USA
  - CWI might act as the next node

- **Issues**
  - Real-time transmission of 3D scenes
  - 3D synchronization
  - 3D rendering of the scenes
  - User Interaction?
Future: Orchestrated RT Communication

- Home video conference + activity
  - Family games
  - Bed time stories
  - Learning skills

- User Interaction
  - Activity user interaction
  - Ad-hoc devices
  - Scene analysis
  - Gestures
  - Voice activity
Future: Web of Things

- **Idea**
  - Mobility beyond mobile phone
  - Connected devices
  - Services in the real-world objects

- **(some) Challenges**
  - Service front-ends decision
  - Capabilities analysis (objects)
  - Synchronization across objects
How can MBUI Help me?

- **Web of Things**
  - Runtime: complex decisions due to the number of options
  - What if we use cameras and other devices to analyze the context of user?
  - Are extensions to MBUI required for accommodating new requirements?

- **Multimedia & Synchronization**
  - Keeping synchronization is important, how to model it?
  - User events – state machines – are only one part of the game
  - What about other events, such as time?

- Can we combine temporal models, multi-modality models, and user interface models?
Thanks!

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