

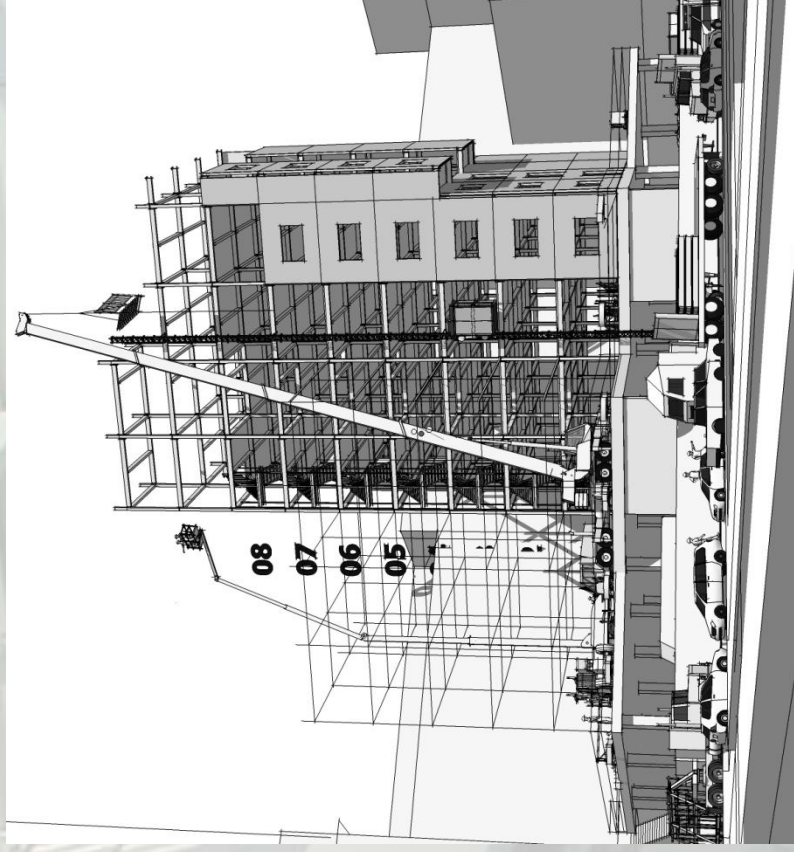
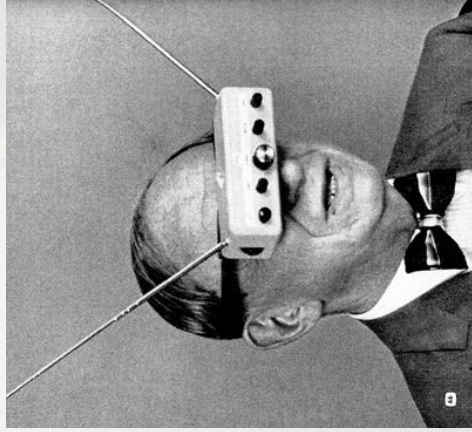
# Software Research Institute (SRI) Athlone Institute of Technology

Usage Area Workshop

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# AR Enabled Construction



# Enabling technologies

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- Augmented Reality
- Adaptive Video Streaming – SVC/MVC
- Multimedia System Architecture
- Multimodal Interaction
- Device Ensembles
- User QoE
- Context Awareness incl. Adaptation
- Ad Hoc Service Composition
- Immersive Multimedia
- 3D Graphic Streaming
- Multimedia Search
- Content based image retrieval

# Multimedia System Architecture

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## Challenges

- Support for multiple forms of user interaction
- Separation of Application form Signalling
- Inter-device application handover (device federation support)
- Media Adaptation
- Device discovery and capability negotiation

## Approaches

- Systems Architecture
  - SIP vs. H.325
- Context awareness Framework
  - Network aware
  - Content aware
  - Application aware
- Device capability negotiation
  - centralised vs. decentralised control

# Adaptive video streaming (SVC/MVC)

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## Challenges

- Heterogeneous user devices
- Uncertain network delivery
- High bandwidth demand
- Cross-layer coupling of functionality
- User generated data (P2P)

## Approaches

- Peer-to-Peer video delivery over wired and wireless networks
- Source and receiver adaptation to deal with heterogeneity
- Network Coding
- Congestion Control
- Network adaptation

# QoE = end-user perception of multimedia experience

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## Challenges

- Standards not complete for video QoE
- Relationship to QoS ?
  - Models for Objective Measurement
  - How to relate to content ?
- Multimedia QoE
- 3D video QoE

## Approaches

- Application QoS/QoE mapping
- Wisdom of crowds
- Autonomic/self-management adaptation
- Framework for monitoring diverse services