Panel SAINT’2006 :
Distributed Multimedia 3D Applications on the Internet – Status and Future

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Why 3D?

➔ Essentially a cost-benefit analysis

➔ Benefits:
  ● Interactivity, free viewpoint, object manipulation
  ● Animation, dynamic world, physics, real-world metaphors
  ● 3D or stereoscopic display (still futuristic but may be emerging soon)
  ● And hopefully more customers…

➔ Costs:
  ● Longer development times, greater effort
  ● Greater content creator expertise
  ● To a lesser extent:
    - cost of content development tools
    - licensing costs for some proprietary solutions
Examples

➔ 3D geovisualization:
   • 3D map, tourism, way finding
   • Access to all kind of geospatial contents: hotels, gas stations,…
   • Real estate

➔ 3D avatars:
   • Conversational agent
   • Messaging, chat (mobile phone)
   • Signing avatars for hearing impaired persons

➔ 3D conferencing:
   • Immersive environment: virtual meeting room
   • Eye contact
   • 3D content interaction (CAD, medical applications)
3D Geovisualization

- **Low cost of content development:**
  - (Almost) automatic modeling from GIS database
  - Automatic pre-processing of region-based visibility culling
  - Automatic pre-processing of dynamic LODs

Example of a 3D city model from Archivideo
Dynamic LODs for Geovisualization

- For 3D terrain: subdivision wavelets
- For urban areas: Progcity
- Both techniques to be ISO standards (MPEG4/AFX)
Global view-dependent city geometry
Rennes Citévisions
3D Avatar

► Automatic speech- or text-driven animation

Embodied conversational agent
3D Conferencing

- Simple scenes + 3D objects coming from existing database

Spin3D + im.point (FHG/HHI)  
Telepresence wall
Why standards?

➡ When interoperability is a key-issue:
  - Access to different GIS data provider according to data type (terrain, buildings geometry, photo-textures, street names,...), modeling level of details, cost,...
    - Web Service architecture could be a good framework for this
  - Contents played on different devices (i.e. MP3)

➡ Avoid to be bound hand and foot to one proprietary solution
  - Important issue because there is no real overwhelming de-facto standard for Web3D contents