

Collaborative Virtual Environment for Medical Diagnosis

IMAGINE
Visual Computing Research Group
2007

Outline

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IMAGINE research group

- Our research group (Imagine-UniAndes) is a collaborative partner in research with:
 - **CREATIS** (Centre de Recherche et d'Applications en Traitement de l'Image et du Signal. Lyon, France)
 - **University of Alberta** (Canada)
 - **TELECOM-Paris** (TSI est Traitement de Signal et des Images. Paris, France)
- Our interest research areas:
 - Medical teaching and training
 - Medical Image Processing
 - BioEngineering

Objectives

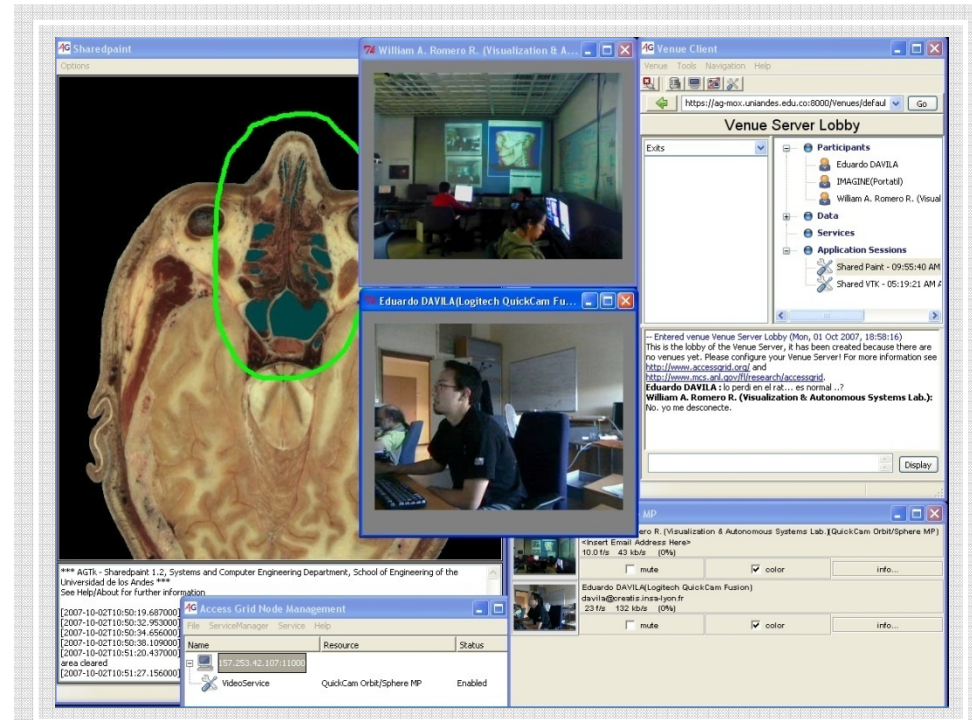
- Use Acces Grid as a video conference system and development framework to collaborative applications.
- Work with our international partners to develop a Collaborative Virtual Environment (CVE) on medical imaging applications.



Large-screen display
Into a collaborative session

Our work - overview

- Defined development framework (Eclipse+PyDEV)
- 2 home-made shared applications
- Daily test sessions with CREATIS lab. (Lyon, France)



Access Grid session example, CREATIS Lab. – IMAGINE

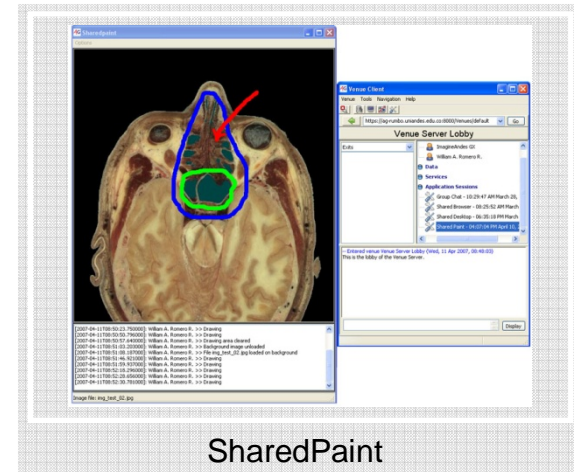
Our work - shared applications



SharedVTK

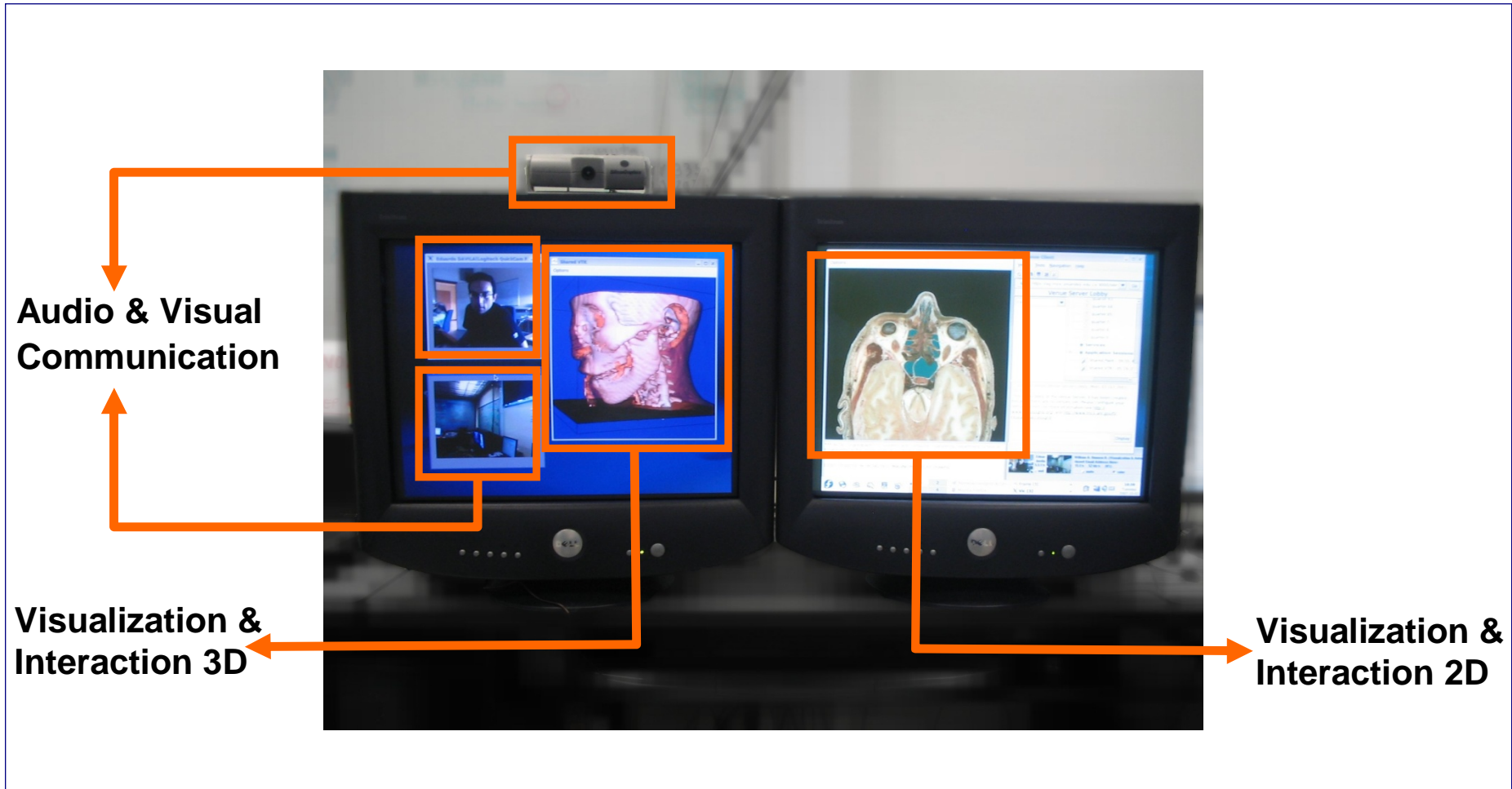
- SharedPaint:
 - Load images
 - Shared drawing (simultaneous drawing)

- SharedVTK:
 - Load 3DS and VRML models
 - Volume rendering from 2D cross-section images

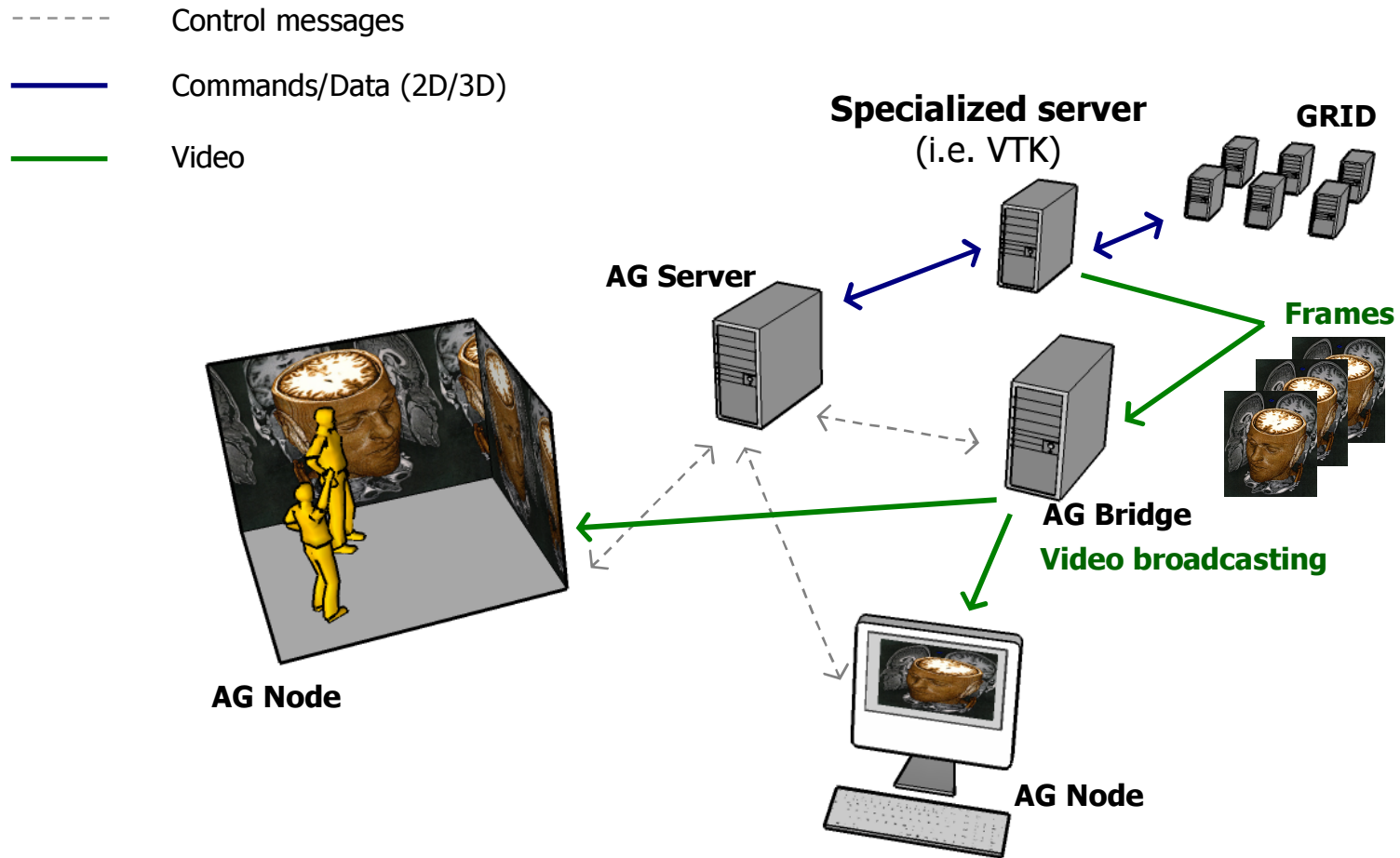


SharedPaint

Our work - session example



Our work - system architecture



Next step

- Improve our shared applications to include immersive interactive 3D visualization on individual or collective nodes.
- GRID integration.

Next step requirements

- Independence of the node software packages from which the user is connected
- High quality visualization and low latency
- Low level software requirements

Contact

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