

Memetic: An AG-Integrated Meeting Recorder

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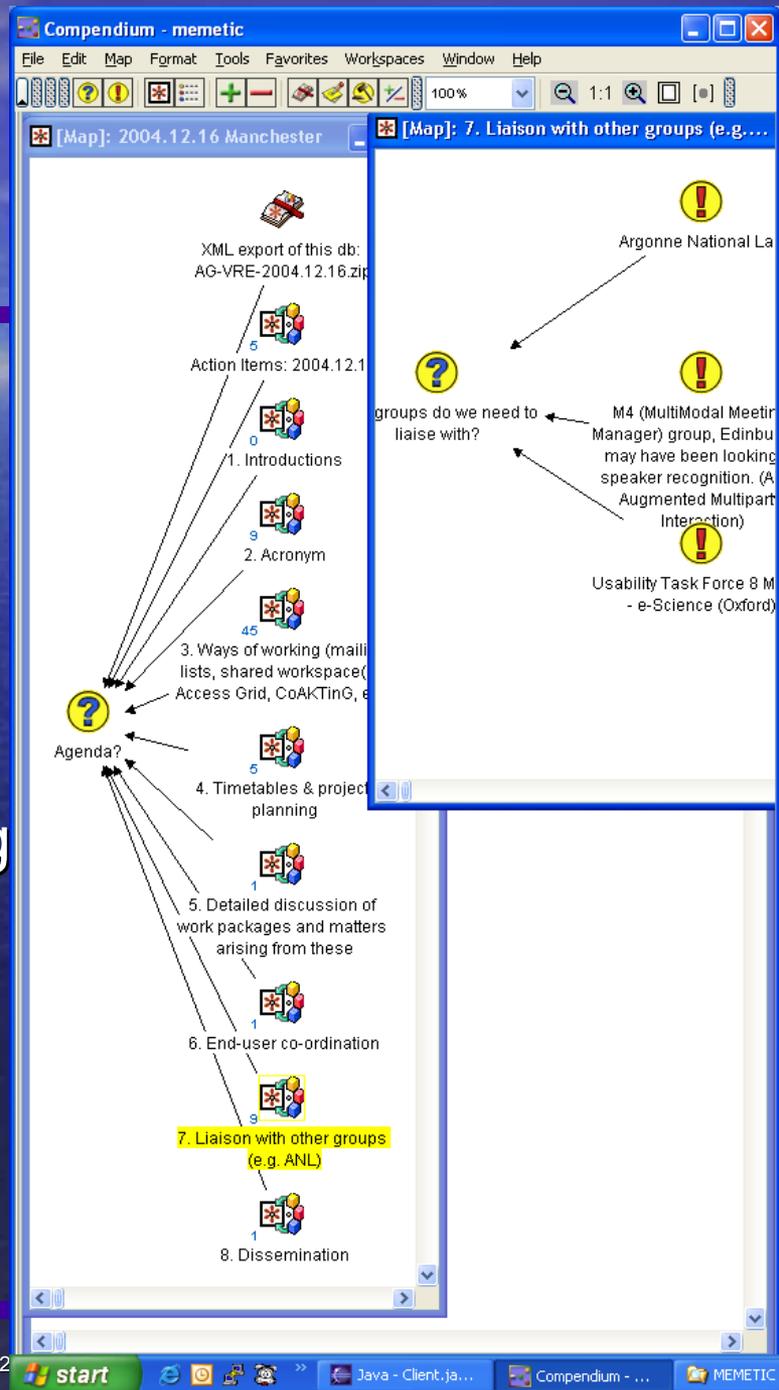
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The Memetic Project

- Meeting Memory Technologies Informing Collaboration
- Aid research in a virtual environment
 - Not limited to Access Grid
- Recording and annotation
 - Enable asynchronous collaboration
- Recordings can be used for many purposes
 - Participants who were not present
 - Review of decision making process in the meeting
- User Interaction

Compendium

- Concept Mapping Tool
- Keeps records of meeting minutes
 - Can do other things too
 - Can extract other information
- See <http://www.compendiuminstitute.org>



Meeting Replay

- Part of CoAKTing project
- Integrates compendium and video playback

- Navigable playback of a meeting
- Annotated manually
- QuickTime/Real video

■ See <http://www.aktors.org/coakting/mars/>

[Map]: Lith Canyon EVA Segment 1 Crew Planning Meeting 05/03/04

lithseg1wproute.jpg

WayPoint0
WayPoint1
WayPoint2
WayPoint3
WayPoint4

Where should Boudreaux take Panoramas?

Where should Boudreaux take Pictures?

Start Boudreaux Watch me when descending into the canyon starting at Fossil Hill

You can have Boudreaux take a picture of AstroOne at any time after that

Make sure that Boudreaux is in line of sight from AstroOne. Thus move it to

Title: Lith Canyon EVA Segment 1 Planning Meeting - 3rd May 2004
Date: Tue May 4 00:37:00 2004
Participants: Maarten, Brent, Abigail, John

Current Speaker: Maarten
Notes: Make sure that Boudreaux is in line of sight from AstroOne. Thus move it to WP 2 and 3 at appropriate times

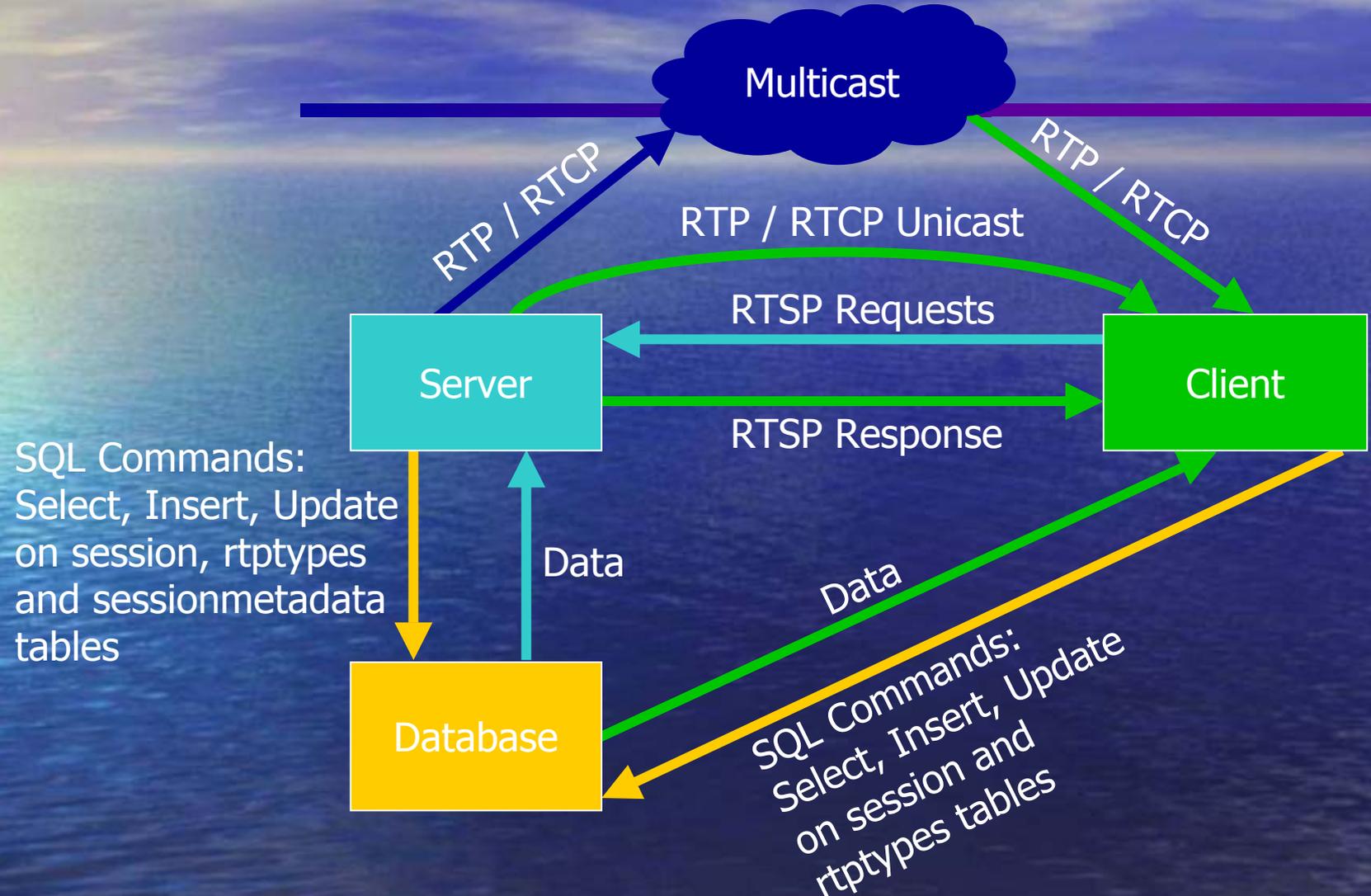
Agenda Compendium
 Abigail
 Brent
 John
 Maarten

Video Playing 00h 20m 09s Pause
 Group Sync Offline Online
 Mode Master Slave
 Receiving Yes No

Arena

- Activity Recorder and Navigator
- Allows recording and playback of meetings
- Developed as part of Memetic
- Server, Client, and Database
 - Server is RTSP server
 - Client is RTSP/database client
 - Database stores session metadata

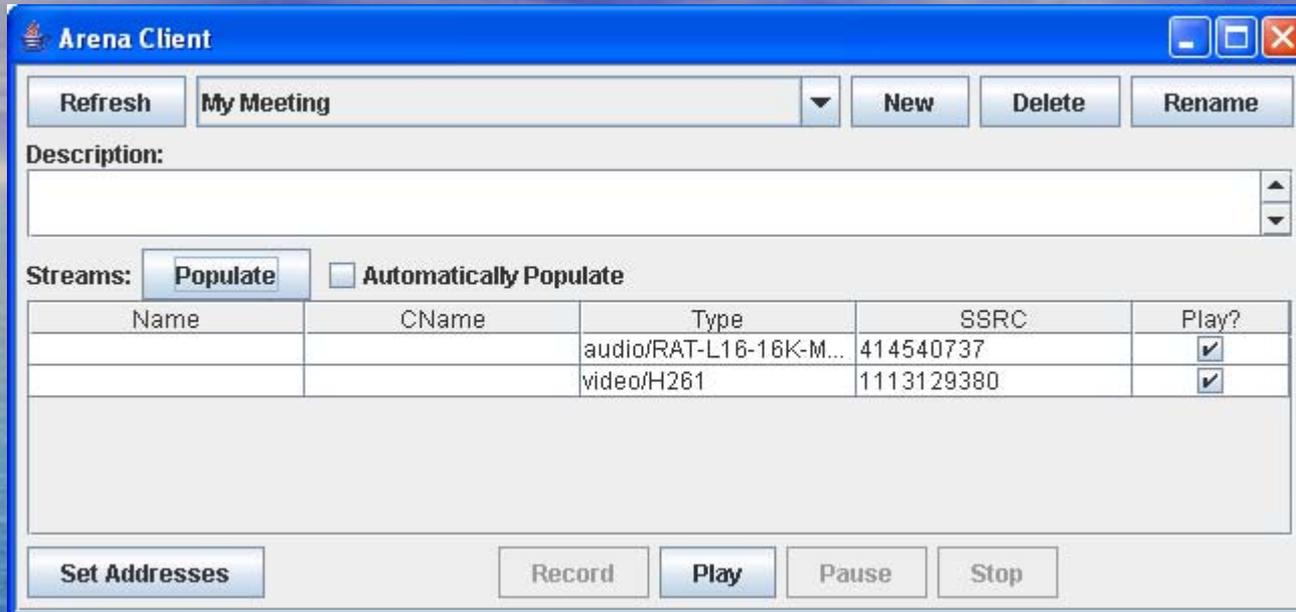
Arena - Architecture



Arena - Technology

- Uses Voyager code as a starting point
 - Translated into Java
- Server and Client are OS independent
 - Just need a Java VM for the OS
- Database communication via JDBC
 - Do not require an additional database server
 - Drivers available for most common databases
- RTSP as a client-server protocol
 - Can be accessed by other clients using RTSP
- May use Java Media Framework
 - Will allow access to more advanced features

Arena – Initial Version



- Recording of RTP streams
- Playback of RTP streams
- Stop only
 - No pause support

Arena – Additional Features

- Pause, fast-forward, rewind
- Select position in recording
- Integration
 - with Meeting Replay for navigation via Compendium
 - with other tools?
- Annotation metadata capture
 - See later
- Record/playback only selected streams
- Convert recording to avi/mpeg
- Suggestions to Andrew.Rowley@manchester.ac.uk

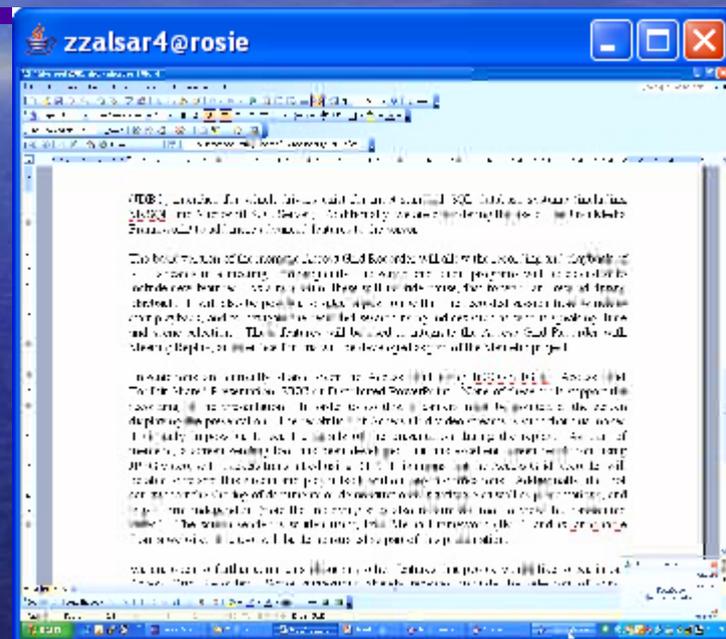
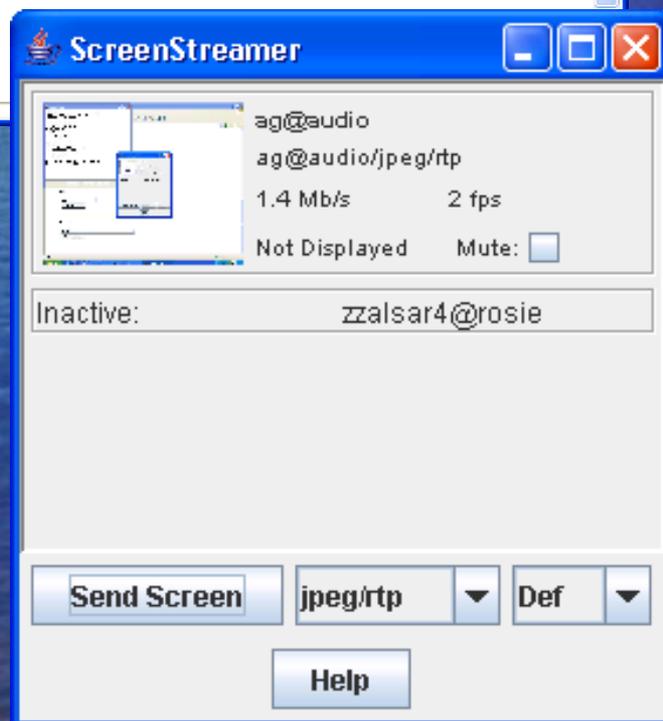
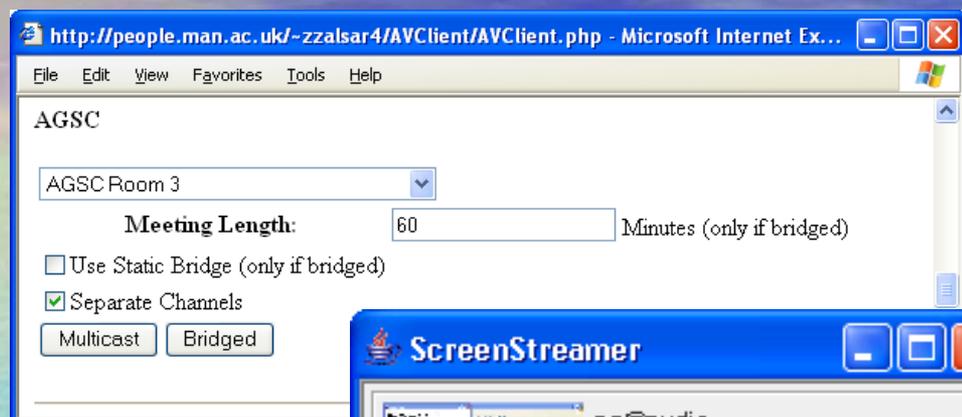
Screen Sharing and Recording

- Hard to record presentations
 - AGTk Shared Presentation
 - Sends PowerPoint file and commands
 - IG Pix
 - Sends JPEG images
- Would like to record slides
 - As they change on the screen
 - So they are readable
- May also want to record other applications
 - Including the mouse pointer

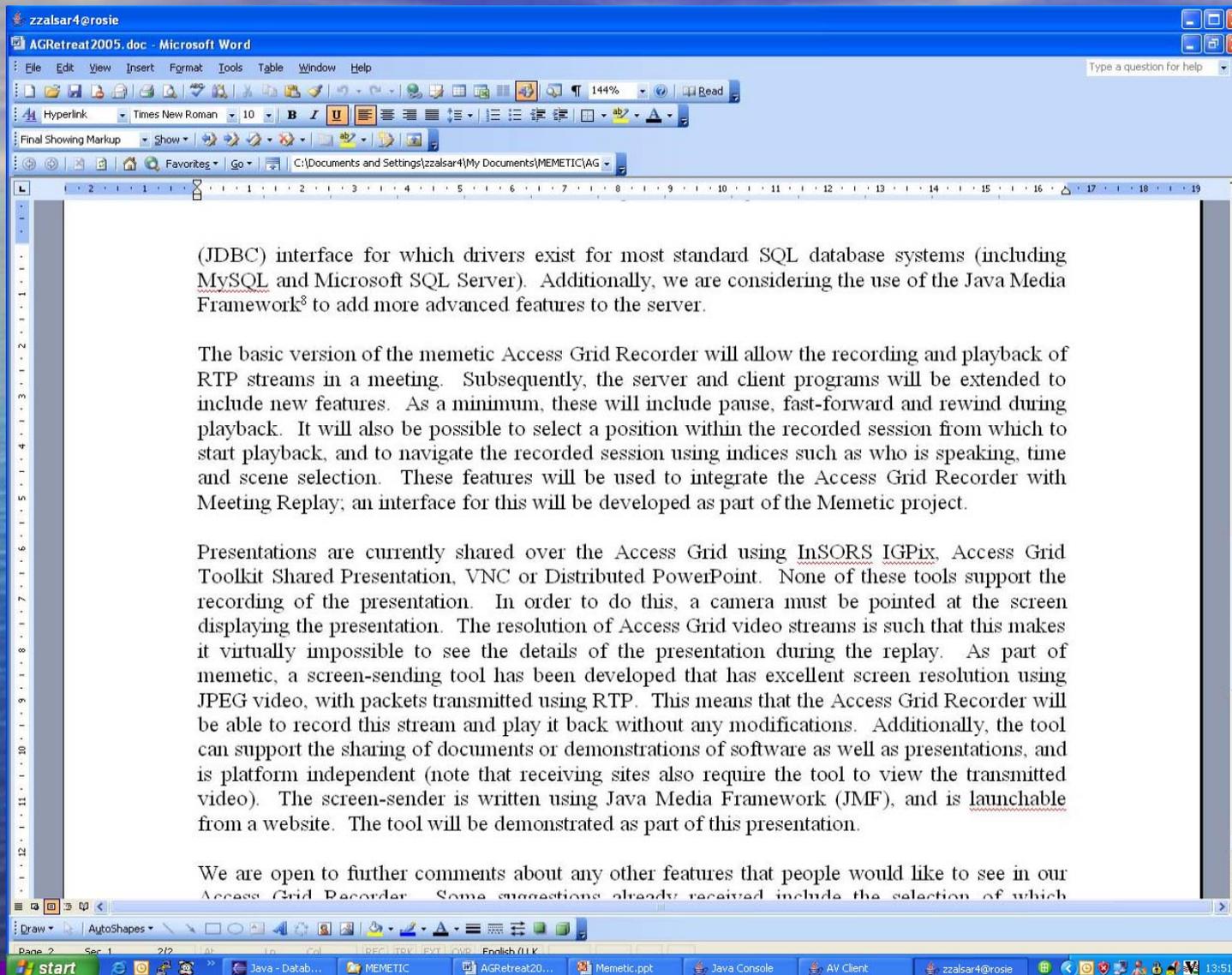
ScreenStreamer

- Point a camera at the screen
 - H.261 video is not good enough
- Developed a screen sharing program
 - Send/receive in H.261 for vic / IG-video compatibility
 - Send/receive JPEG video
 - Native resolution of sender
 - Uses Java Media Framework
 - Tends to crash vic
 - Designed as a vic/rat replacement
 - Made web-launchable
 - Upgrades received automatically
 - <http://www.memetic-vre.net/software/ScreenStreamer/>

Demo – Screen Sharing



Demo – Screen Sharing



(JDBC) interface for which drivers exist for most standard SQL database systems (including [MySQL](#) and Microsoft SQL Server). Additionally, we are considering the use of the Java Media Framework⁸ to add more advanced features to the server.

The basic version of the memetic Access Grid Recorder will allow the recording and playback of RTP streams in a meeting. Subsequently, the server and client programs will be extended to include new features. As a minimum, these will include pause, fast-forward and rewind during playback. It will also be possible to select a position within the recorded session from which to start playback, and to navigate the recorded session using indices such as who is speaking, time and scene selection. These features will be used to integrate the Access Grid Recorder with Meeting Replay; an interface for this will be developed as part of the Memetic project.

Presentations are currently shared over the Access Grid using [InSORS IGPix](#), Access Grid Toolkit Shared Presentation, VNC or Distributed PowerPoint. None of these tools support the recording of the presentation. In order to do this, a camera must be pointed at the screen displaying the presentation. The resolution of Access Grid video streams is such that this makes it virtually impossible to see the details of the presentation during the replay. As part of memetic, a screen-sending tool has been developed that has excellent screen resolution using JPEG video, with packets transmitted using RTP. This means that the Access Grid Recorder will be able to record this stream and play it back without any modifications. Additionally, the tool can support the sharing of documents or demonstrations of software as well as presentations, and is platform independent (note that receiving sites also require the tool to view the transmitted video). The screen-sender is written using Java Media Framework (JMF), and is [launchable](#) from a website. The tool will be demonstrated as part of this presentation.

We are open to further comments about any other features that people would like to see in our Access Grid Recorder. Some suggestions already received include the selection of which

Memetic - Integration

- Compendium shared using Screen Sender
- Arena used to record AG meeting
 - Including Compendium and any presentations
- Meeting Replay annotates recording
 - Also controls Arena playback via an interface
 - Recording will be annotated automatically
 - Who is talking
 - Compendium nodes
 - Presentation slides
- Arena will have to capture additional information
 - Send this to Meeting Replay

Memetic - Annotation

- Speaker identification
 - Microphone gating
 - Microphone position arrays
 - Speaker recognition systems
- Compendium map building
 - Already supported in Meeting Replay
- Slide Transitions
 - Keyboard capture
 - Scene change recognition

Memetic – User Interaction



- End-User Partners
- Requirements investigation
 - End-User Requirements workshop, 15th April 2005
 - Interviews
 - Observation
 - Collection of audio/video/meeting documents
- User 'wish list'
 - Core requirements
 - Non-functional requirements
- Real-world testing
 - Bugzilla - <http://kato.mvc.mcc.ac.uk/bugzilla>
 - User analysis

Conclusions

- Memetic will enhance meetings in a virtual environment
- Arena records and plays meetings
 - Using simple functionality just now
 - To include advanced functionality
- User Interaction
 - We want people to use it so...
 - **Let us know what you want!**
 - We may be able to include it

Contact Us

- Web

- <http://www.memetic-vre.net/>

- E-mail

- Andrew.Rowley@manchester.ac.uk

- Michael.Daw@manchester.ac.uk

- (Project manager)