Evaluation of the Marratech tools

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Introduction

This document records the experiences and impressions of the *Education* and *Announcer* tools which were installed and briefly evaluated at UCL over a period of two days in February 2000.

Marratech Education 2.0 combines audio, video, shared whiteboard and chat tools, each with its own window or windows, and the session *Viewer,* a browser which also launches the tools needed to join the session. There is a window sharing function in the whiteboard tool. Sessions are announced through the separate *Announcer* program. It can record and replay sessions either locally or on the separate *Media Server*.

Installation

The installation on the Windows 98 and Windows NT machines used in the evaluation was simple. It needed only the CD-ROM with its self-installing binaries.

The machines, located on a 100 Mbps LAN, were:

Win98	455 MHz	Pentium III	64 MB
NT4	450 MHz	Pentium III	128MB

Documentation

The HTML documentation is excellent. In *Education*, this is easily accessible via the Viewer's browser interface, but in *Announcer* it must be viewed separately.

Education2.0

Functionality

Each of the tool windows also has the full set of tool controls for which the session is configured. This allows complete flexibility since there is no separate control window.

The Viewer is presented initially to allow session selection. A session may also be joined via a session file held on the user's local file store.

Local configuration is done through *Options* on the *Tools* menu. It is clear and allows adequate configuration of Audio, Video, Viewer and Personal details. The level of user control over the technical aspects of the conference (media encoding, bandwidth utilization and certain audio settings) is about right – not to many options, but enough to give the user useful control over the quality and network bandwidth usage. The Audio

Tuning Wizard, automatically setting both input and output gain, is a particularly good feature since this is an area frequently causing problems on multiparty conferences.

Once a session has been joined, the following windows are selectable:
- Audio
- Participants
- Chat
- Video
- Web application
- Whiteboard (*reliable* and/or *best effort*)

Any window, including the initial Viewer window, may be displayed or removed at any time.

Those options selected by the person announcing the session are presented to the user of this program as options, both when joining the session and once in the session. All the functions were tested with three participants and worked correctly in the test environment.

The Viewer window, a web browser, can also be used to distribute URLs. This feature allows all participants to view the same web page almost simultaneously. The slides feature allows this to be used effectively to present any web-based document, including PowerPoint slides saved as html. On the local network we found this to be efficient and the time taken to change pages to be acceptable.

The system has a record and replay functionality which was tried with local recording only. The function has a simple interface and worked correctly. There is also a separate product, *Media Server*, for shared archive storage and replay.

The ability to connect to another participant using a point-to-point connection in a private aside was not tested.

Usability

The system is easy to use and broadly intuitive. With its excellent on-line help, it is easy to look up details of use.

Good points
- Ease of installation
- Simple, clear user help
- Ease of navigation between windows
- Web-based session management and tool launch
- Audio tuning wizard

Possible improvements
- Point-to-point as additional private audio channel in same session – separate video, etc may not be needed (analogy is a whispered aside in a meeting).

Observed deficiencies

Video from participants not sending RTCP messages was not displayed in the *Participants* window although it did appear in the *Video* window using the *step through* function.

The program crashed on several occasions when trying to join sessions not announced in Announcer, but displayed in the Viewer as Public Sessions.

When sharing a window in the *Whiteboard*, the *Education* application windows could not be brought to the front, so the shared window always remained above the *Education* windows.

Summary

The software is easy to use and most of the features worked well in the LAN environment in which it was used. For it to work well over the lossy multicast internet, some element of error correction, either FEC or redundancy, might be desirable.

Announcer

Functionality

The program presents a window in which the user can specify a session to be created. The default is to specify all the conferencing tools, but audio and video are optional.

Sessions may be defined as either public or private, though it is not clear what is the difference between the types (See below).

Sessions of either type may be saved in files for use later or intermittently.
The program makes standard SAP announcements and interworks with the SDR session announcement tool correctly.

Announcements are made by selecting the run item in the Announcer menu.

The program can be run from the command line on a server.

There is a facility to limit the session bandwidth, though this was not tested.

Usability

The program is extremely easy to use for someone who has basic knowledge of multicast conferencing.

The manual is not available via the application as is the case with the *Education* program.

With a screen size of 800x600, the window is distorted and several fields are missing, and at 1024x768, the top of the window is placed off the screen preventing its being moved easily.

A private session may be announced but does not appear in the private sessions under *Education.* If the session is saved to a file, it may be distributed separately (e.g. by email) and used by selected users to join the session, but this could also be done with a session designated public, so long as it is not announced.

Good points
- Ease of use
- Single window.
- Command line capability.

Possible improvements
- Scale the window to better fit varying screen sizes.
- Provide access to manual directly from the program.
- Automatic assignment of Session title to file when saving a session to file
- Allow deletion of Private Session files from the program.

Observed deficiencies

There is the problem, mentioned under usability, of the inability to adjust the window size to varying screen sizes.

There is some lack of clarity in the documentation and the program over the use of private sessions.

Summary

The program provides basic session announcement functionality in a straightforward and easily used interface. There is some room for improvement, as observed.

Conclusions

Overall the products were robust and easy to use. Some unexplained program crashes did occur with *Education* and seemed to be associated with trying to join a session not announced by *Announcer*. There is no resilience to the loss of audio packets, which would cause problems in the normal Internet.