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## **Technical Evaluation Report**

### **56. Video-Conferencing with Audio Software**

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#### **Abstract**

An online conference is illustrated using the format of a TV talk show. The conference combined live audio discussion with visual images spontaneously selected by the moderator in the manner of a TV control-room director. A combination of inexpensive online collaborative tools was used for the event, based on the browser-based audio-conferencing software, *iVocalize*. The exercise illustrates how an impression of a fully featured online video-conference can be created without the need for complex video-conferencing software and high bandwidth.

#### **Introduction**

Since this series of software evaluation reports began in 2003, it has repeatedly stressed that the more expensive audio-conferencing software does not necessarily satisfy the accessibility requirements of all distance education (DE) students. Originally designed for corporate training situations, for example, such software works well on high-speed local access networks and domestic broadband connections, though not on slow dial-up connections of the type still used by many DE students. Such software packages also combine numerous features (polling, file and application sharing, etc.), which the designers continually insert in order to compete with rival products. DE students and teachers do not typically use the full array of features, however; and this series of evaluation reports has indicated that DE graduate students prefer those tools that have the essential features only, a simple navigation scheme, and a fast 'learning curve'. In many cases, DE students' favourite tools are the freeware (e.g. MSN and Yahoo Messenger), which they use in their daily non-educational lives, and which also fulfil their DE needs quite adequately.

Also within the period of these evaluation studies, competition between commercial software vendors has rapidly led to the convergence of different software applications (e.g. audio and video conferencing, and shared browsing) within individual products. A common combination of features in online DE is an audio-conferencing tool with a text conference or chat box, and a

whiteboard on which participants can share, for instance, PowerPoint presentations. Live video-conferencing using webcams is useful in specific subject areas that require visual ‘show and tell’, though may require relatively expensive broadband connections to which all students do not have access. Some participants exercise their right not to be seen in online video-conferences anyway.

An ideal combination of online conferencing tools, therefore, appears to be one which requires minimal connectivity and contains essential features only. The repertoire of necessary features may constantly change, however, as students and teachers develop new needs. As a result, DE institutions commonly purchase expensive software packages offering combined features, regardless of the complexities of their usage. Alternatively, institutions can meet the changing needs of the online classroom by assisting teachers to ‘mix and match’ independent software tools. If these are easy to install, and the combination of applications is well designed, this approach has the advantage of avoiding the navigation and configuration challenges commonly found with the larger, more fully featured software packages.

### ***The audio-conferencing software***

The current study used a combination of independent software applications, allowing a teacher and his students to guide each other aurally through a series of presentations, while also providing a compelling video-conference experience without the need for webcams and high bandwidth. The inexpensive *iVocalize* audio-conferencing software was used, found popular in other studies in this series (see the previous Report # 53). A distinct advantage of this product is that it does not require the downloading and installation of a stand-alone software product, but merely a simple plug-in for the Internet Explorer browser. To go to an *iVocalize* audio-conference ‘room’, the user simply points the browser to a given URL address, and can leave the audio room window open while turning to other work, just as any other browser window. After the first time of use, the browser connects to the room immediately, without a further plug-in download.

Before an *iVocalize* session, a practice question helps the users to become comfortable with providing input. The moderator may draw attention to the text box by requesting specific responses to be entered in it. (Everyone seems to enjoy discussing the weather and to have observations about it!) Participants can adjust the size of the *iVocalize* browser window to their taste; and new users, or visitors to the class, need an explanation of how to use the private messaging (PM) and other text methods. Once the class has begun, the moderator may ask an assistant to monitor and restrict non-thematic text entries. The *iVocalize* software can block text and audio input, and can remove and ban a user from the room.

### ***Combined use of text/ audio-conferencing and browser ‘push’***

The real-time text chat box in the *iVocalize* audio-conference display is a valuable feature serving both the moderator and the participants. The moderator can use it as a tool to help participants set up their audio ‘voice,’ giving them instructions on how to activate and adjust the audio, and troubleshooting if their set-up is not working properly. This can be done in public, or by PM without interrupting the general ‘small talk’ that helps participants to build camaraderie before the session begins. The moderator can also use PM to coach the participants as the session unfolds – e.g., cueing the next presentation, or discretely suggesting a wrap-up without interrupting aurally. This *iVocalize* feature gives a smooth flow to the class, and is an efficient substitute for the verbal cues required in face-to-face communication. In conditions where the

quality of audio transmission is not the same for all participants, the moderator or assistant can clarify or summarize aural points using the text chat tool.

Also using the text chat, participants can spontaneously recommend and share URLs during the session. Numerical references, bibliographic links, and general Web addresses can be communicated precisely through the text box. Clicking on a URL link allows participants to display the website in question in *iVocalize's* 'whiteboard' display. A disadvantage of a high number of text entries is that they can scroll off the screen before being dealt with. To avoid this, the moderator may choose to 'push' Web displays to the group via *iVocalize's* co-browsing/Web-tour feature.

This 'push' feature is perhaps the most far-reaching of *iVocalize's* browser-based tools. It allows the moderator to control the participants' displays, and to share this control with others. There is no limit to the variety of displays that a teacher can present in this manner, as long as they are available on the Web. Teachers can create Web presentations by placing illustrative materials on a Web server in advance, in the same way as a *PowerPoint* presentation can be published for online presentation. The teacher can line up these presentations for an *iVocalize* session in advance, by bookmarking their addresses in the browser.

All of these features are merged via *iVocalize's* recording feature for later access. Between sessions, participants can remain in contact with one another via an asynchronous text-conference. Since the *iVocalize* audio room is browser-based, any Web-based text-conference software can be used for this purpose, attached to a permanent *iVocalize* room by the administrator, for group members to find whenever they go there.

### ***Using audio software to push video displays***

In the current study, *iVocalize's* browser push feature was used to provide an online group with an experience corresponding to a video-conference without the use of video-conferencing software. A situation similar to that of a TV control room was created, in which the teacher acted as the director of a live broadcast, selecting separate camera shots as the presentation unfolded. The similarity between a well-planned Web-based presentation and a live TV show was touched on indirectly in the previous section of this report, in the observation that a moderator can cue the next participant via *iVocalize's* PM feature, or can suggest a wrap-up without making an aural interruption. In these activities, the moderator is functioning in exactly the same way as a TV director in the control room, or as a floor manager on the TV studio floor. The study took this analogy to the next level, by creating a repertoire of online displays in advance of the session, each containing links to other displays for the teacher to select from one stage of the conference to the next.

The main *iVocalize* display simulated the TV control room's video display console, providing a set of link buttons for the selection of different images, a transmission monitor showing the image(s) currently selected, and various sound-effect buttons (Figure 1). The occasion for the presentation was an 'end-of-2005' online class party for Athabasca University's MDDE662 online software evaluation course. Eight participants took part, and as each entered the audio discussion, the moderator activated his or her image in *iVocalize's* main display window, by clicking on its link button. This caused the selected image to be 'pushed' instantly to all of the participants (see Figure 2). Each participant had provided the moderator with a personal image in

advance of the session, and one of them had exercised the right to be depicted via a cartoon image instead of an actual photo. Participants with webcams were given the option of injecting personal still-shot images into the presentation. They were provided in advance with the address of the Web server hosting the event, and used 'webcam' file transfer software to update their personal image to the event's server at fixed intervals. The *WheresJames* webcam publishing freeware was recommended to them for this purpose, in view of its ability to create special-effect backgrounds using chromakey. Several of the participants took advantage of this feature during the presentation.

**Figure 1.** Images and special effect options are presented in a TV control room-type display.



**Figure 2.** The selected image is pushed to participants on a 'transmission monitor'



The result was a creative presentation imitating the format of a one-hour TV talk-show, with a sequence of special events and guests. The eight participants shared in the pre-planning for the

production, preparing opening/ closing music and credits, and sound effects (applause, laughter, etc.). The moderator inserted these into the presentation at appropriate moments by activating webpages to which the audio effects were linked. When acting as an interviewer, he handed over the control function to an 'assistant director'. Although none of the visuals were live or animated, a compelling impression was given of a live video discussion, combining spontaneous audio with instantaneous accompanying visuals.

## **Conclusion**

From an educational point of view, this exercise gave DE graduate students an opportunity to explore new ways of combining inexpensive online software for educational purposes. The experiment illustrated that, with a little ingenuity, a unique live online event can be created from a combination of inexpensive and even free collaborative software. Combining low-priced audio-conferencing software with a selection of browser-based visuals, and graphics-to-server file transfer techniques, a live conferencing format was created, using image selection and production techniques similar to those of the TV studio. No expensive online conferencing software was required, and many of the current conferencing packages would not have been capable of creating the desired impression anyway. Simple Web programming skills were required in the prior preparation for the event, together with an awareness of independent software applications that could be combined to produce the necessary functionality and effect. The most important single ingredient in the combination was the inexpensive audio-conferencing application, *iVocalize*, whose browser-based and 'push' features can generate a spontaneous combination of audio and video images, giving the illusion that the audio-conferencing software is in fact a full-blown video-conferencing package. As the interactive capabilities of the Web become more fully harnessed in distance education, such techniques may become a common means of providing every teacher and student with their own TV studio!

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**N.B.** Owing to the speed with which Web addresses become outdated, online references are not cited in this report. They are available, together with updates to the current report, at the Athabasca University software evaluation site: <http://cde.athabascau.ca/softeval/>. Italicized product names in this report can be assumed to be registered industrial or trademarks.

*Patrick J. Fahy, Interim Series Editor* (Jon Baggaley is on sabbatical.)

