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## Technical Evaluation Report

### *13. Online Videoconferencing Products*

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#### Abstract

This is the first in Athabasca University's series of evaluation reports to feature online webcam and videoconferencing products. While webcam software generates a simple visual presentation from a live online camera, videoconferencing products contain a wider range of interactive features serving multi-point interactions between participants. In many online situations, the addition of video images to a live presentation can add substantially to its educational effectiveness. Ten products/ online services are reviewed, supporting a wide range of video-based activities.

#### Evaluation Criteria

Video-based communication routines are rarely provided in isolation of other online collaborative methods, and most conferencing products reviewed in this study are, in fact, integrated products containing other features. For example, all are audio products that also feature video components. They have been chosen for this cross product comparison, not having been featured in earlier integrated product reviews in the current series. The quality of interactions provided by these products and the different configurations they allow, were evaluated in two user interactions each lasting a minimum of one continuous hour.

The evaluation criteria applied in the study were based on those developed for the comparison of audio-conferencing packages earlier in this report series, with the addition of definitions relating to the products' video components. The new criteria were:

- **Clarity:** based on pixelation, using a 5 point scale: 1 = barely visible, 3 = standard, and 5 = digital video quality.
- **Synchronisation:** similar to audio delay, but based on video as well as audio, using a 5-point scale: 1 = major delay in video (2+ seconds), 3 = acceptable minor delay, and 5 = TV quality.
- **Screen Size Scalable:** refers to the ability to increase or decrease the screen size, and on the effects of this adjustment on performance and clarity.

The full list of criteria is presented at the evaluation website accompanying these reports.

## Trials of Software Products

1) *ClicktoMeet* is a server-based conferencing product, which is the outcome of a recent merger between *CuseeMe Networks* and *First Virtual Communications*. Though primarily aimed at corporate users, *ClicktoMeet* contains numerous educationally useful features, including high-quality multi-point audio/ videoconferencing with customisable displays, file and whiteboard-sharing, and co-browsing (the ability for participants to lead one another on Web tours). At present the product's use is restricted to the Internet Explorer browser, and does not support Macintosh platforms.

2) *CometCam* is a free software product that is easy to install and learn. It provides high-quality two-way audio and videoconferencing, and private chat rooms with video and text. The names of online contact are indicated, and communication may take place with more than one contact simultaneously. Problems were experienced in our tests with the hands free audio transmission mode, and with audio lag times.

3) *Dwyco* is advanced software for Windows platforms. It allows users to send and receive real time video, audio, and text. The software is flexible and works equally well as a video chat tool and a video broadcast server. It provides private rooms, each with password protection. Inconsistencies were experienced in the current tests regarding the quality of audio and the speed of text message delivery. Technical support for the product is limited.

4) *Eyeball Chat* is a free, integrated software package permitting live video chat, sharing of video messages, and transfer of graphic and audio files. *Eyeball Chat* provides reliable video quality, integrated chat rooms with privacy settings, and is compatible with the *AIM*, *MSN* and *Yahoo Messenger* tools. It provides an easy method for contacting others, and indicates whether or not contacts are online. In our tests, the audio was occasionally fuzzy, and lag periods of several seconds were experienced.

5) *FocusFocus* is a free, browser based, video-telephone software, providing multi-point video/ audio connectivity and chat services. Private chat rooms are available for use by up to 25 people. *FocusFocus* includes a simple procedure for the resolution of audio and video problems, though these did not prevent audio delays and interference noises from occurring during the evaluation.

## Trials of Online Services

6) *ChatTown* is a free website service providing email, webpage hosting, text, and video chat rooms. *ChatTown* appears to support an active online community, providing users with links to current news, weather, and special interest topics. *ChatTown* has a marked commercial image.

7) *EarthCamTV* is a free website that allows users to broadcast and receive live video images. Registered users receive a unique channel within the *EarthCamTV* system, which permits one-on-one chats.

8) *Video Connection* is a free website similar to the previous two websites. *Video Connection* provides real time text and video chats with screen shots and fast video refresh rates.

9) *WebCam* is an online resource for webcam users. *WebCam's* hosting services use a proprietary proxy server, allowing the user to present live, reality type content on their webpages: e.g., video of traffic conditions, day care facilities, and transmissions from content providers such as radio and television stations and corporations. Fees are payable per channel, on a per minute or month basis.

10) *WebCamNow* is an interactive video network supporting live Webcam presentations, video chat, and the ability to link to a webpage. A maximum video rate of six frames per minute is provided, with a refresh rate of 60 frames per minute. *WebCamNow* is more appropriate for one-on-one communication than for multi-point conferencing. It has limited integration with other educationally useful tools (e.g., file-sharing).

## Conclusions

Currently, high quality online Webcam and videoconferencing products come at a price. Problems in video and audio transmissions reliability were encountered with all of the free products tested in this study. Even more costly server-based software such as *ClicktoMeet* can yield problems such as audio lag when used on low speed dial-up connections. As many distance education students around the world do not have access to high speed Internet connections, distance educators should apply online videoconferencing methods cautiously in their teaching at this stage, pending the availability of products that cater to all types of student connection equally. For general educational conferencing purposes, teachers should examine whether a video component is really necessary. In many of our tests, it proved more convenient to turn the video component off to increase the efficiency of the audio interaction (some students prefer to do this anyway in order to protect their privacy). In conferencing sessions where video demonstrations are essential, it is important to note that online products can give adequate quality without the need to invest in expensive telephone-based video systems.

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The [next report](#) in this series will compare synchronous chat and instant-messaging tools.

*N.B.* Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They can be checked at the Athabasca University software evaluation site: <http://cde.athabasca.ca/softeval/>. Italicised product names in this report are assumed to be registered trademarks.

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