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Résumé de l'article

The previous report summarised the findings of an online survey concerning Master's of Distance Education students' attitudes to online collaborative tools. The respondents in the study were 135 graduate students and faculty members of Athabasca University's Centre for Distance Education (CDE). They demonstrated particular interest in tools that offer the following features: file sharing; automatic synchronisation of documentation for the group; audio conferencing; text chat; and privacy. In the effort to respond to this interest, the Centre conducted a series of trials of conferencing and other file-sharing products. This report discusses the merits and disadvantages of current collaborative methods, and problems faced by distance educators and their students in seeking to adopt them.

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Technical Evaluations Report

2. Selection of Collaborative Tools

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Abstract

The previous report summarised the findings of an online survey concerning Master's of Distance Education students' attitudes to online collaborative tools. The respondents in the study were 135 graduate students and faculty members of Athabasca University's Centre for Distance Education (CDE). They demonstrated particular interest in tools that offer the following features: file sharing; automatic synchronisation of documentation for the group; audio conferencing; text chat; and privacy. In the effort to respond to this interest, the Centre conducted a series of trials of conferencing and other file-sharing products. This report discusses the merits and disadvantages of current collaborative methods, and problems faced by distance educators and their students in seeking to adopt them.

Trials of Free Products

Seven online products/ services were reviewed (April to June /2001) in their most up-to-date versions. Emphasis was placed upon whether or not each provided the online collaborative features found to be useful by the needs assessment study (Report 2 in this series). The relevant features of each application are summarised in Appendix 1.

1. ***NetMeeting***: At this point, no free product appears to provide all of the features that the students find potentially useful. *NetMeeting* approaches this level, though it is not a cross-platform application (i.e. Macs as well as PCs), and provides only multi-point audio for a limited number of users only. This product is also infrequently updated: version 3.01 has currently been in place for over a year, although we observe that it is being included as a useful 'Accessory' within Windows 2000 and higher versions.

2. ***ICQ*:** provides text chat, instant messaging, file transfer, and *two-party* audio, using the same protocol (H.323) as *NetMeeting*. However, ICQ uses the business practice of providing its subscription lists to advertisers, which many of the students surveyed in our sample found instrusive. ICQ is not a cross-platform application.

3. ***Roger Wilco*:** provides audio chat rooms, though few other features. (A similar product, *HearMe*, ceased operation since these product trials were conducted.)

4. ***PalTalk*:** provides reliable audio and text conferencing, including private groups, instant messaging, and a file transfer facility. For many online groups, *PalTalk* appears to be most appropriate application so far examined in these trials. It is not a cross-platform application, though is reliable, available in free and fee-based versions, and requires little technical sophistication. The free version is supported by pop-up ads that appear at launch and shutdown, though these can be blocked by anti-popup software. *PalTalk* has recently subsumed the subscription list of *FireTalk* (the reliable though now defunct audio-conferencing product previously favoured by the CDE faculty and students).

5. ***Stuffincommon*:** is a free online service that provides many of the functions requested by the students. The service provides room(s) containing whiteboard and chat facilities, for self-defined communities. The *Stuffincommon* whiteboard is superior to other common whiteboard tools in allowing users to add URL shortcuts, files, Post-it notes, and images. Each community has its own rooms, into which only invited parties may enter; and a community can create rooms for specific functions that it may define. Each community is a separate Web site, and is thus, it is not platform-dependent. It requires Web browser software though no other software download. *Stuffincommon* lacks an audio facility, though could be used in conjunction with a product such as *PalTalk*. Privacy is provided by a login requirement and a community members' list.

An Integrated Product Trial

In view of the difficulty of identifying no-cost products satisfying CDE students' perceived needs, it was decided to test a product which, although not free, integrates all of the desired online learning tools. A new product named Groove was identified, a peer-to-peer collaboration application providing a wide variety of functions: audio conferencing, text chat, privacy, file-sharing, automatic synchronisation of meeting notes, private discussion boards, and a high degree of personal security. At the time of testing (Summer 2001), its first edition was available at no charge (Groove 1.1, Preview Edition). It was a work in progress, with the fully licensed application due for release later in the year. A team of eight CDE members took part in the tests, including six students and two faculty members. A features comparison of all seven products featured in these tests is presented in Appendix 1.

a. **The Product:** *Groove* operates across a network in a peer-to-peer mode; i.e., communication among participants is direct rather than via a central server. This provides privacy and security, and a potential decrease of data transmission time. The product's design is based on the concept of "shared space" (i.e., a private meeting place), within which alternative modes of communication may be employed. *Groove* is implemented as a set of encrypted files on each participant's computer. Each "space" contains a list of

members, their shared applications, and their accumulated data. An individual user can use several shared spaces, and can define each of them on multiple computers. Membership in a shared space is by email invitation only, thus, security and mobility are provided.

b. **Results of Testing:** Faculty and student members of the CDE tested *Groove* during the period of May to September 2001. The product involves a 14 MB software download, and is resource-intensive, drawing upon approximately 32 MB of RAM memory during usage. Its use in the CDE program at this time would therefore be a problem for some CDE users, if only for the 9/ 135 survey respondents with computers limited to this amount of RAM.

c. The bandwidth requirements of *Groove* represent a more serious problem. Severe data loss and break-ups in audio transmission were observed during the tests. In addition, we found that a text box message could take up to several minutes to reach the other participants. This problem has been reduced in a subsequent version of the program (Build 940). A member of the *Groove* technical support group confirmed that the break-up of audio transmission is a bandwidth problem, at least on dial-up. Sixty-nine of the 135 respondents to the CDE poll use dial-up Internet access.

d. *Groove* is a 'message-intensive' application: i.e., much status messaging is transmitted during a meeting, with regard to the session's progress. The product provides pop-up displays for many of these functions ("message being sent", "message sent", etc.,). It even displays "xxx is typing a message" during text chats. This heavy message load may contribute to the product's high bandwidth requirement. The process by which the application coordinates the simultaneous contributions of participants is known as synchronisation. This is required when participants wish to make simultaneous entries into a shared tool (e.g., the notepad), when some members of a group are absent, or when a member makes entries whilst offline. The tests of *Groove v1.1* indicated that connection to a *Groove* meeting can take three to five minutes, owing to this synchronisation process, even between computers in the same room, connected by a 100 MBS local area network (LAN). During the synchronisation of these two computers, audio transmission halted while the data was being transferred from one computer to another. Once the computers were synchronised, the audio time lag between them increased from almost imperceptible to approximately three seconds.

e. ***Groove's* Future Status:** Groove's support technician states that improvements in audio transmission are a high priority, though they could not provide a date for this to be achieved. Groove will continue to offer a free preview edition after the licensed version is released, but this will not contain feature upgrades, and will not receive the same maintenance priority as the licensed version. The product's support staff advised us that a

Mac version is one of the company's highest priorities, and that Groove and Apple Corporation were still negotiating this issue. They indicated that the size of the product download package will not be reduced from its current size of 14 MB.

Conclusions

These tests led Athabasca University's software evaluation team to the following conclusions.

a. Integrated applications offer more products than all or most other collaborative tools. However, the problems with integrated software are similar to those encountered with the integrated tape-slide educational technologies of the 1970s. For the users that need to use all of the features simultaneously, the package can be bulky and cumbersome; while for those who only need one or two simultaneous features, the package's contents are excessive. The CDE will continue to monitor the evolution of the new integrated product, *Groove*, in graduate classes that cover technical issues.

b. Simpler products that provide fewer simultaneous applications (e.g., *PalTalk*, with its superior audio-conferencing and ancillary functions) are the most immediately convenient for students to download and install as collaborative tools.

c. The *Stuffincommon* website can be recommended to the general CDE population, as a convenient means for text chat, sharing files and Web links, images, and notes on digital Post-its. It can be used in conjunction with a product such as *PalTalk*, and is a cross-platform application.

The next report in this series will review text-based conferencing applications.

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

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Appendix

Features comparison: online collaborative tools (as at Summer 2001).

	Groove	*ICQ*	*NetMeeting*	*PalTalk*	*Roger Wilco*	*Stuffincommon*
Discussion Board	Y					
Audio-conferencing	Y [7]	Y [1]	Y [1]	Y	Y	
Private groups	Y		Y	Y		Y
File Sharing	Y	Y	Y			Y
Applications Sharing			Y			
Text Chat	Y	Y	Y [2]	Y		Y
Shared Web Browsing	Y		Y [3]			
Whiteboard	Y [6]		Y [4]			Y [5]
Auto-synch of meeting notes	Y					Y
Instant Messaging	Y	Y		Y		
Cross-platform		Y			Y	Y
'Postit' Notes						Y
Ads		Y		Y		