

Popular Electronic Conferencing Use and Comparison

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James R. Mallory
National Technical Institute for the Deaf
Gail Rothman
Richard Fasse

Abstract

RIT's College of Applied Science and Technology (CAST) and the National Technical Institute for the Deaf (NTID) have been using interactive electronic conferencing software for many years with both deaf and hearing, on-campus and Distance Learning (DL) student populations.

These two colleges have gained valuable experience with three electronic conferencing software products. These products include Blackboard™, FirstClass™, and Prometheus™. This software was used by NTID faculty teaching all deaf sections of courses within the College of Liberal Arts (CLA), within NTID's Applied Computer Technology department, and within CAST's Electrical/Telecommunications department in computer programming and Telecommunications courses. The wide variety of class demographics included all deaf, all hearing and deaf/hearing mainstreamed student audiences in both traditional and DL courses, with both traditional college students and adult learners.

This paper will present the advantages of integrating electronic conferencing into the classroom in general, as well as reviewing the pros and cons of each of the above named products, from a student perspective, a pedagogical perspective and from a user-friendly implementation perspective as an instructor.

The audience will have an opportunity to engage in an interactive discussion with the presenters regarding their findings and experience. The audience will also be invited to share their experiences related to this technology.

Introduction

Electronic Conferencing (also referred to as groupware) is becoming a widely used means of classroom interaction, instruction and information sharing, both on-campus and remotely in online learning classrooms. This is valuable for the faculty as well as for both deaf and hearing student populations. Although there are a variety of groupware products available, this paper focuses on the experience of the authors with three products, Blackboard™, FirstClass™, and Promethius™.

Integrating Electronic Conferencing into Remote Online Classrooms

Conferencing is crucial in a remote classroom because this is where students get to know their instructor and each other. Student's personalities often come through and an online community is formed, which helps to make challenging technical courses more palatable and improves retention. Conferencing is crucial when information needs to be shared in an asynchronous, "anytime, anyplace" manner. The drop box feature of conferences lends itself easily to secure submissions of homework assignments.

Integrating Electronic Conferencing into Traditional Classrooms

Conferencing has improved many on-campus courses as well. The online community interaction helped to remove communication barriers between deaf and hearing students and faculty. Passive students who are often dominated by their more aggressive peers in traditional classrooms frequently blossom in the online environment.

Different course sections that share common course content have been successfully blended by combining remote hearing and deaf professionals with on-campus traditional college aged deaf students through electronic conferencing. Students enjoy the luxury of access to course materials and information on a 24/7 basis.

Popular Electronic Conferencing Software

There are two categories of groupware used in online learning, one uses Web browsers and the other uses a separate client program. The web browser approach to groupware, such as Blackboard™ and Prometheus™, is often referred to as a "thin client" product. The groupware product that uses separate client programs, such as FirstClass™ are referred to as a "fat client" type of product. Web browsers are ubiquitous, and for most students who are new to online learning, the thin client approach has the advantage of using a familiar tool with generally familiar navigation. Fat clients on the other hand, have more features and may be faster in some aspects.

Blackboard is a very good tool for management and delivery of on-campus courses because it is easy for both faculty and students to use and to learn. In distance learning and highly discursive courses with lots of online interaction or large file exchanges, however, FirstClass is often a better choice. FirstClass has the speed, power and features that student users need.

The most popular fat client products used today are FirstClass™ and Lotus Notes™. The most popular thin client products are Promethius™, Blackboard™ and Web CT™. This paper

focuses on the experience of the authors with three products, Blackboard™, FirstClass™, and Prometheus™.

Advantages of using Blackboard

Blackboard 5™, the version of this e-Learning software currently in use at RIT, is easy for students to learn and use. Students use their RIT username and password to log on to the system to access any and all Blackboard enabled courses for which they are registered. From this common “Courses” page, they can link to a catalog of all Blackboard courses on the campus, to a web search engine, or to the main page of a specific course.

The main page of the course presents them with announcements and a teacher customizable menu of buttons that link them to course documents, assignments, online assessments, a synchronous virtual classroom, and a variety of communication and support tools. A course map button gives students access to a schematic of the entire contents of the course web site that can be expanded to whatever level of specificity the student requires. (see Figure 1) Special areas can be created for study groups which are accessible only to group members and the instructor. These include a discussion board, group virtual classroom, file exchange capabilities, and email. Students can also easily create their own web pages, which allows them to express their individuality and share their interests with others in the course. One of the features that students seem to especially like is access to the grade book.

In addition to the “Courses” page, Blackboard offers students two other pages, a “Community” page with a calendar and open discussion board for use by the larger campus Blackboard community, and an “Academic Web Resources” page where students and faculty can access current news, information and full text articles in a variety of disciplines.

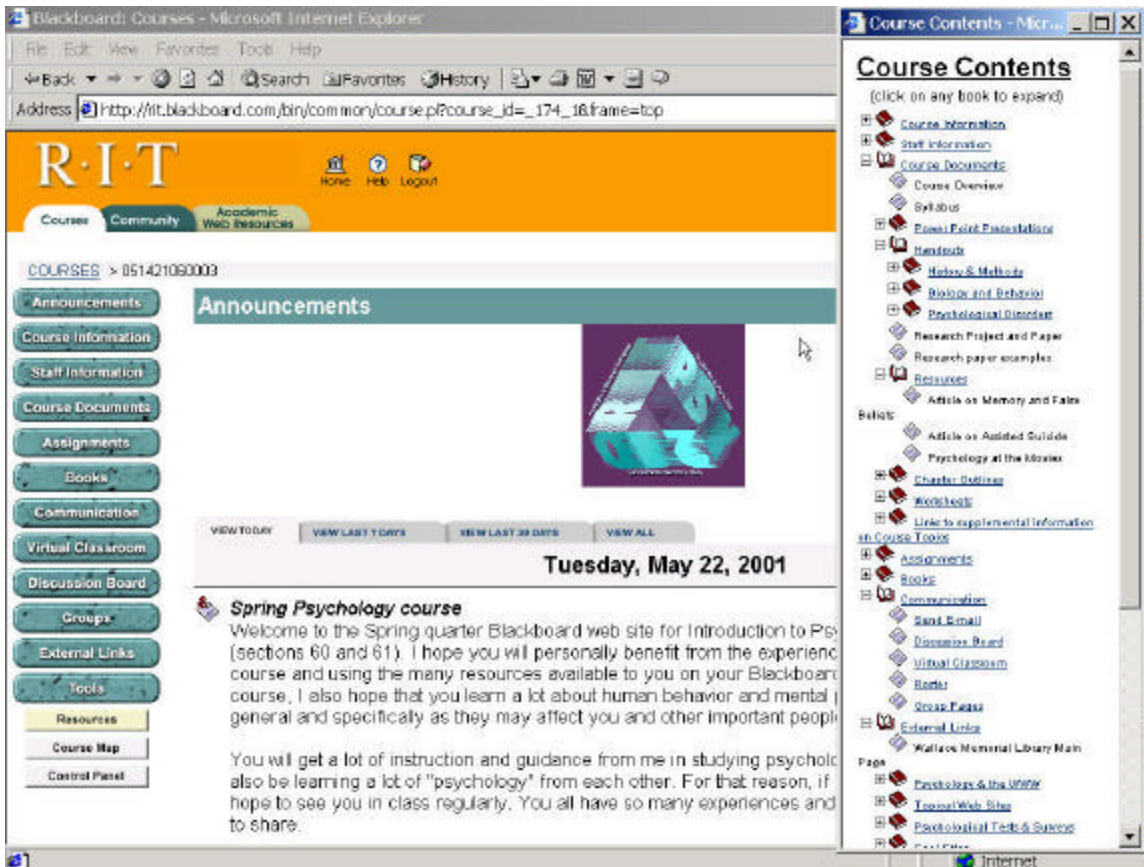
Blackboard is also quite easy for the instructor to use and customize by accessing a variety of functions from the instructor’s control panel. Course materials in almost any format can be uploaded with the click of a button. Several textbook publishers provide course cartridges that integrate their materials into the Blackboard program. Email can be sent to selected students or to all students with a mouse click. File exchange between student and teacher using a drop box is another useful feature. A pool of test questions can be created, and unique online assessments constructed from the question pool with only a series of point and click maneuvers. The instructor has complete control over the accessibility of online assessments, including whether or not they are timed, can be taken more than once, and if the students are allowed to view their errors and the correct answers after completing the assessment. The program scores the test and enters the scores automatically into the grade book, a feature that makes online testing attractive to both faculty and students.

Disadvantages of using Blackboard

The speed and robustness of a student's Internet connection is a potential constraint on use of an interactive browser-based program like Blackboard. Students with slow modem connections who live off-campus may have problems viewing or downloading graphics intensive material or even navigating through the course. Students may lose their connection for a variety of reasons, including problems with the dial-in service, and be blocked from accessing a “one attempt” test.

Although an indicator appears in the grade book alerting the instructor to an aborted test, there is no way to know if the disconnect was an accident or if the student was trying to get a peek at the test before actually taking it. Students who do not own a personal computer will need to access course materials from a campus lab computer. This may put them at a slight disadvantage to students who have 24/7 access. Finally, while Blackboard is relatively easy to learn, there are a few features that can be confusing. The drop box has two buttons – “Add file” which saves the file to the students own drop box, and “Send file” which sends the file to the instructor. It’s a common error for students to think they sent their instructor a file when they in fact have only saved it.

Figure 1. Example of Blackboard Course Contents.



Advantages of Using Prometheus

Prometheus is relatively new and has been available for about one year. There are more than 30 colleges and universities using Prometheus now, compared to more than 1400 using Blackboard™. Prometheus is developed with Cold Fusion, which makes it attractive if the student user needs a customized solution. The product has open-source code, which allows the subscribers to modify their installation, and the community of Prometheus developers can then share enhancements they have made to their installation. One of the most important features of Prometheus are course modules that allows the instructor to teach multiple sections of a course

while managing only one set of course materials. Prometheus also has a Math editor so the teacher can enter equations and symbols directly into the system. The next Prometheus release expected this summer will have a text editor with fonts, colors, and other impressive text editing tools built into the system.

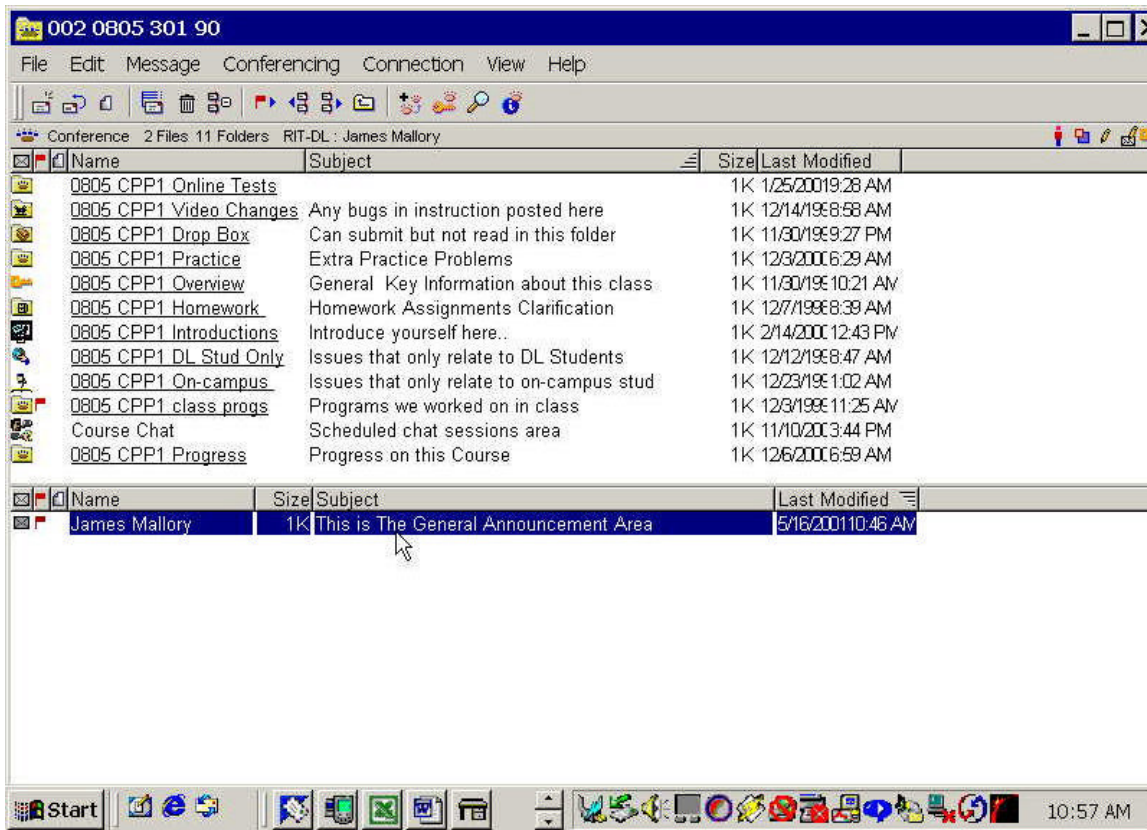
Disadvantages of Using Prometheus

The user community associated with Prometheus will have a lot to do with how successful the open-source code concept will be. Time will tell if the developer community can be effective in developing, testing, and delivering coherent improvements quickly and safely. Among the product features, the “Discussion” tool has been heavily criticized for being difficult to navigate. RIT has made a few changes to their installation to improve these difficulties, and more changes are expected to come. Uploading files to the instructor from within the drop box function can be confusing to new users, but that too is being improved.

Advantages of Using FirstClass

First Class is one of the easiest software products to use. Once the Client software is loaded and the very short learning curve is factored in, FirstClass rates a “B” grade in ease of use from both the students’ and teachers’ perspective. This seems to be the most popular product so far according to RIT students and faculty. Icons can be changed and conference topics organized easily to make very professional-looking front end to an online course.

Figure 3. OnlineC++ Programming Course using Firstclass Conferencing Software.



FirstClass has an online chat feature similar to the previously two mentioned software products, which works well for occasional synchronous chats. If a student is not able to participate in the chat, then the discussion can be posted within the conference for later usage. For message storage, FirstClass has both conferences and folders (see Figure 4).

Figure 4. Sample of a single conference and a single folder in Firstclass™.

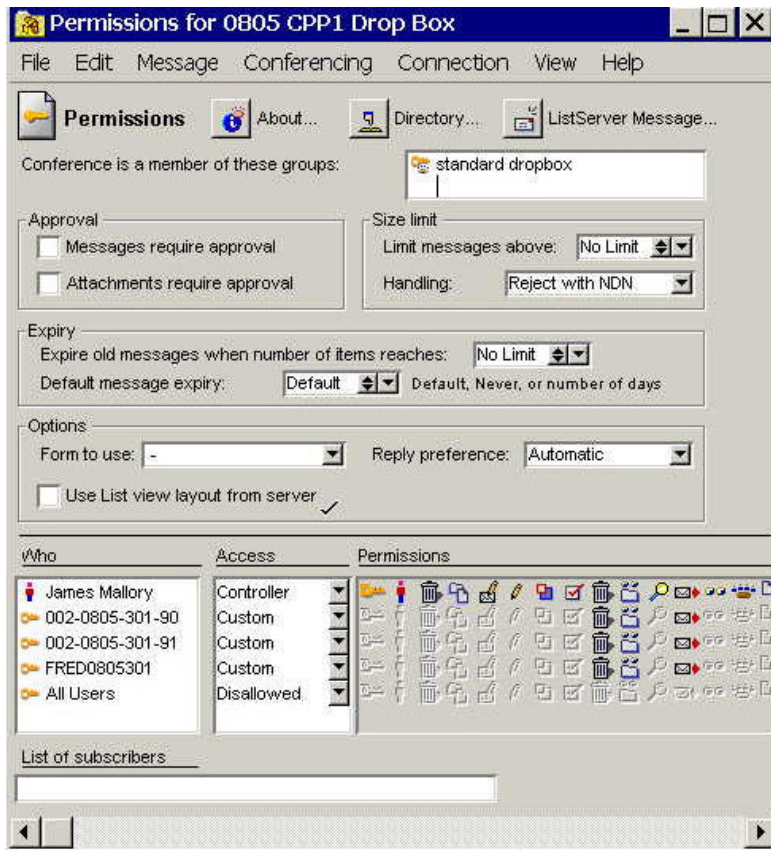


Folders and sub folders are great for organizing and storing items that don't need to be discussed, such as submitted homework and exams. Conferences and sub conferences are great for interacting on a topic or for dividing up topics that need to be discussed or shared.

Permissions/Security

It is easy to change permissions in FirstClass so that only a certain student group can access the information in a certain sub older. (see Figure 5)

Figure 5. Showing the Permissions Feature of the Drop Box Folder in FirstClass™.



The authors found the permission feature useful when combining both remote online courses with traditional on-campus courses into a common conference. As an example, in a C++ Programming class at NTID, the on-campus students had a weekly quiz, where as the remote students only had three tests per quarter. One sub folder would be accessible for remote online students only and another would be limited to only the on-campus students. When demo instructional programs were posted, these were posted in a folder that was readable by both of these populations.

Disadvantages of Using FirstClass

One must maintain relatively flat folder architecture due to the way in which FirstClass flags messages. A red flag attached to the message indicates a message has not been read (see Figure 3). This flag only propagates up one level, so if a folder is several levels down, the new message would not be readily evident that it was posted. If a folder structure is deep, the red flag would not be seen when a student or instructor first logs into the conference.

Another negative using this software is if a message is already marked as read and the instructor wishes to move this message to a sub folder, the message will be moved and pop up as being unread again.

The fact that FirstClass is a fat client type of product requires the user to load the software on each computer that he/she wishes to use. Some students find this to be inconvenient, especially if they are required on their job to work on a variety of computers or if it is an on-campus student and the particular lab they are using does not have FirstClass loaded. There is a web version of FirstClass but it is not as functional as the client version.

Authors' Findings from Online Learning Student Surveys

RIT online students using Blackboard FirstClass, and Prometheus were asked during the winter quarter for their comments and responses. The results have to be interpreted in light of the target audiences currently because the typical student involved in the Prometheus pilot was likely to be an Information Technology student with prior experience using FirstClass. The Blackboard students in the pilot were more likely to be first time users of online learning tools. The Prometheus students were more critical of the product than the Blackboard students were, and in their comments made frequent reference to the superiority of FirstClass. When distance learning students were asked to rate FirstClass on the general mid-quarter student survey, 80% rated it "better than OK".

The authors' interpretation of the survey data is that Blackboard is a reasonably good tool for use in face-to-face classes as an ancillary resource. FirstClass is a very good tool for use in distance learning courses and for courses with lots of interaction or lots of file exchanges. The Prometheus pilot will be expanded to get a better understanding of this product to see whether this is a better product than Blackboard for RIT's needs in the long run. Although there are on-campus students and faculty that prefer Blackboard, the reason it probably did not score as well with the distance learning students as Blackboard is due to the experience of these students as mentioned above.

Contact Information:

James R. Mallory
 Department of Applied Computer Technology
 National Technical Institute for the Deaf
 Rochester Institute of Technology
 Rochester, New York 14623-5604
 Telephone (716) 475-2865
 Fax: (716) 475-7101
 E-mail: jrmnet@rit.edu