Penn students make a splash

Dolphin comes to life

BY DAWN C. CLARKE

The University faced a serious challenge a few years ago when a campus-wide task force recommended that e-mail and NetNews services be extended to all Penn students. At the time, the Annenberg, Engineering, Medical, and Wharton Schools offered mail services to their own students, and the School of Arts and Sciences was planning its own service. Given the tradition of School-based services, the prospect of 12 separate e-mail servers, each with its own—potentially different—hardware and software operations and maintenance burden, was very real!

In early 1993, a better strategy emerged. With funding from ResNet, Data Communications and Computing Services (DCCS) was able to offer a standard e-mail and NetNews service to eight Schools—Annenberg, Dental Medicine, Education, Fine Arts, Law, Nursing, Social Work, and Veterinary Medicine—on one centrally-managed, UNIX-based, host computer, named Dolphin. Two years later, over 2,500 students use Dolphin, for e-mail, distribution lists, NetNews, personal home pages on the World-Wide Web, and—in conjunction with University Life—home pages for student organizations.

E-mail

Since Dolphin is used exclusively for students, the only mail system supported is Elm, a conventional terminal-to-host e-mail system (which is required by most students, who often read and send mail from multiple locations in the course of a week). Elm is a powerful and flexible system that supports aliases, personal distribution lists, folders, and up/downloading of ASCII and binary files.

E-mail distribution lists

Electronic mail distribution lists are a popular communication tool for the Dolphin community. Their uses range from the common to the innovative.

The City and Regional Planning Department of the Graduate School of Fine Arts, for example, provides e-mail distribution lists for both “Imagining Cities and Regions” and “Planning Theory,” which are used to review course material and continue discussion with the professor outside the classroom. (continued on page 16)
Dolphin  (from page 1)

Professor Seymour J. Mandelbaum, commenting on his list, says, “Students were able to ask questions about issues that were muddy in our discussion. Sometimes on their own and sometimes with my prodding, they shared extensive, reflective responses to the course materials. Several class discussions were built around a prior exchange of notes between students. The people who spoke most in class were characteristically the most voluble on the electronic network. There were, however, other ‘silent’ students who were frequent participants in this electronic conversation. I remember with pleasure a particularly lively exchange that concluded with an exclamation, ‘I like this better than class!’”

The Center for Energy and the Environment has added e-mail lists for Professor Alex Ferrell’s “Qualitative Methods for Energy and Environmental Policy and Analysis” course. Students are notified electronically about project deadlines and exam schedules. Professor Ferrell notes, “The students could send me messages about questions they had before class so that I could be ready to answer them. They were willing to do this based on the fact that I could give them a better answer if I was ready. Sometimes I could only answer a question if given a chance to look up the answer in my office.” Professor Ferrell also uses e-mail to send receipts for students’ papers and late notices for outstanding assignments.

The Law School seminar “The Supreme Court and the Family” uses lists to simulate the activities of the Justices of the United States Supreme Court. Each Justice’s chamber has an e-mail address that students in one chamber use to negotiate changes in opinions and proceedings with students in other chambers. Penn’s virtual Supreme Court lends itself nicely to simulating the operations of the United States Supreme Court: The justices of the Supreme Court communicate with each other primarily via written memos and seldom have face-to-face conversations.

World-Wide Web

Dolphin’s recent claim to fame is that it joined the World-Wide Web (WWW) explosion. Not only can students access Penn’s ever-growing resources using Lynx, the popular terminal-based WWW browser, they can actually contribute information to the WWW.

Dolphin provides “home page” services to both the students and their Schools. Penn students contribute information about topics as varied as dissertation work, educational background, academic and professional awards, and course recommendations. Two noteworthy examples of School home pages are from the Graduate School of Fine Arts (GSFA) and the Dental School. GSFA provides information on Architectural Archives, the Gutman Fine Arts Center, and the Architectural Conservation Lab. One particularly exciting component of their home page is the GSFA Computing Center’s electronic gallery, which displays students’ project and thesis work done at the Computing Center. The Dental School provides access to biomedical journals, medical magazines, and information on pharmacology resources.

NetNews

Dolphin hosts a small, but growing, number of newsgroups. Last fall, for example, the School of Nursing added newsgroups for the courses “Introduction to Statistics” (upenn.nursing.nursing510-spss) and “Introduction to Pathophysiology” (upenn.nursing.nursing609). Joan Frizzel, the teaching assistant for both courses, comments that newsgroups are a good way to post sample problem sets that expand on coursework.

Dolphin provides access to NetNews discussion groups via “tin” newsreading software. Students use tin to read and post to Penn newsgroups, obtain information about their classes, ask questions about Dolphin services (upenn.dolphin.support), and participate in general discussions about Schools served by Dolphin (upenn.dolphin.talk).

The support model

The Dolphin service was made possible by a partnership between the small Schools and DCCS, with DCCS operating the requisite hardware and software and the Schools providing user support and training. The key to making the service manageable was the development of a support strategy that could leverage the resources of both DCCS and the Schools without compromising the quality of service.

The key elements of the support strategy were automation of administrative tasks whenever possible and creation of a support structure for both computing personnel and end users in the Schools. At the administrative end, an automated e-mail account creation process was implemented, allowing students with a valid Network ID and password to create an e-mail account from any PennNet-connected computer. In addition, e-mail distribution lists were created for each School’s students to submit problems to support personnel and for support personnel to send information and announcements to students.

Automating these administrative functions was relatively easy. The more difficult task was identifying resources to support both the students and School computing personnel. The model that was decided on calls for School computing support personnel to provide training, documentation, and first-line support for their students, with the DCCS help desk providing second-line assistance to School personnel.
A general model?

A common dilemma facing the University is choosing between one standard service that, although cost effective, may be unresponsive to individual constituencies, and allowing each School or unit to develop the best service it can afford—which can lead to higher costs, areas of substandard service, and lack of interoperability. The Dolphin experience suggests a third approach: Study the services and experiences of units on the “leading edge”; achieve campus-wide consensus on standards; aggregate smaller Schools to achieve an economy of scale equivalent to the large Schools; define a service level agreement between the Schools and the central organization; and develop a close working relationship that leverages both the technical expertise of the central organization and the local support organizations’ familiarity with their customers. The 2,500 students now surfing PennNet and the Internet on Dolphin are the first beneficiaries of this “new wave” of organizational thinking.

(Note: For information about the E-mail Task Force, which originally recommended that all students be provided with e-mail and NetNews, see “E-mail at Penn: The next generation,” Penn Printout, October 1992.)

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