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Apple's Electronic Campus is an online, internal data base system that enables employees to learn from each other by accessing information about everything from management projects to conducting a performance review.

By Jennifer Koch

Legend has it that corporate life once was so simple that swapping stories around the water cooler was an effective communications system. Employees not only gossiped about yesterday's sports scores but also traded knowledge about how to avoid production snafus, swapped new-product development details, got information about the latest company benefits, and even may have learned how to recruit new workers.

Granted, if this idyllic life ever existed, it certainly was before there were many employment laws to violate. For that and many other reasons, the old water-cooler network doesn't work anymore. Indeed, even the late-20th-century information systems that replaced it often are strained by increased demand and decreased resources. Human resources departments find themselves devoting ever-increasing amounts of time to fielding employee questions about a growing number of complex issues. "Usually, people first want an HR face," observes Jim Cutler, senior director of human resources at Cupertino, California-based Apple Computer Inc. "If they can't get that, they'll settle for talking with an HR person on the phone. Their last resort is using electronic mail or some other kind of electronic medium."

To make it easier for employees to share critical information while also relieving the pressure on his department, three years ago Kevin Sullivan, Apple's senior vice president of human resources, initiated a campaign to turn the traditional human resources service model upside down from what he calls *face, phone, desktop* to *desktop, phone, face* To do that, Apple had to find a way to capture in an electronic form what's known as organizational memory — such as how to conduct a legal performance review — and store it for individuals to retrieve as needed.

That led to the creation of Apple's Electronic Campus, one of several applications on the company's global information systems network. Today, nearly 2,000 of the computer manufacturer's 11,500 employees worldwide use the Electronic Campus to exchange information about their work and to gain access to corporate information and work processes.

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each other so that they can perform their jobs more effectively, Personnel Journal has awarded Apple Computer Inc. the 1993 *Personnel Journal* Optimas Award® in the Innovation category. Each year, *Personnel Journal* gives this award to a company for developing an initiative that has expanded or improved HR's role in the organization.

Matching technology with employee needs furthers business goals. Rather than spend years creating a huge, centralized database, Apple elected to establish its Electronic Campus in modules, or "domains," that can be accessed from its employees' Macintoshes, and that match the information needs of discrete groups of workers.

Apple managers define a domain in both technical and sociological terms. Technically, a domain is a set of information, names of users and contributors, and an interface that allows the users to access the information. Sociologically, a domain is a community of people who share common practices and knowledge needs.

Each domain within the Electronic Campus can be accessed by subscribers of that domain from anywhere in the world, at any time. It has "browse" and "search" features so that end users can look up the specific information that they need. And it is a dynamic system that allows contributors and users to retrieve information as soon as it is entered.

With the Electronic Campus, Apple's HR department is trying to gradually change the ways in which employees seek information, both from HR personnel and from others in the organization. HR's reasoning is that the more often employees can access information through their desktop computers, other electronic media and over the phone, the more control employees will have over their time and resources.

"Through this project, we intend to encourage the behavior of Apple employees to consult their Electronic Campus application on their Macintoshes first for getting the information and learning support they need, and then, if they don't get the answers they are looking for, use the telephone to reach people for answers," says Sullivan.

For example, Cutler explains, Apple employees usually need to gather HR information in three forms — query, application or consultation.

- *Query*. Employees need access to information and need a way to find out how to get it.
- *Application or interpretation*. Once employees get information, they need to find out how it applies to them.
- *Consultation*. When employees have questions that they can't answer on their own through query or application, they need a further analysis of a problem and turn to human resources consultation services for help.

Apple's drive to invert the HR service-model pyramid has intensified over the past several years by a departmental re-engineering process that has coincided with the company's overall reorganization and downsizing. Faced with a smaller work force and a lower HR-to-employee ratio, HR has had to figure out how to provide the same or higher level of service to employees with fewer people, making the *desktop, phone, face* model even more important.

"Given constrained resources, we need to be spending more of our time in consultation and none of our time, if possible, in answering simple information-retrieval questions," says Cutler. "And we need to try to be as

efficient as possible about the application questions, too."

Although technology isn't the final frontier, it may be an important territory for further exploration. "It's crucial for HR people, and HR as a function, to embrace technology," Cutler says, "because we have to elevate ourselves to where we add the most value, which is at the consultation level."

"Many individuals throughout Apple can have access to information directly from their computers through Apple's Electronic Campus system."

The Electronic Campus captures organizational memory.
The first incarnation of the Electronic Campus was created more than two years ago as a system to support the company's 600 U.S. area associates, who are Apple's support personnel. This was the first domain created.

Under the area associates' domain is a set of information called *Support 90's* [sic]. Before the Electronic Campus, *Support 90's* was a printed-and-bound document that contained frequently used policy information, procedures and forms on such problems as how to make travel arrangements or how to fill out a purchase-order form.

Additions to the document were printed and distributed by interoffice mail to each area associate quarterly or semi-annually. Often, however, area associates didn't maintain the information in binders properly and, as a result, the information usually didn't get used. Instead, area associates looked to Applelink (Apple's E-mail and bulletin-board system) most of the time for updates or answers. This proved to be time-consuming and expensive because Apple departments are billed for every minute that employees spend on Applelink.

Now, many individual contributors throughout the company also can access *Support 90's* information directly from their own computers through the Electronic Campus system, which is free to users. The current number of potential users in this domain is 1,100

Since the first domain was initiated for area associates, three other domains have been created. The first one of these new domains was created a year ago for HR Helpline personnel who are located in Mountain View, California, only a few miles away from Apple's headquarters. The HR Helpline is a group of 12 representatives who answer HR-related questions from employees and dependents on an 800-number.

The HR Helpline workers can access information on all Apple human resources policies and procedures through the Electronic Campus. Previously, the only way to answer questions was to look up information on another computer system using only a single key word to isolate the proper text. HR Helpline personnel now can look up information or answer complex questions about such issues as 401(k)s faster and easier than they did before because they can now search and retrieve using a string of words to find the correct information

Two other domains were created a few months ago for employees who work in Apple's manufacturing plant in Singapore. One of these domains supports employees who must follow the International Standards Organization (ISO) documentation processes of contribution and distribution. The ISO domain gives employees a quick and reliable point of reference for work processes and instructions relating to quality standards. Previously, quality specialists were burdened with the time-

consuming task of updating and redistributing work instructions through a paper-based system.

The other domain created for the Singapore manufacturing site is for Department Management Documents. These provide department managers and supervisors with a centralized information source about standard work practices and procedures

In addition, 400 employees who work in the Apple Assistance Center (the 800-number customer-assistance center that consumers can call with questions) also can access information that they need through the Electronic Campus.

HR supports the Electronic Campus concept and technology.
The Electronic Campus idea surfaced within the HR department when N. Rao Machiraju joined Apple's distributed learning systems group as an individual contributor a few years ago. Machiraju's idea was to design a system that would enable employees to get information that they need in a timely manner.

"Basically, whenever people meet, one of the things they do is exchange stories," explains Machiraju, now manager of the distributed learning systems group. "What we wanted to do was to build a system for capturing these stories and archiving them into a model of organization."

Early on in the project, many managers, including those in human resources, doubted whether the project should stay within human resources because it was a technology-based system. Cutler says there were a few groups in which development of the Electronic Campus could have landed, such as the company's advanced technology group or its enterprise systems computing group.

Electronic Campus has stayed within HR because it needed to be co-created by technologists and the employees who would be using it — a combination which everyone agreed that HR would be the most effective in bringing to fruition.

Responsibility for the Electronic Campus has continued to fall under Apple University, the organization's global corporate-development and employee-development department — a subset of the employment and development department. Specifically, the distributed-learning systems group (within Apple University) is responsible for developing and maintaining the system. "Apple University was the right place for it," says Cutler. "I saw it as a competitive advantage for Apple to be able to use its technology to make the work force more effective."

An important part of the system is that it's developed and maintained in conjunction with the employees who use it. "What makes Electronic Campus unique is that it's totally user-driven," says Kit Lofgren, an independent consultant who conducts Electronic Campus user studies within the Apple community and helps promote the system to end users. The system has been built on the feedback of end users. "They drive the content by how they use it and through their comments," she adds.

Changes and updates are made periodically on the Electronic Campus system by information contributors, a volunteer or volunteers who also are users of the system. Changes are made in this manner so that they're consistent throughout the system.

The area associates' domain, for example, currently has 30 volunteer users

(information contributors) whom end users can call if they have problems finding information within the system or think a set of information needs to be changed, updated, added to or altered in some way. The information contributors work with the distributed-learning systems technologists to alter the system as needed. Users can send questions to contributors through the company's E-mail system and usually receive an answer with-in 24 hours.

"What we wanted to do in designing this *Support 90's* component of Electronic Campus was to give people one-stop shopping for information," explains Lofgren. "So, if they don't find it here, they'll at least have somebody in a related department that they could call or send electronic mail to. We were idealistically hoping that the information would evolve based on the usage, which it has."

Having feedback and feedforward capabilities between end users ties each community of users together. "This is how you make organizations flatter, by taking away intermediaries," explains Machiraju.

Ironically, although Apple's business is developing technology, the company still faces the same hurdles as every other company when it comes to getting people to use new technological systems. A recent study conducted by Dell Computer Corp. indicates that the majority (55%) of Americans are *technophobes*, meaning that most people are averse to using technology in their everyday lives.

"There are few people who will use technology just because they like it," says Cutler. "Most people won't use it, even at Apple. The only reason they'll use technology is because it solves a problem for them or it makes something easier that otherwise would be harder. If it doesn't make things easier, people won't use it, no matter how cool it is."

Technology has to deliver real solutions to real problems. "I think what Rao's really tried to do by working with users is to make the computer a better solution to getting their information and communications needs met, rather than their trying to find somebody [to answer questions]," says Cutler. "That's the significance of the Electronic Campus, and why it's very important to the HR scheme."

Moreover, the very nature of this computer application stimulates a multi-faceted interaction. "From my point of view," says Sullivan, "Electronic Campus is one of the important projects in human resources that is functioning at the intersection between the organizational processes, individuals' behaviors and technology."

> **"Apple faces the same hurdles as other companies in getting people to see new technology. For people to use it, technology must deliver solutions."**

Technology helps people to work in new ways.
The business environment is changing so rapidly, companies are forced to re-engineer how people work. At Apple, technology increasingly will be a piece of that puzzle. "A number of crucial business reasons, including the emergence of the global marketplace, shrinking time-to-market cycles, and the globally distributed work force, are dictating that in order to stay competitive, we have to learn to do our work differently," says Sullivan. "We are rapidly moving toward an any place, any time model for learning and doing our work."

Part of the changing work environment involves empowering individuals

to contribute to the work process. When the first Electronic Campus domain was being developed, most of the end-user testers were happy to tell designers what they thought about the new system. "We tend to get really good feedback from them because few people actually ask their opinion very often," Lofgren explains.

Although Apple's culture is informal, the company hasn't yet fully developed an environment that makes it acceptable for lower-level employees to offer their opinions on their own without being asked, according to Lofgren.

For example, some employees still are reluctant to call the information contributor for their domain when they can't find information or want to make a change. "Some of the support people are shocked at the thought that they can actually stand up and make a difference," she says. "It's so ingrained in them that it's their role to provide for somebody else, they don't realize that they can do something that betters their own world and that that's OK."

Pat Sharp, director of employment and development and director of the Apple University, agrees that empowerment is a big issue. "When people feel like they have an opportunity to contribute and to influence, they feel much more invested in the organization," she says.

Beyond the empowerment issue, technology such as Apple's Electronic Campus brings up another issue: how people get their work done. "So many times, I see people use the computer to do the same things they were doing in paper form, just faster," says Sharp. "It comes across as the better binder. Instead of storing information in stacks or in binders at your desk, it's stored in the machine, but it's still fundamentally paper."

The Electronic Campus has introduced new opportunities for employees and the organization to learn how to work. "I think that what Rao and his people are trying to do is change some of the paper processes into different kinds of processes so that you're more efficient and have more of an opportunity to learn," says Sharp. For example, supervisors who conduct performance reviews can access an interactive role-play section on that topic. The section allows users to create scenarios and ask questions such as, "How do I give someone a glowing review even though I can't increase his or her salary at this time?"

Because the Electronic Campus essentially is a self-teaching tool, people may enter the system and get from it what they need rather than going through one-size-fits-all training courses. "We need to help people think differently, to learn from one another and to be able to deal with changing information quickly," adds Sharp.

Four or five years ago, Apple would ship a product family once every 12 to 18 months. Now product cycles are down to four to five months. Paper-chasing systems simply can't keep up.

"The issue of the '90s is continuity and balance," says Bob Johansen, director of the new technologies program at the Institute for the Future in Menlo Park, California. The institute studies emerging technologies and conducted an independent evaluation of the Electronic Campus. "How do you provide balance in the context of a very chaotic business environment?" he asks. "What Electronic Campus does is to try to set up a balancing mechanism that allows humans to work with computer capabilities to provide balance and a sense of continuity for supporting key business processes over time."

The Electronic Campus probably never will replace employees sharing stories around the water cooler. It wasn't meant to. It does, however, give people another option for finding the information they need quickly and easily. Better work is bound to follow.

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