

Technology

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—Charles Grisham, University of Virginia

Tablet PCs Find Home in Higher Ed

Since 2002, when Microsoft founder Bill Gates touted it as "the future" of computing, the tablet PC has had a bumpy ride. Slow to catch on, tablet PCs have yet to break annual global sales of 500,000; by comparison, 189 million PCs sold in 2004, according to Gartner Research. Many people are impressed by the tablet PC's ability to function like a pen and paper—users can enter text and drawings directly onscreen with a stylus. But they've been less impressed with what tablet PCs have lacked: keyboard, on-board disk drive, and affordable price points. Often costing \$2,000 or more, tablet PCs haven't been able to compete with the steadily falling prices of laptops.

This could change in 2005, say market analysts. Computer makers like Gateway, HP, and Toshiba are launching next-generation tablets with keyboard and disk drives on-board. In addition, the newest tablet PCs are convertible: They can open in a clamshell fashion to work like a laptop, but also have monitors that swivel and fold back on the base to function like a writing pad.



First-year business student Erin Schumacher uses her Gateway M275 tablet PC in class at the University of Vermont.

Bill Gates isn't the only fan. Tablet PCs have developed a small, yet devoted following. In 2002, for example, students and faculty at the McCallum Graduate School of Business at Bentley College in Waltham, Massachusetts, conducted a school-funded study in which they asked 250 college students across the U.S. to use tablet PCs, acquired from 12 different companies, for a semester.

Bentley faculty and administrators also tested the devices. At the end of the semester, users completed a survey about what they thought of the devices. Forty-four percent indicated they would be interested in purchasing a tablet PC, while 29 percent said they would be "very likely" to purchase one.

With two years of slow sales behind them, computer makers are once again putting tablet PCs in the hands of students and faculty to build buzz and boost market share. Last year, Microsoft and Thomson Learning worked with the University of Virginia in Charlottesville to donate tablets to 400 biochemistry, psychology, and statistics students in its College of Arts and Sciences. In another collaboration, Gateway teamed with the University of Vermont's School of Business in Burlington to provide tablet PCs to 180 first-year undergraduate business students at a price point comparable to that of the average laptop.

Erin Schumacher, a business student at the University of Vermont, has been using her Gateway M275 tablet since last August. For her, it has become an indispensable educational tool. "I use it as a personal computer and for note taking in my business and economics classes," says Schumacher. "I have all my notes in one place, and I can easily go back to check my notes from last semester without having to find a separate notebook." Writing onscreen is "the same as writing on a piece of paper," she adds.

Faculty are also taking advantage of the benefits the new technology brings to the classroom. They can write a note or draw a picture on the tablet PC and beam it wirelessly to a projector for display, from any point

Google Gets Bloggy

For the last 18 months, Google Weblog has offered its company community access to an internal Weblog system. With the popularity of creating Weblog diaries and communication, or "blogs," on the rise in the corporate sector, Google is now considering offering its blogging feature to business, according to IDG News Service.

Jason Goldman, product manager for the company's Blogger in Google (BIG), told IDG that Google employees had been using the tool for everything from posting meeting notes to sharing code and diagnostics, to simply keeping personal diaries. "It really helps grow the intranet and the internal base of documents," says Goldman.

With so many blogging tools on the market, analysts believe Google will be extremely cautious about throwing its own hat into that particular ring. However, with more businesses using blogging to facilitate communication and information-sharing within their ranks, it's clear that more software companies will be watching the trend with interest.

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DATABIT

The global business community estimates that network attacks and spam account for **45 percent** of worker downtime and cost companies more than **\$150 billion** a year.

in the room. The devices also eliminate two primary distractions that laptops bring to the classroom—the “click-clacking” sound of students typing and the visual barriers that open laptops create between students and instructor.

Moreover, students enjoy the convertibility of the devices so much that they use the computers in class more often—and learn the material more comprehensively, says Jim Kraushaar, an associate professor in business technology at the University of Vermont. “We found that students with conventional laptops often only bring them to classes where a laptop is required,” he says. “Students with convertibles, however, use them much more often to take notes and write diagrams in more of their classes.” Kraushaar adds that having the ability to respond to a question with diagrams and pictures, rather than text alone, is an invaluable learning tool.

“The tablet encourages me to create more graphic explanations in the classroom,” Kraushaar says. “When both students and faculty are using this technology, that graphical element helps them learn, perhaps not more, but better.”

The handwriting feature of the tablet PCs is one of its important benefits, agrees Charles Grisham, chief technology officer for the University of Virginia’s College of Arts and Sciences. “Over the last 20 or 30 years, we’ve gotten away from using our hands to record information,” says Grisham. “Yet, there’s something about the way the hand and mind work together that allows students to internalize difficult information.” When students record information in their own handwriting, they often learn more effectively, Grisham adds. Tablet technology then allows them to file, access,

manipulate, and share their written notes more easily than they could

with an old-fashioned pen and paper.

Tablet PCs are already taking hold in the healthcare industry, where note taking and digital record keeping are crucial. It only stands to reason that tablets would also find a strong foothold in higher education, says Ted Ladd, a spokesman for Gateway.

“Students appreciate their pen-and-paper capabilities, and faculty can annotate on top of anything, from video to PowerPoint presentations. The operating system also has voice recognition, so students can record lectures and convert them to text,” says Ladd. “We don’t want to give up on the notebook in the short term, but we want to help people make a smooth transition from the notebook to the tablet PC. In the next two or three years, tablet PCs will be the way to go.”

TOOLS OF THE TRADE

New Curriculum Targets Business IT

The IT Governance Institute (ITGI) of Rolling Meadows, Illinois—the research arm of the Information Systems Audit and Control Association (ISACA)—has released a set of educational materials designed to teach students the intricacies of Control Objectives for Information and related Technology (COBIT). COBIT, an international governance and control framework, is designed to help business understand and manage the risks of information management and technology. Material from the new curriculum, COBIT in Academia, can be integrated into curricula for courses on information systems man-

agement, information security management, information systems auditing, and accounting.

COBIT in Academia is available free to academics at www.isaca.org/cobitinacademia, in exchange for their completing a brief questionnaire, agreeing to inform ITGI of their evaluation of the materials, and pledging to use the material for teaching purposes only. The download includes:

- **The Student Book**, which explains the content and application of COBIT protocols.

- **The COBIT Presentation Package**, an 80-slide PowerPoint presentation that illustrates COBIT’s core elements.

- **COBIT Case Study**: This extended case study includes student questions and teaching notes designed to encourage students to apply COBIT knowledge to a real-world situation.

- **COBIT Caselets**, three short case studies with teaching notes.

Professors can use the entire set of materials or extract specific elements to supplement their own teaching examples.

Also available is the ISACA Model Curriculum. The curriculum, which is free to academics at www.isaca.org/modelcurricula, is designed to help professors better teach to students best practices in the audit and control profession.



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New Virtual Home for Eller College

The University of Arizona's Eller College of Management has launched a new Web site at www.eller.arizona.edu. The site is designed to showcase the business school's programs, departments, and research efforts to its audience of prospective and current students, alumni, business partners, faculty and staff, media, and the general public. The site was designed by an internal team led by Eller's Web program manager, Simmons Buntin. The 25-member team included representatives from all of Eller's departments.

The site's new look and organization streamlines more than 2,000 pages of content and extends Eller's new brand-building campaign. Users can search for faculty by areas of expertise and read their latest research, or read student profiles and Weblogs. A specific link, "Technology & Innovations," also leads users directly to

information about Eller's IT programs. Such new links, along with the site's visual appearance and strategic messaging, are designed to convey the school's brand as a leader in accelerating innovation and technology, says Ken Smith, who served as Eller College's interim dean until Paul Portney was named its dean in January.

"As students research business schools, the Web is the first place they look," says Smith, who adds that Eller's Web design team wanted to ensure the site communicated the school's primary message and brand quickly, clearly, effectively. "We believe our new Web presence will help



enhance our reputation with prospective students, faculty, and our peer institutions."

Improving Cybersecurity on Campus

This past January, George Mason University in Fairfax, Virginia, fell victim to a threat that faces all higher education institutions: computer hackers. Although it is believed these hackers had interests other than stealing data, they still had access to the Social Security numbers of more than 32,000 students, faculty, and staff.

School administrators told *Computerworld* that, before the attack, they had believed the school's systems were "secure and safeguarded." Their experience illustrates that any college or university computer system is a potential—and even probable—target for hackers.

To help higher education institutions better prepare themselves against such attacks, two nonprofit

Technology

organizations have partnered to offer them more tools to use for cybersecurity. EDUCAUSE, which is dedicated to advancing the effective use of information technology in higher education, is now working directly with the Center for International Security (CIS), which helps organizations manage IT risks. As a result of the partnership, each EDUCAUSE institutional member receives a free license to redistribute CIS benchmarks and software tools on college- and university-owned systems. In addition, members can redistribute these tools to students, faculty, and employees for use on their own computers.

The EDUCAUSE/CIS partnership has three primary goals:

- To encourage the adoption and deployment of widely accepted technical control standards, or benchmarks, for system security configuration in colleges and universities.

- To establish technical control baselines that an institution's software and hardware suppliers can program into their systems as default security configurations.

- To expand the participation of EDUCAUSE member institutions in the CIS consensus-development process to ensure that the unique security needs of colleges and universities are met.

This new partnership is one of several initiatives undertaken by the EDUCAUSE/Internet2 Computer and Network Security Task Force, which are aimed at advancing best security practices in higher education. CIS benchmarks, for instance, offer universities tools to evaluate and enhance their own protection against external attacks.

It's important to address the unique security needs of the educational community because it includes so many discrete computer users, says Craig Kreitner, president and CEO of CIS. "This agreement," according to Kreitner, "represents an important step toward making the Internet a safer place."

For more information on this partnership and CIS benchmarking tools, visit www.educause.edu/CISDownloadFiles/2634. For information on the EDUCAUSE/Internet2 Computer and Network Security Task Force, visit www.educause.edu/security.

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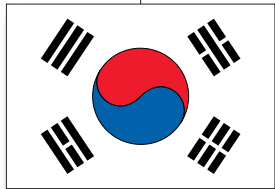
■ GETTING ON THE GRID

IBM recently collaborated with a number of global research organizations to launch a global computing grid project called the World Community Grid. The project invites PC users worldwide—in their home and work environments—to install a 1.5 megabyte software program that brings their systems onto a common grid network. As a result, their unused computing capacity can be utilized by researchers from around the world. Using the extra computing power, researchers will work on everything from Alzheimer's research to improving forecasting methods for natural disasters, say project representatives.

CyLab Targets Security Research

Carnegie Mellon University of Pittsburgh, Pennsylvania, has partnered with the Korea Information Security Agency (KISA) to create a collaborative research lab dedicated to security technologies. Carnegie Mellon was already home to CyLab, a university-wide, multidisciplinary initiative committed to secure computing. Current CyLab projects include creating computers that can heal themselves from attacks and smart cell phones that also serve as password-protected universal remote control devices.

KISA has pledged \$6 million over the next three years to establish two CyLab Korea locations, one on the Carnegie Mellon campus and one in Seoul. The mission of the two labs is to develop research designed to mini-



mize threats such as viruses and hackers, says Hyong Kim, an electrical and computer engineering professor at Carnegie Mellon and director of CyLab Korea.

“The main thrust of this agreement is to continue to work with our Korean colleagues to create a next-generation intelligent system that will develop ways to monitor, detect, and

prevent sabotage of data and networks by viruses, worms, and malicious attacks,” Kim says.

Carnegie Mellon also recently received a \$6.4 million grant over the next five years from the United States’ National Science Foundation to create a new center, Security Through Interaction Modeling, to explore ways to improve computer defenses, at CyLab. The University of California, San Diego, also received a similar NSF grant for projects focused on building secure computer systems.


BIO-PASSPORTS ON HOLD

The European Union has asked the United States for a delay in the implementation of biometric passports. Each passport will contain a computer chip encoded with uniquely identifying information, such as a digital image of the passport holder’s face or fingerprint, and allow EU citizens to travel to the United States without visas. Although the EU asked the U.S. for a two-year delay, the U.S. Congress gave the governing body until October 26 this year to issue biometric passports.



E-PAPER BY 2010?

Seiko Epson Corp. predicts that it may have its flexible display technologies—or electronic paper—ready for commercial markets by 2010.

Some of its potential uses? E-books and e-newspapers that perform like their paper counterparts but that can receive new text via download, and television screens that can be rolled off the wall. By the end of the decade, the company hopes to develop a standard 8.5" x 11" sheet of e-paper that is 0.2 millimeters thick and can resist damage for a month or more. The company projects that each sheet will cost about \$100. 



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