WIRED.com

Computing the Geek Gender Gap
by Kendra Mayfield
2:50 p.m. Jan. 25, 2001 PST

The gender gap in computer use is closing. But another deeper divide continues to widen.

"Women are definitely using (computers and the Internet) equal to men," said Jane Margolis, a researcher at UCLA's Graduate School of Education and Information Studies. "But if you probe a little deeper to look at who feels more familiarity … more comfort with complex programming, that's where you find a real gender gap."

The annual UCLA survey polled over 400,000 students. First-year college women and men reported almost equal computer use, with 77.8 percent of women reporting frequent computer use, compared to 79.5 percent of men.

But female freshmen were only half as likely as men to rate their computer skills highly. Only 23.2 percent of women, compared with 46.4 percent of men, rated their computer skills as "above average" or "within the top 10 percent" of people their age.

The study also found that first-year college women spend less time on the Internet, in chat rooms and playing computer and video games.

Only 1.8 percent of women, compared to 9.3 percent of the men surveyed, said they planned to enter computer programming as a career -- the largest gap in the survey's history.

"This is an area where the gender gap has done nothing but grow larger," said Linda Sax, the survey's director.

"There's a much stronger negative public perception of what computer programming is like," Fisher said. "That (stereotype) tends to be more deterring to women than to men."

The gender gap in computing confidence also exists among the group of women who would appear to be the most secure in their technical skills: computer science majors.

According to researchers at the Carnegie Mellon Project on Gender and Computer Science who analyzed four years of interviews with male and female computer science majors, female students tend to underestimate their abilities far more than male students.

To meet this goal, educators need to encourage young girls to explore computer programming and teach them how computers interact with other fields of interest, Sax said.

"If women aren't shaping the decisions of technology, there's a risk that technology won't be as interesting or as relevant or as useful for women," Sax said.

WIRED.com

They Be Jammin' in France
By Daithí Ó hAnluain
2:00 a.m. March 23, 2002 PST

Mobile-phone jamming in public venues has become legal in France, and a survey published last week indicates that a large majority of French citizens support the measure.

Jamming devices make it impossible to make or receive calls, voice mails and text messages on a mobile telephone. France is the first country to legalize jamming devices for public use.

Ring-tone rage is a serious problem. In 1999, a man was beaten to death with a beer bottle in Germany because he would not turn off his mobile phone in a beer garden. Although not regularly inciting homicide, boorish cell-phone behavior is a pet peeve with commuters -- a situation that has become global.

A survey, by Taylor Nelson Sofres, showed that 85 percent of French people welcomed jamming, while over 70 percent of Finns and Italians favored it.

Surprisingly, while the under-35 age group showed less enthusiasm in all the countries surveyed, they were still a majority in each country.

The French legalized cell-phone blockers in December, and now the French regulator, Autorité de Régulation des Télécommunications, is developing technical standards for their use. Jammers could be deployed by summer.

Jamming devices work by occupying all the available spectrum within its range and causing the cell phone to give a "no signal" message to users.

"The legal use and licensing of such devices is unlikely and unnecessary. Their use would be an infringement of the networks' licensing agreement," says the Federation of Communication Services, an industrial body representing cell-phone companies.

"This issue needs to be considered carefully, particularly the effect that any legislation may have on mobile operators at a time when they are facing increasing financial pressure," said Alain Imbert, the director of TNS Telecoms, which carried out the jamming survey.

Nokia believes education is the key to combating mobile-phone pests. "Frankly, I'm surprised (by) the results because (mobile-phone nuisance) isn't a problem" in Finland, said Nokia spokeswoman Marianne Holmlund.

Mobile operators and handset manufacturers are eager to encourage responsible cell-phone use. "In cinemas, it is normally telecommunications companies that sponsor ads telling people to turn off their mobile," Yunus says. "So it is to their benefit to improve the image of mobile phones. But there is a concern over the potential abuse of jammers. Unscrupulous retailers might abuse it."

In the United States, the situation is very clear. "Importing, buying or using wireless phone jammers in the United States is illegal, and we foresee no likely changes in U.S. law on this matter," says Travis Larson of the Cellular Telecommunications & Internet Association.

Larson has argued in the past that spectrum is private property, and jamming it is the equivalent of stealing.

Meanwhile, France will be a test case for the use of electronic countermeasures against mobile phones and could prompt imitation in Europe.

Microsoft Password Research Looks to Images, Not Text
March 21, 2002 08:18 PM ET

MOUNTAIN VIEW, Calif. (Reuters) - Researchers at Microsoft Corp. MSFT.O are working on new types of passwords that will be easier for people to remember but harder for hackers to crack.

The key -- images, which tend to make more of an impression on people than strings of text characters.

Darko Kirovski, a cryptography and anti-piracy researcher at Microsoft, demonstrated a prototype password system at Microsoft offices in Mountain View, California, on Wednesday.

On a screen full of images of different country flags, he clicked on a number of points within the images that correspond to specific pixels. The series of pixels is then converted into a random number and stored in the computer, he said.

Users simply remember exactly where on the images they clicked and in what order.

"I don't think you can create a password that is easily memorizable that is 20 characters long," Kirovski said.

Because of their mnemonic limitations, people often choose names and simple words and phrases for their passwords. But those can be cracked within minutes with so-called "dictionary attacks," software that is easily downloaded off the Internet that systematically guesses words until it finds those used in passwords.

People could use any image, the more complex the better, or even video, according to Kirovski. The images would have to be doctored to work with software that could convert pixels to numbers and encrypt them.

Even with such a system, people would still be susceptible to "shoulder surfing," in which someone watches a computer user type in their password.

Such image-based password research is not new, according to Bruce Schneier, a cryptographer, author of several security books and chief technology officer of Counterpane Internet Security monitoring firm.

"It's something that the security community has been working on for over a decade," he said. "The basic idea is that the brain can remember faces better than it can remember letters and numbers."

In general, it might be more secure, he said, "because people choose such lousy passwords."

Find the Cost of (Virus) Freedom
By Michelle Delio
2:00 a.m. Jan. 14, 2002 PST

Virus and worm attacks were at an all-time high in 2001, costing corporations billions of dollars, according to the news reports that followed each release of malicious code.

Nimda, we were told by articles quoting Computer Economics, cost companies $635 million in clean-up and lost productivity. The total sum for the various versions of Code Red was $2.62 billion, SirCam leeched $1.15 billion out of corporate coffers, and the unlovely Love Bug cost $8.75 billion to exterminate.

Computer security incidents related to worms and viruses escalated dramatically in 2001, according to newly issued statistics by the Computer Emergency Response Team Coordination Center (CERT/CC). CERT's statistics, which came out Friday, said that 52,658 security incidents were reported in 2001, compared to 21,756 in 2000.

To estimate the damage, media organizations nearly always turn to Computer Economics -- a California-based research firm whose primary business is to advise companies on technology investment and marketing strategies.

But many industry experts wonder how the company arrives at these seemingly exorbitant figures. Some antivirus firms and industry watchdogs said that Computer Economics is less than forthcoming about the specific data, sources and processes that it uses to tabulate the economic impact of viruses.

Richard Forno, Chief Technology Officer at Shadowlogic, a security consultancy firm, said that it's "nearly impossible" to quantify the number of systems impacted and the total amount of damage caused by a virus.

Some systems administrators have wondered why Computer Economics cites such high costs for virus cleanup since many companies don't ordinarily hire additional staff to deal with the mess.

"I'm paid the same hourly rate whether I'm patching the system or cleaning a virus," said Aneil Patel, a systems administer for a Manhattan graphics firm. "I'm paid to deal with whatever comes up, like most of my colleagues, so the figures cited by Computer Economics for cleanup costs have always puzzled me. Is someone out there getting special hazard pay for dealing with viruses?"

"We can safely assume that there are costs associated with the remedying of a virus event," said Marquis Grove, a systems administrator who maintains Security News Portal, a security site.

"The bottom line is that malicious code events are on the rise, both in frequency and alleged financial damages," Shadowlogic's Forno said. The inherent vulnerabilities of the Windows operating system makes it very easy to exploit by a rogue programmer."

Google's Search for Winner Ends
By Farhad Manjoo
6:00 a.m. May 31, 2002 PDT

A 27-year-old New York computer scientist was named the winner of Google's first programming contest on Thursday for creating a location-based search tool that could allow Google users to restrict their search results to specific geographic regions.

Daniel Egnor won $10,000 in cash and a trip to Google's headquarters in Mountain View, California, where he'll have the chance to run his code on some of Google's systems. According to the contest's rules, Google can now use his code in its own systems, but company representative said they had no plans to implement the tool in the publicly available search engine.

If added to Google, Egnor's code would allow a searcher to ask for pages that match a keyword and are based in a particular location. The usual million-plus results that come up for the ever-popular search of "Britney Spears," for example, could be shortened to just a few hundred thousand if all one really needed were Britney pages based in Bangladesh.

But Egnor wrote in an e-mail that his program would be more practical as a kind of Google-powered Yellow Pages for the Web.

The idea was "something I've wanted for a long time," Egnor wrote. "I've been thinking about it for years, and this was finally an opportunity to see if it works."

The Yellow Pages work just fine for what they're designed for -- businesses that aren't unusual -- but it's "a closed system and the content is pretty limited; it's just a list of big stores categorized in one particular way," Egnor explained.

"I wanted the same geographical search ability -- find stuff that's near me -- but on the Web as a whole, so I could find n ot just big stores but smaller stores and parks and events that are going on and just whatever anyone wanted to make a Web page about. So if somebody out there wanted to make a Web page that listed all the coffeeshops that also offer 802.11b Internet access, I could search for that and get a map of the ones nearest me."

The program determines where a page is located by scanning it for street addresses. "It has a thing that can recognize a lot of different ways people format addresses in text, and it uses a database the U.S. Census Bureau puts out to turn those into geographical coordinates," Egnor wrote.

Jen McGrath, a software engineer at Google, said Egnor's entry was chosen not just because he had developed a useful application but also because he had "clean" code and, importantly, because his code showed the possibility of "scaling" to work across the entire Web.

Egnor, who received his computer science degree at the California Institute of Technology in 1996 and now works at an investment banking firm in New York, said that winning the contest "definitely seemed like a long shot."

And what's Egnor going to do with the money? "I hadn't really thought about that part," he said.

He Hacks by Day, Squats by Night
By Noah Shachtman
2:00 a.m. March 6, 2002 PST

NEW YORK -- Last January, Adrian Lamo awoke in the abandoned building near Philadelphia's Ben Franklin Bridge where he'd been squatting, went to a public computer with an Internet connection, and found a leak in the Excite@Home's supposedly airtight company network.

Just another day in the life of a young man who may be the world's most famous homeless hacker.

More than a year later, Lamo is becoming widely known in hacker circles for tiptoeing into the networks of companies like Yahoo and WorldCom -- and then telling the corporate guys how he got there.

Administrators at several of the companies he's hacked have called Lamo brilliant and "helpful" for helping fix these gaps in network defenses.

Critics blast Lamo as a charlatan who preens for the spotlight.

"(Is) anyone impressed with Lamo's skills(?) He is not doing anything particularly amazing. He has not found some new security concept. He is just looking for basic holes," wrote one poster to the SecurityFocus website.

To such barbs, Oxblood Ruffian, a veteran of the hacker group Cult of the Dead Cow, replied, "It's like dancing. Anyone can dance. But not many people can dance like Michael Jackson."

Lamo's latest move: using a back door in *The New York Times'* intranet to snag the home phone numbers of over 3,000 Op-Ed contributors, including Vint Cerf, Warren Beatty and Rush Limbaugh.

Living out of a backpack, getting online from university libraries and Kinko's laptop stations, the slightly built, boyish Lamo wanders the country's coasts by Amtrak and Greyhound bus.

Cyberpunk fiction, like Neal Stephenson's *Snow Crash*, seems to serve as a model for real-life action. Lamo is "a strange amalgam of Robin Hood and console cowboy," Whiters-Ridley wrote in an instant message. "(He's) the wandering samurai, Mad Max, (the) hacker with a heart of gold."

Lamo recently posted to a Usenet group, "If I didn't have computers, I'd be exploring storm drains or mountain caves. Hell, I do, when I don't have a line to the Net. There have been times my laptop has been the only dry thing I owned."

But his adventures -- picking through the trash of tech firms ("we considered stealing a CSC [Computer Science Corporation] flag … but decided against it," a co-conspirator said) or climbing to the roof of Philadelphia's 30th Street Station -- may be starting to wear thin.

The heat is coming from a growing chorus of critics and a federal investigation Lamo feels is almost certain to come.

"My lifestyle takes a toll on anyone I interact with," Lamo said.

WIRED.com

IT: The Industry Without Women
By Kendra Mayfield
2:00 a.m. Dec. 1, 2001 PST

More than 90 percent of the engineers who make Internet systems work are men.

In the next four years, women will continue to be massively underrepresented in the networking field, despite a major shortage of skilled engineers in Europe that threatens to hamper the industry.

The number of women working as network professionals in Western Europe is expected to double by 2004, reaching almost 94,000. But that's still only a fraction of the number of people working in the industry, according to a report by IDC for Cisco Systems (CSCO).

Increasing the number of women in the field could help offset an impending crisis.

"The networking skills shortage in Europe isn't going away despite the recent economic downturn," said Mike Couzens, managing director of corporate communications and training for Cisco EMEA. "Women could make a major contribution towards plugging that gap and help companies and countries stay competitive."

At the end of last year, only 5.6 percent of engineers in Western Europe were female. That number is projected to increase to 7.3 percent by 2004.

That upsurge alone won't be enough to offset the shortage of skilled networking professionals, which is expected to exceed 500,000 in the region by 2004.

"The number of men participating in the networking profession will almost double as well, which is good news for the industry, but still not nearly enough to close the skills gap," Couzens said. "The forecasted strong growth of women joining the industry is welcome, but it shows more needs to be done to encourage those who perhaps never considered networking engineering as a career."

So why do so many women find the Internet networking field undesirable?

Many women perceive the field as "nerdy" or "too technical," the report found. Also, a lack of strong female role models discourages many from entering the industry.

The major hurdle for boosting the number of women in the industry is convincing young women to join a technical profession in the first place, the report says.

"There needs to be a change in women's attitudes to technical careers, and the best place to do that is during their education," Couzens said. "The more women who enter the industry, the more women there will be."

In Western Europe, organizers are already seeing an 11 percent participation rate of female students taking the Cisco Networking Academy Program, a free networking curriculum that Cisco offers to schools and colleges throughout the world.

But governments and industry need to not merely educate women who are interested in the field, but to also retain those who are already in the industry, the report suggests.

"There isn't much point in training women to enter the industry if no effort is made to retain them with good working conditions and career prospects," Couzens said. "It's also important to retain them so there are more role models in the future."

WIRED.com

Klez: Hi Mom, We're No. 1
By Michelle Delio
2:00 a.m. May 24, 2002 PDT

It's official. Klez is the most virulent e-mail virus of all time.

For close to a year, SirCam was the virus most likely to turn up in your e-mail box. But representatives from a half-dozen antivirus firms now believe that "Klez.H" is the most pervasive e-mail virus in cyberhistory, estimating that it has infected hundreds of thousands of computers within hours of first being spotted in mid-April.

And so far, Klez has shown no signs of going away.

"I don't even bother having Klez messages counted as they come in any more," confessed Rod Fewster, Australian representative of antiviral application NOD32. "The number of Klez-infected e-mails surpassed SirCam in sheer volume days ago, and that's not even counting all of the Klez-related e-mails."

More interesting than Klez's ability to entice vast numbers of users to open its infected e-mailed attachments is how the virus -- which is neither particularly clever nor cutting edge -- managed to turn some antiviral applications into spam-generating machines.

In many cases, network antiviral (AV) software filters are set to automatically respond to any incoming virus-infected messages with an e-mailed warning to the sender that a virus was detected in the received e-mail.

Klez's trick of spoofing senders' addresses resulted in floods of those warnings going out to the wrong people: people who did not send the virus and whose machines are not infected.

Many antiviral experts have been calling for all AV companies to advise their users to temporarily disable the auto-alert systems.

"Klez managed to triple its annoyance factor by using -- yes, using -- the AV industry," Fewster said. "AV companies have been exploiting those auto-replies as free advertising for years. Virus spreaders aren't stupid. They see what's going on around them and they work the system. Sometimes I think the antiviral industry is its own worst enemy."

Rob Rosenberger of virus-information site Vmyths said that Klez simply points out a problem that he has been ranting about for years.

"Warnings about viruses always equal the havoc created by the virus itself," Rosenberger said. "There's the flood of well-intentioned alerts from people, and then there's the automated alerts from antiviral applications. These alerts clog networks and inboxes in the exact same manner as most viruses do. I've yet to see any proof that alerts actually help solve the problem."

No Pain, No Game
By Dermot McGrath
2:00 a.m. March 7, 2002 PST

COLOGNE, Germany -- Have you ever had a hankering to play a computer game that allows you to inflict real pain on your opponent?

Ever wondered how it would feel to shock, burn and lash your opponent into submission?

Well, wonder no more. Two German designers have addressed this yawning gap in the gaming industry with a fiendish invention called, appropriately enough, the Painstation.

The concept is simple. Two players eyeball each other over a table console. The left-hand is positioned on a sensor field -- otherwise know as a PEU, or Pain Execution Unit. When both players have made this electric contact, the game, and the real fun, commences.

The game itself is based on the first-generation PC game known as Pong, or bar tennis, and is followed by both players through a graphics display in the center of the table. The player's right hand controls the bat, and the object of the game is to keep the ball in play as long as possible.

In the original PC game, missing the ball resulted in nothing worse than a moment's frustration and perhaps a well-chosen expletive. In this revamped version, missing the ball is not only annoying, it is also very painful.

Randomly arranged along both sides of the playing field are Pain Inflictor Symbols, each representing a different sort of pain. Depending where the ball hits, the player will feel sensations such as heat, punches and electroshocks of varying duration delivered through the PEU.

The game ends only when one of the players decides that the pain is too much to bear and lifts a hand off the PEU. All of which sounds straightforward, but in truth games often continue long past the point where common sense has given way to stubborn machismo.

"I think this really explains the appeal of something like the Painstation," said its co-inventor Tilman Reiff. "When you're playing in public against a friend with people cheering you on, it's very hard to throw in the towel without putting up a good fight. I've seen people leave the table with blood on their hands and their skin completely raw because they didn't want to back down in front of an audience."

The Painstation originally began as a university project at the Academy of Media Arts, Cologne, that Reiff was working on with his friend and partner, Volker Morawe.

"I think we were both interested in games and technology and saw the potential to make something more realistic out of the gaming experience," Reiff said.

"We've found the reaction is generally divided -- people either love it or hate it. It depends on your temperament," Reiff said. "For those who don't mind a bit of pain, they usually find it extremely addictive."

Addictive or not, it seems unlikely that the Painstation will ever be anything more than a curiosity piece. It would take a brave manufacturer indeed to consider promoting a console capable of making players bleed. And how many injury-claims lawyers would come crawling out of the woodwork if the game ever became truly popular?

And even allowing for all that, there is also the small matter of Sony Corporation. The company has already warned the German duo against using its logo and made threatening noises regarding the use of the name if the pair ever wanted to commercialize their product.

Rotten Links Hamper Learning
By Katie Dean and Kendra Mayfield
2:00 a.m. April 24, 2002 PDT

It's downright annoying to come across a broken link on the Web.

And for a professor teaching a distance education course –- or referring "traditional" students to an Internet resource –- it can be a major problem.

Two researchers at the University of Nebraska in Lincoln tracked so-called link rot after they discovered that hyperlinks disappeared before they finished developing distance education courses.

The study, "Broken links: The ephemeral nature of educational WWW hyperlinks," will be published in the Journal of Science Education and Technology in June.

"Everyone says, 'Yes, yes, we all know they disappear,'" said John Markwell, a professor of biochemistry at the school. "We didn't know anyone who had actually monitored the loss."

Markwell and David Brooks, a professor of chemistry education, collaborated to develop three graduate-level biochemistry courses for high school teachers.

Students can sign up for a course any time and take it at their convenience.

Sounds easy, right?

Not for the professors. Each month, the two spend about four hours checking the 515 hyperlinks to ensure that students have up-to-date materials.

After 20 months, 18.8 percent of the total links had disappeared. Over 11 percent of dot-org links, 18.4 percent of dot-edu pages and 42.5 percent of dot-com addresses were lost since the study began.

"They've just continued to disappear," Markwell said. "I find it frustrating."

Missing links include resources from the Mayo Clinic, an encyclopedia of plant biology, dot-com links on steroid use and links to courses with relevant lecture notes, Markwell said.

"It's decreased the amount of distributed resources I use to enrich the experience of my own (traditional) students," he said.

The study also found that a handful of links changed into porn links, which could be a real concern for high school or middle school teachers who direct their students to Internet resources, he added.

But another distance education provider said that link rot hasn't been a significant problem.

"Typically we don't react to a missing link," said Craig Clawar, assistant director for technical operations at the Professional and Distance Education program at Rensselaer Polytechnic Institute. "Most of our audience is sophisticated enough to know how to react to that."

The distance education program targets working professionals, and has about 1,000 students.

Clawar said that professors typically revisit their content from semester to semester for accuracy, but link rot "hasn't become a big enough issue."

The Law Is Going After Spam
By Joanna Glasner
12:45 p.m. April 2, 2002 PST

Spam and Internet fraud -- the twin plagues of the information age -- are getting stepped-up attention from federal and state agencies that say more joint effort from law enforcement groups is needed to curb the scourge that is online swindling.

On Tuesday, the U.S. Federal Trade Commission said it has joined forces with eight state law enforcement agencies and four Canadian consumer protection groups to crack down on cyber scam artists ranging from purveyors of phony cancer treatments to senders of chain e-mail solicitations.

According to the FTC, the two-year effort named "International Netforce" has resulted in 63 mostly civil cases against alleged fraudsters over the last six months, many of which were first announced Tuesday. The agencies have also launched a joint anti-spam effort, sending warning letters to more than 500 people believed to have sent deceptive e-mail mass mailings.

"We will not allow the Internet to be a vehicle for promoting one of the oldest scams in the book," said Christine Gregoire, attorney general of Washington, one of the eight Northwestern states participating in the FTC-led effort. The FTC said it hopes to expand such joint efforts to encompass more states and foreign agencies in the near future.

Law enforcement agencies said they placed particular emphasis on cracking down on con artists who tried to take advantage of panic arising from Sept. 11 and the anthrax scare. Companies that hawked the anthrax treatment Cipro online for those without prescriptions, or offered ineffective anthrax test kits, were high on the list of targets, Gregoire said.

The FTC also levied serious charges in a lawsuit filed in federal court in Seattle against David L. Walker, whom they accuse of using an Internet site to market products he claims cure cancer.

Other cases involved illegal chain letter schemes, online auction fraud and a company that promised members money to view online ads, but didn't pay them.

Agencies also focused on the not-exactly-illegal but nevertheless irritating aspects of online spam.

One experiment attempted to test the validity of the commonly held belief that responding to "remove me" or "unsubscribe" options included in bulk e-mail messages results in more spam.

In a first batch of tests, Charles Harwood, the FTC's Northwest Region director, said the results indicated that "unsubscribe" links, rather than constituting a clever ruse for obtaining valid e-mail addresses, are often simply dead addresses that go nowhere.

Harwood also noted that early efforts to crack down on spam have so far not curtailed the flood of junk e-mail. If anything, it's on the rise.

Since the beginning of 1998, the FTC said people have forwarded 10 million spam messages to uce@ftc.gov, the address for the agency's junk e-mail database.

But the all-time biggest month, Harwood said, was March. Following a publicity campaign to draw attention to the junk e-mail problem, the agency received 1 million forwarded spams in that month alone.

WIRED.com

The Penguin Continues Its March
Associated Press
6:43 a.m. May 30, 2002 PDT

NEW YORK -- Linux is now proliferating on powerful government computer systems in the United States and abroad, with technology giants increasingly providing support.

At a Tokyo trade show on Friday, IBM was announcing the sale of more than 75 Linux-based computer systems to U.S. agencies including the Air Force, the Defense, Agriculture and Energy departments and the Federal Aviation Administration.

Overseas, Linux systems help keep order in Germany's parliament as well as China's post office, France's culture, defense and education ministries and other federal agencies in Europe and Asia.

"It's an interesting trend and we're seeing a lot of organizations who are very interested in open-source software in general and Linux in particular," said Dan Kusnetzky of the technology research firm IDC.

Unlike most commercial software, the underlying code in open-source software is free and benefits from continual scrutiny and improvements made by a community of programmers.

Proponents say that makes Linux more stable and secure than, s ay, Microsoft products -- a claim Microsoft and others dispute.

Hewlett-Packard recently sold its second Linux system to the U.S. Department of Energy a $24.5 million computer fingered as the world's most powerful Linux configuration. The Energy Departme nt will use the machine for biological and environmental research.

And Red Hat, which sells a popular version of Linux software and tools, says the European Commission is running its software, along with federal ministries in Germany.

Now that adoption of Linux is being pushed by the likes of IBM and HP, the once -renegade operating system has gained a gleam of respectability, said James Lewis, a technology analyst at the Center for Strategic and International Studies who helped formulate Clinton adminis tration encryption policy.

Until recently, Linux filtered into U.S. government computers through system administrators who simply installed it because it is cheap. But increasingly, experts say, agencies are willing to pay for high-performance hardware tailored to Linux.

Linux has made little headway in the desktop operating-system market dominated by Microsoft because of incompatibilities with popular Microsoft applications that people use every day.

However, Linux is now the world's No. 2 server operating system, with about 27 percent of the market behind Microsoft's various Windows systems, which run more than 40 percent of servers and most desktop computers, according to the technology research firm IDC.

With so many software developers tinkering with Linux's open code, new versions of the software show continual improvements, said Steve Solazzo, IBM's general manager for Linux.

"Linux is maturing very quickly, adding feature and function incredibly fast," Solazzo said.

Tiny PCs: Is There a Market?
By Elisa Batista
2:00 a.m. April 23, 2002 PDT

With much fanfare, a San Francisco startup, headed by a member of the team that developed Apple's Titanium PowerBook, recently introduced a new category of computers: full-fledged Windows-powered PCs the size of pocket novels.

Although the past is littered with similar ventures that have failed, OQO is claiming it has invented the "world's first ultra-personal computer."

Precedent says OQO (pronounced oh-CUE-oh) has a big hurdle to overcome.

"I've tried for years to make desktop PCs go away," said Gary Elsasser, vice president of technology at eMachines, a manufacturer of affordable computers. "No matter what we do, the ratio between desktop and mobile computers stays consistent.

"(Consumers) like to have something big to trust."

Before joining eMachines last year, Elsasser worked at Toshiba for 14 years. During that time, Toshiba introduced a "VHS-tape-sized" computer called the Libretto. But the device hasn't been produced in the United States for three years. The Libretto bombed everywhere except in Japan because of its small screen and short battery life, Elsasser said.

"While it was a media darling, it did exactly what we thought it would," he said. "It showed that Toshiba could build a VHS-tape-sized computer.

In terms of size, there are striking similarities between the Libretto -- which means "small book" in Italian -- and the thin, paperback-shaped OQO.

But there are also big differences in terms of their technical specifications: The Libretto had only 60 KB of memory, whereas the OQO computer contains 256 MB of memory and a 10 GB hard drive with storage for thousands of songs or three full-length movies. Rather than include a keyboard as the Libretto did, the OQO computer has a touch-screen interface.

The OQO, which runs on Windows XP, has a USB port and 802.11b wireless Ethernet connectivity. It also supports Bluetooth. While OQO hasn't signed up prospective retail stores to carry the device, the company expects the miniature computer to sell for $1,000.

OQO CEO Jory Bell, who has worked on the IBM ThinkPad notebook and Apple's Titanium PowerBook, says his new machine has eight hours of battery life.

"The performance is as good or superior to an existing laptop," he said. "The main difference between this and a Sony Vaio is you can put this in your pocket and carry it with you all the time."

But by the time the device hits the market later this year, it will be competing against other miniature-sized computers such as beefed-up personal digital assistants. Unless OQO heavily markets the computer, consumers may mistake it for a very expensive Palm handheld, Elsasser said.

WIRED.com

Wireless PCs at school
By Mark Baard
2:00 a.m. Aug. 30, 2001 PDT

Schools are beginning to scrap hard-wired computer labs in favor of wireless laptops and handheld PCs.

Public school administrators are admitting the failure of schools' ubiquitous computer labs, which some experts say have had a negligible impact on education, despite two decades of being in schools.

Now schools are experimenting with wireless computing technology. Instead of taking kids to the computers, the computers are coming to the kids.

In Maine, every seventh grader will receive a wireless laptop next year, courtesy of the state.

The superintendent of public schools in Henrico County, Virginia, wants to distribute Apple iBooks to 42,000 students and teachers over the next couple of years.

In San Lorenzo, California, 8,000 students from grades four through 12 will get a laptop that they can keep until they graduate.

And kids will be able to access the Net anywhere near the district's 15 school buildings. (The IT staff spent the summer sticking infrared cells in the school's ceilings.)

Researchers are already saying that wireless technology is having an impact, by increasing student access to computers and giving kids more autonomy in the classroom.

Government studies have conclusively linked computer technology to increased business productivity. But at schools "the impact of computers has been zero," said Elliot Soloway, a professor of education and computer science at the University of Michigan.

At most schools, kids are marched to the computer lab once a week, where they learn "how to use a computer" -- something many of them already know.

Instead, they should be given the chance to use their PCs to take notes, organize projects and do research, Soloway said.

But according to David Dwyer, director of educational technology at Apple, networking every classroom with wires and cables is just too expensive.

Apple's solution is to bring the computer lab to the classroom: It is selling an iBook Wireless Mobile Lab that includes 16 iBooks, a printer and an AirPort Wi-Fi base station for classroom networking and Internet access.

That's enough machines for everyone in the average secondary school classroom, according to the U.S. Department of Education, which estimates the current pupil-to-teacher ratio in the United States at 14-to-1.

Apple Ousts Coder for Being Young
By Katie Dean
2:00 a.m. March 27, 2002 PST

In a move that critics say might discourage kids from using its products, Apple gave the boot to a self-described "avid Mac evangelist" participating in its open-source project because he's only 15 years old.

Finlay Dobbie was a frequent contributor to Darwin -- the open-source core of Mac OS X -- until the company discovered he was a minor.

Citing its policy that members of its developer programs be at least 18 years old, Apple disabled Dobbie's Apple Developer Connection account, making it impossible for him to download developer tools or further participate in Darwin.

"Their attitude seems to be the complete opposite of the open-source attitude," Dobbie said. "I've been working on Darwin and advocating their products for so long that I don't think this is the way they should be trying to encourage me to work with them."

An Apple spokeswoman wouldn't comment on the situation, but one expert said it's likely Apple's policy is in place to protect the company.

"Any contract entered into with a minor is voidable," said Gene Riccoboni, a lawyer specializing in Internet law. "It can unilaterally be rescinded. He could sign the non-disclosure agreement and say, 'I didn't know what I was doing.' There's nothing illegal about a minor doing work for you, but he can essentially get out of his obligations."

For example, Dobbie could contribute to the source code, and then later decide that he wants the rights to the work he has done.

"While legally, Apple has every right to be doing this, I think they're making a big mistake," Riccoboni said. "It's more of a PR problem. It's going to dissuade future savants from contributing."

Indeed, Apple's actions have generated over 700 comments from the geek community on Slashdot since Monday.

One open-source expert said that Apple's decision is surprising given the company's efforts to market to kids, and the number of kids who are very involved in computing.

"These are kids who love the Macintosh computers, who want to learn their way around it, who want to build neat things. What is Apple going to do? Drive them out?" said Peter Wayner, author of *Free for All: How Linux and the Free Software Movement Undercut the High-Tech Titans*. "These guys are going to be customers for life."

"It's almost like you're cutting off people who want to do your work for free," he said. "I'm sure if they thought about it, they could find a better way to solve the legal wrinkles."

"It takes an extra effort -- why isn't Apple willing to make an extra effort when this young man has made an extra effort and contributed to Apple's software base?" said Elliot Soloway, a professor of computer science and education at the University of Michigan.
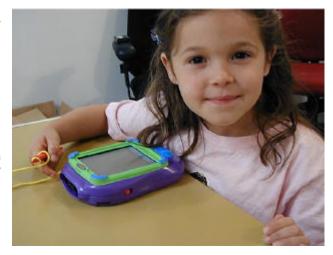
"Apple's response is very short-sighted and sad," he said. "They've forgotten their roots."

WIRED.com

A Day, and a Toy, for a Daughter
By Leander Kahney and Nadine Kahney
9:45 a.m. April 26, 2002 PDT

Thursday was Bring Your Daughter to Work Day and Nadine Kahney, daughter of reporter Leander Kahney, came to the Wired News office to review one of the hottest electronic toys on the market: Fisher-Price's Pixter, billed as a Palm for kids.

Fisher Price's $45 Pixter is like a cross between a Palm handheld and an electronic Magna-Doodle. It doesn't store phone numbers or receive e-mail, but it does have a touch-sensitive LCD screen that lets kids draw pictures and play games.

Nadine, 5, didn't put it down for the entire day. It had to be pried from her hands at bedtime. She woke up early on Friday and immediately began playing with it.

"Daddy, since you got it for me, I'm really excited about it," she said. "I can't stop playing with it. I love it."

Designed for children ages 4 and up, the Pixter is made of sturdy plastic and is about the size and weight of a bulky paperback.

Fisher-Price calls it a "creativity system," and its raison d'etre is drawing on the monochrome screen with the attached stylus. The idea for the toy came from watching kids make drawings on their parents' Palms.

The Pixter comes with four built-in drawing activities, including freestyle drawing and join-the-dots. Along the bottom of the screen are a string of icons for drawing tools like a pencil, an eraser, geometrical shapes and an icon stamp.

Chirpy tunes and sound effects accompany a lot of the pen strokes and activities. Surprisingly -— and mercifully -— they aren't very irritating. At least, not yet.

Extra software cartridges, sold separately for about $10, can be plugged for activities like tic-tac-toe and bingo. There is also a selection of educational alphabet and number games, as well as a flip-book-style animation program.

The Pixter, which made its debut at last year's Toy Fair in New York, has been a surprise hit, appealing to both children and adults.

Fisher-Price sold approximately 500,000 during the holiday season. Retailers reported it was out of stock more often than not and in the run-up to the holidays, it commanded high prices on Internet auction sites. "Sales have been incredible," said Fisher-Price spokeswoman Sue Jelinek.

Fisher-Price will be introducing a new version, the Pixter Plus, in August. The new model will have more memory, allowing up to 20 pictures to be stored, a silvery plastic case and a flexible plug-in screen light for playing in the dark. There will also be nine new software packs, including a couple of Disney titles.