

Tech researchers creating software to protect children

POCKET shields children from strangers who ask for information through the Internet.

By Angela Manese-Lee

BLACKSBURG -- Most children know that when a stranger asks for their name, address or phone number, they should run straight to a parent or guardian.

But what about the strangers who ask for that information through the Internet -- the ones who offer not candy, but screensavers?

Well, a group of Virginia Tech professors and graduate students are working on a computer program that would send such strangers straight through a parental screening.

Called POCKET, or Parental Online Consent for Kids' Electronic Transactions, the technology aims to protect children's online privacy by obtaining and ensuring parental consent when information is solicited from a child.

According to the Children's Online Privacy Protection Act Rule, Web site operators must obtain parental consent before collecting and using personal information from a child younger than 13.

"Over so many years, the FTC [Federal Trade Commission] believed that there would be a verifiable form of parental consent that came along that solved the problem through technology," said Janine Hiller, professor of business law in Tech's Pamplin College of Business.

"It didn't."

One year into their three-year project, Hiller and her colleagues are refining a program that may.

This is important because kids as young as 3 are becoming increasingly Internet-savvy, clicking their cursors in search of education and game-oriented entertainment.

According to a special Census study issued in October, 23.4 percent of children ages 3 to 5 use the Internet.

And the older a child is, the more likely he or she is to surf the Net -- the survey found 44.8 percent of children ages 6 to 9 did, as well as 68.9 percent of kids ages 10 to 14.

Karen Young of Christiansburg said her daughter Elizabeth, now 15, began using the Internet in the sixth and seventh grades, mostly to look things up for school projects.

Now Elizabeth can be found, hands on keyboard, at least 30 to 45 minutes a day, her mother said.

The teenager usually just sends e-mails and instant messages to her friends, and when it comes to the World Wide Web, caution prevails at the Young home.

The family has blocking devices installed on their computer and when Elizabeth is online, she's told not to give out any personal information beyond her first name or log-in name.

"If it asks anything else, it's like, 'No, you don't need to go there,' " Karen Young said.

In the past, Young said, Web sites have asked her daughter for her full name, address and in one instance -- when some screensavers were at stake -- her phone number.

To be effective, POCKET requires the participation of both parents and Web site operators.

When dealing with a parent, the program asks that they fill out a privacy preference form detailing the sort of information about their child they feel comfortable sharing -- from full name to street address.

A Web site operator is asked to fill out a similar form, describing the type of information it collects from its child users.

Then, when a child visits a Web site, the operator's privacy preference list is compared with that of the parent.

If the lists match -- or, if the site does not ask for more information than the parent consents to give, the child connects to the site.

If the lists do not match, the child is blocked from the site, or at least the parts of the site requesting information.

"Right now, every single Web site that the child goes to that wants to collect information, they are required to go get their parent, bring their parent to the computer, and, through several methods depending on what the Web sites are doing with the information, get the parent to consent for the child to enter the information," Hiller said.

"This system is like an agent for the parent."

On a recent afternoon, electrical and computer engineering student Kaigui Bian, demonstrated the program, acting as parent to 3-year-old "Mike C."

After filling out his privacy preferences, Bian showed what would happen if "Mike C" visited a site that asked only for his full name. The mock toddler logged on without incident.

But when he tried to bring up a site that asked for more than his full name and age, "Mike C" was stopped short with a message that read, "Sorry, the Web site was blocked because the merchant Web site requires more information than you allowed."

Young's daughter is older than the researchers' likely target audience because COPPA applies to kids younger than 13.

But the Christiansburg mother said even so, she'd be interested in the technology.

"I would, just because I don't want her saying, 'Oh, I can get into this without asking,' " she said of 15-year-old Elizabeth.

"If we could have it blocked already, she wouldn't have that temptation to get in."

Parents like Young may have to wait a while before they can install POCKET on their home computers.

Still engaged in early program development, Hiller, along with professors Michael Hsiao, Jung-Min Park and Frances Belanger, have many questions left to answer -- questions such as how to effectively authenticate parental registration; how to block just certain Web site pages and how to distribute POCKET.

"Our research goals were not to design how it would be adopted but to make a system that would be usable and friendly and secure, so that it would have all the elements that would lead to adoptability," Hiller said.

Last year, the group received a \$450,000 award from the National Science Foundation's Cyber Trust program for the work.

Since then, a large amount of time has been spent not only on the technology, but also on talking through the concept with parent and business representatives.

"As we interact with the parents through these focus groups, they kind of educate us on what they want in such a system and what they feel is appropriate or sufficient to protect the privacy of children," said Park, an assistant electrical and computer engineering professor.

"Obviously they know this firsthand because they have to make sure children are not accessing certain types of Web sites or giving out certain types of information that should not be given out."

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