

 Return to Full

LexisNexis™ Academic

Copyright 2004 The New York Times Company
The New York Times

May 17, 2004 Monday
Late Edition - Final

SECTION: Section C; Column 1; Business/Financial Desk; Pg. 5; Patents

LENGTH: 1108 words

HEADLINE: A technique to help combat the online **piracy of music** uses decoy files that deliver noise and 'gotcha' scoldings.

BYLINE: By Sabra Chartand

BODY:

DOWNLOADING music, movies or software illegally might become less appealing if every third song or film scene was suddenly interrupted by white noise or worse, announcements urging "next time, pay for what you take!"

This "gotcha" technique -- circulating flawed or reproving digital copies of songs on the Internet -- has been tried in some form by a few pop stars hoping to thwart online **music piracy**. Two weeks ago, a University of Tulsa professor and a former graduate student of his won a patent for software that analyzes and monitors illegal **music** swapping on file-sharing networks, and then systematically inserts decoy files into the mix.

Prof. John Hale and Gavin Manes invented a system with decoys that appear real but contain either poor-quality recordings, buzzing or advertisements. The friendliest decoy might hold samples of songs for sale, while the most irritating could cause extremely long download times.

The inventors intend them to frustrate people who infringe copyrights when they take artistic content free from peer-to-peer networks, like the **music** Web site Kazaa. No longer will they get free-and-clear copies of individual songs or CD's. Instead, they will get corrupted songs filled with random noise and interruptions.

The idea for the bootleg-busting software first came to him four years ago, Dr. Hale said, as he watched a television show that borrowed from the "101 Dalmatians" story line.

"I'd been thinking about the problem of peer-to-peer **piracy** and how it seemed hopeless," remembered Dr. Hale, who teaches computer science at the university, where Dr. Manes received his Ph.D. last week. "In the show there were 101 Dalmatians and someone was trying to pick out one dog he liked. But he couldn't because they all looked alike. He'd teach one dog a trick and they'd all do the trick. He was flooded with decoys.

"He couldn't get the right dog, and that's where the idea came from," Dr. Hale said with a laugh.

Web sites and networks devoted to file sharing are certainly not going to offer the technology as a new feature. So how will it infiltrate their systems? Like everyone else.

"Basically we log into the network like anybody else and share files like anybody else," Dr. Hale said. "If you can't beat 'em, join 'em."

Once connected, the patented software scans file sharing systems for **piracy**. When it finds a song that is being shared illegally, for example, it creates a decoy file that mimics the material but also contains interruptions. The software then shares the decoy files. It also monitors how frequently the pirated song is traded so it can automatically adjust the number of decoy files it distributes.

"If there's only one file out there to worry about, you don't need to share as many decoys to overwhelm the material," Dr. Hale said. "It can scale up and scale down, to conserve bandwidth."

"It really is as simple as that," he added. "The best ideas in security are usually simple. The more complexity you have the more room for flaws in the design and ways to circumvent it."

File sharing works in a variety of ways. Some sites broker content by searching for and matching users, while others simply distribute user lists and let the users contact each other directly. Decoy files could be introduced into any of those systems, the patent states. The inventors also stipulate that their technology is not limited to the Internet, but could be used to corrupt file-sharing on any computer-compatible communications network.

Dr. Hale said artists like Madonna and the group Barenaked Ladies had experimented with releasing decoy song files to try to stem **piracy**, in a practice the **music** industry calls spoofing. But that practice, while similar to his patented technology, has not become widespread. Dr. Hale hopes his invention will fare better because it actively monitors illegal file sharing and creates decoys that adapt to swapping conditions.

"Our patent describes software architecture, which is the engine delivering the decoy into peer-to-peer networks," he said. "We have a decoy manufacturing strategy that we spent a lot of time developing, and superior coordination in measuring the performance of the protection scheme."

He believes that the time is right for his software because tactics for fighting **piracy** are changing, too.

"For a long time the **music** industry has gone after an 'all or nothing' digital rights management

strategy," Dr. Hale said. "It's been pretty brutal. It relies on hardware. It's like putting hardware in your car to meter control of the engine. That's the strategy which has largely failed.

"Now there's a new movement in copyright circles to develop a speed bump. The basic idea is to slow or stem the tide of **piracy**. There's little that can be done to circumvent a speed bump that spans the entire width of the road. It's a low-tech, robust technology."

Dr. Hale said he and Dr. Manes had carefully tested their invention by sharing files first on an isolated network. None of the work was financed by the **music** industry, he said. And the inventors believe that file sharing sites and networks should not object to a surreptitious invasion of decoy files.

"Kazaa has always said they're not in favor of digital **piracy**, and that's what this fights," Dr. Hale said. "I can't speak for them, but if they are genuinely concerned, this is the way to deal with it.

"It's a noninvasive way, as opposed to lawsuits and technological attacks," he added. "It doesn't go out and hit a person's system. It makes finding pirated material and pirated material alone difficult to do. If people want to share their own **music** we don't interfere with that, but if they are bootlegging a Britney Spears song, our presence will be felt."

In fact, the university, which owns the patent, hopes that artists and the **music** industry will license the decoy technology and make the invention profitable.

"The **music** industry loses \$700 million a year to peer-to-peer **piracy**," said Dr. Hale. "So there is a dynamic involved whereby digital content and copyright owners have an interest in using our invention to protect their intellectual property."

Especially since Dr. Hale believes that digital **piracy** will only increase.

"Peer-to-peer networks are going to evolve to be ever more anonymous, and people will feel more disconnected and less accountable for what they do to standards or laws," he explained. "Plus, the pipes will get fatter. More bandwidth will come into the home. So not only will we have to worry about **music**, but movies, too. That's the next stage."

Dr. Hale and Dr. Manes received patent 6,732,180.

URL: <http://www.nytimes.com>

GRAPHIC: Photo: John Hale, left, a professor at the University of Tulsa, and Gavin Manes have developed a system to discourage illegal downloads by giving false files to **music** sharers. (Photo by James Gibbard/Tulsa World)

LOAD-DATE: May 17, 2004