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New security tags can be sabotaged

Lucas van Grinsven Thursday, 16 March 2006

Reuters

Cheap radio chips that are replacing the ubiquitous barcode are a threat to privacy and susceptible to computer viruses, scientists say.

And a deliberate virus attack could potentially cause chaos at airports and supermarkets.

Researchers at Amsterdam's **Free University** created a radio frequency identity (RFID) chip infected with a virus to prove that RFID systems are vulnerable despite their extremely low memory capacity.

The problem is that an infected RFID tag, which is read wirelessly when it passes through a scanning gate, can upset the database that processes the information on the chip, say the study authors.

"Everyone working on RFID technology has tacitly assumed that the mere act of scanning an RFID tag cannot modify back-end software and certainly not in a malicious way. Unfortunately, they are wrong," they say.

"An RFID tag can be infected with a virus and this virus can infect the back-



Supermarket databases could be vulnerable to virus attacks, causing chaos at the checkout (Image: Maricopa County Environmental Health)

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end database used by the RFID software. From there it can be easily spread to other RFID tags."

As a result, they say, it is possible that criminals or militants could use an infected RFID tag to upset airline baggage handling systems with potentially devastating consequences.

The same technology could also be used to wreak havoc with the databases used by supermarkets.

"This is intended as a wake-up call. We ask the RFID industry to design systems that are secure," says author Professor Andrew Tanenbaum.

With RFID, anything from shampoo bottles to marathon runners can be tracked using radio tags.

Civil liberty groups say RFID could lead to an unacceptable invasion of privacy and argue that airline ticket information could be used by law enforcement agencies and divorce lawyers.

Industries in which tracking goods is crucial such as pharmaceuticals, governments, logistics, airlines and manufacturing already use RFID technology.

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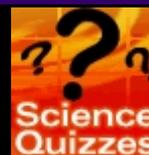
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