

Security that nets malicious Web sites

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Have you ever wondered how fraudulent or malicious websites can rank highly on search engines like Google or Yahoo? Queensland University of Technology IT researcher Professor Audun Josang said a website's ranking was determined by the number of people who visited the site - the more hits the higher the ranking.

But this system is fraught with danger and can be easily manipulated directing people to unreliable, low quality and fraudulent sites, according to Professor Josang.

"Just because a website ranks highly on a search engine doesn't mean it's a good website, in fact highly ranked websites can be malicious websites," he said.

To safeguard against this type of threat, Professor Josang believes the answer is to develop a new type of internet security system based on "reputation" where a community of users can rank the quality of a website.

He said this could then be used to warn others from visiting that site.

"For example most people are able to recognise a website that tries to trick them into giving confidential information (a phishing attack) when they see it," he said.

"With this system, aware users can rate such websites as malicious and as a result a phishing site will be quickly and universally recognised as

dangerous, warning unsuspecting users against visiting that site."

Professor Josang said using this "social control" approach could provide protection against this type of online threat, by preventing attacks before they occurred.

"Social control methods, also known as soft security, adhere to common ethical norms by parties in a community.

"They make it possible to identify and sanction those participants who breach the norms and to recognise and reward members who adhere to them."

Professor Josang said in today's technologically advanced world of business, high ranking of a company's web page was a crucial factor for its success.

"This is why the control of search engines is so important and why it can be financially worthwhile for businesses to manipulate the system."

The central idea of Professor Josang's research is to take search engines one step further and by using them to make the internet a safe place to interact and transact.

"This project is about a new type of internet security that can be supported by search engines. There is a deception waiting for you around every corner on the internet and the technology we develop will protect people from that.

"I think in the future reputation systems, integrated into search engines, can be used to weed out such websites by giving them a low ranking and thereby making them invisible to unsuspecting users."

Source: Queensland University of Technology

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