Inside the Dark Web of Terrorism

Posted Jul 16, 2007 by David Silverberg in Technology

Terrorist groups can’t hide on the Web. A team of university researchers have quietly collected the largest digital library of information on terrorist groups. A look inside the part of the Web most of us never see.

Digital Journal — Sealed behind bulletproof glass in a room in the University of Arizona, three machines crawl through the Internet. Rack-mounted monitors and a massive supercomputer hover nearby, awaiting the data spooled by these machines. And the data is the kind of top-secret information every defense department wants to know: Web chatter from nearly 1,500 terrorist and extremist organizations.

This is the Dark Web. This is where risk assessments begin, where computer science detectives scour for information threatening national security.

Known as the alternative side of the Web used by terrorists, the Dark Web is being analyzed by researchers looking to find the roots to many extremist groups’ comment threads and social networks. As a portal to the underworld, the Dark Web offers a preview into what extremist groups are planning or, at the very least, discussing.

How do UofA scientists accomplish this daunting task? Discover Magazine describes one way to assess threats found on Web sites and forums:

One tool is a mathematical formula that measures the ‘infectiousness’ of ideas on a Web forum. An infectious idea is one that spreads rapidly, like a highly contagious cold. The formula takes into account such parameters as the number of postings, the volume and duration of a conversational thread, and the number of members actively participating. It then generates a ‘thread score’ that is tracked over time. Some ideas peter out, while others hit a tipping point. It would seem logical that this type of project would be led by law enforcement officials or at least the Pentagon. Finding the source of terrorist activity is no small matter, yet it’s being left in the hands of computer scientists in Tucson, Arizona. Why are university researchers taking on this integral responsibility?

Project director Hsinchun Chen explained the reason behind the project in an interview with the Arizona Republic last year:

Even the people we talk to in the federal agencies are hampered by the amount of information that's being collected. They don't know how to analyze it. It's a new virtual battleground.
Also underway at the Dark Web project is a two-dimensional mapping system that shows the relationship between terrorist clusters. A typical map would consist of several rings linking to each other, some bigger than the others. The circles represent terrorist clusters and the lines connecting to each other represent affiliation.

In its proposal paper, the Dark Web team outlined the benefit of mapping terrorist groups: The network can give insights into previously unnoticed relations between terrorist organizations. For instance, the link between the Hizballah cluster and the Palestinian cluster (inter-cluster relations) suggest some kind of connection between the two entities which has been overlooked by the domain experts.

What the Dark Web is doing shouldn’t be taken lightly. This kind of White House-supported project has the potential to root out terrorist links and sources before critical attacks can be planned. The scope is daunting, especially in light of the growth of e-terrorism sites: jihadist Web sites have in creased from a dozen in 1998 to 4,800 today.

But collecting data is just the beginning. To effectively counter terrorism, no matter where its ideas begin, human intelligence must be coupled with computer intelligence — it’s not enough to find the information and its source, but to also figure out a way to creep into the terrorist’s headquarters to apprehend the perpetrators.

Of course, this all has to be done like a top-secret 007 mission. Then again, if anyone can do it, it’s the world’s largest superpower. America claims it wants to secure freedom for all its citizens; scouring the Dark Web, as frightening as it may be, is a good place to start.