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Additional Information and Links

Van Cleave, D., February 2007, "Cell Phone Application Reports Local Criminal Activities, Aids Disaster Response," The MITRE Digest, www.mitre.org/news/digest/advanced_research/02_07/a_eyes.html.

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LocalEyes: Cellphones Transmit Emergency Information

MITRE developed LocalEyes to improve communications during emergency situations. The technology allows standard cellular phones to collect field reports from users. With nothing more than a standard web browser, operators can rapidly create reporting applications. These applications are then "pushed" to the appropriate cellular phones running the LocalEyes client, and users can immediately begin capturing information (GPS position, photos, and video) and report back to the operations center.

While MITRE has prototyped applications using these tenets with cell phones, new applications can be created in minutes. They can then be downloaded to cell phones using the same techniques that are used for ring tones. Since they are data-driven and share a common schema (what, where, and when), net-centric information exchanges can be machine-to-machine enabled. The growing use of GPS position, pictures, video, and other features in cell phones make this a rich platform to exploit.

Applications

The technology has enormous potential for a variety of situations, from local emergency operations to asymmetric warfare and other military-related applications. For instance, citizens or soldiers on the roads of Afghanistan could easily report real-time information about Improvised Explosive Devices or other suspicious events. The data could be transmitted by phone to automatically alert other systems and commanders.

Another example is an application that automatically notifies people of disasters in the area, such as a tornadoes or explosions. The alerts are based on users' cell phone locations and could tell people which areas to avoid, provide directions to the nearest aid, etc. An All Points Bulletin could push pictures of terrorists to the cell phones in the area of the last reported sighting. In addition, using cell phones as the common data exchange device could improve communications among fire, police, and other first responders. Portable cell towers on vans or aerostats make this feasible, even if no cell infrastructure survives after an event.

In the long term, more sophisticated collective intelligence applications could become the biggest benefit of this approach.

Benefits

The implementation of a LocalEyes network allows for a wide collection of information; it can be processed in a manner that would benefit the user population, depending on the application.