

Apple's New Weapon

To help soldiers make sense of data from drones, satellites and ground sensors, the U.S. military now issues the iPod Touch.

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NEWSWEEK

From the magazine issue dated Apr 27, 2009

Tying the hands of a person who is speaking, the Arab proverb goes, is akin to "tying his tongue." Western soldiers in Iraq know how important gestures can be when communicating with locals. To close, open and close a fist means "light," but just opening a fist means "bomb." One soldier recently home from Iraq once tried to order an Iraqi man to lie down. To get his point across, the soldier had to demonstrate by stretching out in the dirt. Translation software could help, but what's the best way to make it available in the field?

The U.S. military in the past would give a soldier an electronic handheld device, made at great expense specially for the battlefield, with the latest software. But translation is only one of many software applications soldiers now need. The future of "networked warfare" requires each soldier to be linked electronically to other troops as well as to weapons systems and intelligence sources. Making sense of the reams of data from satellites, drones and ground sensors cries out for a handheld device that is both versatile and easy to use. With their intuitive interfaces, Apple devices—the iPod Touch and, to a lesser extent, the iPhone—are becoming the handhelds of choice.

Using a commercial product for such a crucial military role is a break from the past. Compared with devices built to military specifications, iPods are cheap. Apple, after all, has already done the research and manufacturing without taxpayer money. The iPod Touch retails for under \$230, whereas a device made specifically for the military can cost far more. (The iPhone offers more functionality than the iPod Touch, but at \$600 or \$700 each, is much more expensive.) Typically sheathed in protective casing, iPods have proved rugged enough for military life. And according to an Army official in Baghdad, the devices have yet to be successfully hacked. (The Pentagon won't say how many Apple devices are deployed, and Apple Computer declined to be interviewed for this article.)

The iPod also fulfills the U.S. military's need to equip soldiers with a single device that can perform many different tasks. Apple's online App Store offers more than 25,000 (and counting) applications for the iPhone and iPod Touch, which shares the iPhone's touchscreen. As the elegantly simple iPods—often controlled with a single thumb—acquire more functionality, soldiers can shed other gadgets. An iPod "may be all that they need," says Lt. Col. Jim Ross, director of the Army's intelligence, electronic warfare and sensors operations in Fort Monmouth, New Jersey.

The iPod isn't the only multifunction handheld on the market, but among soldiers it's the most popular. Since most recruits have used one—and many already own one—it's that much easier to train them to prepare and upload new content. Users can add phrases to language software, annotate maps and link text or voice recordings to photos ("Have you seen this man?"). Apple devices make it easy to shoot, store and play video. Consider the impact of showing villagers a video message of a relaxed and respected local leader encouraging them to help root out insurgents.

Since sharing data is particularly important in counterinsurgency operations, the Pentagon is funding technology that makes it easier for the soldier on the ground to acquire information and quickly add it to databases. Next Wave Systems in Indiana, is expected to release iPhone software that would enable a soldier to snap a picture of a street sign and, in a few moments, receive intelligence uploaded by other soldiers (the information would be linked by the words on

the street sign). This could include information about local water quality or the name and photograph of a local insurgent sympathizer. The U.S. Marine Corps is funding an application for Apple devices that would allow soldiers to upload photographs of detained suspects, along with written reports, into a biometric database. The software could match faces, making it easier to track suspects after they're released.

Apple gadgets are proving to be surprisingly versatile. Software developers and the U.S. Department of Defense are developing military software for iPods that enables soldiers to display aerial video from drones and have teleconferences with intelligence agents halfway across the globe. Snipers in Iraq and Afghanistan now use a "ballistics calculator" called BulletFlight, made by the Florida firm Knight's Armament for the iPod Touch and iPhone. Army researchers are developing applications to turn an iPod into a remote control for a bomb-disposal robot (tilting the iPod steers the robot). In Sudan, American military observers are using iPods to learn the appropriate etiquette for interacting with tribal leaders.

Translation is another important area. A new program, Vcommunicator, is now being issued to soldiers in Iraq and Afghanistan. It produces spoken and written translations of Arabic, Kurdish and two Afghan languages. It also shows animated graphics of accompanying gestures and body language, and displays pictures of garments, weapons and other objects. Procurement officials are making a "tremendous push" to develop and field militarily useful Apple devices, says Ernie Bright, operations manager of Vcom3D, the Florida firm that developed the software. The iPod has already transformed the way we listen to music. Now it's taking on war.

URL: <http://www.newsweek.com/id/194623>

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