Capturx Case Study

US Military

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Summary

Customer: U.S. Military Research Division

Challenge: Limitations with conventional devices restrict information flow causing bottlenecks and obstructing critical resources.

Solution: Capturx digital pen and paper software platform from Adapx.

Benefits: Faster and better decision making, better ROI, intuitive technology, and no data entry.

US Military Agency Finds Solution for Fast Field Data Collection and Team Collaboration with Capturx Software.

The agency is a research division of the United States military. A big part of the program is developing a deep understanding of the scenarios and needs of field users. Based on that understanding, the government agency finds technologies that can have a significant impact on improving a range of operations and outcomes, including information management. Those candidates undergo rigorous testing and evaluation against the agency's strict criteria. Once a technology has proven itself, the team accelerates the transition of the technology to the field.

This research arm of the US Military has broad influence, as its recommendations have a global impact on federal operations worldwide.

Field data collection and management are critical to the military, because their operations regularly involve a range of health and safety concerns. In addition to improving the efficiency of operations, real-time access to field information can also help save lives. Collecting data at its source means putting data collection capabilities in the hands of soldiers with "boots on the ground."

The technology research program has spent years researching various field data management solutions within the intelligence and engineering sectors. They recently began to test the Capturx product.

Scenario: Military Mission in Afghanistan

The military uses sophisticated techniques to understand their user needs, like many other leading product and service organizations. For example, a research anthropologist was sent to Afghanistan recently to better understand how teams collect and share field information.

Over a period of nine months, the anthropologist collected numerous journals of field notes and sketches. The information was scanned and captured digitally upon his return to the United States for use by his local commander. By the time the information made it back to the US, the information was dated. The reports were also not cohesive: it took too much time scan and rekey all the information. From this study, the research team identified an important need for effective, scalable, and low-impact methods for soldiers, researchers, and other field workers to collect and share field information. Traditional alternatives with laptops or PDAs were often cumbersome to carry and/or operate under high-stress situations. Teams need to avoid getting distracted by tools, so that they can concentrate on their job and accomplish their tasks.

"We expect to see dramatic improvements to decision cycles, increased operational efficiencies, as well as a significant savings in costs and personnel."

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Challenges: Operating Under Adverse Conditions and Situations

Effective team decision-making requires shared access to current information and conditions. Out-of-date information leads to out-of-sync teams, poor decisions, and, often chokes access to critical resources.

Currently military, both infantry and non-infantry, capture data in handwritten notebooks or handheld computers. Use of both traditional notebooks and handheld devices can be constrained by location, weather, environment, or time away from power and data networks.

Collecting field notes with pen and paper is natural for soldiers out in the field, but sharing that information is difficult. Transcribing from notebooks to the computer is time-consuming, slow, and error-prone. Handheld computers, whether laptops or PDAs, can provide instant digital access, but they are not appropriate for many real-world scenarios. The bulky size and weight of laptops limits their portability.

Digital displays for PDAs are small and often difficult to read in bright sunlight or with raindrops. Using these devices requires training and support. Only the expensive high-end versions can handle extreme mud, dust, or rain – which don't make budget for many deployments.

A New Solution: Capturx Digital Pen and Paper Software

As part of the ongoing evaluation of new technologies for field use they began exploring the Capturx software platform for digital pen and paper.• With Capturx Software, field notes are collected as data and automatically converted to digital form and tagged, making it both searchable and shareable immediately.

The team evaluated two Capturx software solutions: Capturx for ArcGIS and Capturx for Microsoft Office OneNote.

Capturx for ArcGIS works with ArcGIS from ESRI, the leading provider of GIS systems. With Capturx for ArcGIS, digital maps can be printed on ordinary paper for field mark-up with digital pens. The ink annotations are digitized and integrated directly back into the original map files. Capturx for OneNote can work with the mapping product or on its own with an all-weather notebook. Notes written in ink with the digital pen are digitized and sent directly into Microsoft Office through OneNote.

The research engineers implemented a demonstration installation of Capturx in their laboratory. Within hours of opening the packaged software products, their laboratory environment was fully enabled. Since the solution uses a natural pen and paper interface and integrates directly into other applications, the time it took to learn its capabilities was minimal.

After a rigorous evaluation, Capturx was selected as an emerging technology to transition to the field.

Capturx addresses a data collection niche that is not currently being covered by other technologies. Its simplicity of operation was highly appealing. With Capturx Software, field notes are collected with a digital pen and automatically converted to electronic form and tagged. The data is both searchable and shareable immediately. Capturx also enables map data to be collected in the field, even in environments where handheld computers are ineffective or inconvenient.

Benefits: Simple to Deploy, Use in a Wide Range of Extreme Environments

The Capturx implementation in the research lab has generated great interest among engineers, soldiers and field staff. The agency linked Capturx with their Geospatially Enabled Modeling & Simulation capability to illustrate how the product could be used in the military planning process. Military GIS users, who generate and update digital maps, have become one of the first implementation targets. The research group plans to deploy Capturx to soldiers using ArcGIS and Microsoft products for data collection and analysis in the field.