

3D LANDMINE DATABASE ON RUGGEDIZED PDA



PROJECT	LANDMINE DATABASE-RPDA DEPLOYMENT
CLIENT	CANADIAN FORCES
KEY OBJECTIVES	<ul style="list-style-type: none"> ▶ DEVELOP DATABASE OF COMMONLY ENCOUNTERED LANDMINES ▶ PORT DATABASE OF RUGGEDIZED PDA PLATFORM

to more than two hundred NGRAIN® interactive 3D landmine objects used for awareness training. Users can interact with the 3D mines by rotating the object, cross-sectioning to view the internal configuration, and interacting with animations of critical procedures.

Users can access and cross-reference these 3D mine objects with field photos and other relevant information from the same search results pages that are part of the database, a knowledge base of text, photos, and interactive 3D objects of mission critical landmine information. This information, including the 3D objects, can be accessed on desktop computers, laptops, tablet PCs, and CD.

BACKGROUND

The Canadian Forces (CF) has a requirement to train its personnel on the operating principles of foreign landmines to enable the CF to operate safely while in deployed operations. It also has the requirement to prepare those individuals and units who are required to neutralize live mines in deployed theatre of operations.

Additionally, the CF needs to accurately train on the mines without the problems associated with acquisition, transportation, storage and handling of physical mines.

The National Defence Mine/Countermine Information Centre (NDMIC) coordinates and provides the Canadian Forces with timely and effective mine and countermine information to reduce the risk of landmine casualties.

The Department of National Defence (DND) developed a web-based Canadian Forces Landmine Database (CFLD) of landmine data, photos, and reference materials. The database also links

CHALLENGE

It is critical that soldiers in the field have access to technical information about landmine internal and external characteristics, as well as details regarding safe handling and disposal. The DND required its web-based CF landmine database to be ported to ruggedized milspec personal digital assistant (R-PDA) devices in order to provide this information to soldiers in field operations.

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Master Warrant Officer Tom Stewart
Canadian Forces, J3 Engineer Operations

SOLUTION

NGRAIN ported the existing web-based CF landmine database to run locally on the R-PDA platform. The database is searchable in the same manner as the solution running on the DND's Defence Wide Area Network (DWAN) and personal computers. Soldiers in the field are able to turn to their R-PDA devices to effectively neutralize the mines. Using the R-PDA deployed soldiers are able to view detailed parts information, move, rotate, zoom, and cross-section mine objects, as well as attach and detach parts.

Regular updates of the database are available for download from secure DND networks onto local field computers and R-PDAs.



NGRAIN-developed 3D Elsie landmine

RESULTS

Providing the CF landmine database and 3D mine objects on R-PDA devices means that soldiers are equipped with instant access to mine information when and where their mission requires it. Through continual interaction with the 3D objects and increased knowledge of critical information of the individual mines, training times are shortened, training costs dramatically reduced, and operating in a mined environment becomes significantly safer, reducing the risk to individual soldiers.

“With NGRAIN, the speed at which interactive 3D content can be produced, distributed, and viewed means that Canadian Forces personnel have the tools necessary to execute the mission where and when needed,” said Master Warrant Officer Tom Stewart, Canadian Forces, J3 Engineer Operations.

“The advent of the R-PDA capability represents a tremendous leap forward in our ability to provide first-class information that is unequalled by any other country and accessible anywhere, anytime, resulting in reduced safety risks through better training and instant access to critical information in the field.”