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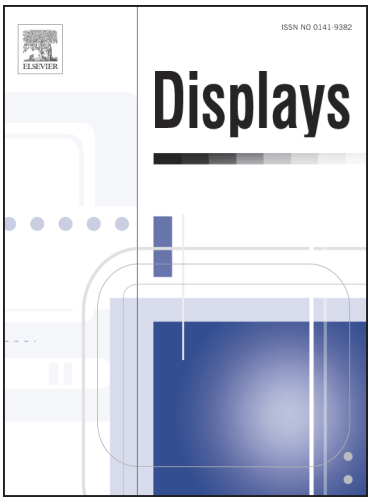

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Design and evaluation of military geographical intelligence system: An ergonomics case study

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Abstract

Rapid developments in detection technology led to the extensive use of new military geographical intelligence systems (GIS). These systems were developed to support military tactical and strategic operation by data collection, processing, analysis, and distribution. This paper reports a case study of ergonomic intervention on the design of GIS. In particular, effects of icon type, icon size, and map background clutter are discussed. This design was specifically used to enhance surveillance performance in the use of interface. Twelve participants carried out a visual search task using the mock GIS. The best surveillance performance was obtained in an interface with large icons and topography not displayed (TND) map background clutter. The results recommended an improved GIS interface design and help interface designers to create efficient and comfortable interfaces for the reduction workload of surveillance radar operators.

Keywords

Geographical intelligence system, surveillance performance, icon, map background clutter

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