Micro Device Improvised Explosive Device Warning System

Daniel Strathman
Brett Stroney
United States Military Academy
West Point, New York

ABSTRACT:

Our task is to develop and design a comprehensive user-centered interface which can act as an early warning system while multiplying battle space or situational awareness. By utilizing Wicken's model to and designing to optimize attentional resources and by incorporating elements of Signal Detection Theory we hope to deliver a complete warning system which will efficiently and effectively alert users in an environment which is inherently taxing on audio and visual receptors. Our experiment will be conducted in two phases: in the first phase we will develop a comprehensive heuristic to scale the visual display while simultaneous incorporating the auditory as well as tactile stimulus to convey and communicate the warning to the user, the second phase will consist of the empirical testing of the heuristic and prototype design to determine effectiveness and efficiency of the system.

KEYWORDS: early warning system, battle space, situational awareness, signal detection theory,

CONTACT: CDT Daniel Strathman, United States Military Academy, West Point, NY, Tel: (845) 515-4609, Email: Daniel.Strathman@usma.edu

CDT Brett Stroney, United States Military Academy, West Point, NY, Tel: (845) 515-3395, Email: Brett.Stroney@usma.edu