REPPERGER RESEARCH INTERN PROGRAM

RESEARCH PROJECT #: AFRL-RHW-26-02

Advanced Research Concepts to Support Battlespace Visualization

PROJECT DESCRIPTION: A common challenge surrounding the execution of tasks during active battle scenarios is ensuring up-to-date, accurate knowledge of the battle space. As technology has grown and offensive and defensive responsibilities have evolved, the ability to visualize and understand resources and constraints has also become more challenging. A variety of simulation tools have been developed over the years to facilitate understanding, such as sand tables, interactive simulation environments, and role-playing applications. The purpose of this research is to investigate the potential of a game-based application entitled Digital Battlespace Next to train and assess skills relevant to battle space understanding. Importantly, this project offers the opportunity to engage with a multi-disciplinary team that includes civilian researchers as well as active-duty operators, participating in the collection of usability and task performance data to inform the design of the game's user interface and to explore its utility for conveying and assessing comprehension of relevant details pertinent to a simulated conflict.

LEARNING OBJECTIVES: The student will learn about the challenges inherent in representing aspects and features of modern conflicts within a game environment. This project offers the chance to leverage knowledge of individual and team-based decision making, situation awareness, and performance assessment. Specific activities may include scientific literature review, research design and analysis, and data collection.

ACADEMIC LEVEL: Masters; Doctoral

DISCIPLINES NEEDED: Human Factors, Industrial Engineering, Simulation

RESEARCH LOCATION: Wright-Patterson Air Force Base, Dayton, Ohio

RESEARCH MENTOR: James P. Bliss, Ph.D.
Human Factors Psychology, University of Central Florida, 1993

Dr. Bliss is a Senior Research Psychologist in the Warfighter Interactions and Readiness Division with expertise in human factors, complex task performance, automation trust, and the design and use of simulation platforms. As a former tenured faculty member, he has a wealth of experience teaching students of all levels about the research process. He has conducted funded and unfunded military research for the past 35 years, focusing on warfighter training, evaluation of trust, and use of simulation technologies by warfighters at all levels. His current research interests include the optimal use of automation on the battlefield and the employment of cognitive warfare methods during conflict.

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