

AFRL RESEARCH TOPIC CALL FOR FY13

1. **Research Title:** Scenarios and Technology Designs for Readiness Training and Rehearsal in Complex Gaming Environments
2. **Individual Sponsor:** *List the AFRL research topic sponsor's contact information:*
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3. **Academic Area/Field and Education Level:** Behavioral Science; Computer Science; Mathematics (BA/BS; MS; PhD).
4. **Objectives:** Although other military domains of interest will be considered, we are keenly interested in exploring game applications and hand held devices for training and readiness in one or more of these areas as part of this research topic: humanitarian assistance and emergency response, unmanned aerial systems and AOC team decision making. Regardless of domain chosen there are four major objectives for this research topic. The emphasis on specific objectives by a specific researcher is negotiable. First, select domain of interest and identify specific requirements to be developed in a game environment. Second, make recommendations for or actually develop scenarios and tasks in the game environment for training and learning in the domain of relevance. Third, develop training evaluation experimental designs, identify subject pools, and full develop plans for at least two empirical evaluations of the game as a methodology for learning and for operational training and rehearsal. As a part of this objective, methods for assessing learning and performance gains and for systematically evaluating training utility and cost-benefit for games as military training and rehearsal alternatives, should be identified. Fourth, develop a report that identifies and elaborates the potential for game-based training in the domain of interest and to recommend steps to further develop, implement, and evaluate games, hand held devices, and game-based attributes for training and rehearsal.
5. **Description:** The commercial sector and selected military organizations are investing heavily in the development and application of gaming technology for a variety of military training and readiness domains. The fundamental assumptions have been that (a) if it looks like the military domain of interest it is probably valid training or (b) if its "game-based" then it will promote engagement and effective learning automatically. Anecdotal lessons learned from examinations of selected game implementations suggest strongly that these fundamentals may not actually be supported. More systematic requirements definition, alignment of requirements with appropriate technologies, development of learning theory-driven scenarios and content, quantitative evaluations of effectiveness, and system development need to be done.
6. **Research Classification/Restrictions:** This research is unclassified.
7. **Eligible Research Institutions:** (Check all that apply.)
 Universities (DAGSI) AFIT (only) USAFA
8. **Interest in Summer USAFA Cadet:**

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If you are submitting a topic for the USAFA, please indicate if you are also interested in sponsoring a USAFA Cadet in summer of 2013. (**Avg Cost for USAFA Cadet for 33 days is \$5000**):

I would like to sponsor an USAFA Cadet in the summer of 2013: Yes No