

DOD HFE sub TAG Meeting Minutes Form

Purpose of sub TAG meeting minutes:

The purpose of the sub TAG meeting minutes is to inform the Department of Defense Human Factors Engineering Technical Advisory Group (DOD HFE TAG) membership of the activities of the sub TAG and the major areas of concern being discussed and addressed.

General Information:

Please complete all sections:

SubTAG Name	Controls and Displays I
Date of the DOD HFE TAG Date (month/day/year)	May 21, 2014
Number of Attendees at subTAG session	17
Organizations Represented (Agencies and/or organizations that employ members at the subTAG)	ARL-HRED STTC, ARL-HRED APG, Georgia Tech Research Institute, AF Institute of Technology, USCG, PHC-AIPH, NAWCTSD, Human proof, NSWC Dahlgren, Consumer Product Safety Commission, TSA, NASA/JSC, Society for Simulation in Healthcare, NRC, HQ USAF

SubTAG Chair's Name	SubTAG Chair's Organization	SubTAG Chair's Phone and Address
Marianne Paulsen	NAWCTSD, Code 4652	407.380.4743 12350 Research Parkway Orlando, FL 32826
SubTAG Co-Chair's Name	SubTAG Co-Chair's Organization	SubTAG Chair's Phone and Address
SubTAG Co-Chair's Name	SubTAG Co-Chair's Organization	SubTAG Chair's Phone and Address

AGENDA

Presentations and Panels (If none, state none).

Title of Presentation	Name of Presenter	Name of Agency or Organization Employing Presenter	Overview of Presentation (e.g., Paste Abstract Here or Generate a Brief Summary)
Distributed Soldier Representation	Manny Diego	Army Research Laboratory, Simulation & Training Technology Center	<p>Envision an entity-level simulation that requires a high fidelity representation of the warfighter to support a specific analysis. This warfighter may be an individual infantryman, unmanned vehicle operator, combat systems sailor, or member of a command detachment. The accurate representation of human centric aspects within modeling & simulation (M&S) environments presents significant challenges in affect model availability, accessibility, and applicability. The objective of the Distributed Soldier Representation (DSR) effort is to develop a service oriented, distributed M&S capability enabling performance factor representation to varying degrees of fidelity within simulated environments. The intended implementation of DSR will enable representation of a specific entity characteristic within the simulation, or an external, holistic representation of an entity (i.e., a surrogate warfighter) which interacts with other simulated entities. The ultimate goal is a service that can be leveraged by a variety of M&S environments and provides storage for unique warfighter models and data. To date, eleven factors that affect warfighter effectiveness have been identified and the capability to apply soldier load and stress effects to a prototype on the DSR server has been implemented. A collaboration opportunity with NAWCTSD was identified to increase fidelity of these performance shaping factors by implementing human performance algorithms previously developed through an ONR funded effort.</p> <p>The NAWCTSD Performance Shaping Functions (PSF) Team had also discovered the need for increased fidelity in current modeling capabilities and techniques to support accurate predictions of the effects of environmental stressors on human performance. A collaborative effort between Naval Air and Surface Warfare Centers, academia, and industry partners enabled the investigation and preliminary development of frameworks and algorithms to capture the presence and magnitude of these effects. These plug-in algorithms were anticipated to enhance predictability of environmental impacts on human performance in support of tradeoff decisions during system design and development. This joint presentation is an initial attempt of two services to assist in modeling realistic human capabilities. The DSR Team is soliciting input from the larger user and research communities to influence the architecture and data decisions that will culminate in a more faithful representation of the individual warfighter.</p>
The Bridging Technique: Crossing Over the Modality Shifting Effect	Tom Alicia	Naval Air Warfare Center Training Systems Division	<p>In a complex environment such as the operator station of an Unmanned Aerial System (UAS) a faster reaction time to an alert may mark the difference between mission success and failure. One significant design consideration for a UAS interface is how to map critical alerts to an appropriate sensory modality (e.g., visual or auditory). If an alarm is presented in a modality already highly taxed or overloaded during a mission, reaction times will be increased. To combat this performance decrement, reaction times may be reduced by changing the alert to a less-taxed modality. The objective of this effort is to test a technique called bridging which switches the incoming alert from one modality to</p>

			another while simultaneously counteracting the emergent Modality Shifting Effect. Incorporated together with Multiple Resource Theory considerations and automation design guidelines, future UAS operator interfaces may be able to direct incoming information to a less taxed sensory channel automatically.
Interagency Operations Centers - WatchKeeper Information Management Suite: Usability Testing Process and Demonstration	Eugene St.Clair	Humanproof	<p>This presentation describes the process of usability testing applied by the U.S. Coast Guard on a recent operational test event. The U.S. Coast Guard requested a usability analysis on an information management suite called WatchKeeper. WatchKeeper is intended to provide functionality that supports integrated vessel targeting, operations planning, and operations monitoring for interagency operations. Humanproof, LLC under contract with ABS Consulting Group, conducted a two week test event of the system with participants from multiple agencies. This test event included a heuristic evaluation, think-aloud verbal protocol and cognitive walkthroughs during mission-representative simulations. The test team made audio and video recordings of each event. In addition, mouse and keyboard interactions were captured via Techsmith Morae 3.3 usability testing software on the U.S. Coast Guard's portable usability testing lab. Findings included task flow mismatches, system characteristics that did not meet generally accepted user interface design guidance, and specific opportunities to improve interagency coordination and policy. The test team provided a detailed report to the development team, which included findings, impacts, and specific recommendations for future software builds. As a result of this effort, the U.S. Coast Guard now intends to perform usability testing on all new systems and during updates to existing software. At the conclusion of process discussion, participants will be provided with examples of forms, testing guidance, equipment, and a live demonstration of Morae software capabilities.</p>
Enhancing the User Experience of Mobile Augmented Reality for Army Combat Medics	Dr. David Metcalf	UCF IST Mixed Emerging Technology Integration Lab	<p>The Army Research Laboratory, Human Research and Engineering Directorate Simulation and Training Technology Center (ARL-HRED STTC) in Orlando Florida has partnered with the University of Central Florida Institute for Simulation and Training (UCF IST) to develop a pilot version of advanced capability for the mobile delivery of learning and performance content of Combat Medic and Combat Lifesaver roles.</p> <p>Through the use of visual search and pattern matching technology, a Soldier can wave a camera app over cards or onscreen images to rapidly trigger context related to a medical triage care procedures for combat or a disaster recovery training relevance.</p> <p>This Augmented Reality (AR) capability works through rapid pattern matching within an image database developed at UCF IST Mixed Emerging Technology Integration Lab. The content-specific AR will automatically launch and play detailed video and animation segments of emergency procedures on the screen of the mobile device.</p> <p>In this session you will see the technology in action, learn about the specific use case, analyze preliminary data related to user experience and learning outcomes from existing app architecture, hear about plans for further research and a planned suite of mobile apps to further improve the user experience, discover other potential uses for mobile AR in other domains and situations.</p>

*****Please provide the briefing to the TAG coordinators for posting on the TAG website, if the briefing is unclassified and cleared, via the provided CD*****

Issues and Concerns (If none exist, state none)

Title of Concern or	Advocate or	Group Discussion	Actions, if any to be taken
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Problem	Organization That Raised Issue	Summary Related to Topic	
STTC is looking for collaborations with the DSR program.	STTC	Coast Guard has manpower data that would work well in the model.	POC information exchanged.
A question was raised about looking at the switch back from the modality in the bridging technique study.	ARL/HRED/APG	Speaker addressed as affirmative and presented approach.	

Elections (If none held state none)

Position Being Filled	Current Person	Current Agency/Organization	Candidates Nominated (Name/Agency-Organization)	Final Sub TAG Selection (Based on Voting)
None				

*****Please also provide the new individuals contact information*****

Open Actions (If none exist state none)

Title of Concern or Problem	Advocate or Organization That Raised Issue	Group Discussion Summary Related to Topic	Actions, if any to be taken
None			

General Notes (Optional):