Safe Employment of Augmented Reality in a Production Environment

Project Snapshot

Project Lead:

NSAM

Project Dates:

Feb 2019 – Oct 2019

Objectives:

- Collaborate with a cross-functional team of US Defense Contractors to perform a technology baseline study that identifies the state of Augmented Reality (AR) technologies
- Provide a market research, technical requirements, perform an internal infrastructure assessment, and identify gaps between as-is and to-be.
- Provide an implementation roadmap and identify best practices in order to safely implement this technology.

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The Office of Naval Research, Navy Manufacturing Technology (ONR Navy ManTech) program and its Naval Shipbuilding and Advanced Manufacturing Center of Excellence (NSAM) sought to collaborate with a cross-functional team of US Defense Contractors to perform a technology baseline study that identified the state of Augmented Reality (AR) technologies and the leading technology providers in a number of specific technical areas. The technical areas included Wearable and Mobile devices for Augmented Reality and Mixed Reality (MR), safety requirements, security considerations, and user interfaces.

The Safe Employment of Augmented Reality in a Production Environment project determined and documented the state of the market capabilities and also determined the technology requirements for implementing AR in a production environment. As part of this study each major shipyard and Boeing conducted an infrastructure assessment on the current and future use of AR technology which were the building blocks for a gap analysis.

The 9-month effort brought together four major ship builders: Electric Boat, Bath Iron Works, Newport News Shipbuilding, and Ingalls Shipbuilding as well as a major leader in aviation manufacturing, The Boeing Company, to collaborate on a single technology. This research effort focused on how best to bring AR technology to manufacturing without narrowing the scope to just one environment.

Naval Shipbuilding Advanced Manufacturing is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to develop advanced manufacturing technologies and deploy them in U.S. shipyards and other industrial facilities. NSAM's primary goal is to improve manufacturing processes and ultimately reduce the cost and time required to build and repair Navy ships and other weapons platforms. For additional information on this and other NSAM projects, please visit http://nsamcenter.org.

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