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HOLOTRIAGE: FIRST RESPONSE TRAINING AT SCALE USING AI, AVATARS & HAPTICS IN MIXED REALITY

Abstract

Simulation based medical training is an effective method for preparing first responders for real life challenges. Yet, simulations are cost prohibitive due to complexity of implementation and need for personnel and specially prepared scene sites. Virtual Reality (VR) has seen usage to run simulation training at lower cost, yet VR does not offer the direct connection to the material reality that first responders will actually be operating in.

Thus AvatarMEDIC, LLC has created HoloTRIAGE automated training platform utilizing Mixed Reality (MR) otherwise known as Spatial Computing. MR overlays digital assets onto the physical world in an anchored way, meaning that digital assets behave as if they are literally present in the physical world. MR is epitomized by devices such as Microsoft HoloLens 2 and Magic Leap, and limited MR abilities are available on mobile devices. Artificial Intelligence (AI) enables the HoloTRIAGE platform to automatically scan and segment the environment for use in automatically constructing scenarios and placing virtual assets, with options to allow instructors to specify broad parameters and have specifics automatically implemented. Further, AI delivers realistic interactive virtual victims, and is utilized to assess trainee performance. Entirely new metrics are available, such as eye-tracking and body pose data, enabling new fidelity of assessments and responsive simulations. Avatars allow remote instructors to record themselves and/or be present in realtime to teach and participate. Haptics enable trainees to feel physical impressions of digital assets, including resistance, pressure, texture and temperature.

HoloTRIAGE represents a new era for first response training using virtual assets in real context, and AvatarMEDIC's network of leading experts ensures that training content is focused, accurate and supportive of real first response needs. Designed to augment existing physical simulation exercises and materials, as well as enable complete replacement of physical materials with virtual assets. Developed specifically for conducting training in remote and austere environments where weight and personnel are most limited. Enables cost savings and increase in total number of possible exercises. HoloTRIAGE opens entirely new markets for advanced first response simulation training through deployment on mobile devices. Groups which today have limited access to training due to cost, time and other constraints can now train in context with high fidelity.

This presentation will demonstrate the HoloTRIAGE application and discuss development and deployment of the technology to partners and consumers.