AUGMENTED REALITY MEDICAL TRAINING PROTOTYPE (AR MTP)

5G TELEMEDICINE

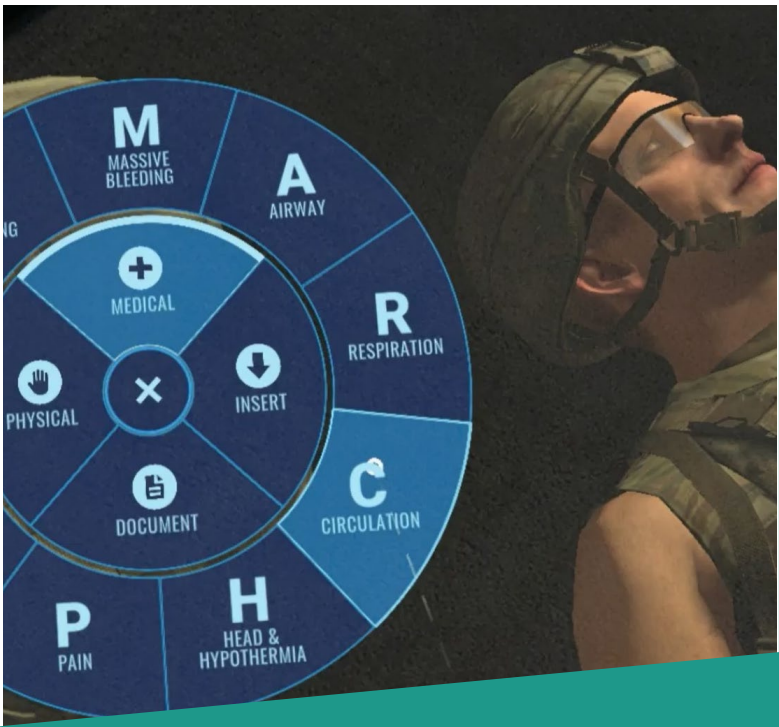
The goal of this effort was to develop and demonstrate a 5G Augmented Reality (AR) medical training prototype (MTP) that can provide on-demand, real-time and secure access to high-quality virtual medical training with remote training monitoring using AR technology.

This cutting-edge innovation is intended for military personnel, leveraging 5G-enabled technology and cloud architectures combined with the high technical readiness level (TRL) of Tactical Combat Casualty Care (TC3Sim) capabilities, content and features.

ECS adapted TC3Sim to fit this new AR use case and modality, creating an immersive and realistic training environment. The prototype backend utilizes microservices and infrastructure-as-code, offering support for scalable cloud-native approaches and Multi-access edge computing (MEC). This architecture also provided flexibility to support multiple test environments. Within the AR application use case, instructors can manage groups of learners, with one instructor supervising up to 20 students, making AR MTP the ideal for one-to-many training scenarios. The user interface is designed with a focus on clarity, following the MARCHPAWS doctrine for virtual medical interventions, allowing learners to make critical decisions in high-pressure situations.

AR Medical Training Prototype

- One-to-Many approach for teleteaching
- Up to 20 students per instructor
- Custom Deployment Environments
- Microservices Architecture
- Cloud-Native and Edge deployment
- Infrastructure-as-code management
- Dynamic Room Scanning and Setup Wizard
- HoloLens2 Hand Gesture Support
- MARCHPAWS mnemonic radial interface
- Trauma Scenario Integration Complete; Additional trauma and medical scenarios designed and validated



ENGINEERING & COMPUTER SIMULATIONS

11825 High Tech Ave, #250, Orlando, FL 32817
407-823-9991 | info@ecsorl.com | www.ecsorl.com