Case Study

Enhancing Emergency Responder Training with Immersive XR Simulations

Ealech

The Client

The client is a leading CTE platform offering certification-aligned virtual simulations across healthcare, trades, and technical programs.

The Challenge

To relaunch its Emergency Medical Responder (EMR) training program, the client needed a scalable, Al-augmented simulation framework that would reduce manual production time without sacrificing instructional quality.

Critical Success Parameters

- ✓ Develop a CPR + AED simulation for WebXR and Meta Quest 2.
- Ensure alignment with AHA and NREMT national standards.
- ✓ Support future scalability across 9 additional EMR training modules.
- Maintain high visual fidelity while optimizing runtime performance.
- Design modular asset and code structures to reduce effort on future builds.
- Build instructional flows that are fully accessible and standards-compliant.

Our Approach

- Designed and built a real-time CPR simulation using Unity, packaged for WebGL and Meta Quest 2.
- Developed rhythm-based interactivity with AED prompts and guided instructional steps.
- Delivered adult and child scenarios; scoped infant simulation as an optional extension.
- Created reusable frameworks, skeleton documents, and modular components for scalability.
- Collaborated with client teams through iterative review cycles and SME validation.
- Managed end-to-end storyboarding, 3D modeling, accessibility QA, and XR optimization.



Key Result Highlights

Reduced production cost for future simulations by up

to **15%** through asset reuse.

Enabled a phased rollout

strategy for all **10** EMR modules.

Delivered high-quality, low-latency XR simulations ready for in-class and remote learning.