

M3

Mixed Reality Mission Maintenance



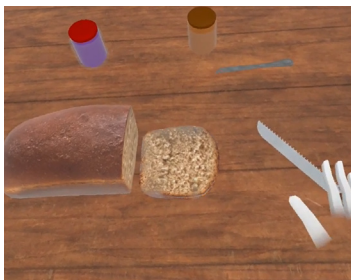
Whether working in dangerous environments or perfecting technical skills, it's important to be prepared for any scenario.

Mixed Reality (MR) Mission Maintenance (M3) is a training system developed by the Space Dynamics Laboratory (SDL) that supports both virtual and augmented reality. This system delivers an immersive 3D experience through event-driven triggers, empowering teams to practice their skills anywhere—no physical facilities required.

BENEFITS

- Uses an open-source framework
- MR training with visual, audio & spatial enhanced learning
- Customized learning with basic programming knowledge
- Web-based & MR-based applications for creators & students
- Compatible with multiple MR devices
- Few third-party dependencies & zero dependency costs
- Easy adoption for Government use, including programs with technical or hazardous environment training

SAMPLE LEARNING EXPERIENCES



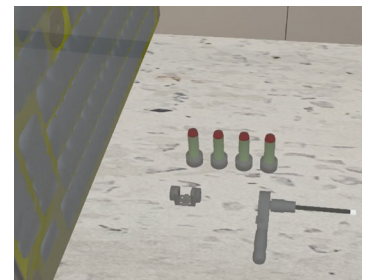
Peanut Butter and Jelly Sandwich
Demonstrates the variety of features available using a familiar example.



Battery Voltage Test
Demonstrates measuring the voltage of a DC battery using a multimeter.



Build a Drone
Demonstrates drone construction and enables users to follow along with a physical device.



Solar Array Assembly
Demonstrates the ability to lock position and rotate movement of assets (i.e., socket wrench).

CUSTOMIZABLE TRAINING

M3 enables users to upload 2D/3D/audio assets to create training environments with customizable steps and triggers, while the web interface provides scripting for training steps. Assets can be easily adjusted, with tools for translation, rotation, and scaling. The system enhances training with triggers for spatial audio, model animations, video playback, asset transformations, and physics controls. It also supports intuitive hand gestures such as pinch, grab, and point, along with body-relative motions for seamless, immersive interactions.

POTENTIAL TRAINING SCENARIOS

Maintenance and manufacturing training for the following:

- Missiles
- Small satellites
- Drones
- Aircraft
- Ground vehicles
- Cyber systems