NAVSEA

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Problem

- Navy ships systems contain old systems
- Some maintenance requires expert guidance
- Can be costly and time consuming

Solution

- Untrained user performs maintenance assisted by app animations and instructions
- App verifies and logs user interactions

Eye Tracking

- Follows eye movement and highlights components being gazed at
- When user looks at correct component, app logs it for validation

Gesture Tracking

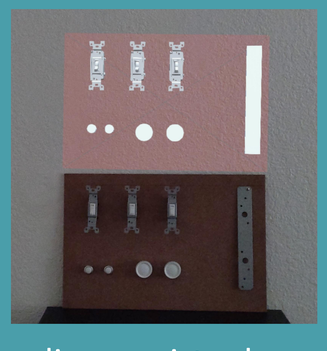
- User must perform correct gesture when interacting with certain components
- Uses in-built Mixed Reality Toolkit functionality to track knob rotation

Hand Tracking

- User must touch correct component
- App tracks relative hand position to component and absolute hand position

Our App

Alignment

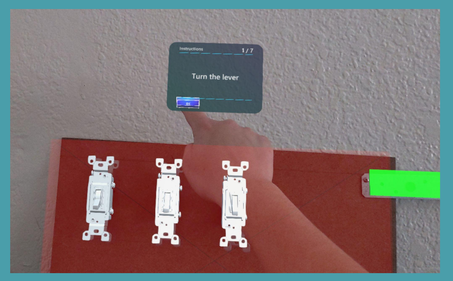


User aligns a virtual model with the physical board

Instructions

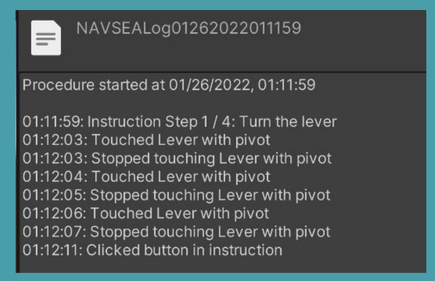
User starts instructions that walk the user through a theoretical maintenance procedure

Verification



User can only proceed to the next instruction if they look at and touch the correct component

Logging



Text file log allows for verification that the user executed the instructions correctly