Development Plan: NAVSEA

Team Name: Sea++
Members:

- Lyuda Panina (Team Lead)
- Vivian Ross (Scribe)
- Kyle Kam
- Emily O'Mahony
- Thao Phan

Features

- Hand placement tracking: the application should be able to track the position of a user's hand and compare it to the position of various machine components
- Eye tracking: the application should be able to track a user's gaze in order to determine that the user is looking at the correct component of the machine
- Hand gesture tracking: the application should be able to track hand gestures (such as twisting a knob or pushing a button) in order to determine whether a user has made the necessary gesture to manipulate a machine component
- Log verification: the application should be able to log when a user completes an instruction
- Instruction verification: the application should be able to use the hand placement tracking, eye tracking, and hand gesture tracking to detect whether a user has completed a step and advance the instructions

Timeline

Sprint 5

- Research existing API's for hand and eye tracking in Hololens
- Implement eye tracking
- Implement hand placement tracking

Sprint 6

- Implement hand gesture tracking
- Develop an algorithm for calculating the confidence interval
- Combine all tracking with instructions such that instructions only proceed if the hand placement, hand gesture, and gaze align with the user having completed the step

Sprint 7

- Prepare poster draft
- Add logging to document user's actions throughout maintenance procedure
- Practice presentation

Sprint 8

- Improve hand/eye tracking as necessary
- Improve poster & presentation