

Looking Ahead with EOG

Project Checklist

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Commitment:

- The EOG processing modules (ADC, filter, & feature detection) which will intake signals from the probes and output the state of the wearer's eyes (left, right) (Ebeth)
- The data visualization module which will display on the monitor a visual representation of eyes looking in the sensed direction (Crystal)
- The general FSM/menu, which will allow the user to view and navigate through the visualization options, though they will be unable to click on the not built modules (real and virtual world) (Crystal)

We will demonstrate this by attaching the electrodes to a user and allowing them to control with eye movement the general fsm and see the data visualization reflect the actions of their eyes.

Goal:

- The EOG processing modules (ADC, filter, & feature detection) will process up/down/blink as well (Ebeth)
- The real world module which will show a camera view that the user can pan around a zoomed in section of the image as they move their eyes. (both)
- The virtual world module which will allow the user to look around in a virtual room with multi-colored walls (Crystal)

We will demonstrate the ability to move between these worlds through the menu and the eyes controlling the respective views on the monitor

Stretch Goal:

- Improved virtual world graphics - perhaps put some simple objects such as cubes or spheres(will need to work out shading) in the room (Crystal)
- A simple maze game that allows the user to look around and go forward through the blocks to find their way out (Crystal)
- A motor (or two) on real world camera (Ebeth)
- Multiple cameras to switch between in the real world, with "camera 1" or "camera 2" in the corner (visualizing text) (Ebeth)
- An ability to take and store pictures (or screenshots from the real world view) (both)
- Some hidden easter eggs ;) (both)

We will demonstrate the ability to move between these worlds through the menu and the eyes controlling the respective views on the monitor, the ability to play a working maze game, the camera movement, and picture capture and storage.