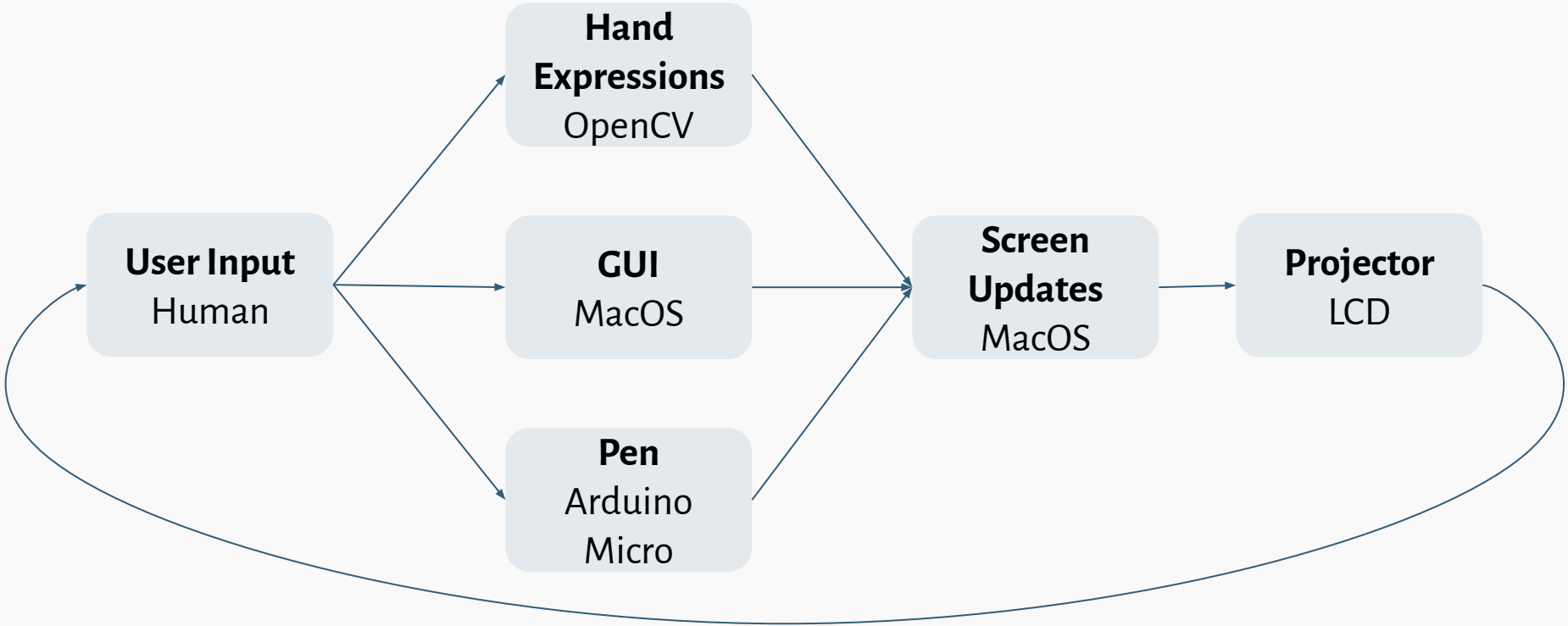
Magic Mice

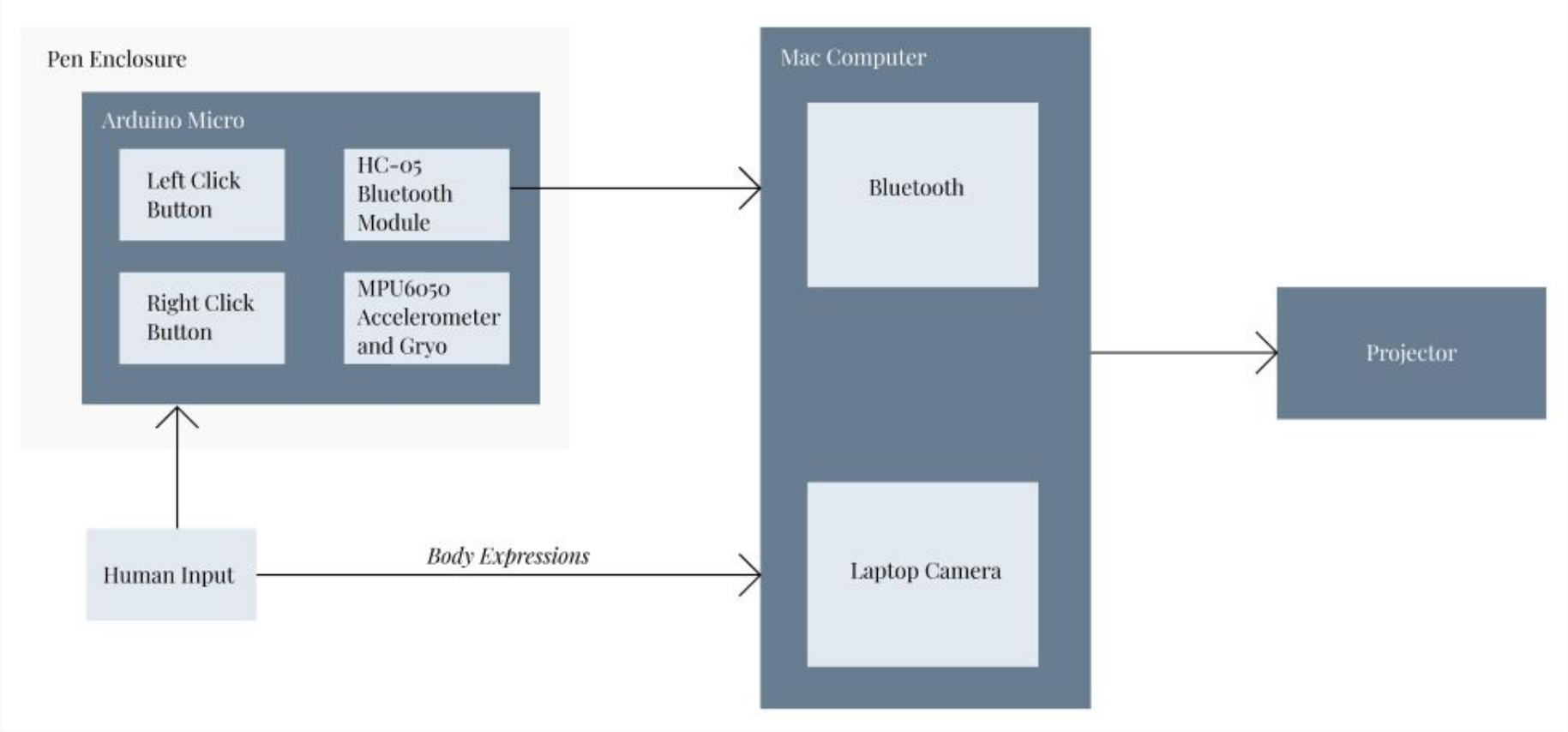
Bradley, Jenny, Jade

Application Area

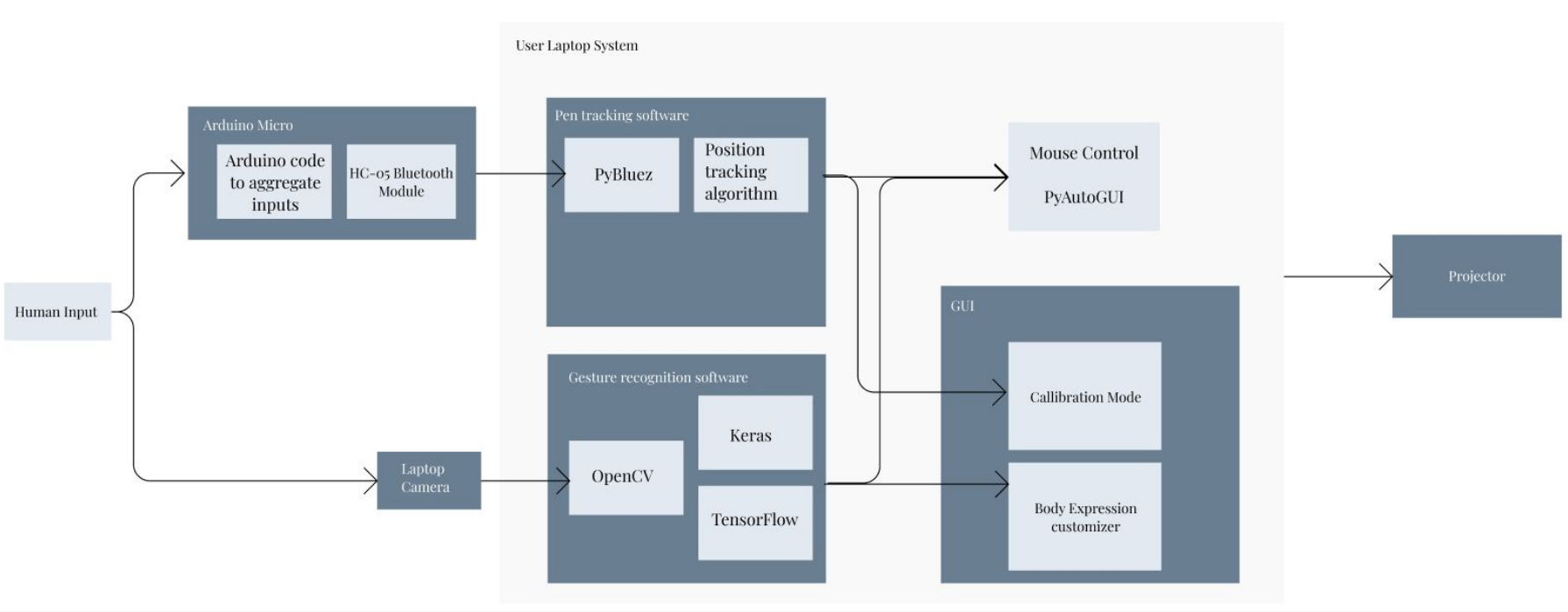
Solution Approach



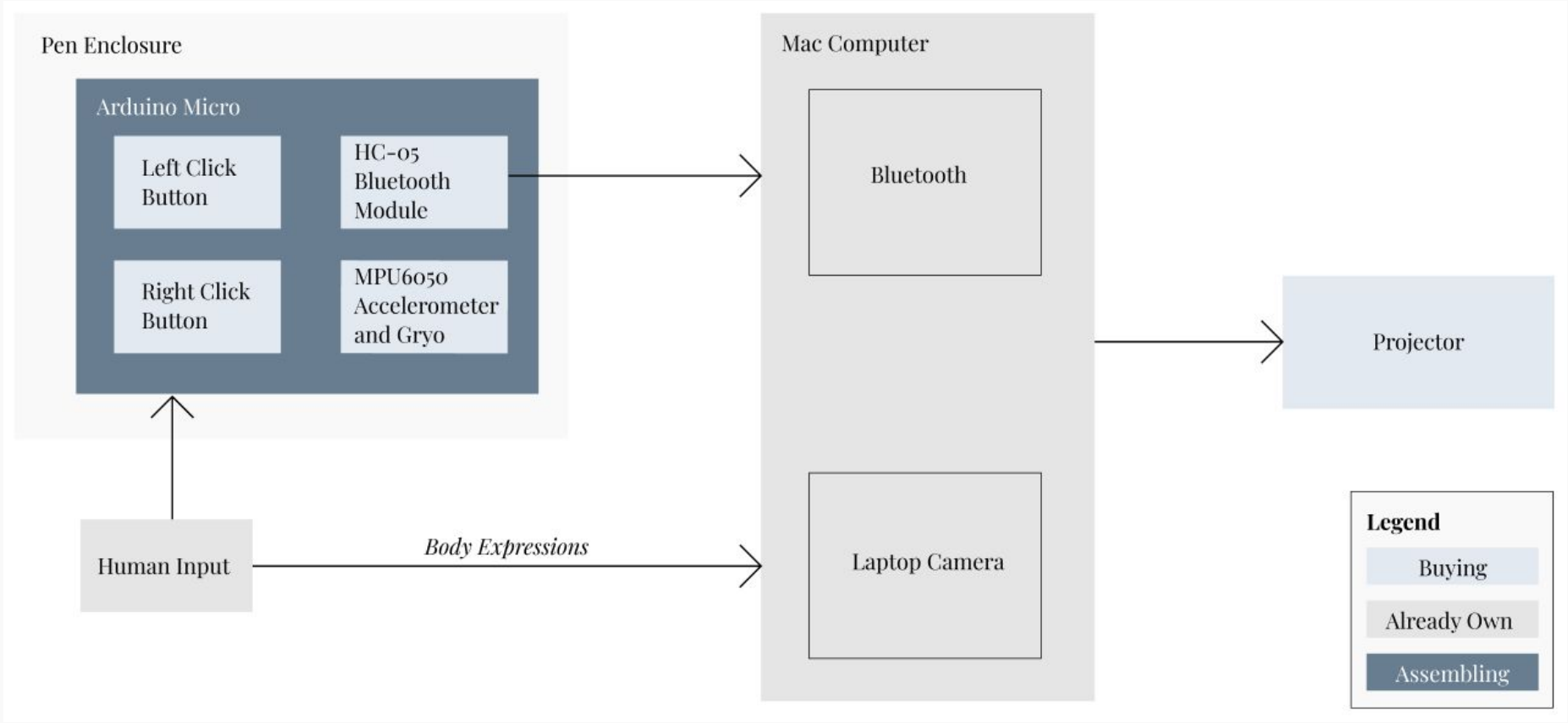
System Specification: Hardware



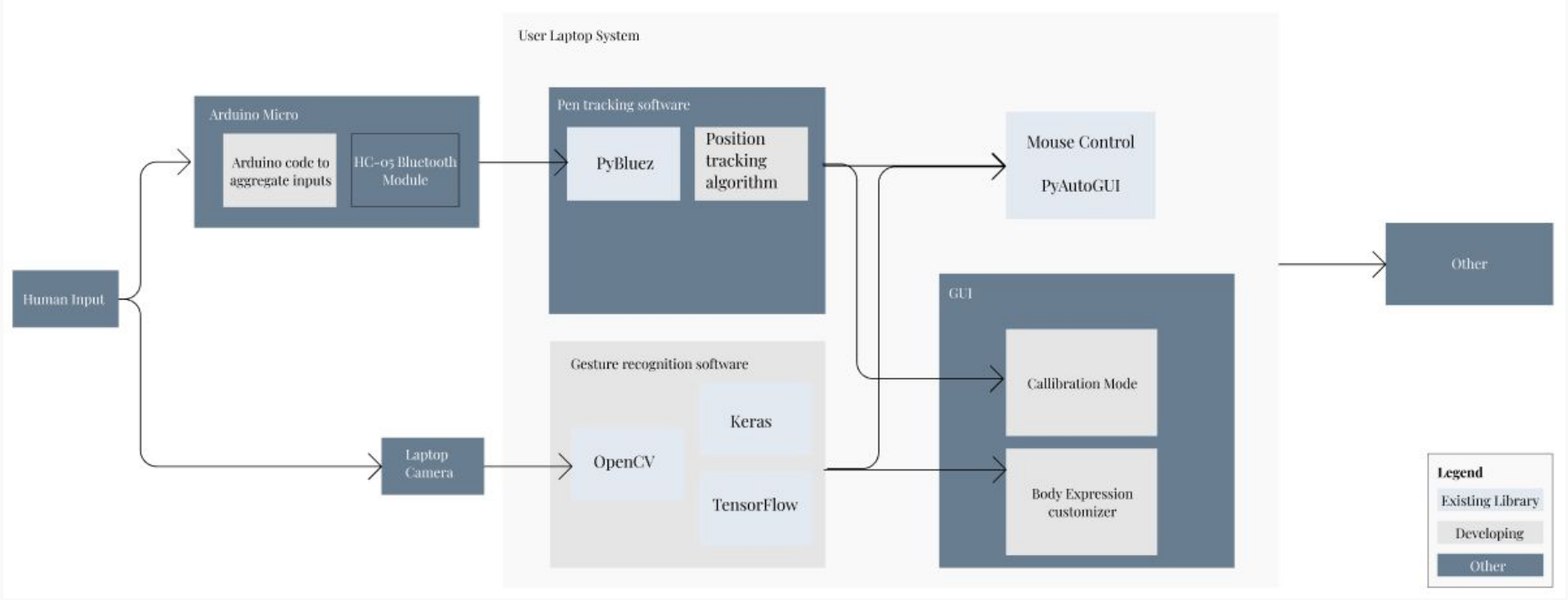
System Specification: Software



Implementation Plan (Hardware)



Implementation Plan (Software)



Metrics and Validation

Pen

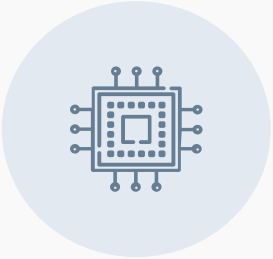
Position: check pen location, hover distance
Buttons: single click, long click, hover

Projector

Updates: <200 ms
Calibration: 5-15 ft distances

Hand Expressions

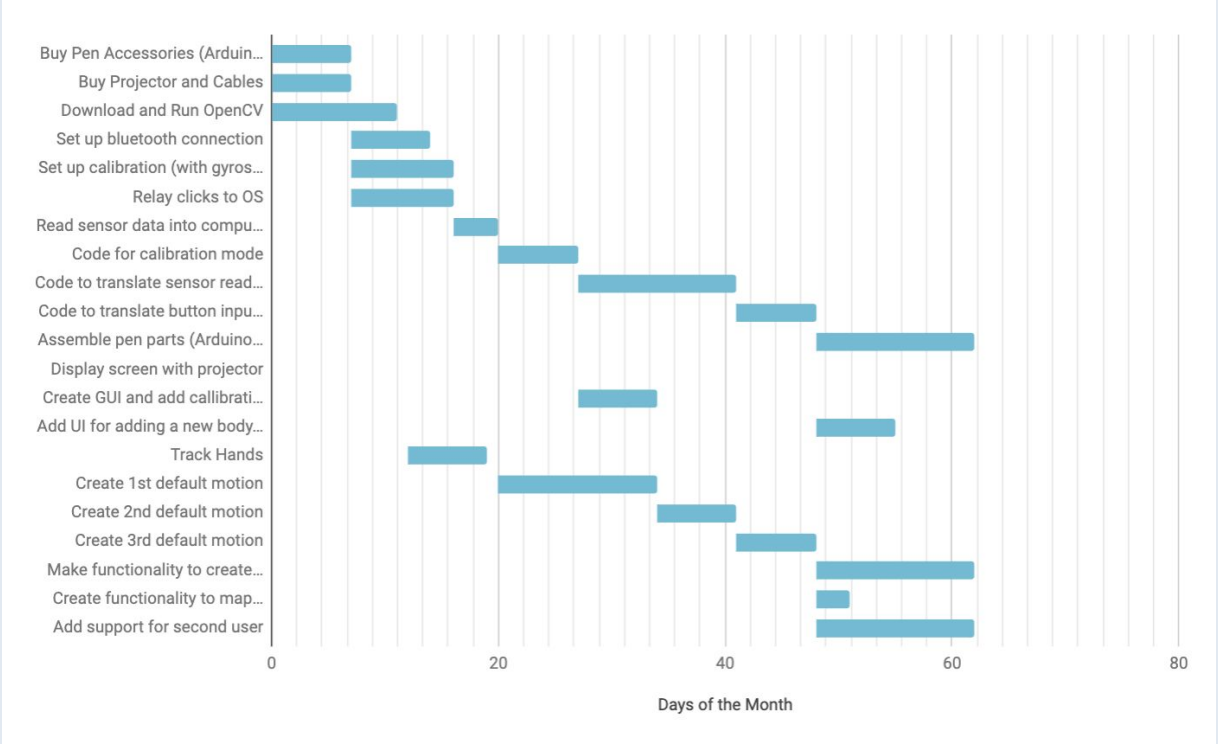
Accuracy: 20/80 test/train data
Custom: user input and new hand positions



System

Mouse Events: unit tests for pen and expressions at 5-15 ft distances

Project Management: Schedule



Project Management: Division of Labor

Bradley Zhou

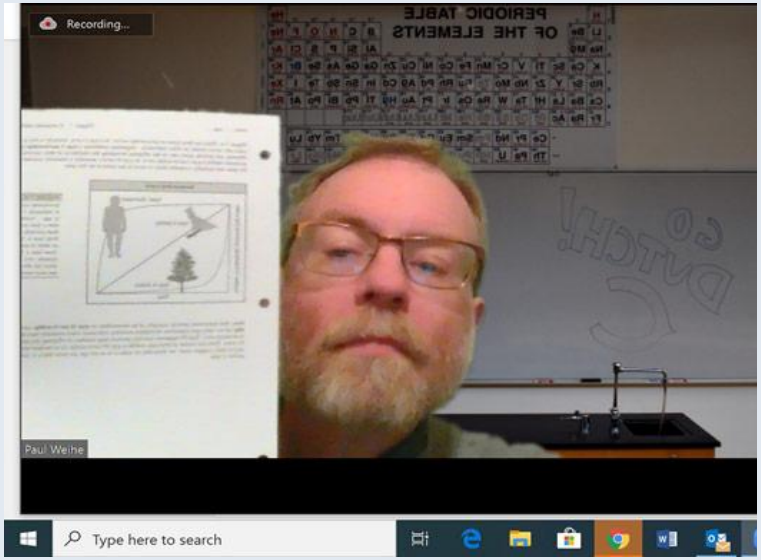
Assemble hardware elements (pen buttons, gyroscope) of pen and relay correct information to system. Work on pen tracking and calibration software. Test body expressions and bluetooth..

Jade Wang

Create bluetooth connection between pen and MacOS. Relay screen information to projector and write software for mouse click events for pen/expressions. Test body expressions and calibration.

Jenny Han

Link webcam to system. Train model to recognize hand positions. Run OpenCV, find real time hand positions, relay information to system. Write customizer for hand expressions. Test pen clicks/hover and projector calibration.


Recording...
Paul Weihe
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