



CaliALI

Self-Calibrating and Aligning Monitor Mount

UNIVERSITY of
HOUSTON
COLLEGE of TECHNOLOGY

Introduction

The team's goal is to create **plug-and-play hardware** designed to articulate automatically to a user to optimize and increase viewing ergonomics.

- Uses **facial tracking** & motors for movement
- Designed to **increase ergonomics** for daily tasks
- The **first of its kind** to introduce a dynamic mount enhancing user comfort and visibility

Problem



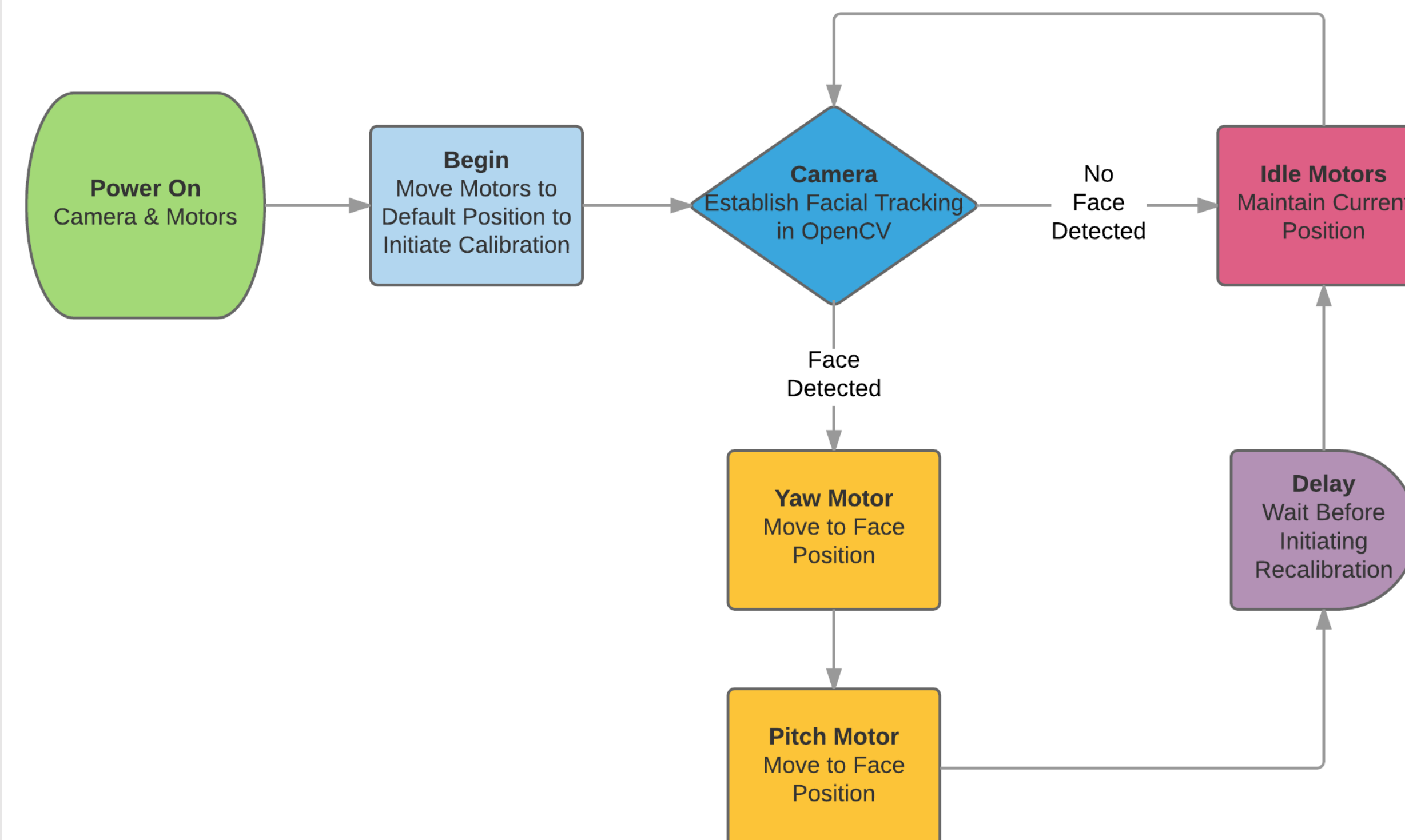
UC Berkeley's study found **60%** of respondents reported upper extremity or neck pain attributed to computer use.

Market Study

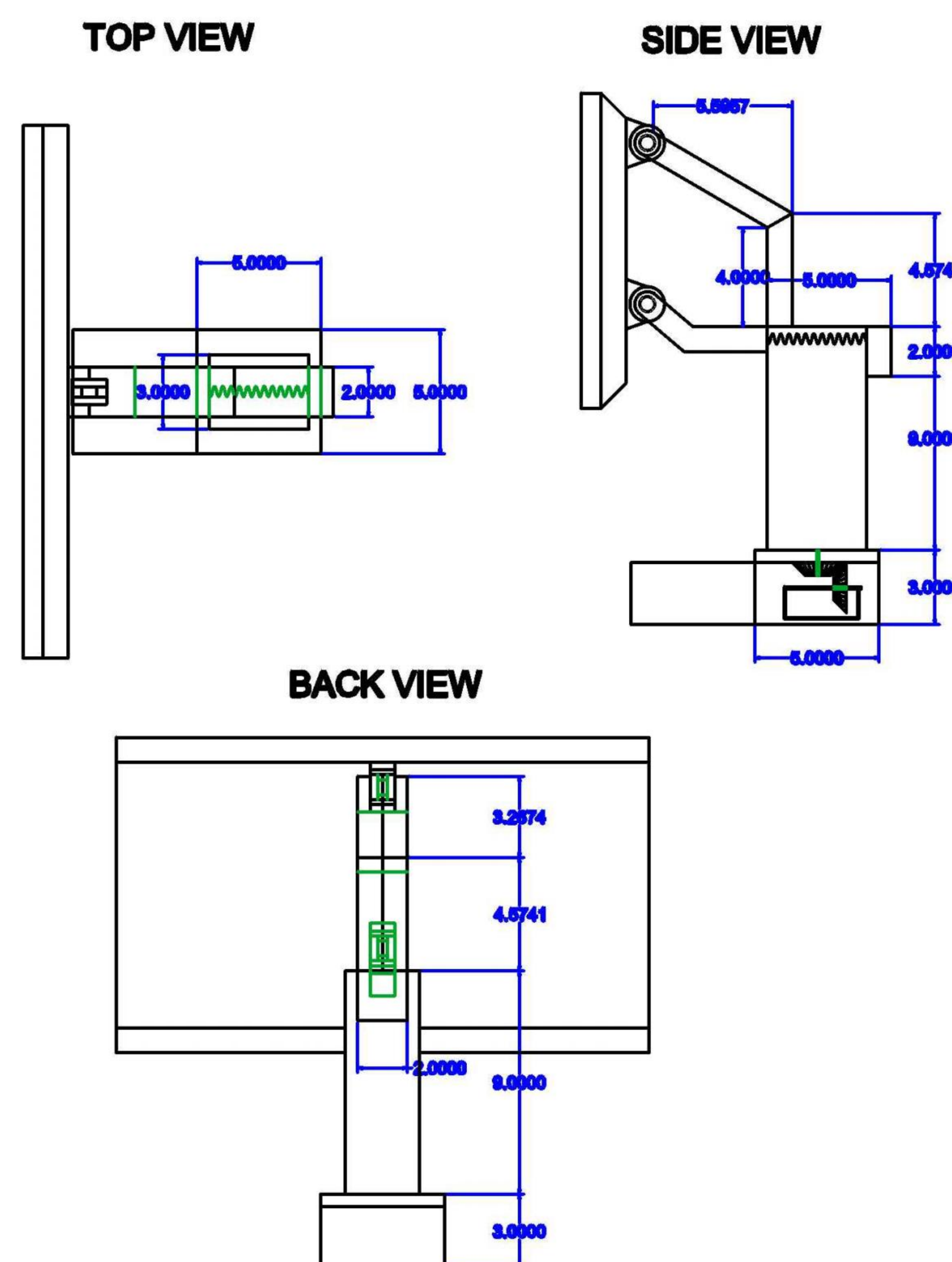


- **90%** of interviewees attributed pain to computer use
- **7.75 hours** spent on average working on the computer
- Average age of employee was 35 years old

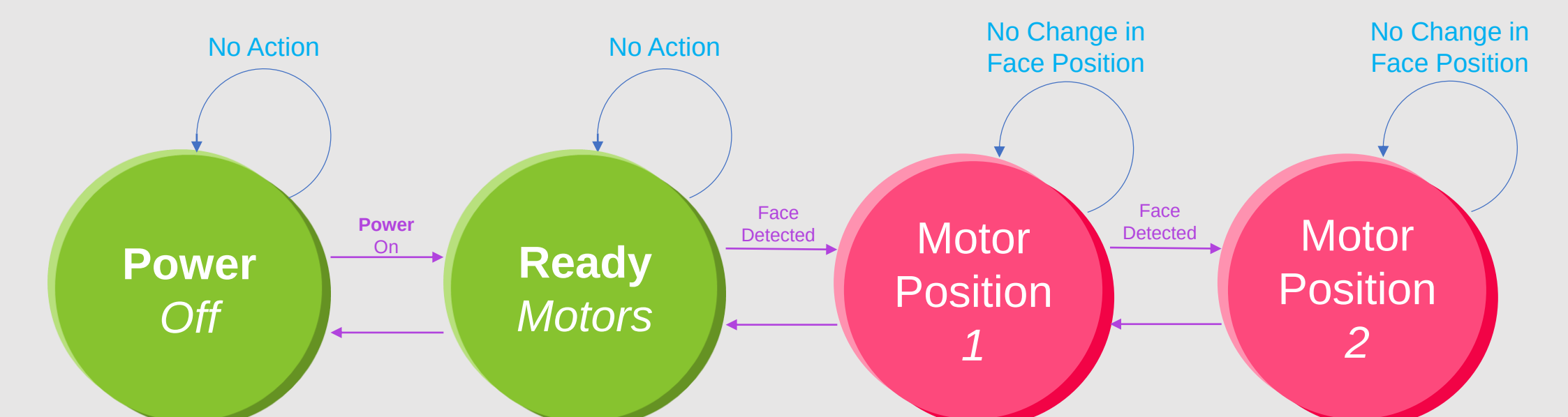
Flow Chart



Diagrams



Finite State Machine



Hardware and Software



- Arduino Micro
- OpenCV
- Microsoft Visual Studio
- Bipolar Stepper Motors

Conclusion



- Assemble OpenCV Libraries in C++
- Program and Troubleshoot Software in Microsoft Visual Studio
- Prototype Testing of Physical Mount
- Begin Camera Debugging to Arduino Micro
- Begin Circuit Design with Arduino Micro