



SMART SOFT-ROBOTICS TENTACLE DOCUMENTATION

NOODLEBOT

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1 Introduction

The NoodleBot team is creating a robot tentacle from a pool noodle, para cord, stepper motors, a micro controller, and machine learning software. The device is intended for those with accessibility concerns and will allow those with a limited range of motion to reach out and potentially manipulate objects.

2 Overview

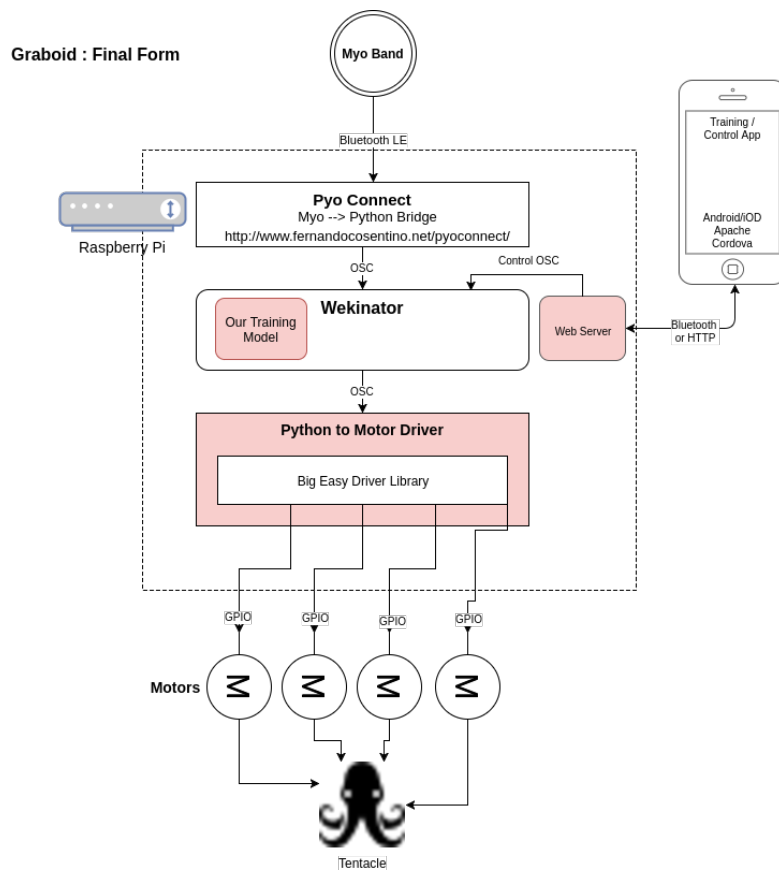


Figure 1: Software Flow

3 Hardware

Our first concern was creating the physical device

4 Software

4.1 Myo Osc and Related Python Scripts

4.2 Mobile App

4.3 Machine Learning with Wekinator

4.4 Hardware Control Code

5 Challenges

6 Future Work