

# Voodoo Robotic Control System

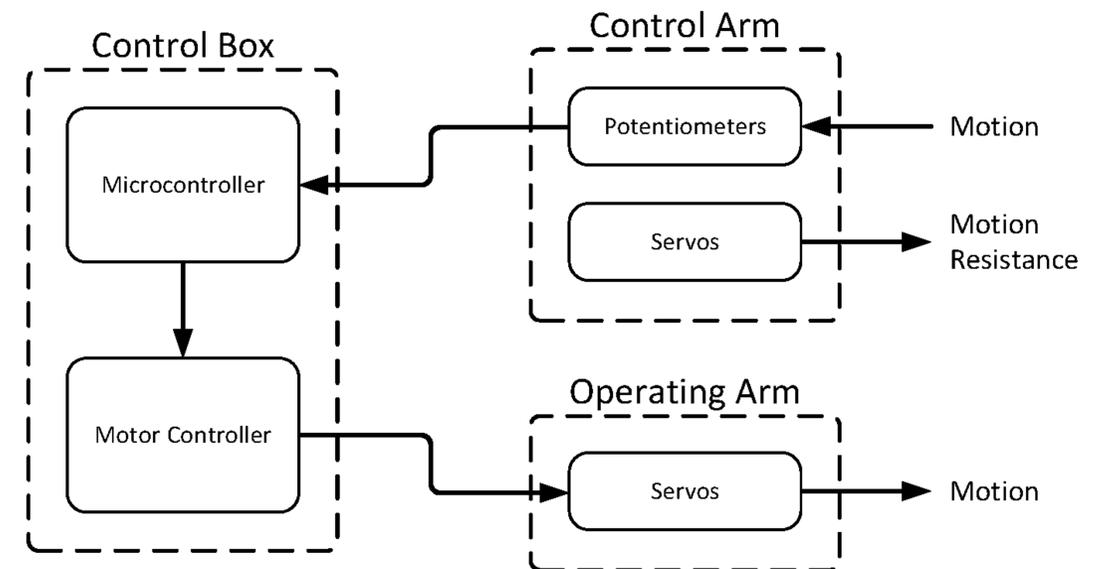
## Project

Robotics and automation are commonplace and becoming more useful by the day, BUT:

- Automation can be expensive and inaccessible to individuals and small businesses
- Making automation more accessible requires catering to non-technical audiences
- Controlling and programming robots is difficult for untrained users

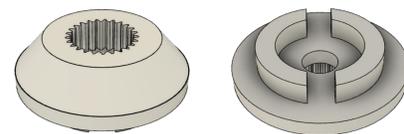
Voodoo allows untrained users to control and program robotic systems using a method closer to puppetry than to computer science.

## System



## Methods

- Control Arm measures its position using potentiometers at each joint
- Microcontroller and Motor Controller process data from control arm to produce desired motor setpoints
- Servo motor positions in the Operating Arm are updated 100 times per second
- Mechanical movement at joints enabled by 3D-printed servo horns
- At the base of the Operating Arm, a standard servo mount is used instead of a 3D-printed part due to high torque load



## Conclusion

- Prototype control system works as intended, but could be adapted to specific needs
- Lesson Learned: Building a robot from the ground up is no easy task
- In the future, the system will be programmed with a ROS interface to enable recording of command sequences

