PC

* No point in using since no interface is needed
* Expensive
* Size of pc is a risk in industrial setting

Raspberry Pi

* Dealing with analog motor control
* Cost more than a microcontroller

**Microcontroller**

* Easier to program and for client to replicate
* Less time consumption in terms of programming
* Cost less
* Sequential code
* Simple to use and configure

FPGA

* Takes a lot more time to program (due to capstone limitation not a good choice)
* More precise for motor control system
* Space limited need to create more logic circuits
* Process commands simultaneously

PLC

* Industrial use for controlling machinery
* More expensive than microcontroller

**MICROCONTROLLERS**

Name: Arduino Uno R3

Current Draw: 2.4mA min. Max = 280mA

Clock Speed: 16MHz

Memory: 32KB (30 usable)

RAM: 2KB

GPIO PIN #: 20?

Voltage Input: 7-12

Arduino Compatible: yes

Pi Compatible: no

Cost: $33

Name: MicroPython v1.1

Current Draw: Min-21mA -- Max-250mA

Deep Sleep:

Clock Speed: 96MHz

Memory:

RAM: 128KB

GPIO Pin #: 29

Voltage Input: 3.6-16

Arduino Compatible: No

Pi Compatible: Yes

Cost: $45

Name: Teensy 3.6

Current Draw: Idle - 300uA -- Active - 45mA overclocked to 90MHz

Clock Speed: 180MHz

Memory: 1MB flash

RAM: 256KB

GPIO PIN #: 32

Voltage Input: 3.3 Only

Arduino Compatible: yes

Pi Compatible: no

MicroPython: yes

Cost: $49-56

Name: TI MSP432P401R

Current Draw: 80uA

Clock Speed: up to 48MHz

Memory: 256 KB flash

RAM: 64KB

GPIO PIN #: 16

Voltage Input: 3.3 only

Cost: $20 USD

**ADD-ONS**

Name: Arduino Motor Shield rev3

Voltage: 5-12

Motor Controller: L298P, drives 2 dc motors or 1 stepper motor

Max Current: 2A per channel or 4A max (w/ external power supply)

Current Sensing: 1.65V/A

Free running stop and brake function

Cost: $20

Proximity sensors

Closed loop system

Bipolar stepper motor