# Controller Side

# Fish Side

## Moisture Sensors

### Features

* Always Running
* One in each body

### Operation

* No Water
  + Outputs Digital High signal
  + Normal Fish Operation
* Water
  + Outputs Digital Low
  + Interrupt normal fish operations
    - Surface
      * Extend pistons
    - Stop forward/turning Movement
    - Alert Users
      * Flash Red LEDS in body

## Ballast

### Features

* Initial calibration when put in water
  + Users drive motors manually until the craft is neutrally buoyant and mostly level
  + Users stores these values and update main code
* Active pitch control
  + Using values from gyros/accelerometers
* Homing
  + Using limit switch

### Operation

* Homing-run once
  + Drive steppers in until limit switch is depressed
  + Store value
* Active Pitch Control
  + Using gyro/accel data maintain level swimming
* Buoyancy Control
  + Be able to rise and sink via user inputs