Notes in MCEN 5115

Zachary Vogel

April 6, 2016

List of functions

microcontroller

- init_colo
  - determines color we are looking for
- send_request
  - must be able to take in a parameter to determine if we are looking for middle circle or one of the hoops
  - going to use uart to make the request
  - will send a code that will correspond to these
- receive_data
  - recieves 2 bytes of data, first is the distance to the center of the target, second is angle from center of target.
  - if all values are zero, need to look for hoop, calls move_robo with an angle and no position.
- move_robo
  - must be able to take in a vector which will define 2-d position from where we are to move to
  - also need a 1-d angle to figure out which way to point relative to current position
  - should take into account the motor effects
- launch_balls
  - actuate the motor to shoot
  - should only shoot if we have recieved that we are in the ccorrect position from recieve_request
- pick_balls
  - actuates the fan to pick up balls
- check_lines
  - checks the line_followers to see if we are on the edge of the ball area

Odroid

will be constantly waiting to call receive data

- receive_request
    - receives the data available in the uart
    - processes it to call the correct function

- look_hoop
    - looks for the hoop
    - if it finds it, calculates angle from the center hoop and distance to the center
    - otherwise returns 0,0

- look_center
    - finds the center circle and returns distance to the center of it

- send_data
    - will take the data from look_hoop or look_center and send it over Uart

Psuedo code

Microcontroller

```
languagelanguage
```