

## Team 13 Robot Proposal

### Robot Features

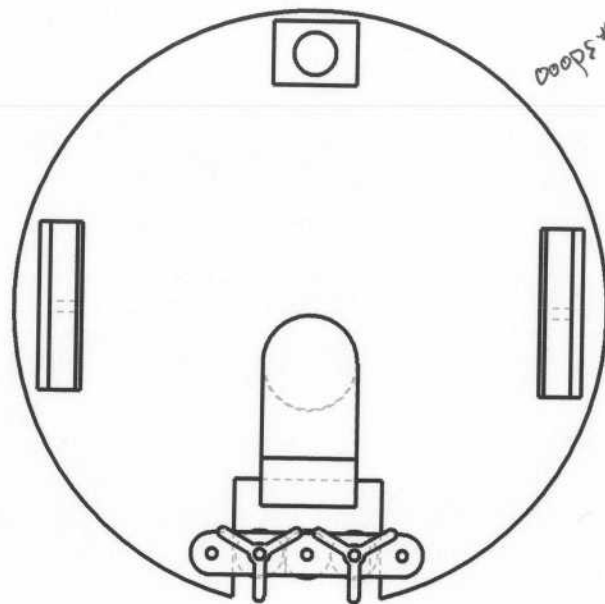
- circular base to avoid getting stuck in corners
- pivots about CG to more effectively turn away from obstacles
- fixed camera that sees part of the robot itself. This will help in finding distances from images.
- Collects balls and releases them together
- ball collector: two revolving doors that capture the ball when rotated one way and release them when rotated the other way. The balls are stored in a hopper.
- Finds distances using visual and IR inputs
- limited mapping capability; uses gyros and possibly other sensors for calculating its position

### Mechanical Task Schedule

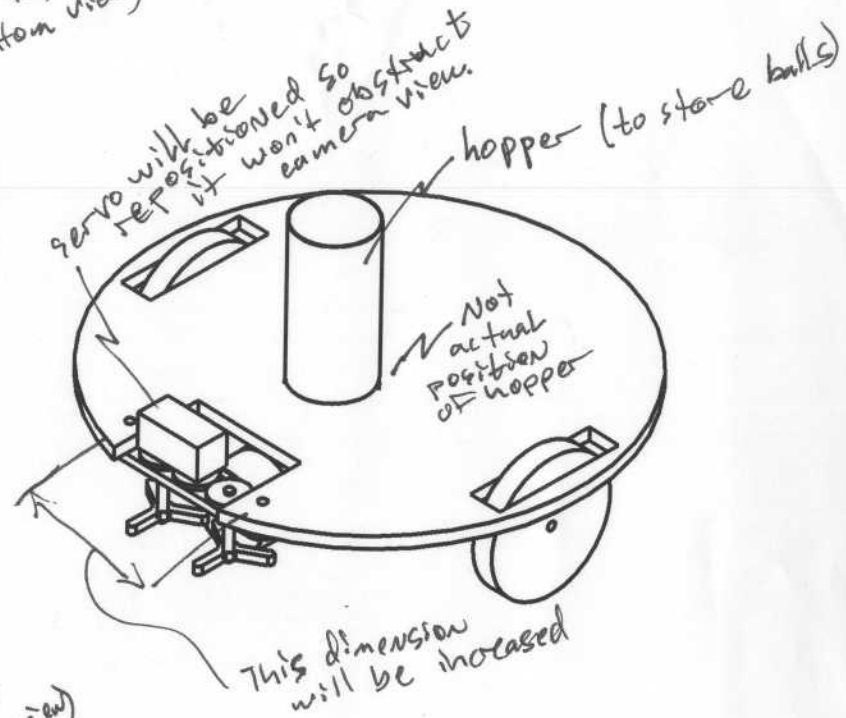
- proof of concept ball collector *week 1*
- add gyros to peg bot and calibrate it *week 1*
- add close range IR sensor *week 1*
- decide on camera angle: straight or down *week 2*
- find base dimensions and cut base, attach wheels *week 2*
- Mount camera and other sensors *week 2*
- Construct ball collector *week 3*

### Software Task Schedule

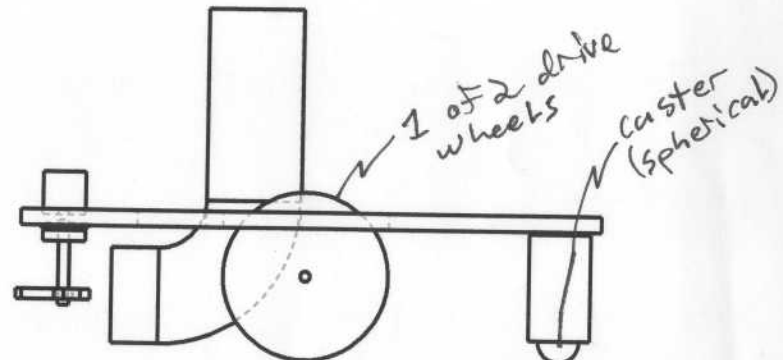
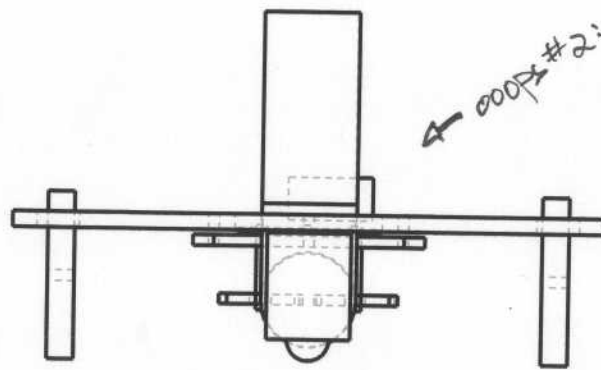
- Wall finding code *1 week*
- wander algorithm *2 weeks*
- collision avoidance code *2 weeks*
- fine maneuvering for ball capture code *3 weeks*
- ball capture code *2 weeks*
- goal finding code *2 weeks*
- ball releasing code *2 week*
- ball finding code : done ;)



oops #3: should be top view  
(Not bottom view)



oops #2: should be front view, (not rear view)

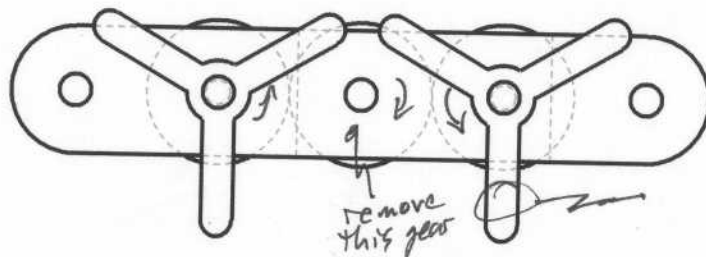


1 of 2 drive wheels  
caster (spherical)

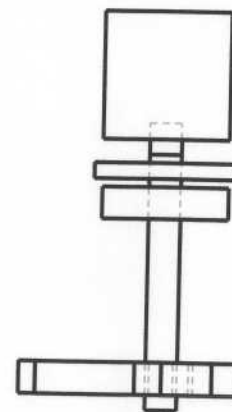
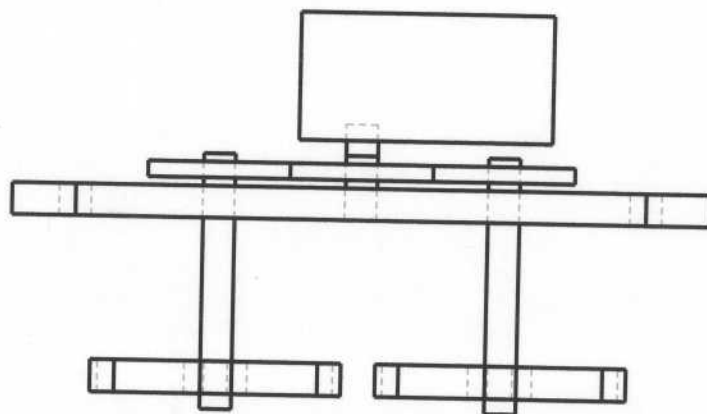
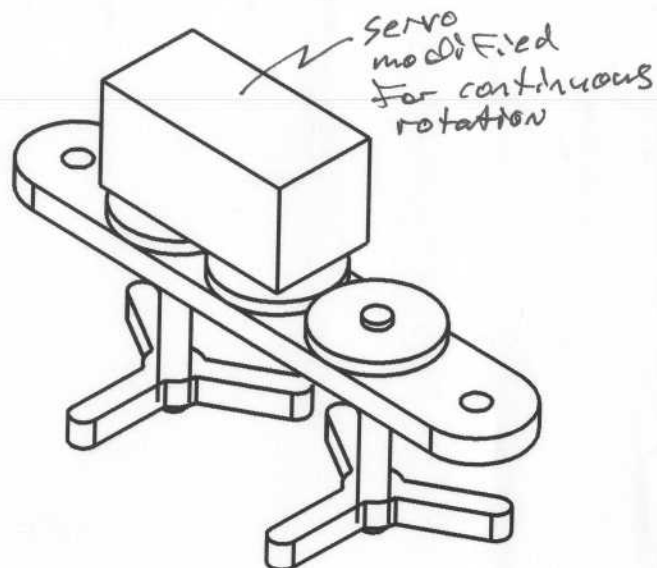
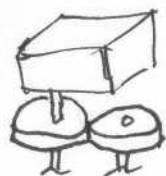
SCALE 0,250

OOOPS #1:

★ should have even number of gears  
(i.e. 2 or 4)



Servo may directly drive  
one ball-arm (turnstile)  
2nd ball-arm drive thru gear



SCALE 0,750