

Week 6 Status Update

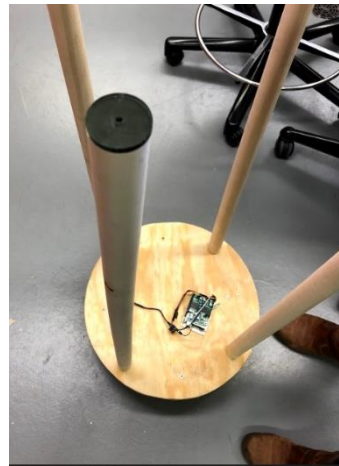
Team D1 – Isabel Murdock

Work Accomplished:

- Motors and motor shield test completed
 - o Attached motors and battery to motor shield and Arduino
 - o Uploaded basic test program to Arduino, then updated it with lower levels that still moved the robot
 - o Tested with the entire robot sitting on the motors, motors were strong enough to move the full weight

- Improvements to mechanical structure
 - o Upon transporting and assembling the robot, I discovered that it was challenging to screw some of the support rods to the base
 - o In order to fix this, we drilled bigger holes in the base itself and made the hole in the wooden rod larger and cleaner
 - o The rods and base screwed together much easier after these changes

- Finished the creation and assembly of the top board
 - o Laser cut the top board based on the CAD model
 - o Used a template to drill holes in the middle of the wooden support rods
 - o Screwed the top board to the support rods to permanently secure them



Schedule:

- Roughly 1 week behind schedule
- Should be able to catch up this coming week and be able to experiment and find a ramp up and ramp down rate for smooth acceleration
- Also need to add time to schedule to create the adjustable height feature for the supports of the tennis balls
 - o This is to reduce wobble of the robot through a mechanical design that would allow the height of the tennis ball supports to be adjusted individually at any time
 - o The design will consist of a threaded bolt rotating to move the support up or down and should not be very complex to implement

Upcoming Deliverables:

- Fixed settings/acceleration speeds that allow for minimal wobble when accelerating or decelerating
- Physical mechanism that allows the height of the tennis ball supports to be adjusted
- Communication from Arduino to raspberry pi