Weekly Updates - 4/9/19

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Team P.V.I.R
Advisor: Lukas Graber
Team Members: Stephanie Chan, Elizabeth Fuller, Adrian Munoz
Nelson Raphael, and Lemek Robinson

Assembly Updates

Completed:
- Machining of aluminum
- Sensor plate has L-brackets and sliders attached
- Top plate screw holes tapped
- Coiled wires have stripped and have jumper wires attached
- Order new standoff (one broke inside aluminum
- Re-print stepper motor U bridge bracket to be wider
- Cut pulley rod
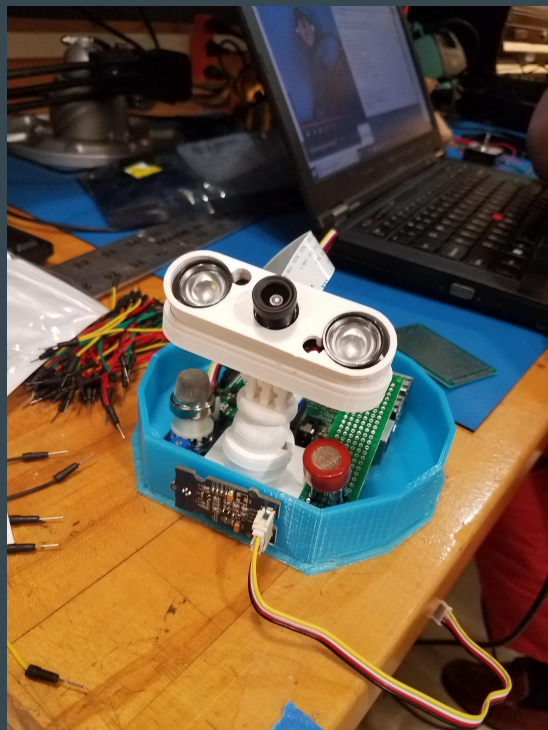- Drill through the holes on outer ring of turntable

To Do:

- Attach pulley system
- Drill hole for waterproof gland
- Re-drill the holes for the plate on top of turntable
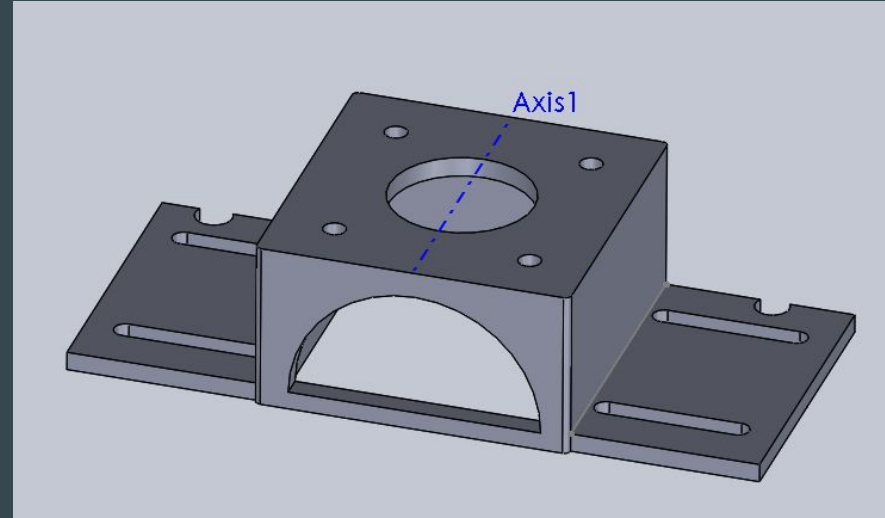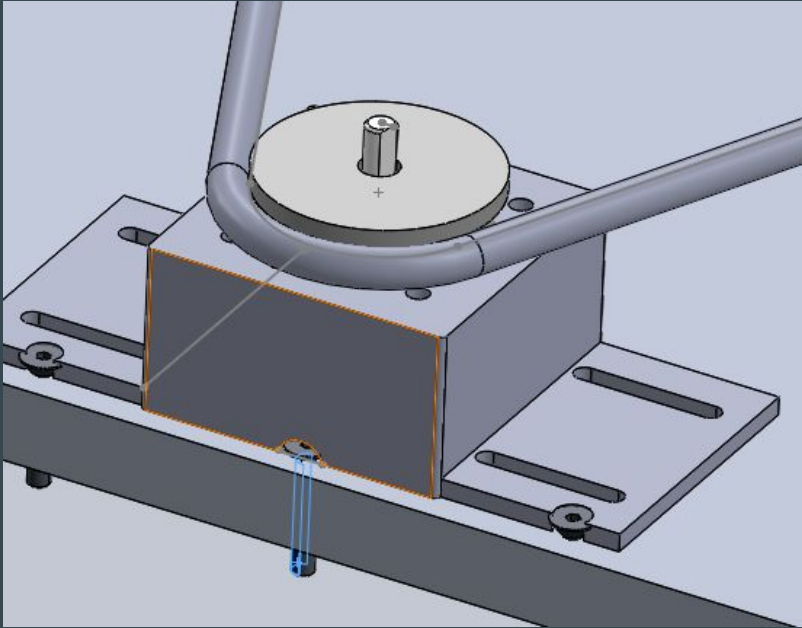- Sensor holder with holes to connect sensors

PICTURES!!!

Sensor Holder

Motor Mount with slots

Software Updates

- Started writing movement code
  - To do:
    - Reaction time w/sensors
- Started writing reset code w/ IR sensor (optional)
- Started writing arm movement code
  - Rotation and vertical movement
- Need to update streaming method
- Need to incorporate data streaming to GUI

Project Completion To Do:

- Project Summary Update
- Presentation Poster/Material/Demo
- Final Project Report
- Website
- Design Notebook (Due April 25)

Order Status

The following parts have been ordered:

- 2 Grove MQ2 Gas Sensor ($7.53)
- 2 Grove Infrared Temperature Sensor ($9.90)
- 1 30pcs Protoboard set ($10.85)
- 1 130pcs Jumper Wire Kit ($7.89)
- 1 3pcs Solderless Breadboard ($7.99)
- 1 Arduino DUE board ($37.40)
- 1 Waveshare RPi Camera F Module ($25.99)
- 1 Sandisk 32gb micro SD card ($8.90)
- 2 Parallax Carbon Monoxide Sensor ($5.99)

Order 1 Total: $145.86

- 8 Samsung 30T 21700 Battery ($7.99)
- 2 EFAN 4 Channel Battery Charger ($9.97)
- 4 21700 Battery Tray ($5.25)
- 1 10ft Ethernet Cable ($5.99)
- 1 8" Aluminum Lazy Susan ($17.00)
- 1 USB Breakaway cable for Xbox 360 ($3.99)
- 1 6061 Aluminum plate 12" x 12" , ¼" thick ($47.11)
- 1 6061 Aluminum plate 12" x 24", ⅛" thick ($43.12)

Order 2 Total: $220.07

- 1 Test Pressure Gauge (2-½")($1.61)
- 1 General Purpose Pressure Gauge (2-½") ($3.59)
- 1 Liquid Filled Pressure Gauge (2-½") ($4.85)
- 1 Xbox 360 Controller, Wired USB controller ($16.99)
- 4 T-slot sliders ($5.50)
- 3 30mm x 30mm T-slotted profile 6ft ($19.23)
- Timing Belt Kit (Includes timing belt, pulleys, tension spring, clamp mount) ($12.99)
- 5 Zinc-plated steel corner bracket 2" x 2" ($0.92) (Note: Steinberg also ordered the item from the additional link which costs $9.99 for 16 L-brackets)
- 1 6061 Aluminum plate 12" x 12", ¼" thick ($43.12)

Order 3 Total: $167.44 (Note: The additional $9.99 was NOT included in this calculation)

Items on Final Order

- 2 Nema Stepper Motors
- 1 ¼" diameter round belt
- 1 pulley for round belt
- 1 6061 Aluminum Sheet 1/8" Thick, 12" x 12"
- 4 Zinc-Plated Steel Corner Bracket, 5/8" x 1" x 1/2"
- 1 Foamular board (For testing environment) 4' x 8'
- Waterproof DC/DC 12V Step Down to 5V 3A 15W Voltage Buck Converter
- Zinc-Galvanized Low-Carbon Steel Rod (3ft)
- AutoEC 20A Inline ATC ATO Waterproof Fuse Holder (1 Set)
- GiBot Cable Glands - 25 Pack Plastic Waterproof 3.5-13mm Cable Glands Joints Wire Protectors

- 304 Stainless Steel Screw and Nut 515pcs, M3 M4 M5 Metric Socket Head Bolt and Nut
- Male-Female Threaded Hex Standoff
- 10-32 x 1-1/2" Hex Head Cap Screw Bolts, External Hex Drive, Stainless Steel 18-8, Full Thread, Bright Finish, Flat Point
- 1 6061 Aluminum ½" thick x 10 inch wide - 2ft
- Qunqi L298N Drive controller board DC stepper
- Spiral-coiled ethernet cable (2ft-9ft)
- #6-40 x ¾" flat head screw 100 pack
- #6-40 Tap
- 6 ft. USB 2.0 to USB Micro-B, Coiled, USB Type-A to Micro-B

Total: $319.28

Order Update

- (2) Male-Female Threaded Hex Standoff

Order Total: $8.22

Expense Summary

Order 1 Total: $145.86
Order 2 Total: $222.07
Order 3 Total: $167.44
Order 4 Total: $319.28

Grand Total: $862.87
Remaining Budget: -$362.87
(Again, note: additional $9.99 was not included in this calculation)

Items to be Discussed

- What are we going to wear for Expo?
- Can demo and final presentation be at Expo?

- Task Status: Arm CAD design, Sensor Package Schematic, Control System Design
- Action Items for the week
- Concerns:
- **Important Dates:**
  - Capstone Design Expo: April 23
    - Team and all team members have been registered
    - Our registered set-up time is 2-3pm