ECE 188 Team 1: Team Assignment #3

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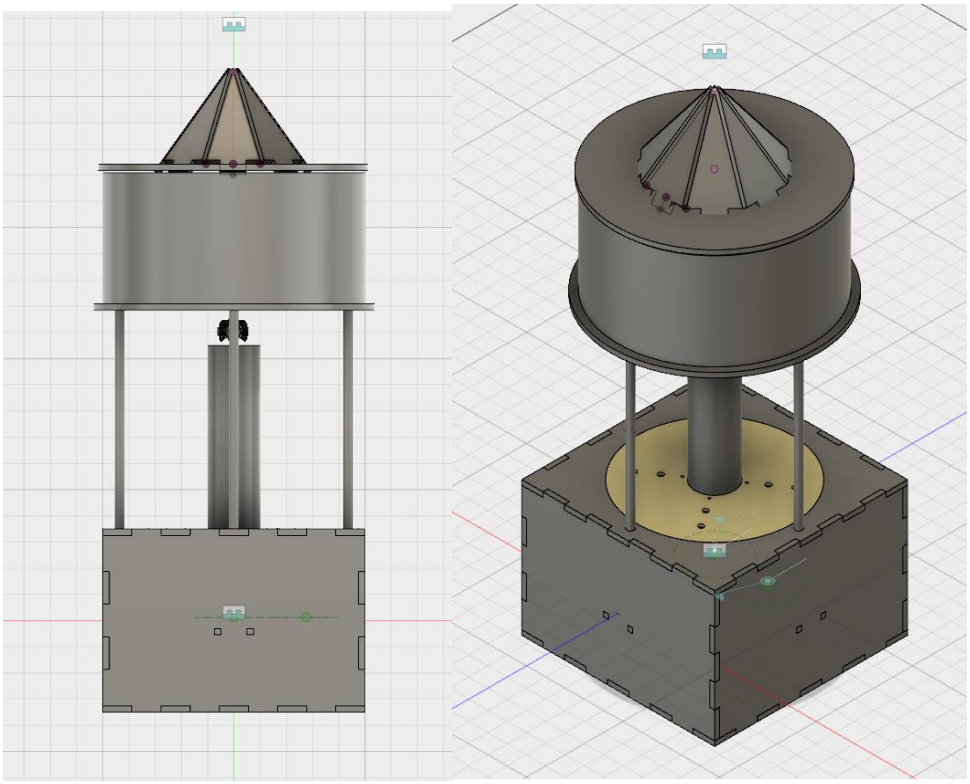
Problem 1

a) Front View and Isometric View



b) The operating mechanism of our carousel uses a DC Motor with Encoder located inside the base. The DC Motor rotates a set of gears, which rotates the center rod located in the middle of the carousel, which will then rotate 4 pairs of horses. The seven modules we are using are:

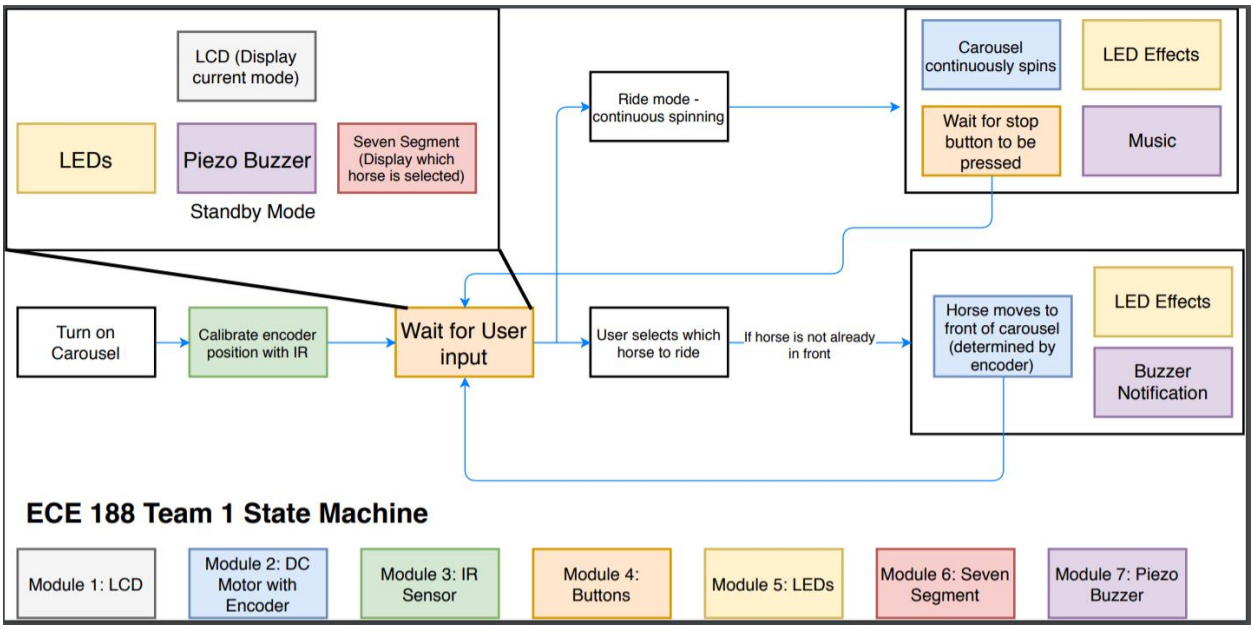
- **LCD Display**: to display welcome messages/settings
- **DC Motor with Encoder**: for carousel mechanism
- **IR Sensor**: to calibrate position of the encoder on startup
- **Buttons**: for user inputs
- **LEDs**: for visual effects
- **Seven Segment Display**: to display settings
- **Piezo Buzzer**: for sound effects

c) The only extra parts we will require are a slip ring (linked on Piazza), and an RGB LED Strip for visual effects on top of the Carousel.

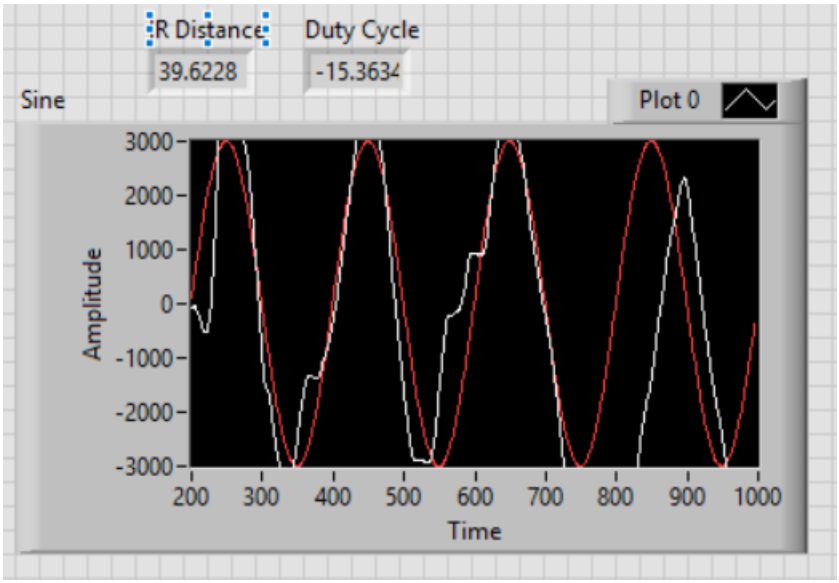
Problem 2

We have implemented a Gantt Chart as our timeline for the completion of the elevator system. This Gantt chart is also found in the folder on the Team Assignment 3 folder on the Google Drive.

Problem 3



Problem 4



We were able to follow the sine wave smoothly for 3 periods. Code is found on the Google Drive.