**Statement of Work**

**Looney Code**

**EC327 - Final Project**

**December 12, 2022**

**Start:** November 28, 2022

**End:** December 12, 2022

**Beren Donmez**

**Role:** GUI Lead

**Accomplished:** Using processing and implementation of the correct functions, graphics were integrated to the screen of the user’s device. The coordinates of the initial hand position and the position when the hand moves were stored in variables so that the graphics are aligned with the change in position. Different types of graphics such as the display of the handlebar, text, and 3 dots to display the movement of fingertips are essential parts.

**Jiahe Niu**

**Role:** Control System Lead

**Accomplished:** Created algorithm to detect hand motion when grabbed and processed data to be sent to Arduino code as commands (Stop, Forward, Backward, Left turn, Right turn). The specific command was sent based on comparing the initial position and angle of the palm to that after-hand movement. Created PID class and implemented the PID control system in order for the chassis to not oscillate after each movement. Tuned and debugged PID.

**Christian So**

**Role:** Team Lead, Software/Hardware Integration Lead

**Accomplished:** Created and managed the Gantt Chart and monitored teammates' work. I was the designated person to test the software with hardware and debug any errors with software integration. For example, if the motor didn’t spin after pulling from GitHub to test a team member's code, I would debug the code and fix it so the hardware performs as intended. I also created an algorithm that detects when a value sent over serial communication should be retrieved and read as negative or positive or if the cart is supposed to move forwards, backward, turn, or stop. Lastly, I built and tested the chassis and accompanying circuit for the motorized cart.

**Team**

As a team, we documented our part individually within the slides and final report. There was no designated documenter as we lack the team members and we decided it would be best to write the part that was our specialty. As a team, we heavily utilized GitHub to test code with hardware as we all live off-campus and meeting schedules did not line up well.