**WEEKLY REPORT and MEETING AGENDA**

Report #: 3 Project Name: GUIDE

Date: 10/10/2024 Prepared by: Diana Canchola

**Agenda for the meeting**

1. Hardware Progress
2. 3D Modeling Progress
3. Software Progress

**Overall accomplishments since last meeting**

1. Utilized a UART bridge to connect electronic components to Pico and visualize data/telemetry real-time.
   1. LiDAR
   2. Depth Camera
2. Began CAD design of handle. The handle holds:
   1. Haptic Sensors
   2. Pico
   3. Batteries
   4. Power Button
3. Tested Haptic Sensors

**Tasks completed by each team member since last meeting**

| Task description | Assigned to | Completed? |
| --- | --- | --- |
| Receive data directly from depth camera instead of CSV files | Jack Couture Noah Kilpatrick | in progress |
| Configure additional Picos for development | Ryan Wu | yes |
| Receive distance measurements from LiDAR | Jack Letsinger | yes |
| Develop c++ code to read distance measurements from LiDAR | Jack Couture  Diana Canchola | in progress |
| CAD model for cane attachment | Alyan Tharani | yes |

**Plans for next period**

1. Continue CAD modeling for the cane attachment
2. Parse LiDAR data into clear to read distances
3. Begin development of code to aggregate both LiDAR and depth camera
4. Continue building breadboard prototype

**Task assignment per team member (to be completed before the next meeting)**

| Task description | Assigned to |
| --- | --- |
| Receive data directly from depth camera instead of CSV files | Jack Couture Noah Kilpatrick |
| Develop c++ code to read distance measurements from LiDAR | Jack Couture  Diana Canchola |
| CAD model for cane attachment | Alyan Tharani |
| Breadboard Prototype | Jack Letsinger  Ryan Wu |

**Project management status**

1. Hardware On-Track
   1. Working towards breadboard prototype
   2. Resolved issues with UART connection on Pico, now testing is possible
   3. CAD model is making good progress and is being printed
      1. Additional changes will be made to ensure best design
2. Software Focus
   1. Soon will have developed LiDAR c++ code
   2. With breadboard prototype we can alter the code to receive directly through the Pico

**Minutes from previous meeting**

Meeting 10/01/2024 Notes

* Met with professor for weekly update
* Continued troubleshooting the LiDAR working via UART with Pico board

Actions/Next Steps

* Use the PC to UART bridge to try and communicate with the Pico board and the electronic sensors
* Review CAD design progress
* Test the rumblers for haptic design

Meeting 10/03/2024 Notes

* Two additional testing Picos were soldered and ready for development
* LiDAR was soldered to female connections to attach to the UART adapter to continue testing
  + LiDAR is able to output distance data and we are able to view it from a computer using the bridge
  + CSV file with data from the LiDAR was sent to software team
* CAD design was reviewed, the handle attachment includes the power button, the Pico, and a snap on attachment for the battery
* Tested the rumblers and they are all fully functional, these will be attached to the Pico itself and we will use the ADC port to adjust the voltage from 0 to 3.3V.\

Actions/Next Steps

* CAD the electronic sensor attachment on the stick
* Print first prototype of CAD design
* Develop c++ program to parse LiDAR data