**WEEKLY REPORT and MEETING AGENDA**

Report #: 2 Project Name: GUIDE

Date: 10/1/2024 Prepared by: Diana Canchola

**Agenda for the meeting**

1. Hardware Progress
2. Software Progress
3. Roadblocks

**Overall accomplishments since last meeting**

1. All parts have been received and begun testing
2. Microcontroller is soldered
3. Breadboard prototype has started
4. Refine C++ code for video conversion with buffer data
5. Debugging all electronic components with breadboard prototype

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

| Task description | Assigned to | Completed? |
| --- | --- | --- |
| Generate Images from Depth Camera data | Jack Couture Noah Kilpatrick | yes |
| Receive data directly from depth camera instead of CSV files | Jack Couture Noah Kilpatrick | in progress |
| Receive distance measurements from LiDAR | Jack Couture Diana Canchola | in progress |
| Develop plan for power distribution | Jack Letsinger Ryan Wu | yes |
| Begin testing and generate data from RPLiDAR | Jack Letsinger Alyan Tharani | yes |
| CAD model for cane attachment | Everyone | in progress |

**Plans for next period**

1. Continue debugging Raspberry Pico and electronic sensors
2. Continuously receive data from Depth Camera
3. Receive LiDAR data from the TFLuna LiDAR
4. Rudimentary CAD design of 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 |
| Configure additional Picos for development | Ryan Wu |
| Receive distance measurements from LiDAR | Jack Letsinger |
| Develop c++ code to read distance measurements from LiDAR | Jack Couture  Diana Canchola |
| CAD model for cane attachment | Alyan Tharani |

**Project management status**

1. We have received all parts and have begun testing them individually
2. Hardware On-Track
   1. Working towards breadboard prototype
   2. Running into issues with UART connection on Pico
   3. Troubleshooting how to continuously instantiate USB connections on the Pico
3. Software On-Track
   1. Waiting on breadboard prototype and LiDAR working to continue development
   2. Rough outline of software architecture

**Minutes from previous meeting**

Meeting 09/24/2024 Notes

Hardware

* Alyan - stripped the Lidar wire so that it could interface with the raspberry pi
* Ryan - Soldered the pi pico, configured the Lidar
* Jack - Soldered the pi pico, configured the Lidar, got python running on the

During this hardware meeting we evaluated the materials we were given. We made the choice to strip the wire header of the lidar so it could be used with the pinout, as opposed to having to wait to order whatever 6-pin header was needed. The wire could be disconnected or replaced if needed, and is not permanently attached to the Lidar. Ryan and Jack soldered the Raspberry Pi pico pin headers, allowing it to be used on a breadboard.

Software

* Added everyone to git repo
* Researched documentation for the LiDAR
* Discussed overall software architecture approach

Actions/Next Steps

* get the lidar working with the Pi Pico (In any capacity)
* Receive LiDAR data from hardware team

Meeting 09/26/2024 Notes

* Debugged the Pi Pico for any power distribution issues
  + Checked using a multimeter if 5V was being distributed
  + Debugged the breadboard and Pico by testing if an LED was getting power
  + Started developing a script in python for testing purposes to check if LiDAR was working

Actions/Next Steps

* Debug why depth camera and LiDAR were not working properly when plugged into the Pico rather than directly to the computer.