

## Group Name: Major Project Group 3

### Agenda

1. Decide on a conclusive plan for the idea
2. Divide the project into a minimum of 4 modules
3. Delegate the tasks to be completed

### Meeting on 11/5/2021, 14:00

Location: Lab/Discord

Duration: 3 hours

### Attendees:

|             |                   |           |              |
|-------------|-------------------|-----------|--------------|
| James Hanna | Rishabh Leelchand | Harry Jia | Devansh Shah |
|             |                   |           |              |

### Updates from past meeting:

We have decided on an idea that revolves around utilising the Lidar sensor in order to detect objects in a direct proximity to the user. The main target audience would be to blind people, and it would aid them in detecting immediate objects in front of them. The Lidar information would be translated into physical display that would raise in elevation to signify distance to nearby objects.

### Minutes

1. The team is deciding on what the modules are going to be,
  - a. We will dissect the modules from the idea that we have decided on, primarily being the use of the Lidar sensor and the servos used in order to move it
2. The project has been divided into 4 modules:
  - a. Servo and Lidar module
  - b. Gyroscope (orientation for lidar) module
  - c. Serialization
  - d. Image module
3. The servo and Lidar module has been set to move the servo in an 8x8 grid pattern, taking sensor distance readings at each servo movement
  - a. The servos will position the servo at set intervals
  - b. 64 intervals to be exact
  - c. At each interval the Lidar will take a reading and store it in an array
4. The gyroscope module will orient the lidar sensor to be facing the front
  - a. After each set of readings the lidar sensor will orient itself forward
  - b. A buffer of 10-20 degrees is given for the Lidar sensor to orient itself
5. The Serialization module will convert the sensor distance readings into a serialized form
  - a. Will convert the distance measurements into a form that can be transmitted into serial output

6. The image module will utilise python to convert the serialized data into an image map that can display the distances, suitable enough to give a blind person some spacial awareness
7. The python image module will work conceptually as in a real-world setting the display would be in the form of a 3d display that a blind person can feel by touch
8. The modules have been split into tasks that each of the members can do

#### Action Items

| Action                 | Person to do | Deadline             |
|------------------------|--------------|----------------------|
| Servo and Lidar Module | James        | By next week meeting |
| Gyroscope module       | Rishabh      | By next week meeting |
| Serialization module   | Devansh      | By next week meeting |
| Image module           | Harry        | By next week meeting |
|                        |              |                      |