

Group Name: Major Project Group 3

Agenda

1. Check on the progress of the team
2. Try to find solutions to current problems

Meeting on 18/5/2021, 14:00

Location: Lab/Discord

Duration: 3 hours

Attendees:

James Hanna	Rishabh Leelchand	Harry Jia	Devansh Shah

Updates from past meeting:

James has gotten most of the Lidar sensor code written up as well as the servo code, however there are some issues with the servo code especially with the horizontal servo. Devansh was not able to complete the serialization module however significant progress was made. Rishabh who was in charge of the gyroscope module was also not finalised. Harry has done significant progress towards completing the Image module, with the main python code being written up already and the image being displayed in an 8x8 grid pattern.

Minutes

1. The Lidar servo code is set by setting the appropriate registers
 - a. The PP7 register for the horizontal servo, and PP5 for the vertical servo
 - b. James set the code to concatenate the PP4-PP5 registers and the PP6-PP7 registers in order to give more precision with the PWM signal values
 - c. The PWMDTY register handles the actual signal value and James has set an equation to allow angles to be passed and converted into PWM signals
2. The servo code in the Lidar module seems to work with the vertical servo, however, it starts having issues with the horizontal servo
 - a. It seems to be very reactive when the horizontal servo is activated with a PWM signal, with the whole system shaking violently
 - b. It also does not seem consistent with the angles that are produced
 - c. Sometimes the horizontal servo does not even move, while other times it tends to move to maximum angles of the servo
 - d. This is particularly confusing when the code is practically the same for the vertical and horizontal servos
3. The gyroscope module has drivers already available so we use those
 - a. Further research shows that the gyro data requires conversion to quaternions and then further conversions to the euler angles to be able to use them in the servo angles

- b. Furthermore, the placement of the gyro activation in the code still needs to be decided
- 4. The image module has been mostly implemented
 - a. The main focus for now would have to be the connection with the serial output and input
 - b. The module requires in python are the pyserial module and certain matplotlib modules

Action Items

Action	Person to do	Deadline
Try to find a fix to the servo issue	James	By next week meeting
Fully implement the gyro module	Rishabh	By next week meeting
Serialization module	Devansh	By next week meeting
Work on the serial input for the image module	Harry	By next week meeting