



2nd Week Report

OJO Members:

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We started our week by analyzing the problems we had in our robot in the demonstration. The problems were about direction modules and the movement of the robot.

The direction sensor was not able to work properly due to the light intensity and IR-Actuator alignments. IR-LEDs we used as actuators could not produce enough intensity and also the emitted light was not radial. Therefore, IR receivers were unable to detect it. For this reason, we purchased power LEDs with lenses. For the movement part, the free wheel of the robot was causing problem and also the motors were unable to produce good amount of torque.

This week, we plan to fix the problems mentioned above. For the direction sensing module, we plan to use infrared emitter with high power and lense on it to have radial IR emission. For the movement of our robot, instead of using two wheels at the back and a free wheel in front of the robot, we are using 4 wheels differential drive with high torque motors.

Apart from fixing the problems in our robot, we are also working on improving our modules. This week we plan to simplify our green rectangle detection code in image processing module. We also intend to obtain distance information from the image processing module by the end of this week. Also, we decided to design a more customized chassis. For this purpose, we researched about CAD programs, learnt the basics and started our design. Making our design will also provide us more space and neatness. We are planning to use plexiglass for now, but in future we can switch to aluminum to make our robot more robust.

Finally, we decided our future meetings time and distributed each member a specific task. We plan to complete the modules as soon as possible and test them for their precision and accuracy.