

Team Id & Team Name

Project Name

1. Briefly provide a Project Description including the reforms made by your seniors and mentors?

Reform: Our project was to make a self-balancing single axle vehicle. But as it would need very high torque motors which would make the project too expensive. So we decided to make a self-balancing robot.

Description: To make a robot this can balance itself on two wheels. There will be only one axle connecting the two wheels and a platform will be mounted on that. There will be another platform above it. The platform will not remain stable. Our job will be to balance the platform using distance sensors and to maintain it horizontal. At first we have decided to just balance the robot on its two wheels and then our job will be to move it forward and backward from the remote control.

Plan of Action (POA) of the Project?

We are going to complete our robot on three levels: mechanical, Electrical, and Coding. Starting from mechanical we will go to electrical and then coding part. In the starting week we will complete the mechanical part. And in the next we have planned to complete the electrical part and coding part. After that calibration will start. So the robot will be able to balance itself on the 2 wheels. After that we will look towards moving the robot forward and backward using remote control.

2. What work was planned to be completed till 11th May and what work was actually completed?

We had planned to finish work on mechanical level in the 1st week. We have made body of robot by using acrylic sheet, L clamps, motors and wheels. We have completed it to an extent of 80% and some remained like mounting of sharp sensors, Arduino board, motor driver circuit on the robot will be done later. We have already started work on electrical level. We have started making and testing of electrical in the first week itself.

3. Give an estimate budget of the project (Budget should be made keeping in mind all the components required), divide it in categories. What purchases were made till 11th May?

Already we did expenses of around Rs2900 and expect to complete it within 4000 Rs.

Sharp Sensors GP2D120,
Arduino board,
Li ion battery,
Motors 60 rpm 12 V,
L293D, IC 7805, 7809,
two wheels,

and other necessary stuff for robot making

4. What problems did you face with respect to project work in this time? Did you find a solution to them or are they still pending? What was the solution to these problems?

Actually we find problem in arranging drilling machine but it got solved.

5. Contribution made by each team member?

A-Electrical circuit making and testing, testing sharp sensors

B- Electrical circuit making and testing, testing sharp sensors

C-mechanical assembling and electrical circuit

D--mechanical assembling and electrical circuit

6. What was discussed in the 1st and last meeting before 11th May with your mentor?

In the first meet with the mentors we decided POA , discussed how to complete the project, classified the work to be done in different levels. we discussed about the mechanism/ technique by which the bot would balance itself. We decided to first just balance the robot on its two wheels and after the completion of this to make the bot move forward and backward. A rough idea about the whole project was discussed in the first meet with the mentor. Doubt and problems about the electrical circuit designing were discussed in the last meet with the mentor in this week.

7. What is the work-plan for the next week?

For the next week we are going to make and test electrical circuits for the robot and complete coding part. Attachment of electrical parts to the robot body will be done in this next week. This will complete work on all three levels and calibration part is expected to start .

8. Project Pictures- Upload these pictures on the facebook group (ITSP 2012) also.





Simple 60 rpm DC motors