

Self Balancing Bike

ABSTRACT

The idea as mentioned is to make a bike which can balance itself which will initially be driven by Manual control(Will be developed if time permits).We may use gyro sensors and some sharp IR sensors which give us the signal to perform further functions.We will be using an aurdino or AVR board the the coding part will be done accordingly.The bot should be made in such a way that the COM is quite low(not too high)so that i does not topple much.Further details would obviously be known after a pretty good survey.

Implementation Steps :

Week 1: Week one would basically be getting all the required parts and mechanical part of the bike will be done the most.Completion Mechanical calculations and just thinking about the algorithm would be a good work for the week i guess.Obviously mechanical specs of the bike would be purchased and the rest would be done based on the requirement.

Week 2: Week two would be setting up the motors in the right place an then trying algorithms for the code.We would be learning AVR in the initial days of the week and that would help to develop the code.Coding would obviously not be completed in this week we would just learn.The circuit will be thought of and we might implement it this week.

Week 3: Week three would be setting up the circuit i.e. thinking about things required IC's etc and working accordingly.If it is radio controlled(initially) a transmitter reciever circuit is also necessary.

Week 4 & 5 : The major part left out for these two weeks is coding which would be accomplished in these two weeks.Testing weather servos work properly or not and finishing aspects would be done.

Week 6: Completion of remaining things.If completed then we would think about deleloping it a bit more.

Components Required:

1) Aurdino or AVR board	- 800 INR
2) motors and servo (all)	- 2000 INR
3) IC's and other components	- 500 INR
4) Gyroscope sensor or IR sensors	- 1500 INR
5) Battery	- 1000 INR
6) Mechanical Parts	- 1500 INR
What we would learn:	Total : 7,000 INR

Obviously we would learn many-many things ,some mentionable things would be

1) AVR progrmming

- 2) Solid works
- 3) Working with circuits
- 4) Debugging
- 5) A lot more.....

-----THIS IS A VERY ROUGH ABSTRACT
WHICH WOULD BE MODIFIED SURELY WITH ALL YOUR VIEWS-----

SLOT 2:

Team Members:

- 1)RAVI KISHORE BOGGARAPU
- 2)SASHANK REDDY GUJJULA
- 3)SURAJ KUMAR PABBU
- 4)AKHIL KURMA