PROJECT SYNOPSIS

TITLE
Self Balancing Robot

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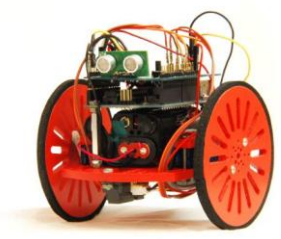
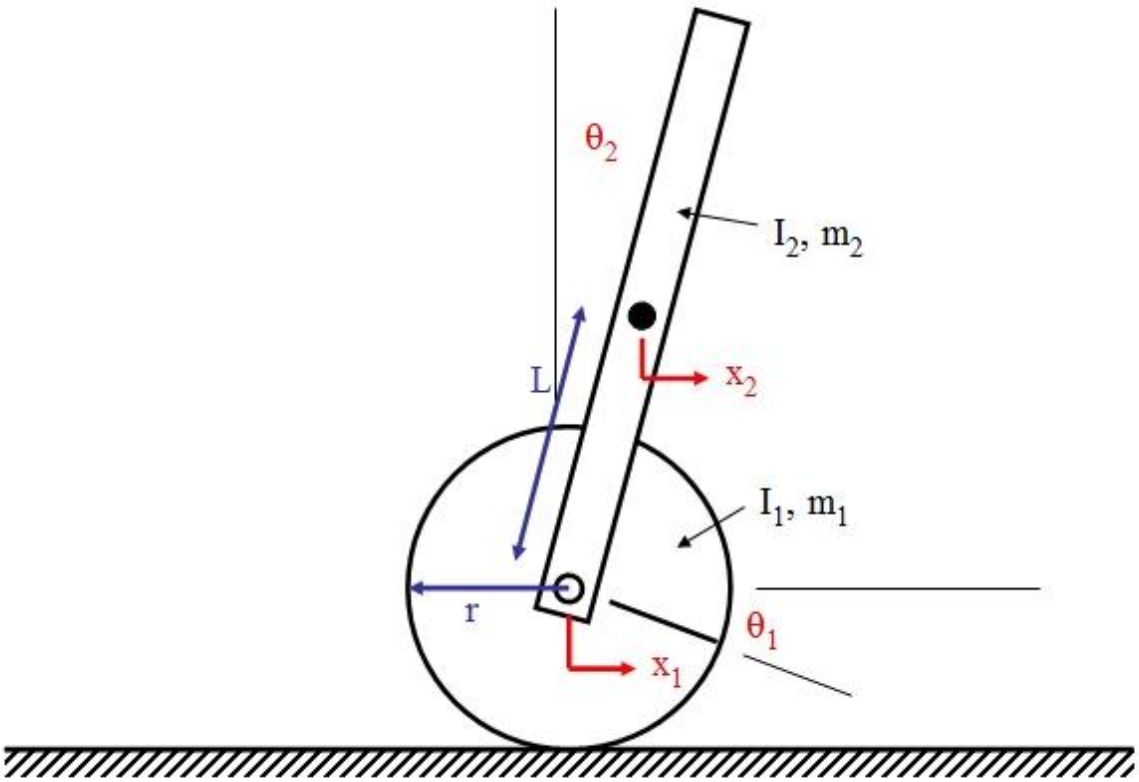
OBJECTIVE
To create a self balancing robot, this would be prevented from falling by giving acceleration to the wheels according to its inclination from the vertical.

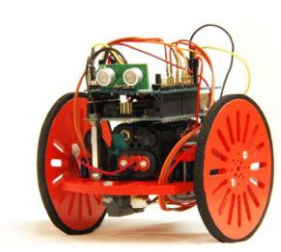
If the robot gets tilts by an angle than in the frame of the wheels, the centre of mass of the robot will experience a pseudo force which will apply a torque opposite to the direction of tilt.

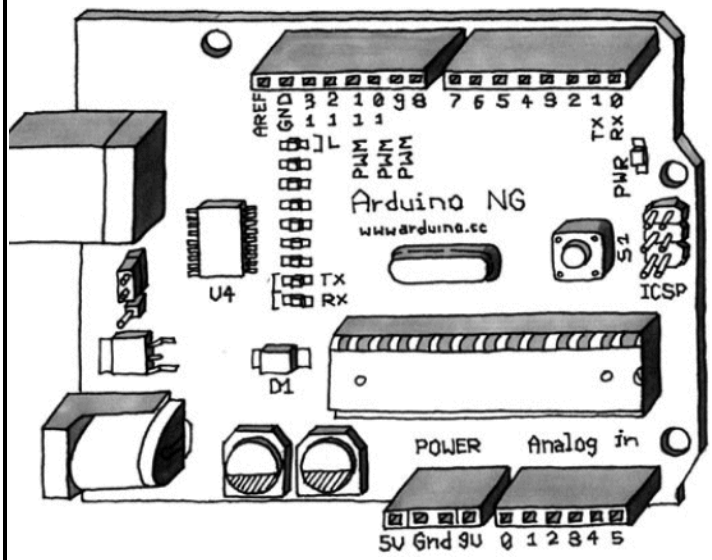


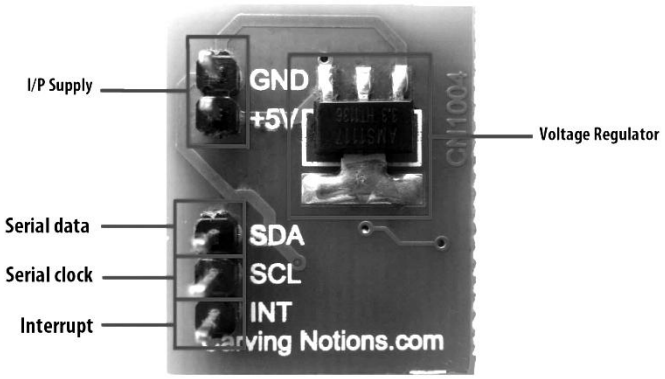


Technical Details

The **hardware requirements** of the project would be as follows :
Arduino (Microcontroller board)
Moter Board (For interfacing)
2 DC Moter (Probably 150rpm/200rpm)
1 Accelerometer (To measure angle in Z-Axis)
Gyroscope/2-IR Sensor (To measure angle)







The **software/algorithm implementations** in this project would be as follows:
Code to achieve stability in bot
PID Control
Calibration

Innovativeness and Usefulness

This is of great use because the algorithm which would be outcome of the project can be converted to make Quad copters, Unicycle, Segways, etc.