Project Challenge # 2 : Inverted Pendulum

Objective: Build a self balancing inverted pendulum.

Constraints: The CG of your pendulum should be approximately located at least two feet above the support pivot. You will be provided one Motor with 3.096 kg-cm torque rating as the actuator, one potentiometer of 500 ohm and 6.3 mm shaft diameter as the sensor and one Arduino for programming the control logic.

You can use your own pendulum and build your own structure for supporting it.

Date of Challenge: 13th November 2013.

Youtube Links:
1. Ideas for building an inverted pendulum: http://www.youtube.com/watch?v=D3bblng-Kcc

http://www.esorensen.com/ip/

The links provided above are some of the different ways you can build an inverted pendulum. We have provided you with the minimum number of components that would be sufficient for this objective. Please understand, you do not have to follow exactly the ideas shown in the links above.

2. Basic Arduino- http://www.youtube.com/watch?v=fCxzA9_kg6s
3. PWM- http://www.youtube.com/watch?v=_LCCGFSMOr4
4. Analog Inputs- http://www.youtube.com/watch?v=js4TK0U848I