Project Name: **Weight Lifting Bot (1 arm)**

Main Idea: We are looking to make a weight lifting bot which will display the correct techniques of:

1) Dead Lift
2) Snatch
3) Back Press
4) Front Press

Which are used in weightlifting. We will make only one hand for the ITSP tenure.It will show the correct arm and elbow positions while lifting a weight with precise and impeccable movements.One thing should be noted that we are not looking to lift a weight, we are looking to show the correct way of lifting a weight i.e. We would put negligible weight in the palms of bot to reduce the cost and other prices.We are also not looking for any wrist moments as techniques mentioned above do not require any wrist movements.

Components and their cost:

1 Servo motor (300rpm and 30kg-cm) - Rs. 2,000
1 simple motor(300 rpm and 12-kg-cm) - Rs. 1,000
USB 2.0 dynamic cell - Rs. 1500
IC - Rs. 1000
Carbon Fibers - Rs. 1000
Others - Rs. 500

Total cost would be about Rs. 6k.

Implementation:

Week 1: Purchasing of the things and coming with an idea to maneuver the project with proper design and work allotment.

Week 2: Making part up to elbow properly.

Week 3: Making full arm i.e up to shoulder and connect it to elbow part.

Week 4: Synchronizing both the motors put up in elbow and shoulder with proper angle rotation etc.

Week 5: Giving Final Touch to the project with advice from the mentor.

Learning :

1) How different motors can be used for different requirements.
2) Handling of motors and their synchronization.
3) Weight that can be lifted by the plastic fiber along with torque that motors provide.
4) Team Work and a bit of weightlifting .

NOTE: We have a guy in our group from weightlifting who knows the correct techniques.