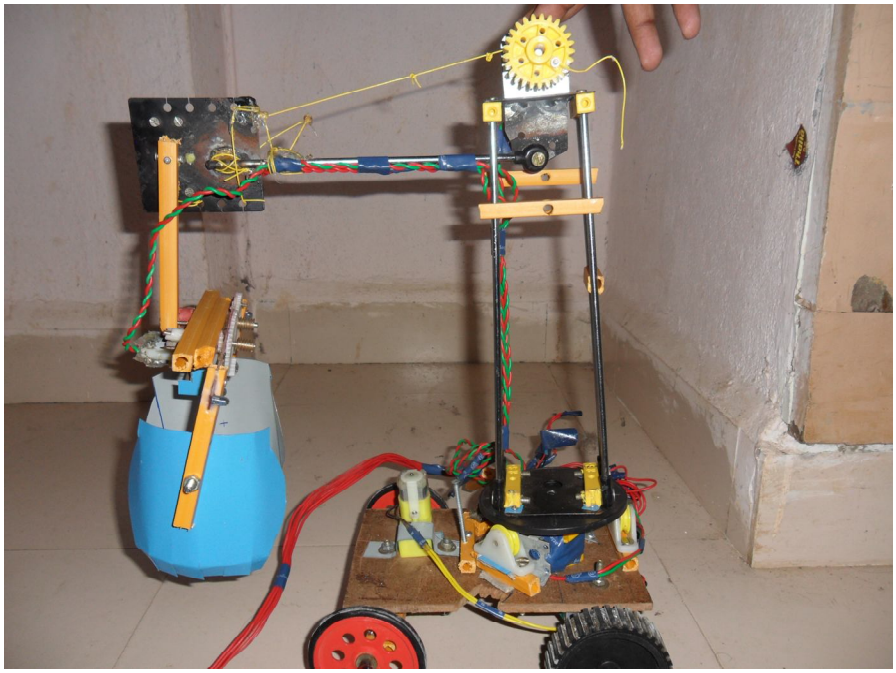
ARM ROVER

Goal:

To design a manual controlled robot, that is capable of collecting balls from one box and drop them into other box.

Design & Construction of Robot:



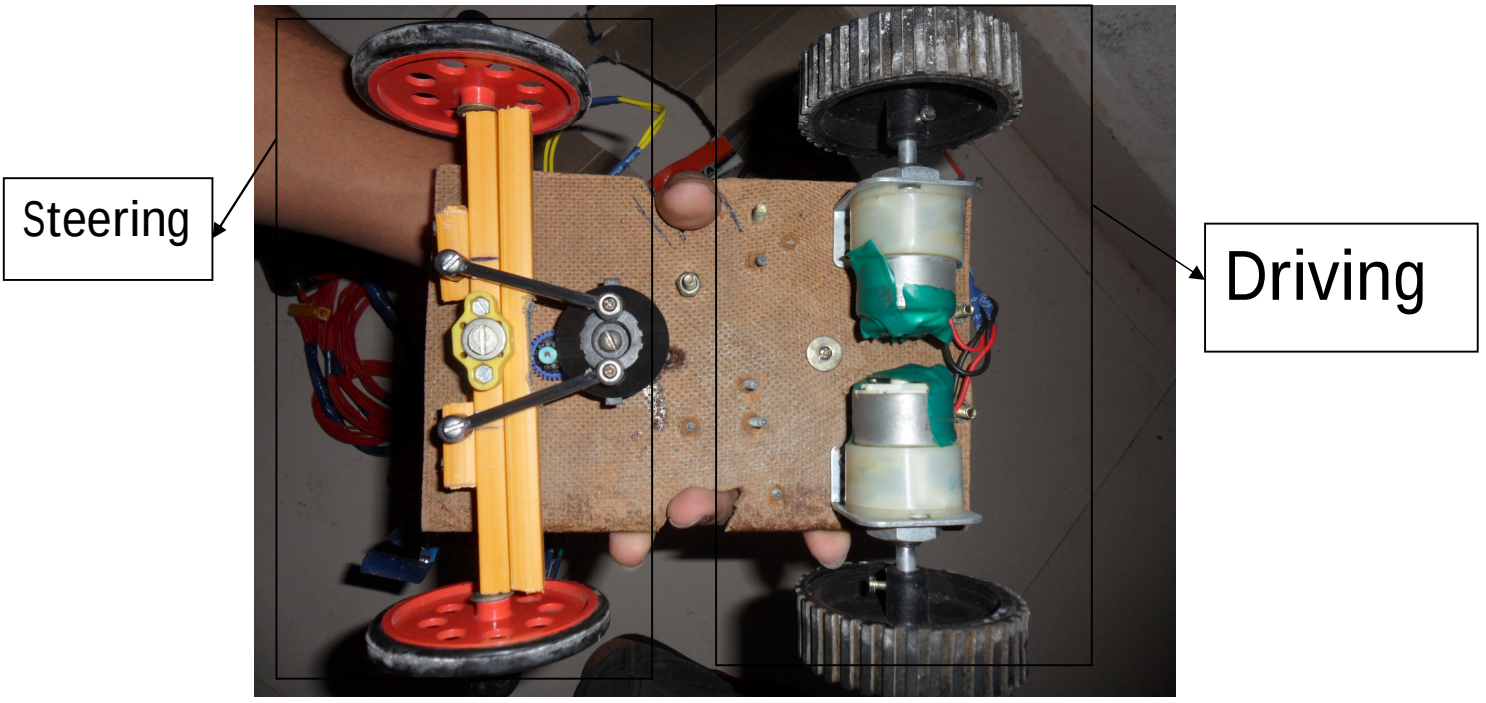
Mechanisms used:

Driving Mechanism:

We designed a 4 wheel robot and motion was given to back 2 wheels with 2 100 rpm motors.

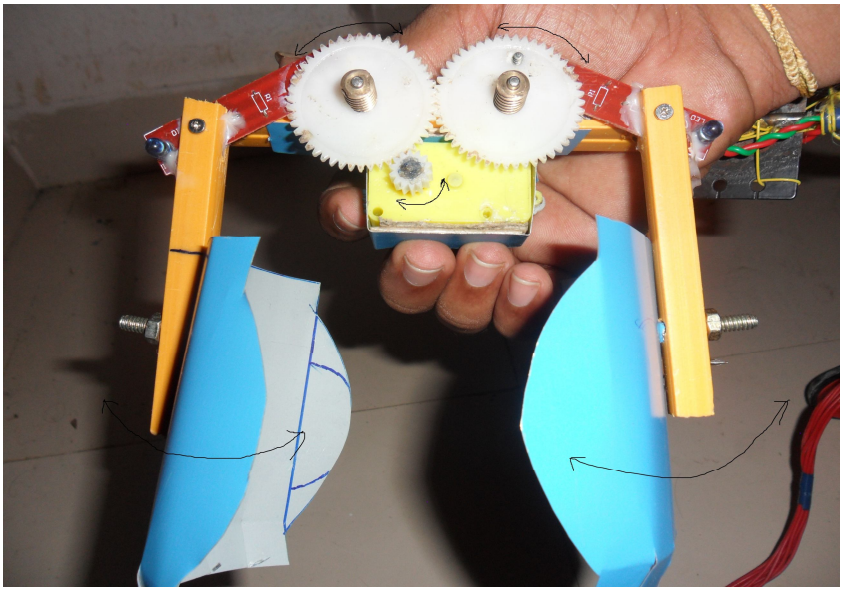
Steering Mechanism:

Front 2 wheels were used for steering and a 5V 10 rpm DC geared motor is used for steering purpose. The mechanism is shown below.



Gripping Mechanism:

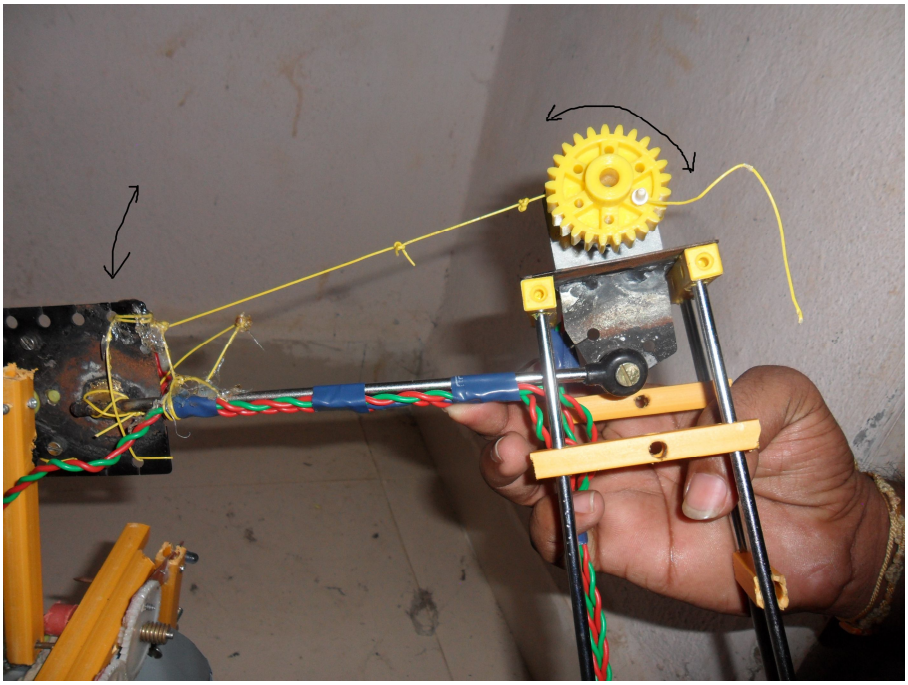
Gripping was done using 2 grippers, which were attached on 2 gears, which were connected to a 5V 10 rpm DC geared motor by worm gear.



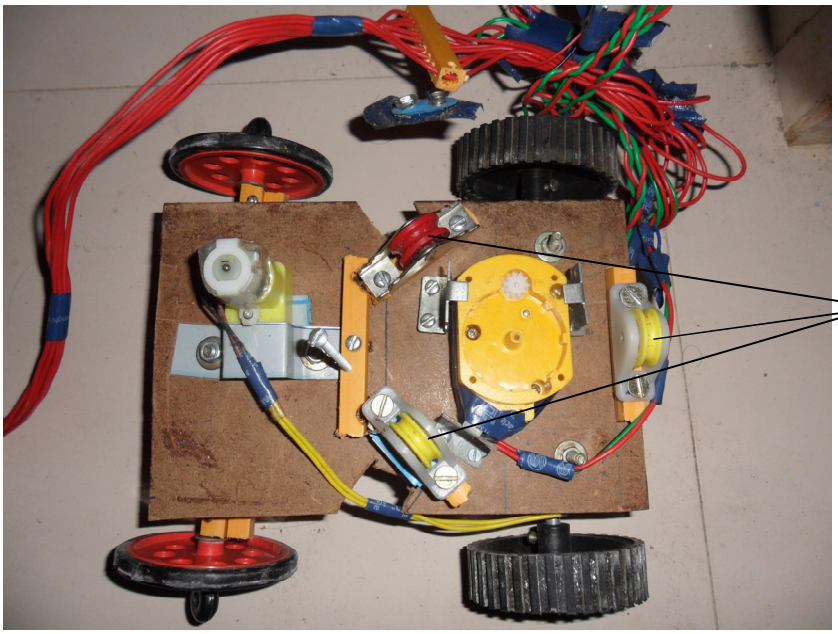
Arm Design:

Links of Arm were made using small rods (dia=5mm) available in drafter.

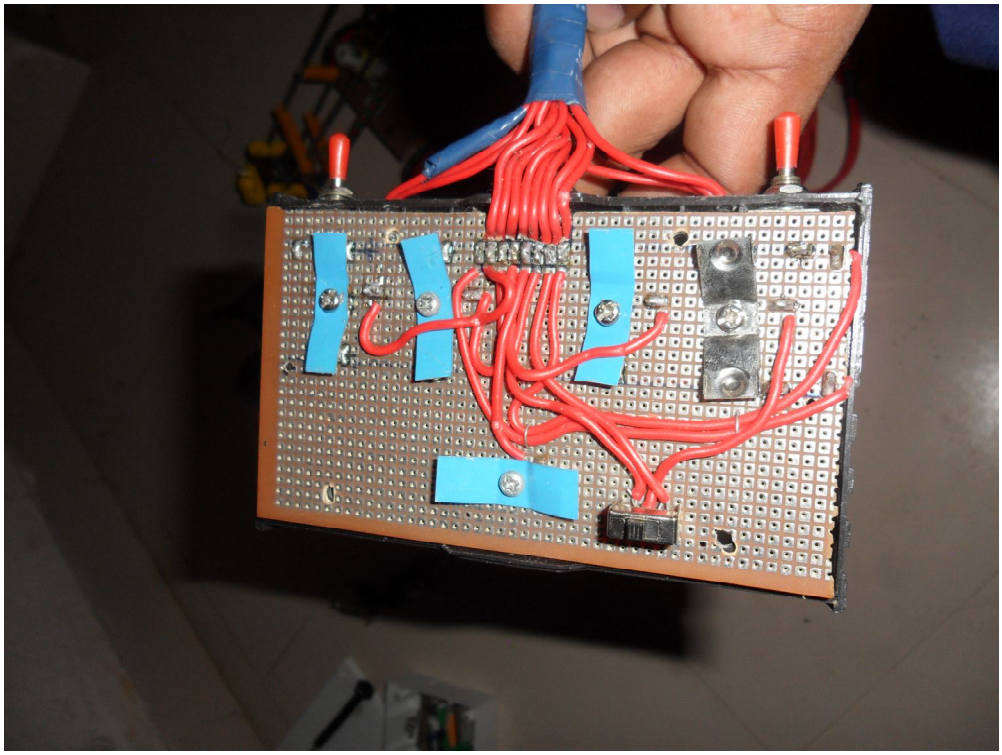
We used threads for lifting purpose and gears for rotating the arm which is mounted on chasis.



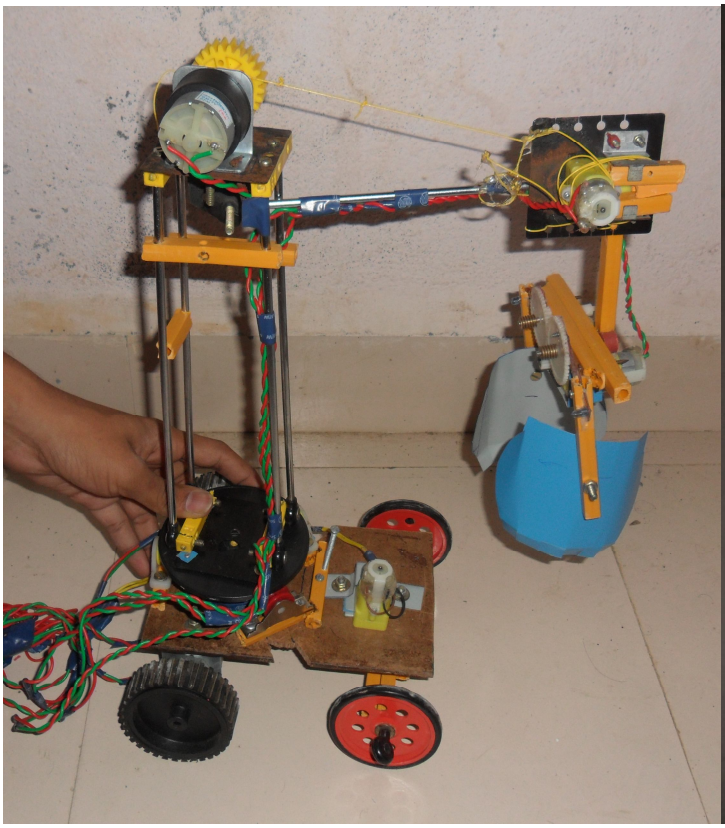
We faced a problem with weight of arm, i.e., whole weight is pointed on a single point, to avoid that we used 3 pulleys to support the arm, and to rotate arm freely.



Remote:



Complete design is like this.



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