

INSTRUMENTATION AND CONTROL SYSTEM PROJECT

Garbage Bot

Group Members :-

Mayank Bharti – 210003046

Arham Azam – 210003047

Rajnesh Meena – 210003061

Saurabh Shukla – 210003067

Vinay Desai – 210003084

Problem Statement :-

Each year, 8 million tons of plastic is dumped in the ocean Waste ends up on shorelines and beaches, adversely affecting both marine and terrestrial life.

Materials Used :-

1. Arduino Uno
2. Arduino Nano
3. Servo Motor
4. Ultrasonic Sensor
5. Infrared Sensor
6. DC Motor
7. Motor Driver Board
8. Bluetooth Module
9. BO Gear Motor & Wheels
10. Li-Ion Battery

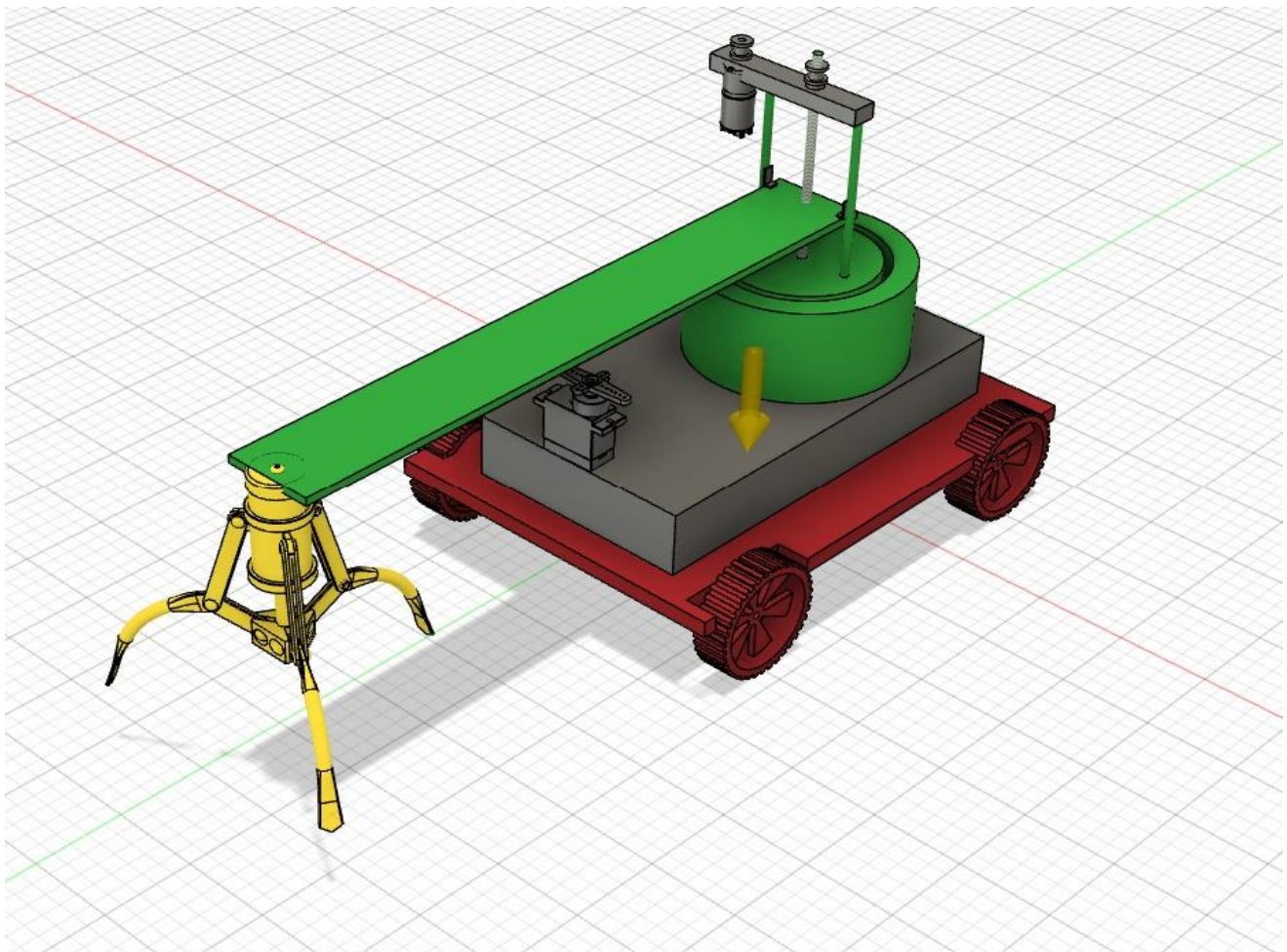
Solution:

Our Robot works in a closed-loop system. The two major input devices are two infrared sensors and one ultrasonic sensor. The Ultrasonic sensor has been strategically placed such that it detects the walls and obstacles. One of the IR sensors detects any trash in the way and puts a sudden break on the motors. The other Infrared sensor gives the signal to the upper Arduino which does a sequence of actions which are as follows:

1. Rotating the platform to bring the robotic arm in front.
2. To activate the lead screw to bring down the platform.
3. To activate the claw to grab the trash.
4. Activating the lead screw once again to bring up the platform.
5. Rotating the platform and dropping down the trash.
6. The Ultrasonic sensor senses the wall and sends the signal into the lower Arduino which controls the motion of the car such as turning left and right, going forward and backward.

Our system does not require any input from the user and works completely on its own.

What We Promised



What we have Delivered

