

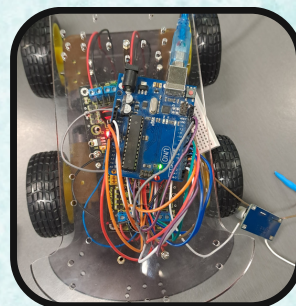
Engineering quality

Weight



- Uses balsa wood for frame:
 - Lightest variety of wood reduces weight
 - Retains sturdiness

Size



18 cm

- Length: 24cm
- Width : 18cm
- ★ Claw has a 180° range of motion to fit size constraint.

Budget



Cost of robot is only \$80, allowing for greater production volume and societal impact.

Robustness of the build

Motor Redundancy

High motor power allows the robot to run on two wheels in case of:

- Electrical failures
- Tire punctures



Stability and safety

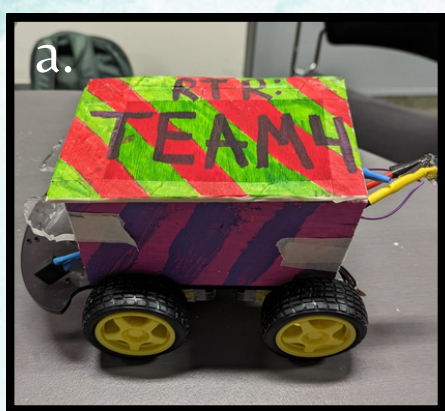
- Electronics placed in centre of chassis for balance
- Weight distribution on 4 wheels provides steadiness

Chassis Flooring



- Rested upon 2 plates of acrylic reinforced with steel brass pylons
- Survives drop test of 1m

Aesthetic features

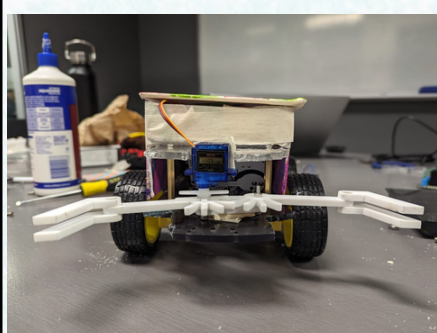


a. Chassis box frame

- Transparent acrylic layer separate electronic components.
- Balsa wood frame conceals electronic configurations.

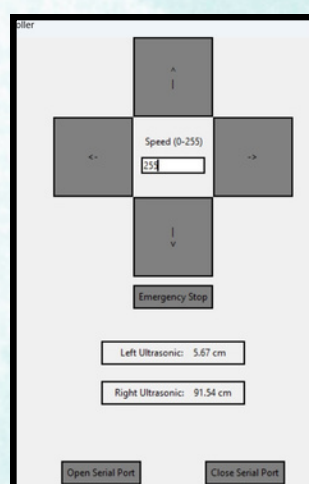
b. High Vis Paint

Vibrant paints on the body of the robot make it stand out effortlessly.



Innovation

User Interface

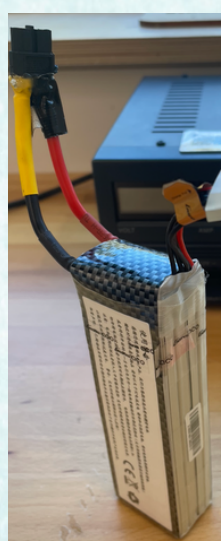


Easy-to-use custom UI reduces the number of keystrokes and increases operator accuracy.

4 Wheel Drive

- Four points of contact with ground and greater power increases performance in rough terrain.
- Allows for on-the-spot rotation, increasing maneuverability in tight spaces.

Lithium Battery



- High capacity, allowing for over eight hours of continuous running.
- Rechargeable to reduce environmental impact.

360° mapping

Two rotating ultrasonic sensors provide a detailed environmental map.

