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ENG 3000L

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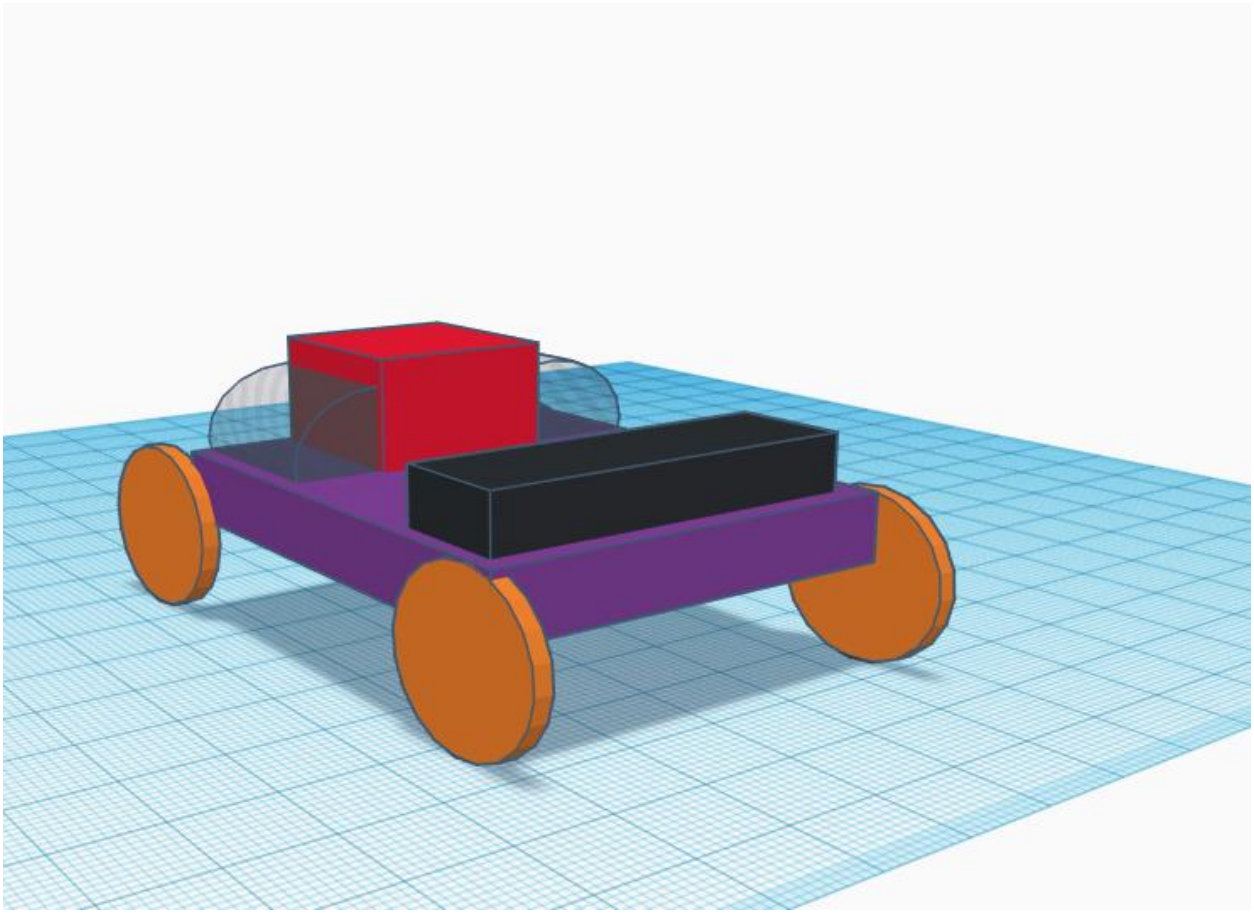
1. **CAD mock-up**



2. **Robotics Design Description**

   The robotic design shown on the image above is a cosmetic design of a robot programmed to follow an object. The design above features a purple chassis which will carry the Arduino circuit to be used on the robot. The robot will have four wheels that have the ability of either turning right or left. The red raised part will be the platform where the Arduino will be screwed onto and any excess cables will be neatly tucked in

the semi-translucent curved parts attached on the sides of the red platform. The black rectangle near the front wheels is where the sensors will be attached.

3. **Customer Needs**

The customer has requested for a design of an autonomous robot whose core-functionality is to follow a moving object reliably. The customer wants to be able to adjust the speed and aggressiveness of the robot seamlessly. The complete robot should be affordable prized not more than $30. The final robot should be easily assembled in 4 minutes or less by an experienced user and 7 minutes by a novice user. The mentioned times do not include the time that will be spent connecting the wires. When disassembled the robot should fit inside a 6” x 6” x 6” storage cube for easier shipping. Finally, the robot must have an enclosure built with any readily available materials.

Customer Needs	Weights
Functionality: The design should have the ability to follow an object and make right and left turns.	9
Affordability : The complete robot should be no more than $30.	8
Simplicity: The design should be easy to assemble.	10
Size : The design should fit in a 6”x6”x6” cube.	7
Beauty: The appearance of the final product. **materials used.*	6

4. **Engineering Specifications**

Target Value	Metric
4	Wheels
$30	Low Cost
3 months	Time to complete the project
5 inches	Maximum dimensions when 3D printed
10	The number of parts used on the robot