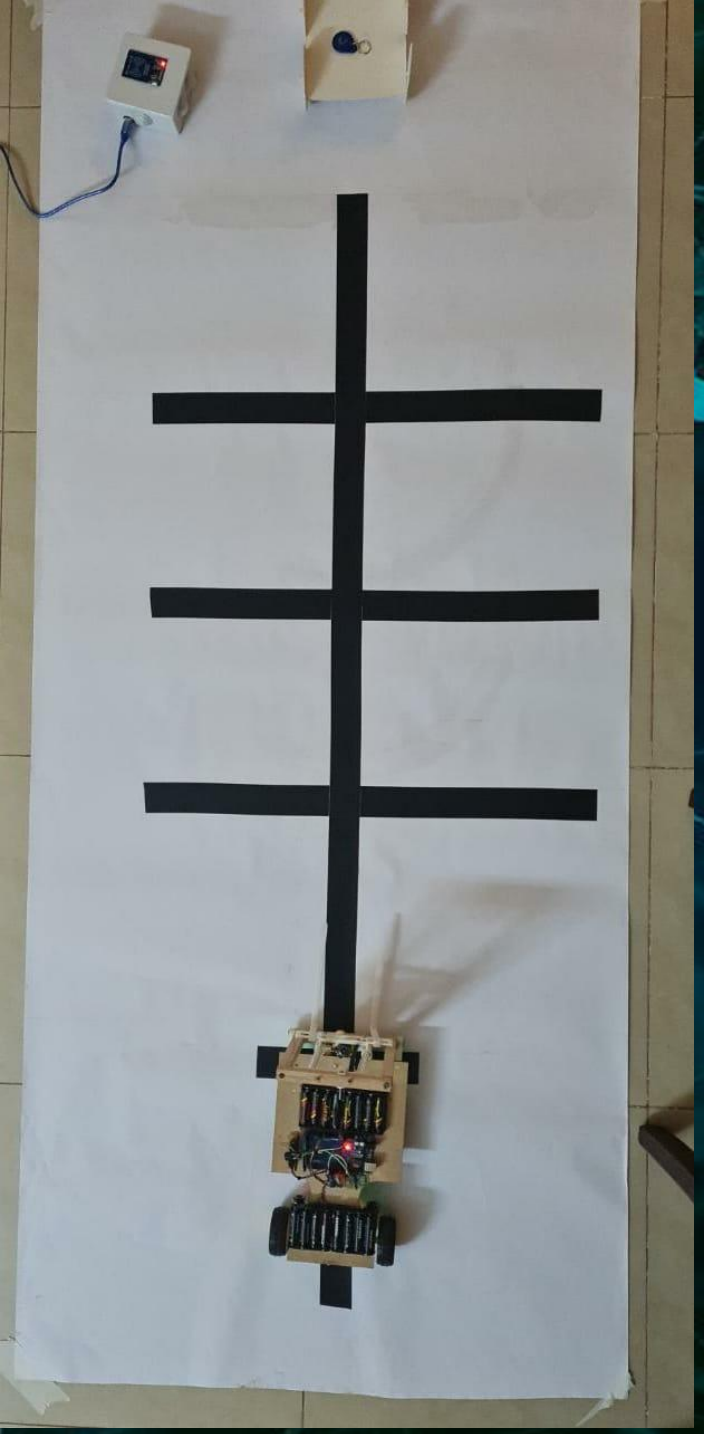
Parking Robot

Under the supervision of **Dr. Ashraf Armoush**

Students : **Bayan Kharosheh & Tasneem Jawabreh**



Outline

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Get a modern PowerPoint Presentation that is beautifully designed.

02 Constraints

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04 Results and Analysis

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05 Future Work

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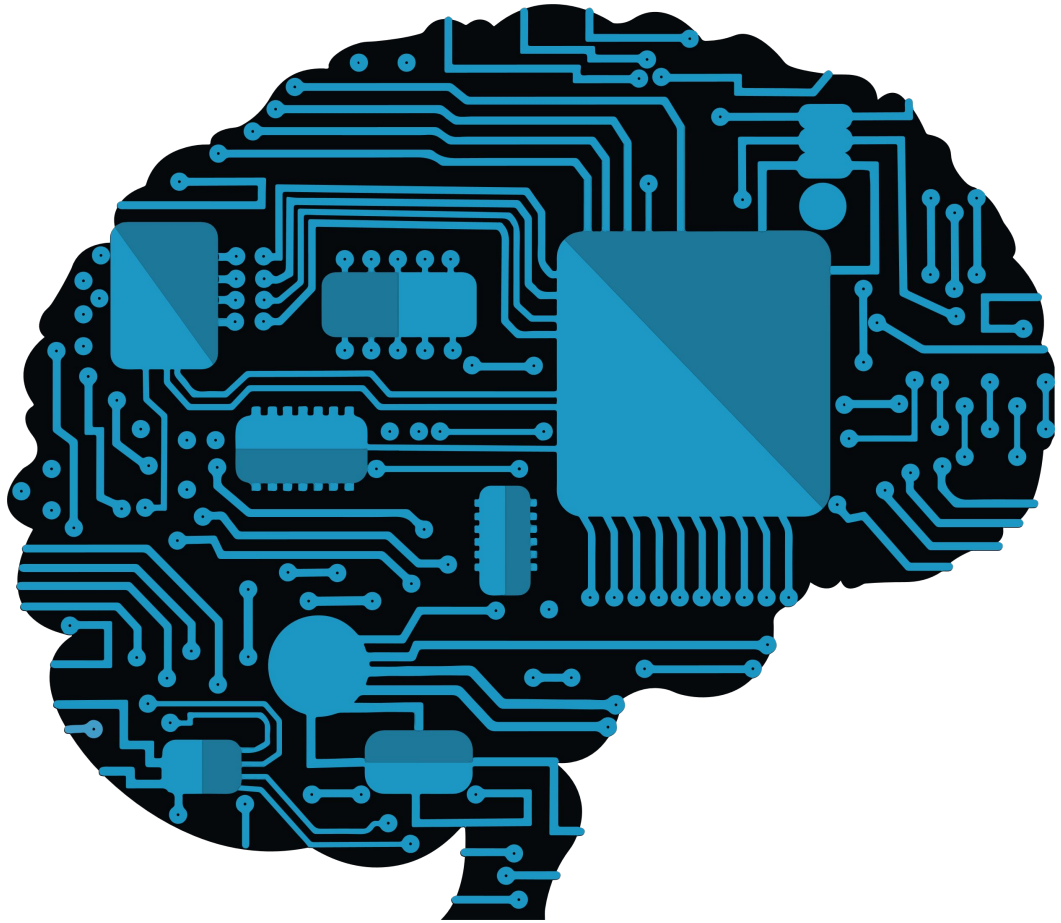
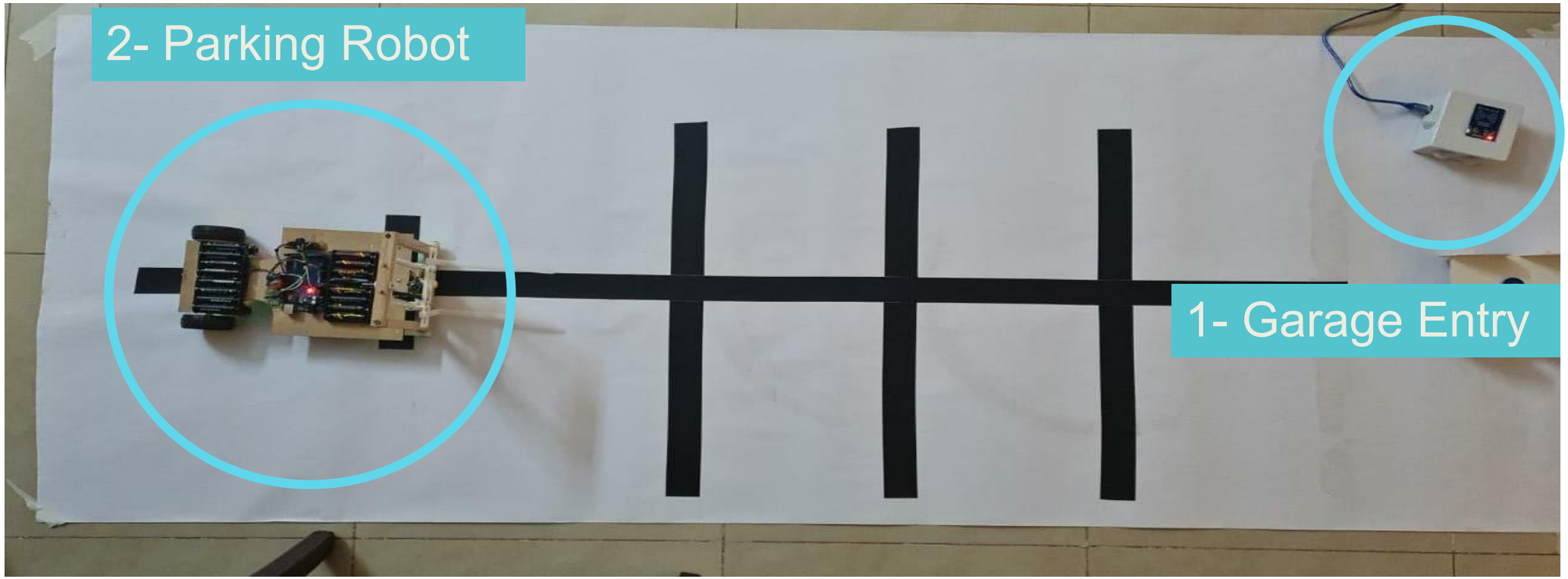


Introduction

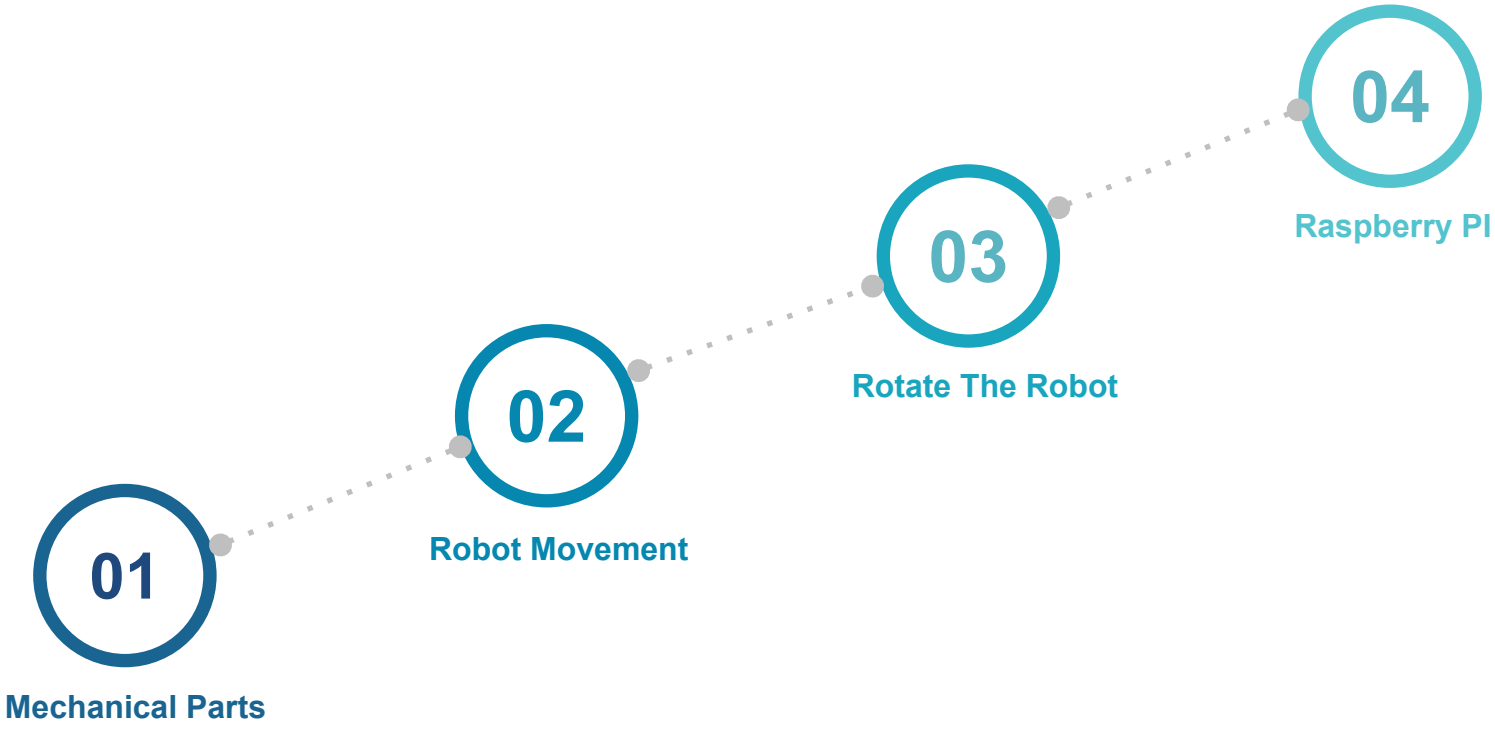
- Robots are used in multiple areas, especially where they can alleviate strenuous.
- Tasks or complete missions that are dangerous for a human to undertake.
- Many Accidents occur often while parking or reversing cars.
- **A parking robot is a robot designed to help people to park their cars. They just leave it in the garage entry and the robot parks it for them.**
- **This robot works to lift the car and park it accurately without any human effort.**

Our project

In our project, We built a model of parking Robot System. We built the robot and program it to take the car when someone orders him using card .

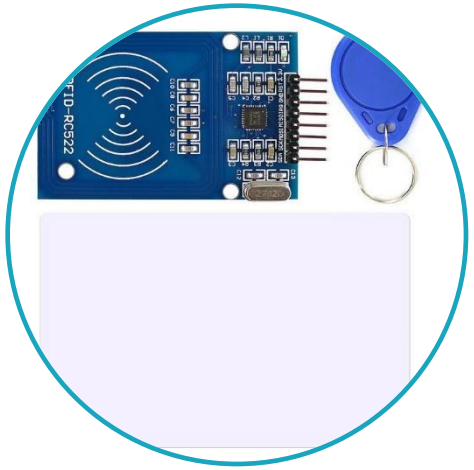


Constraints

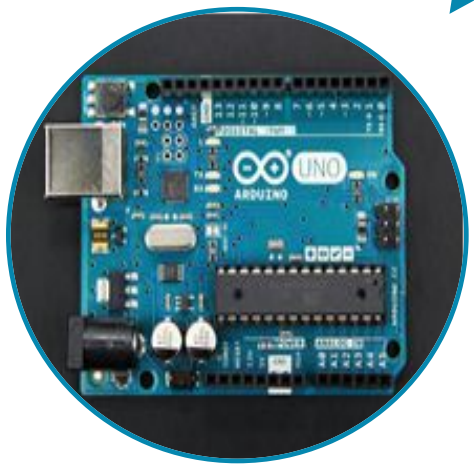


Equipment’s:1- Garage Entry

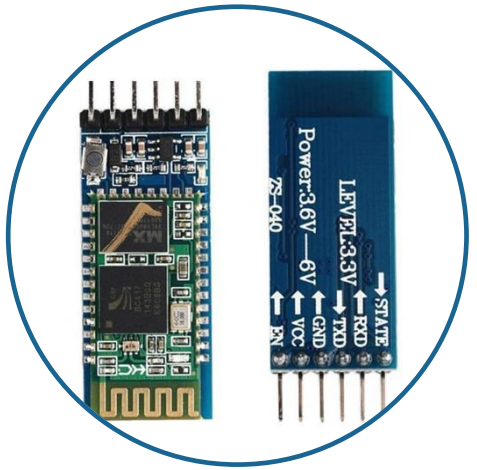
RFID



Arduino Uno

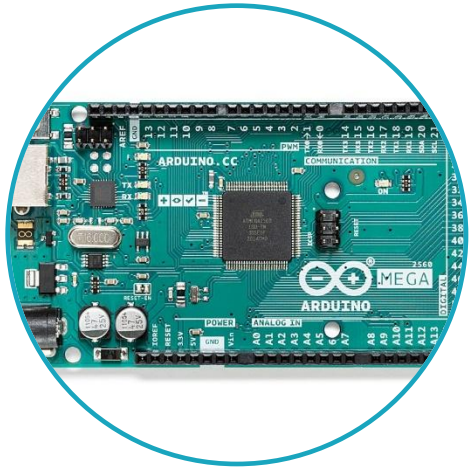


HC-05 Bluetooth Module



Equipment’s:2- Parking Robot

Arduino mega



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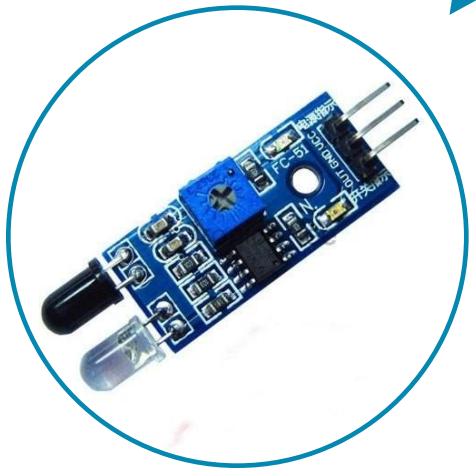
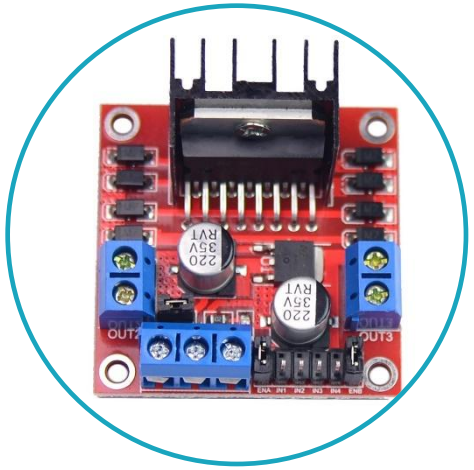


Raspberry pi

Equipment’s: 2- Parking Robot

L298N Dual H Bridge



DC motor

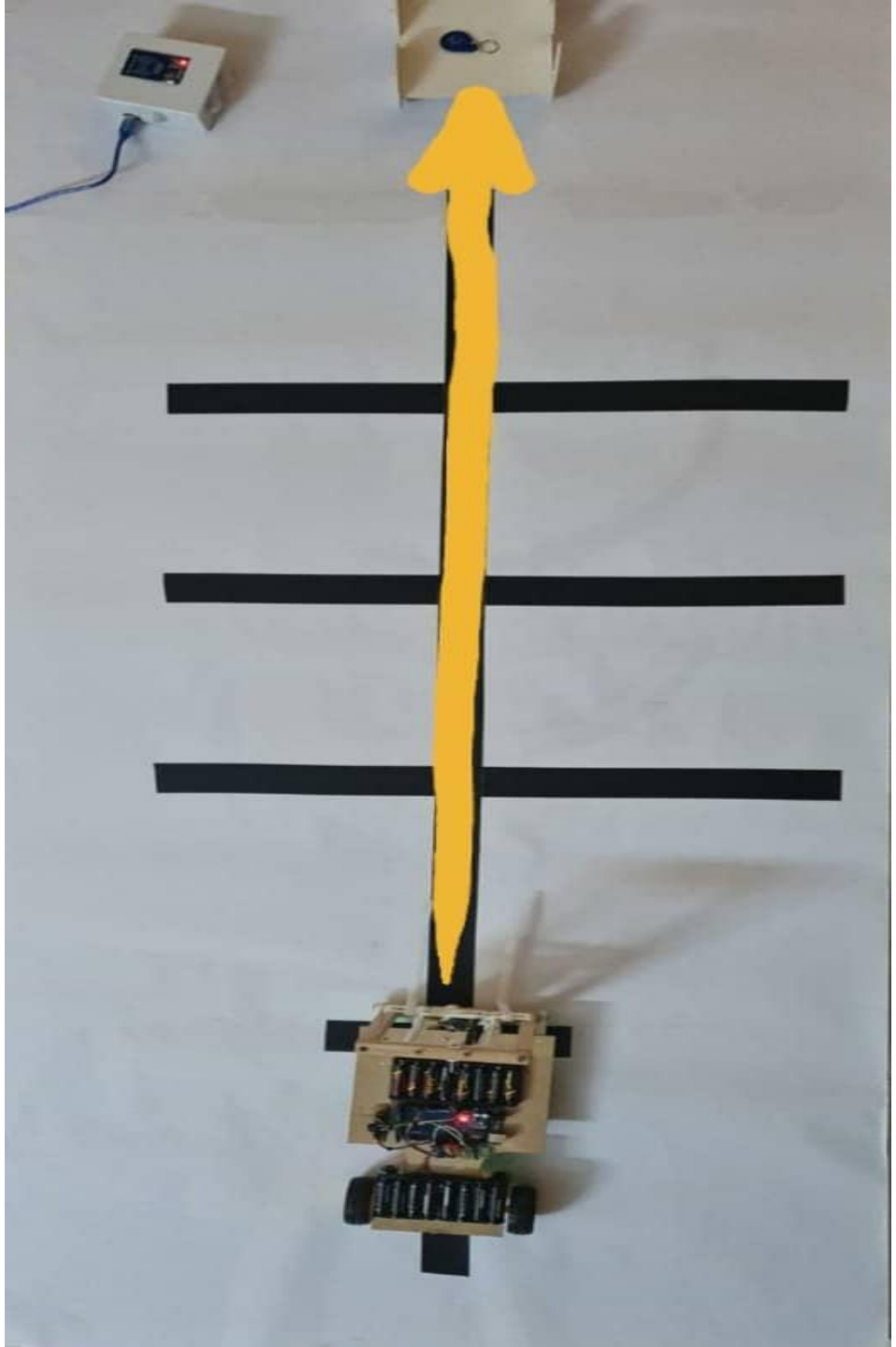
Buzzer

Results and Analysis

- We compiled the source code for every step and make sure that everything is working well before we move to the next step,
- That help us a lot to determine where the errors come from.

In the final stage, our project fulfilled the requirements related to it like:

- Reading the user card by the scanner (RFID),
- The signal was sent to the robot via Bluetooth to take the car, and the user car was parked in an empty parking space finally,
- The robot brings the user car when he scans his card for the second time.

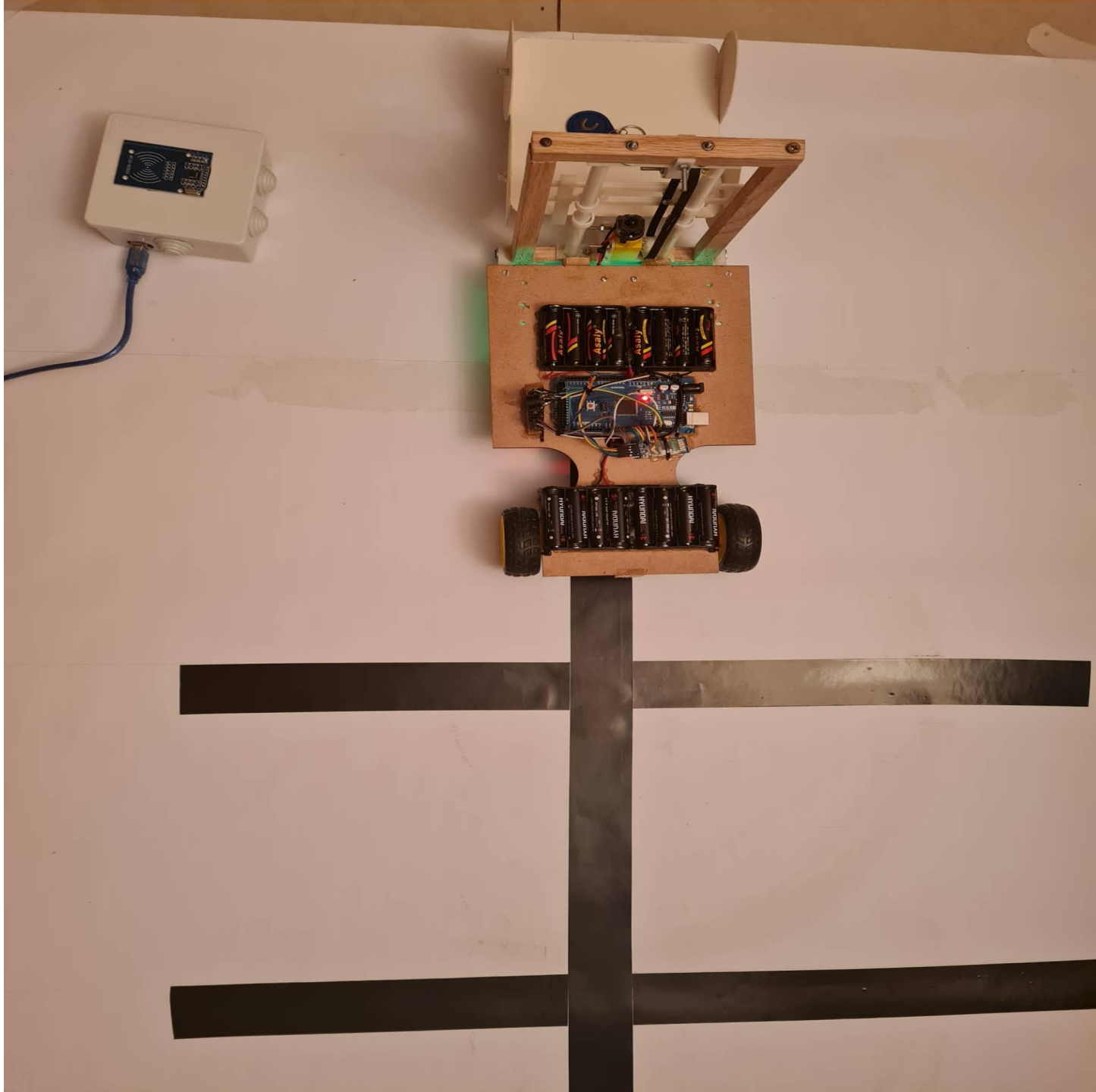


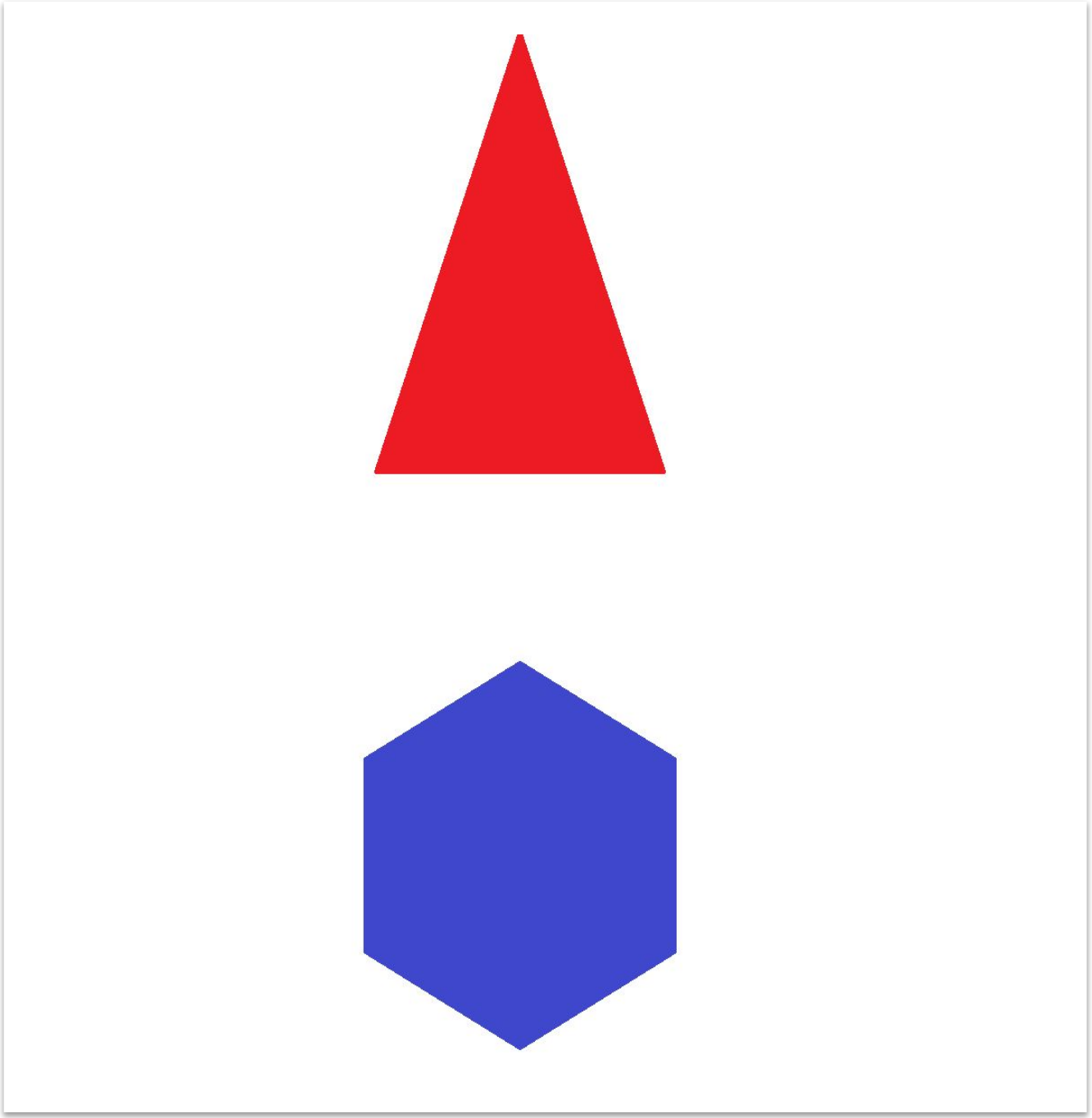
Step1:

The robot go to the entry of the garage to take the car.

Step2:

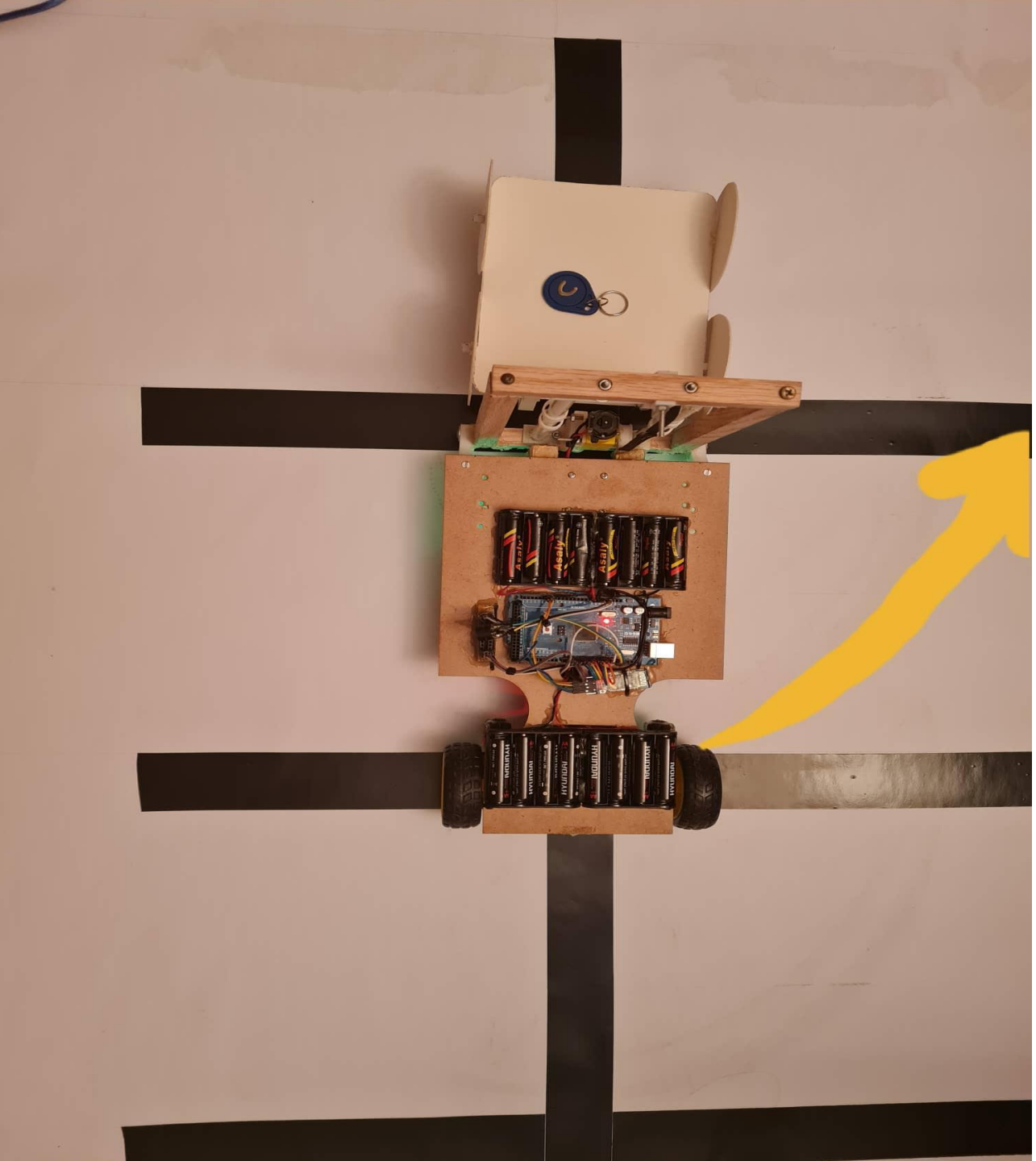
Forklift lifts the car from the ground.





Step3:

- The robot will read the wall of the garage to detect tow shapes the first one is a Hexagonal .
- When it find this shape (there’s no car.
- The other shape different between garages to determine which garage is this

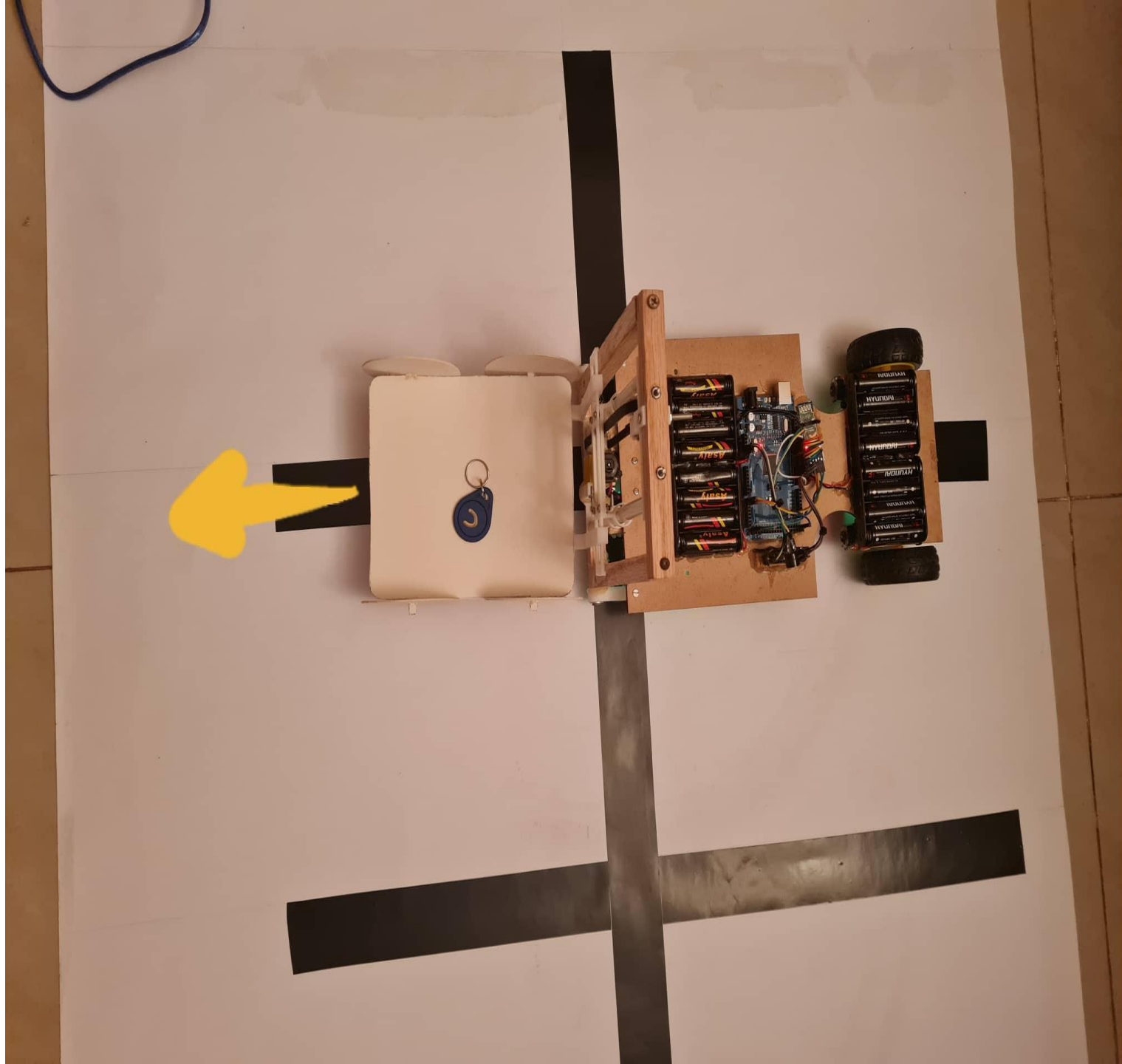


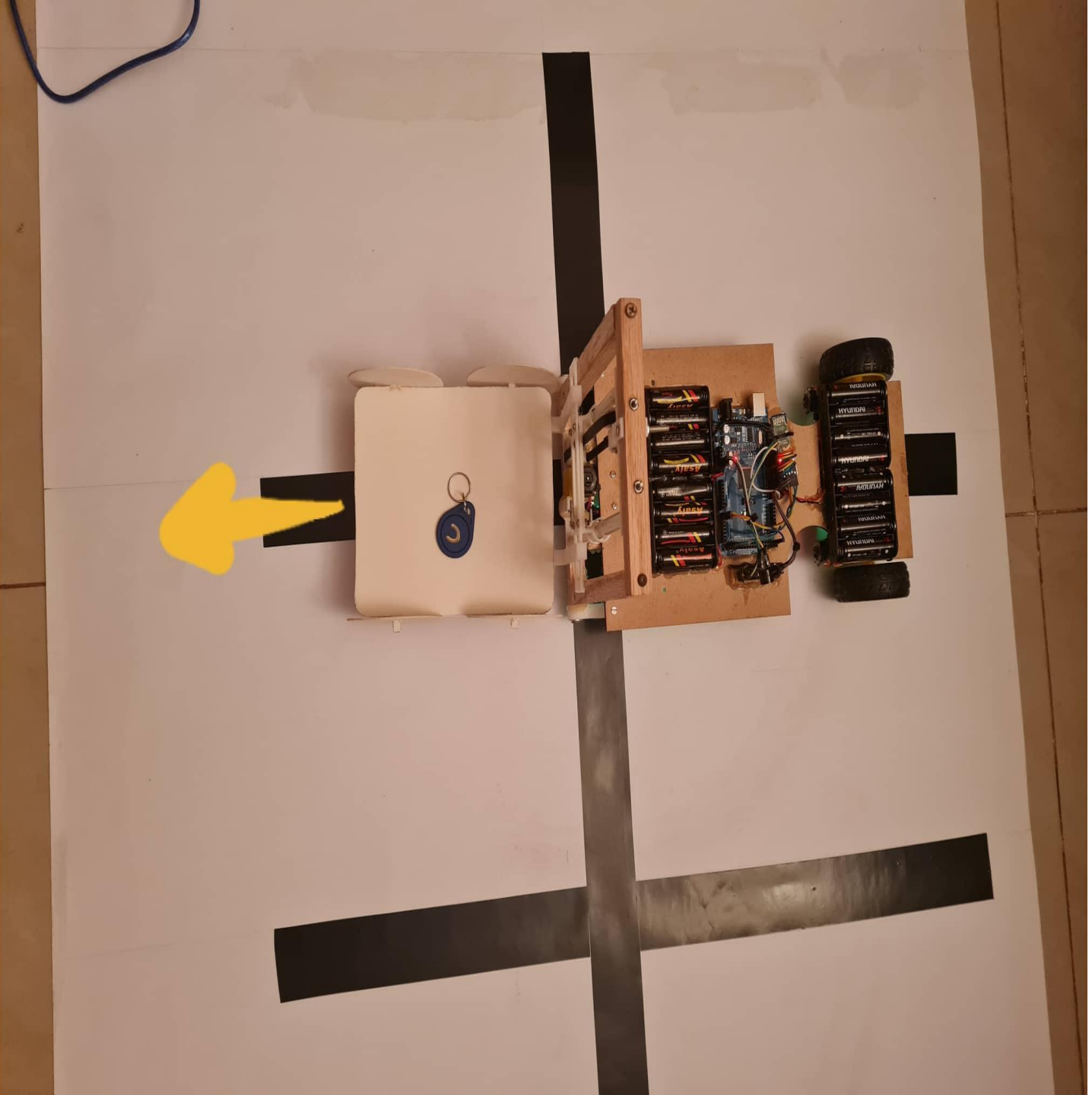
Step4:

After reach to the first parking space the robot check if there is a car in the parking space if not the robot move as shown to directing to the car to an empty parking space.

Step5:

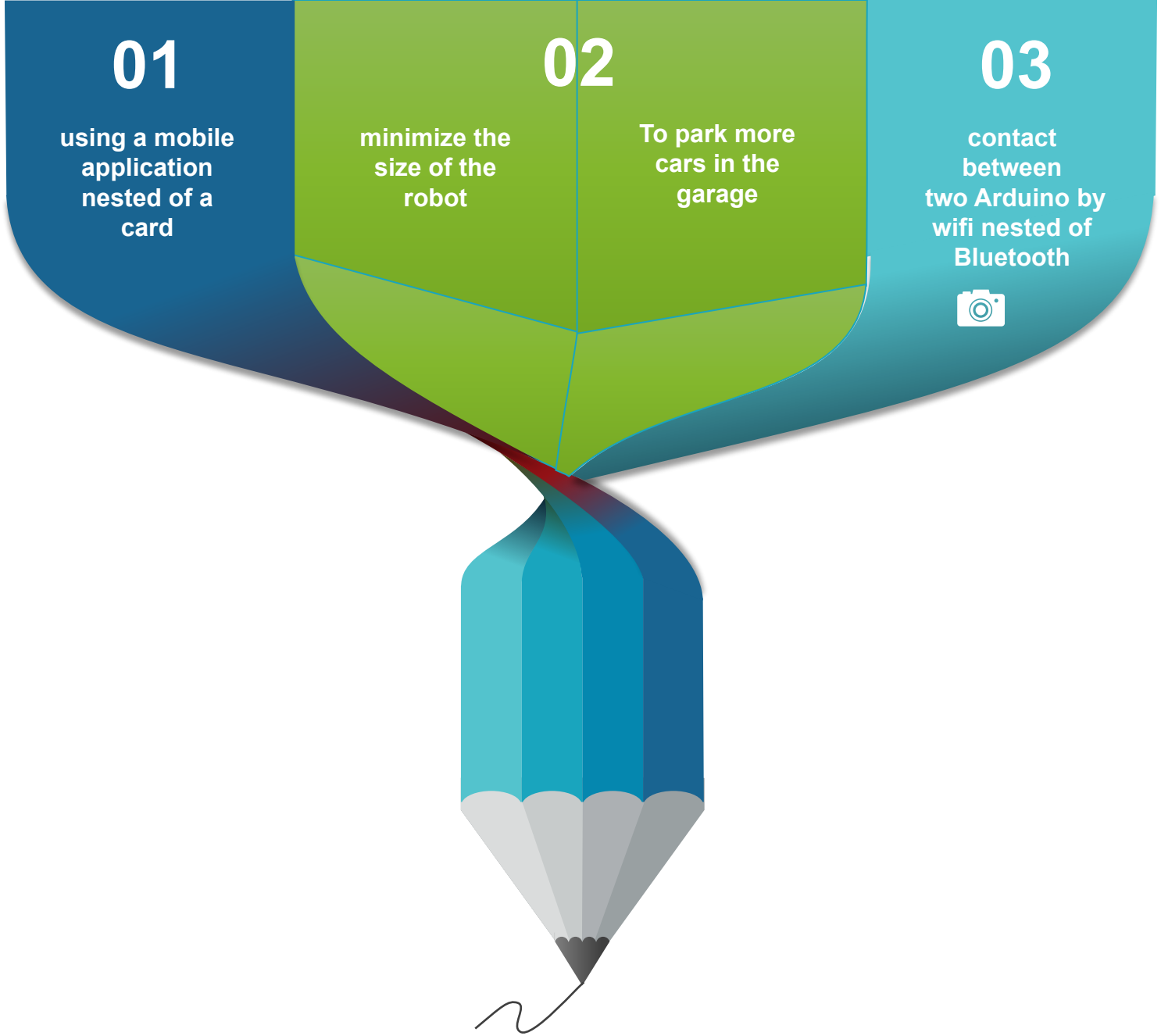
Store the garage shape then
Park the car





Step6:

- When the user order his car again using the same card.
- The Robot will pass to each garage and detect the shape again and bring the car (depends on the shape)


01
using a mobile application nested of a card
02
minimize the size of the robot
To park more cars in the garage
03
contact between two Arduino by wifi nested of Bluetooth

Future Work

THANK YOU

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