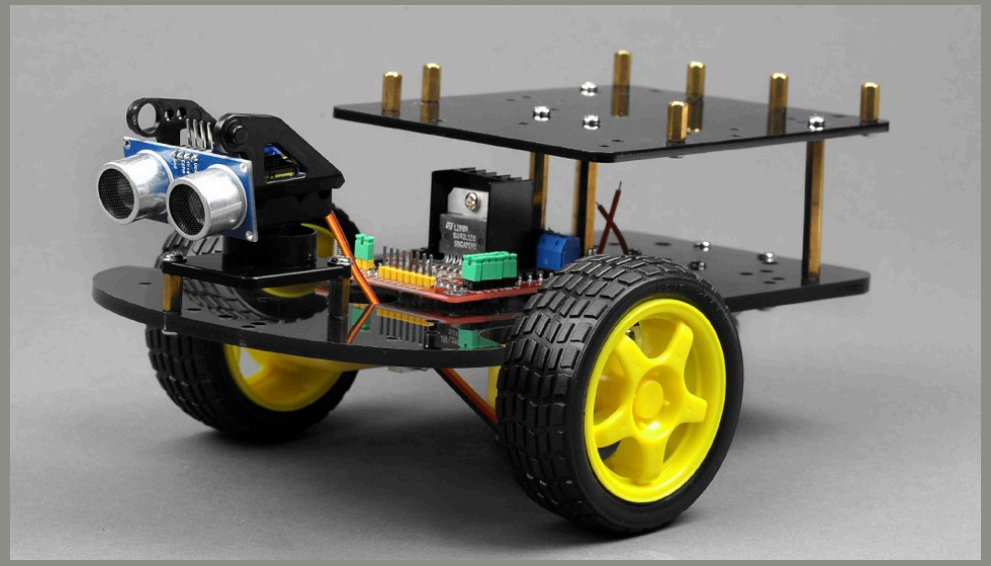
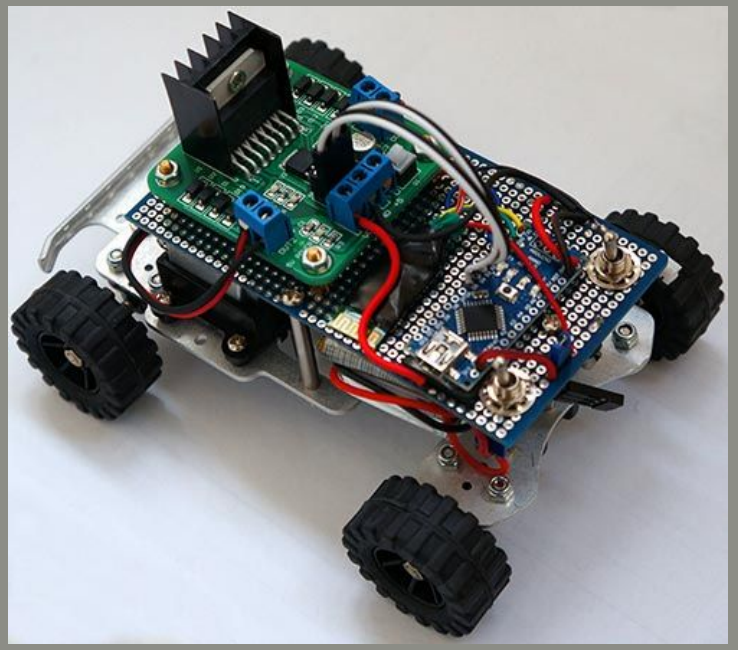
Arduino—Car

Yiu Pui Kwan(SID:54811987)
Tsang Chun Leung(SID:54802143)



A automatic detection car

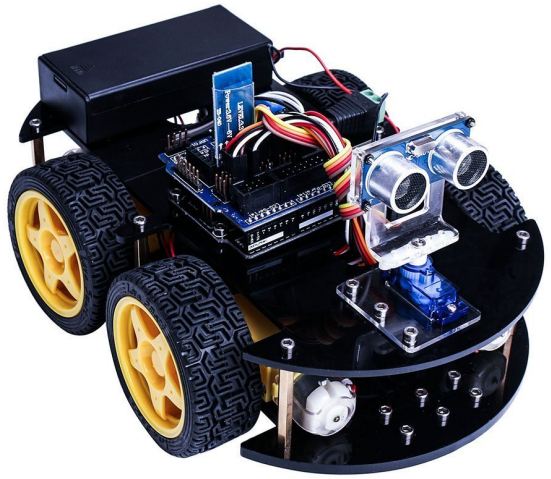


A car controlled by Bluetooth function

A Can with 2 function:

-Auto detection

-Control by button and Bluetooth



How will we do it

Tool will be used:

Motor

Ping

Bluetooth Serial Module

Battery

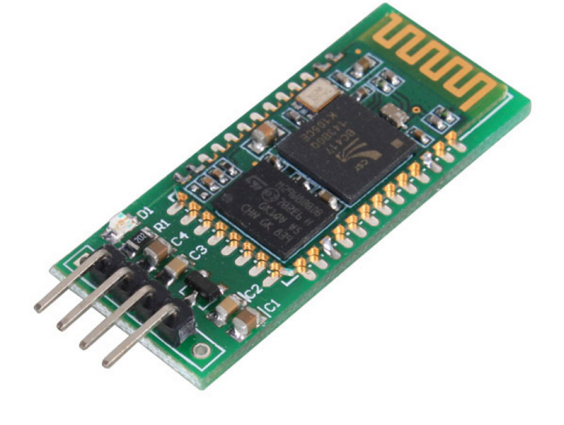
- **Change the mode by a button**

Obstacle Avoiding Mode:

- Ping))): detects the distance of the closest object in front of the sensor by listening for the echo of the ultrasound from the object.
- The car would move forward. If the distance between the sensor and object is shorter than a certain distance, such as 20cm, the car would turn to other direction by controlling the operation of motors for its tires.

Bluetooth controlling Mode:

- HC-05 Bluetooth Module: connect the car to the phone by Bluetooth.
- Control the direction of the car through an app by a smartphone.



Why it is interesting and awesome

- **Highly interactive:**

  Interact with the environment: sensing and avoiding objects

  Interact with human: controlling its direction to move.

- **Two modes for selection:**

  The car can operate both actively and passively.

- **Low cost remote control car**
- **Playful**
- **Can use for small object transportation**

Similar things have been done(Example):

https://www.youtube.com/watch?v=wXWZR79nF6M&t=79s

http://www.instructables.com/id/Arduino-Bluetooth-RC-Car-Android-Controlled/

https://www.tinkernut.com/2014/03/control-rc-car-smartphone/

https://arduino.stackexchange.com/questions/23540/how-to-connect-a-a-three-state-switch-on-off-on-to-arduino

Reference:

- Finding tools:
- https://makezine.com/projects/connect-an-arduino-to-a-7-bluetooth-serial-module/
- Finding Apps:
- https://makezine.com/projects/connect-an-arduino-to-a-7-bluetooth-serial-module/
- https://www.youtube.com/watch?v=wXWZR79nF6M&t=79s (Indian LifeHacker)