HRL
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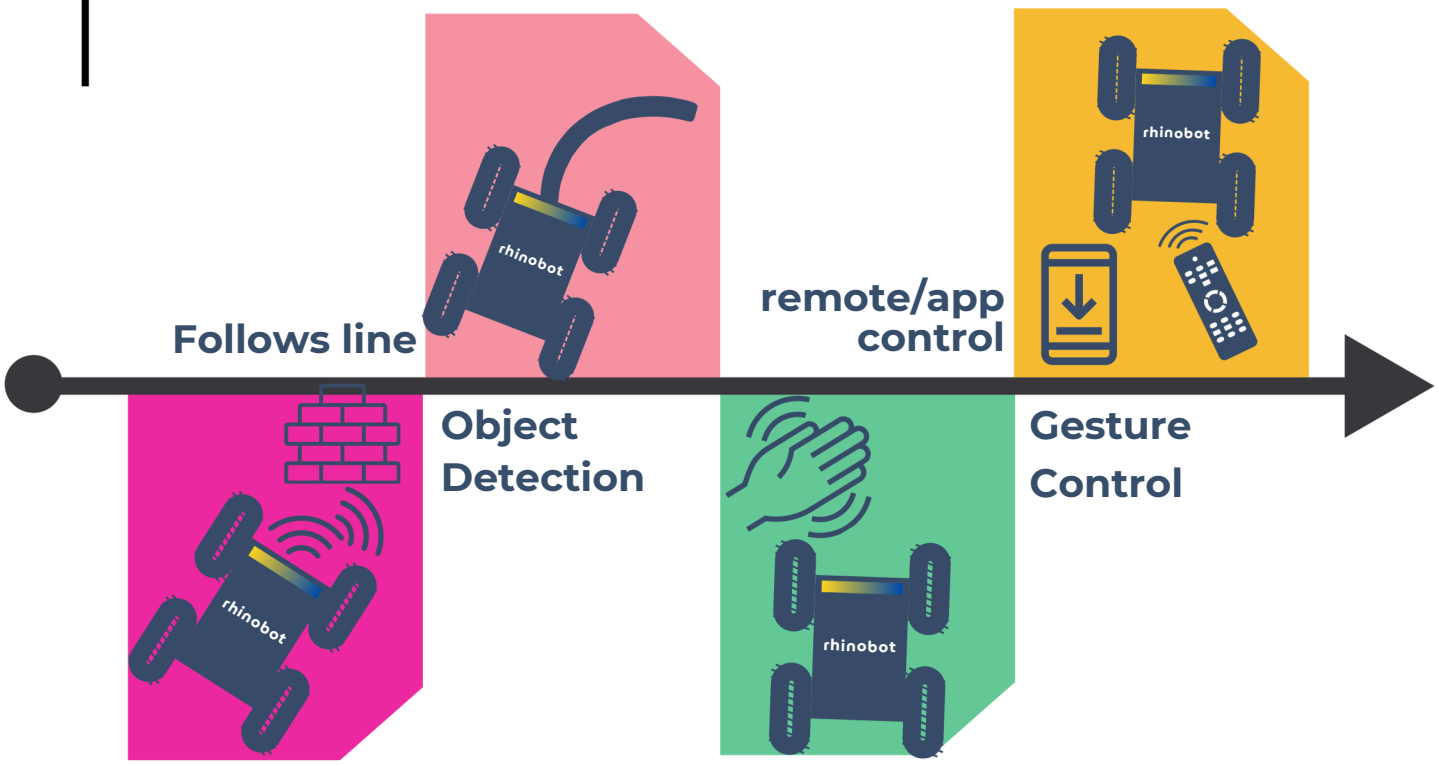
GETTING STARTED GUIDE

RHINOBOT

RhinoBot?

The RhinoBot is a highly compact and feature-rich robot car kit designed to provide an educational and engaging experience for students. This user guide will walk you through the assembly process and provide detailed insights into its advanced features and functionalities.



Components of rhinoBot

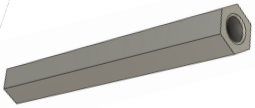
Base chassis x 1

Top chassis x 1

Ir remote sensor x1

Hex spacer small x 4

Ir remote x 1



Hex spacer big x 4

Screwdriver x 1

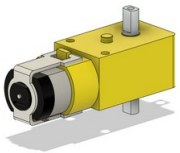
Wheel x 4

Battery x 1

M3 * 30 mm bolt

M3 * 6 mm bolt

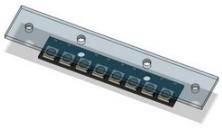
Ir sensor x 2



Motor x 4

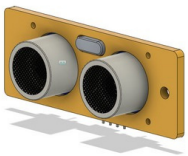
M3 nut

M3 * 8 mm bolt

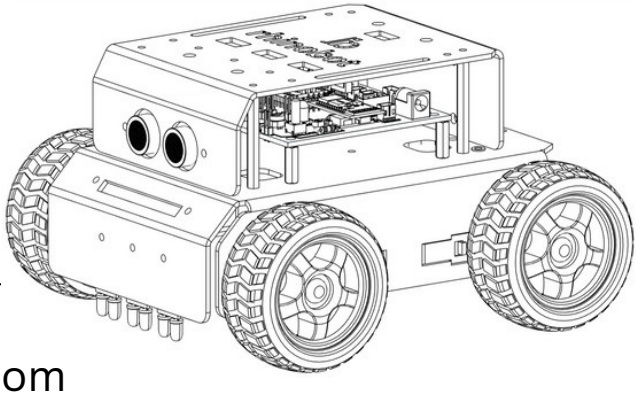


Led mount x 1

Spare Nuts and Bolts



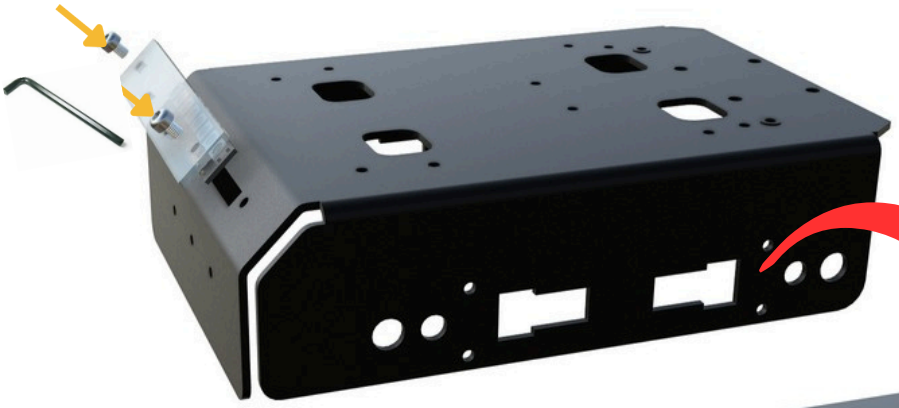
Ultrasonic sensor mount x 1

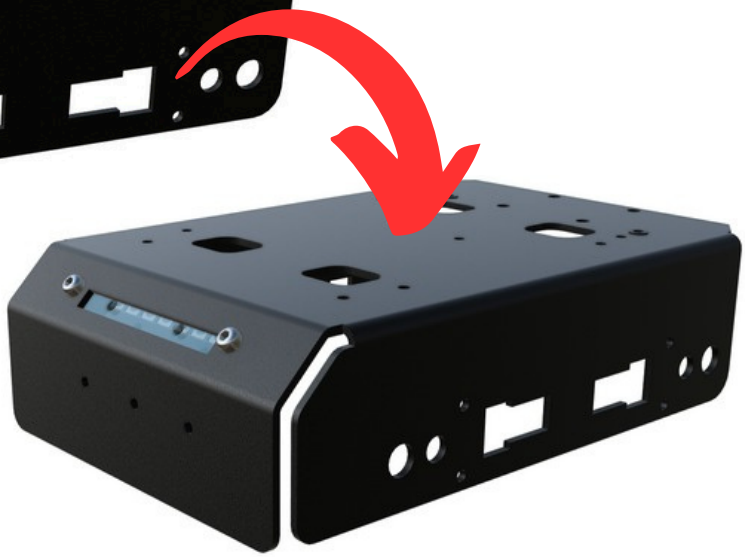


STEPS TO FOLLOW

assemble the led mount on the base chassis using two m3 x 8 mm bolt

1





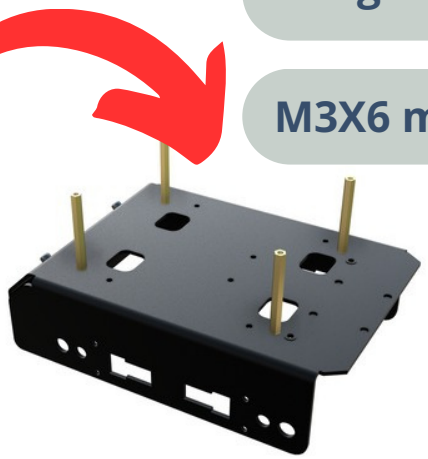
Base Plate

LED Mount

M3X8 mm bolts

mount 4 big hex spacers on base chassis from bottom side using m3 x 6 mm Bolts.

2

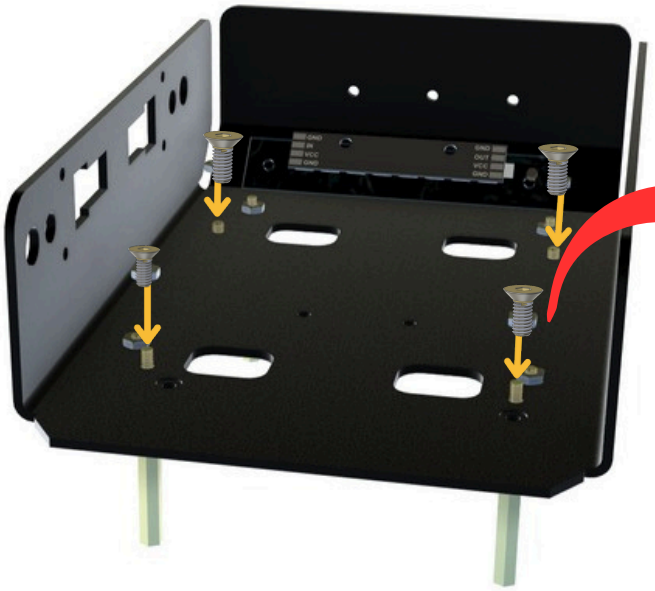


Big Hex Spacer

M3X6 mm bolts

mount 4 small spacers on base chassis from bottom side m3 x 4 mm bolt

3

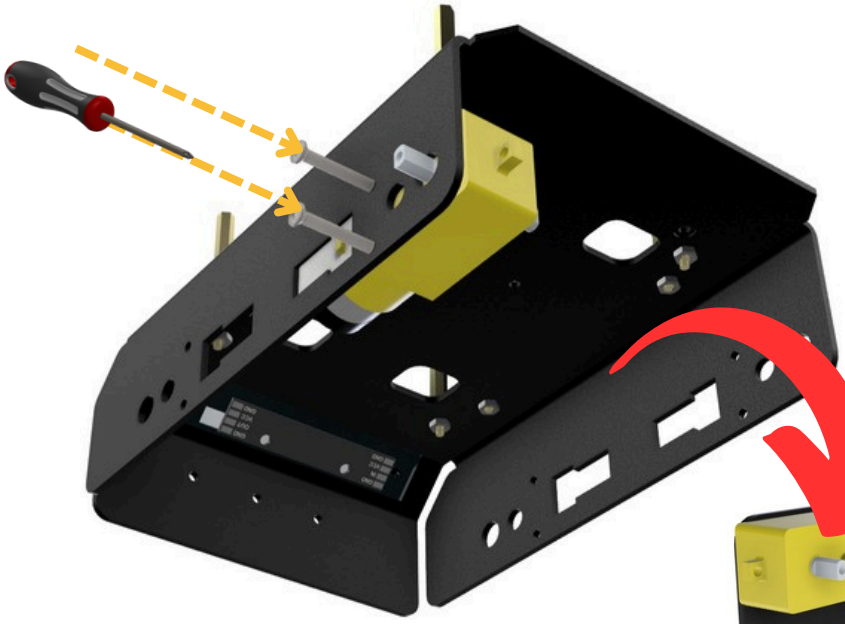


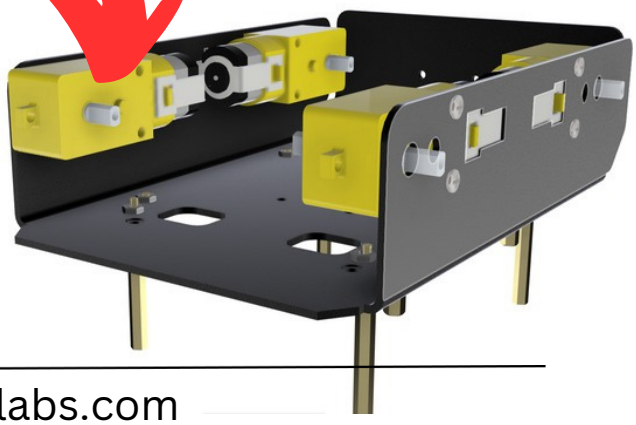
Small Hex Spacer 

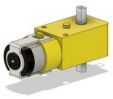
M3X6 mm bolts 

mount 4 motor using m3 x 30 mm bolt

4





Small Hex Spacer 

M3 nuts 

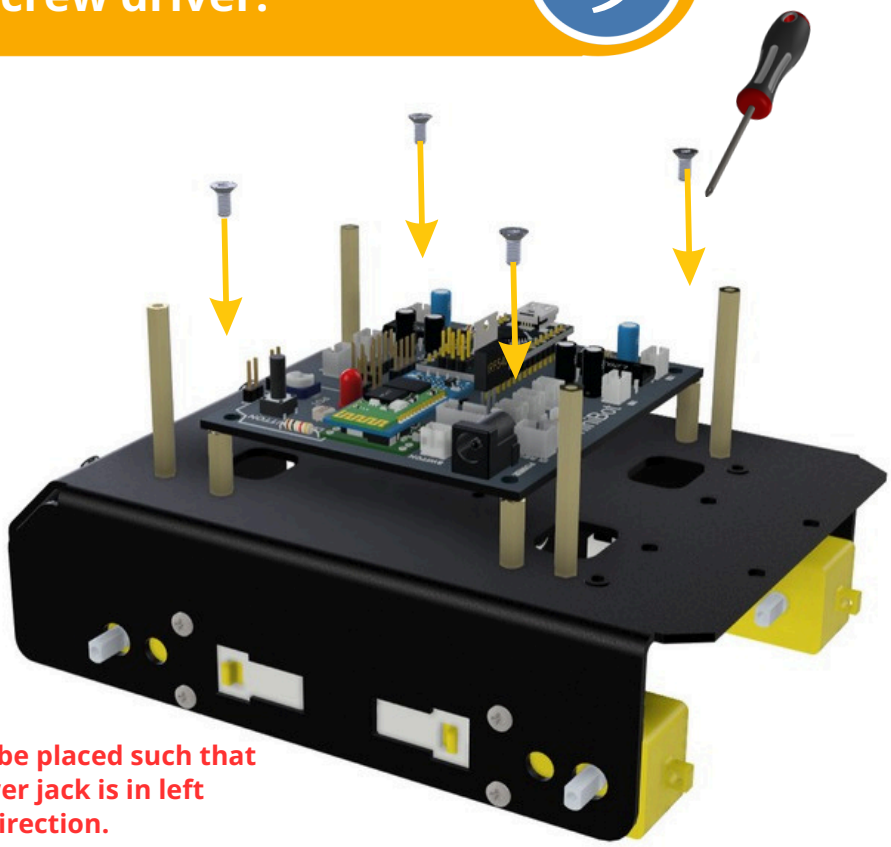
M3X30 mm bolts 

screw pcb on small spacers using m3 x 6 mm bolt with screw driver. 5

M3X6 mm Bolt

Controller Board

FRONT SIDE



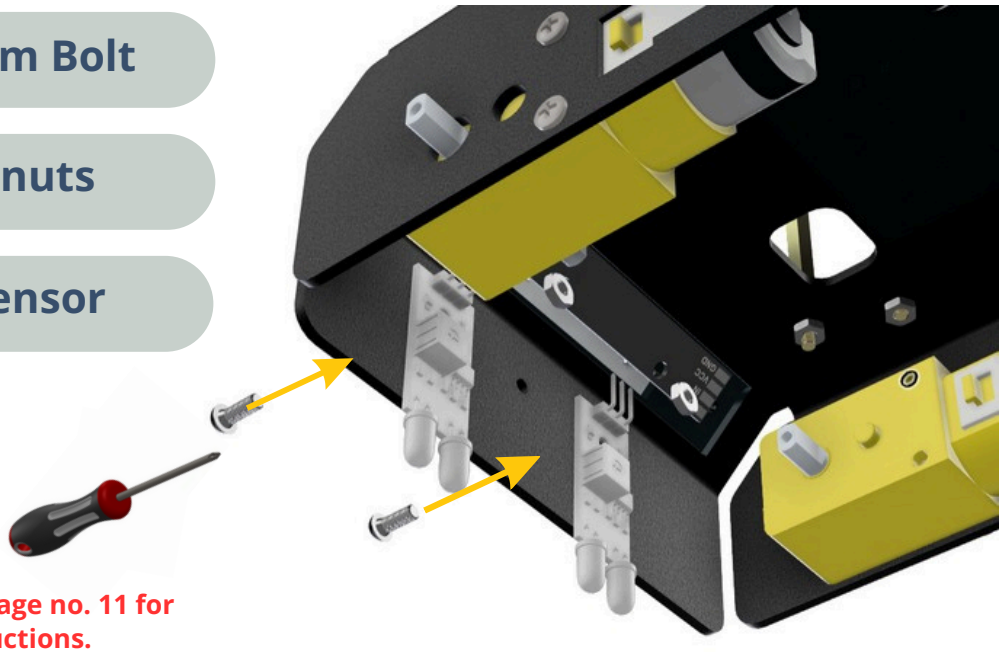
PCB should be placed such that the power jack is in left direction.

mount ir sensor using m3 x 8 mm Bolts & Screwdriver 6

M3X8 mm Bolt

M3 nuts

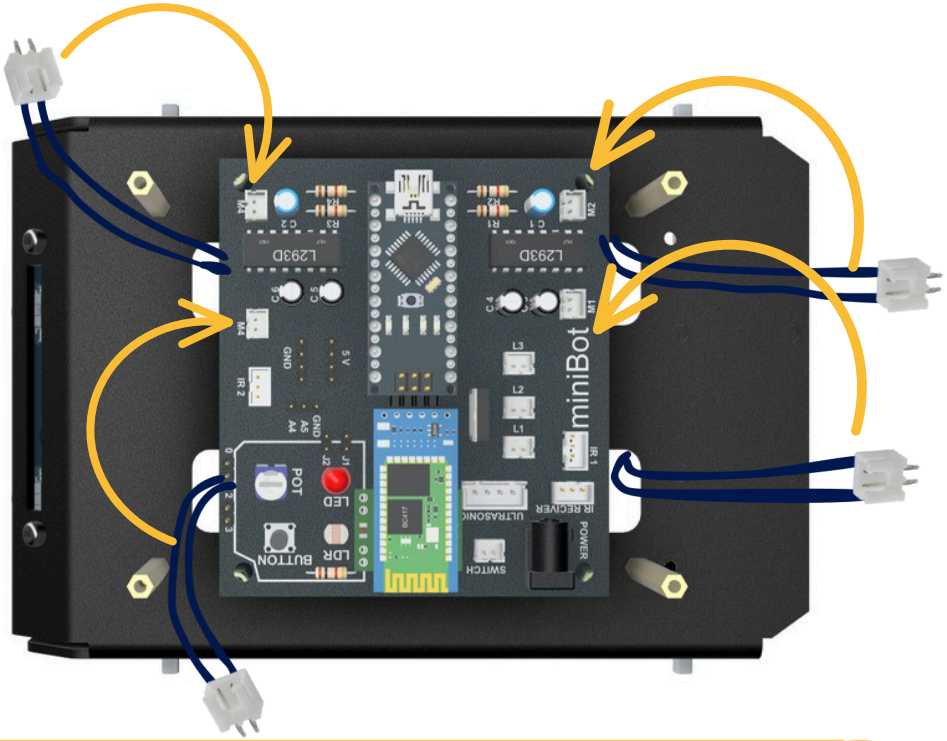
IR Sensor



*** Check page no. 11 for instructions.

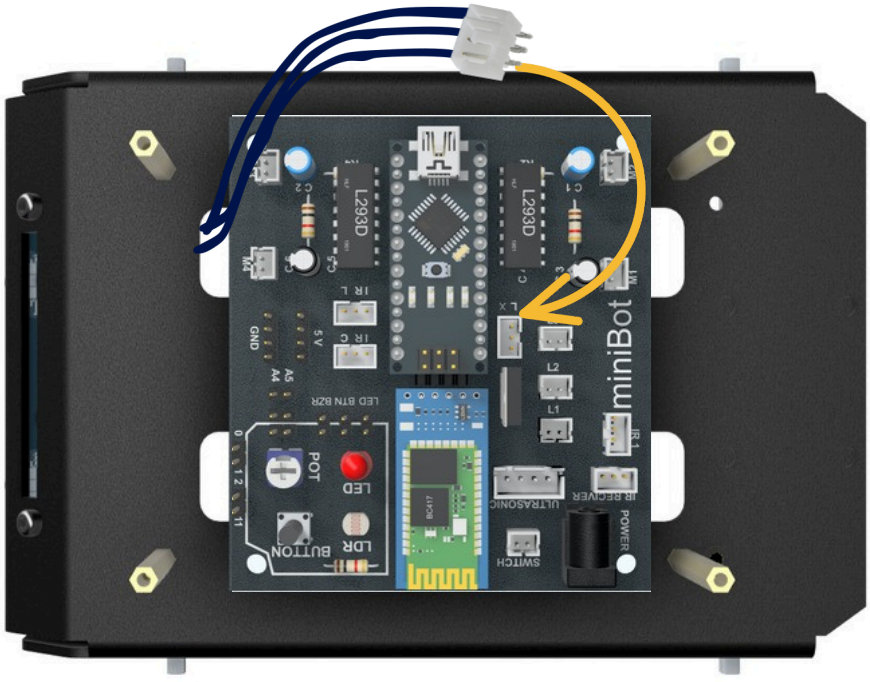
route and connect the motor wire

7

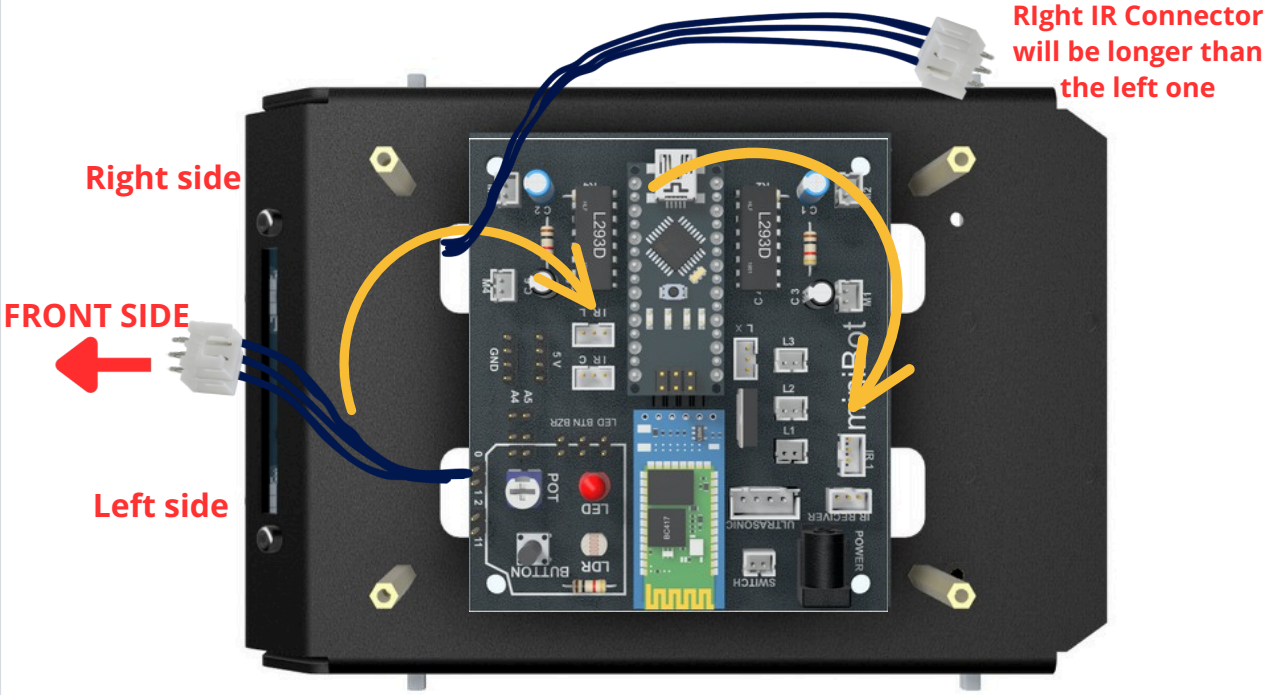


route and connect led wire

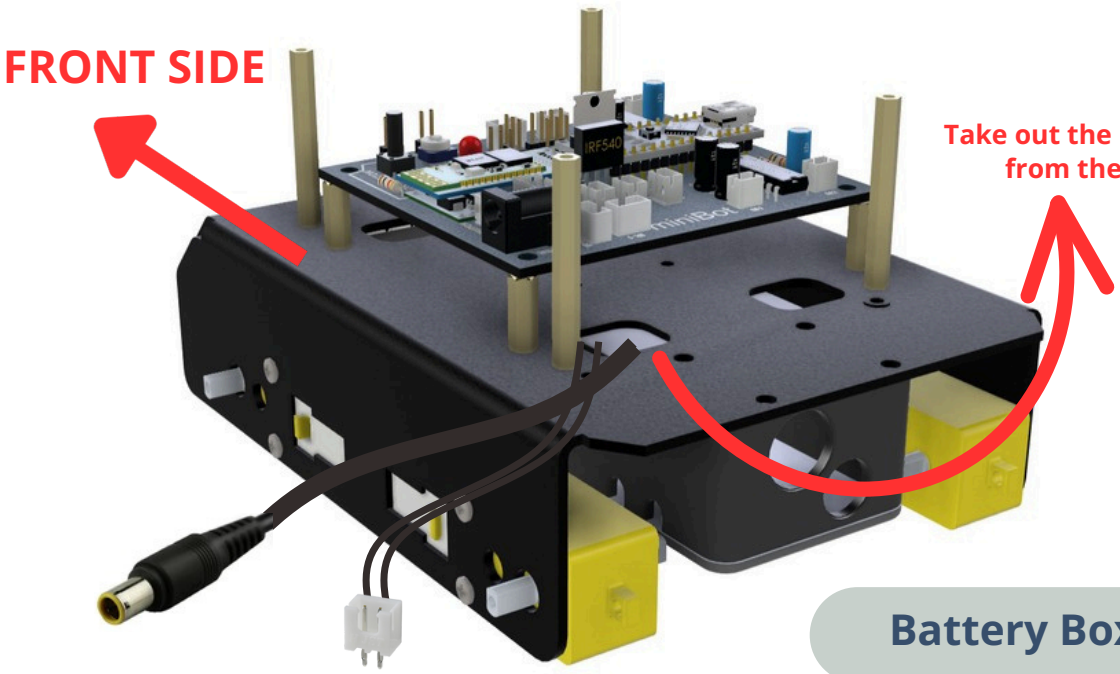
8



route and connect ir sensor wire. 9



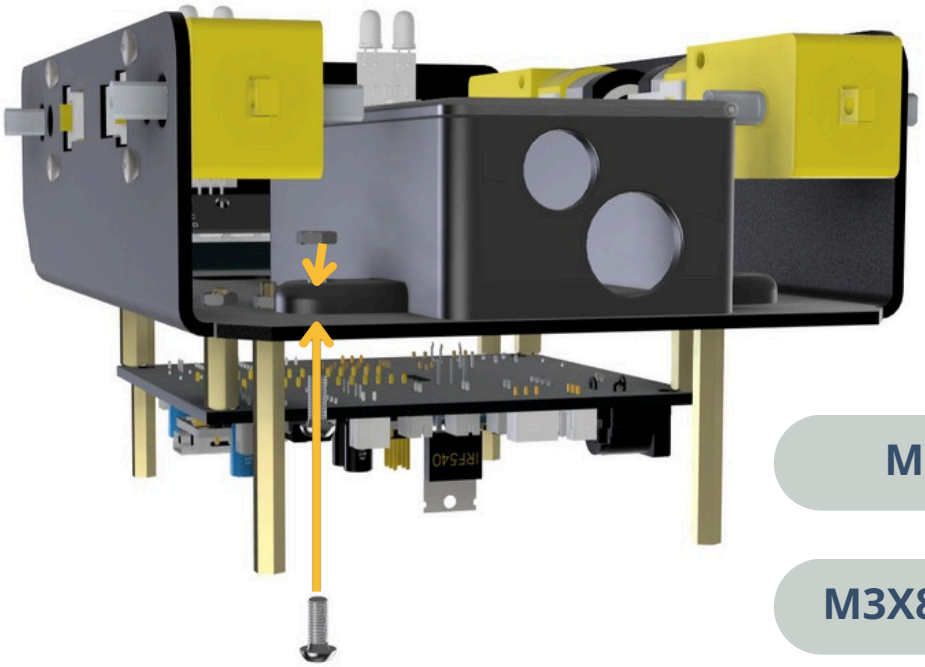
Route the battery & button wire from bottom holes. 10



Battery Box 

Mount and screw the battery on bottom side using m3 x 8 mm nut & bolts

11



*** Check page no. 11 for instructions.

M3 nuts

M3X8 mm bolts

mount the ultrasonic mount on the top chassis using m3 x 8 mm bolt & nut

12

M3X8 mm Bolts

M3 nuts

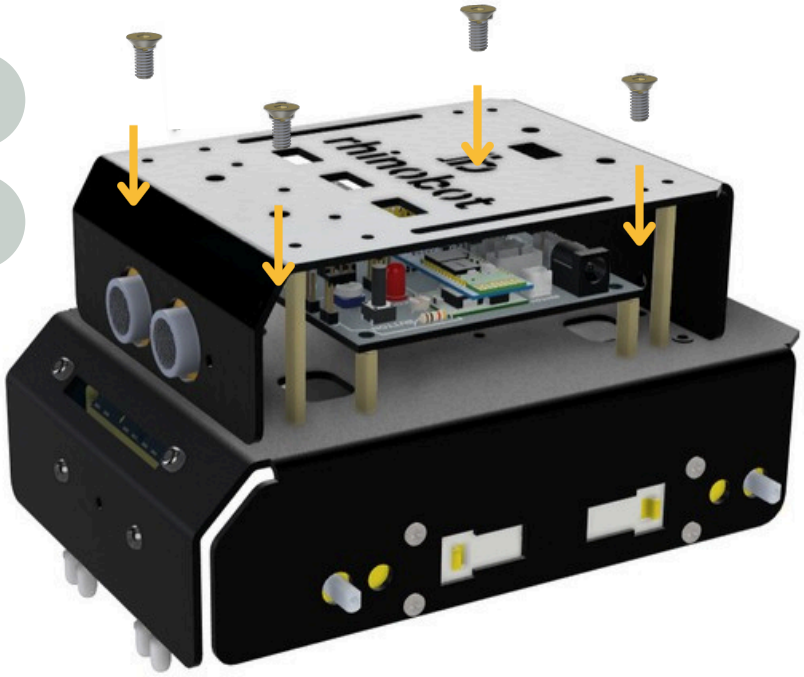
Top Plate

connect the ir sensor and assemble the top plate using 4 m3 x 6 mm bolts

13

M3X6 mm Bolt

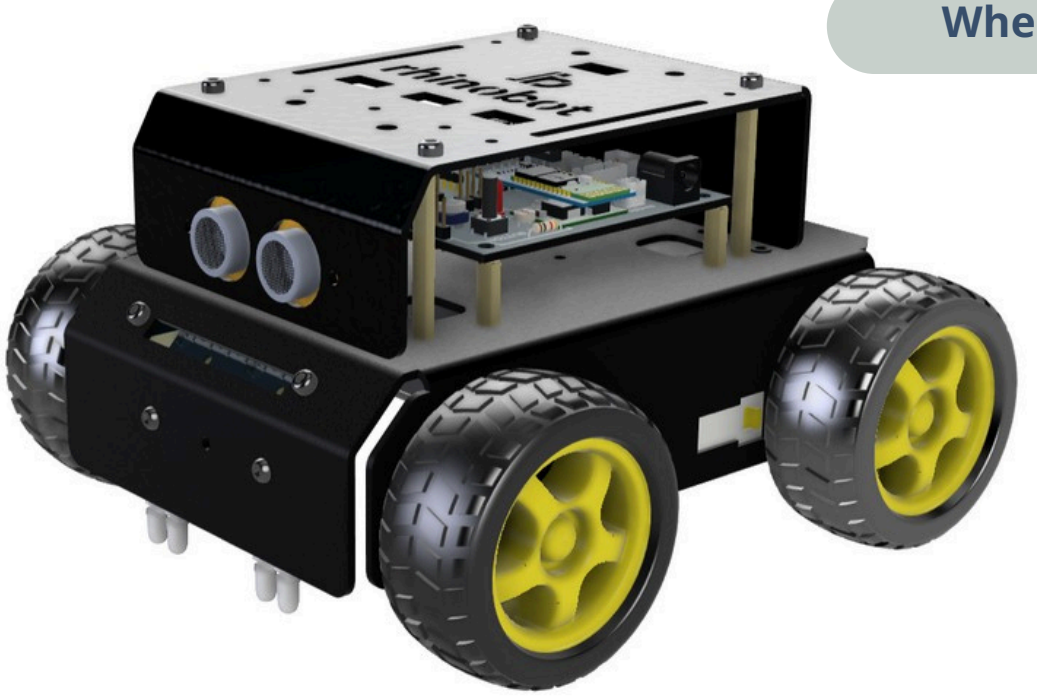
IR Sensor



Attach the wheels with motor shaft. Your rhinoBot is ready for wonders.

14

Wheels



IR REMOTE CONTROLS

Guide for the IR Remote

ENABLE DIFFERENT MODES

- IR Remote mode (*)
- Bluetooth App Control (#)
- Obstacle Avoiding Mode (1)
- Line Tracking Mode (3)

SPEED CHANGE

- (4) Decrease Speed
- (6) Increase speed

LED MODES

- (7) LED Blinking Mode
- (8) LED Breathing Mode
- (9) LED Off

DIRECTION CONTROL

Move Forward / Move Left / Move Right / Move Backward

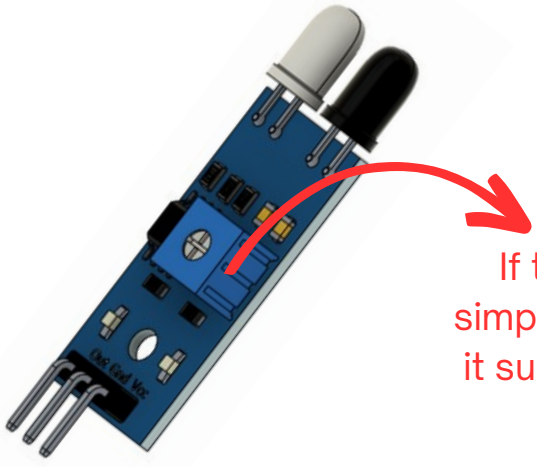
Don't forget to remove the protective polythene covering to start using the IR remote.

REMOVE IT

GENERAL IINSTRUCTIONS

Battery can be charged with the help of the Type USB to C Cable. Other cables like Type-C to C cable will not work.

Rhinobot comes with a battery box that is designed to prevent damage while you learn from your mistakes. The rechargeable battery also comes with a circuit protection to prevent both over charging & over discharging.



If the IR sensor doesn't work properly, simply adjust the potentiometer by rotating it such that the LED glows when detecting the desired surface.

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RhinoBot Controller Guide using Dabble App

INTRODUCTION

Dabble is a versatile project interaction & Bluetooth controller app forArduino&ESP32. It is available for both Android and iOS platform

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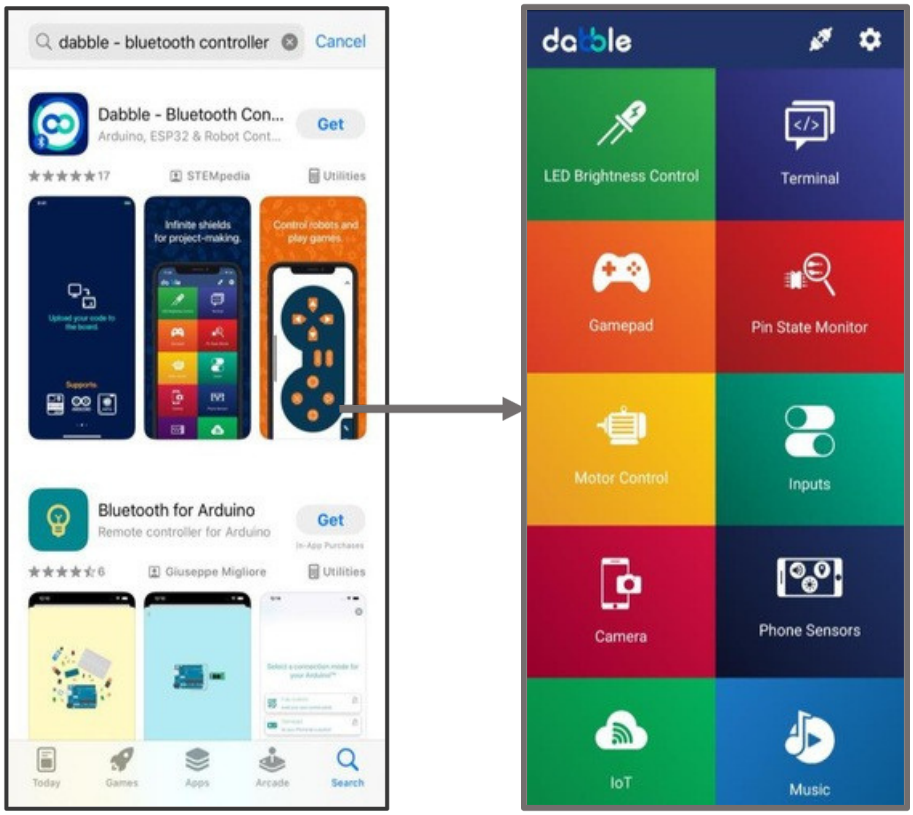
Scan or visit hadronrobolabs.com tolearnmore aboutrhinoBotand access other resources related rhinoBot.

Follow the following step for setting up dabble to control your rhinoBot.

DOWNLOADING THE APPLICATION

FOR IOS

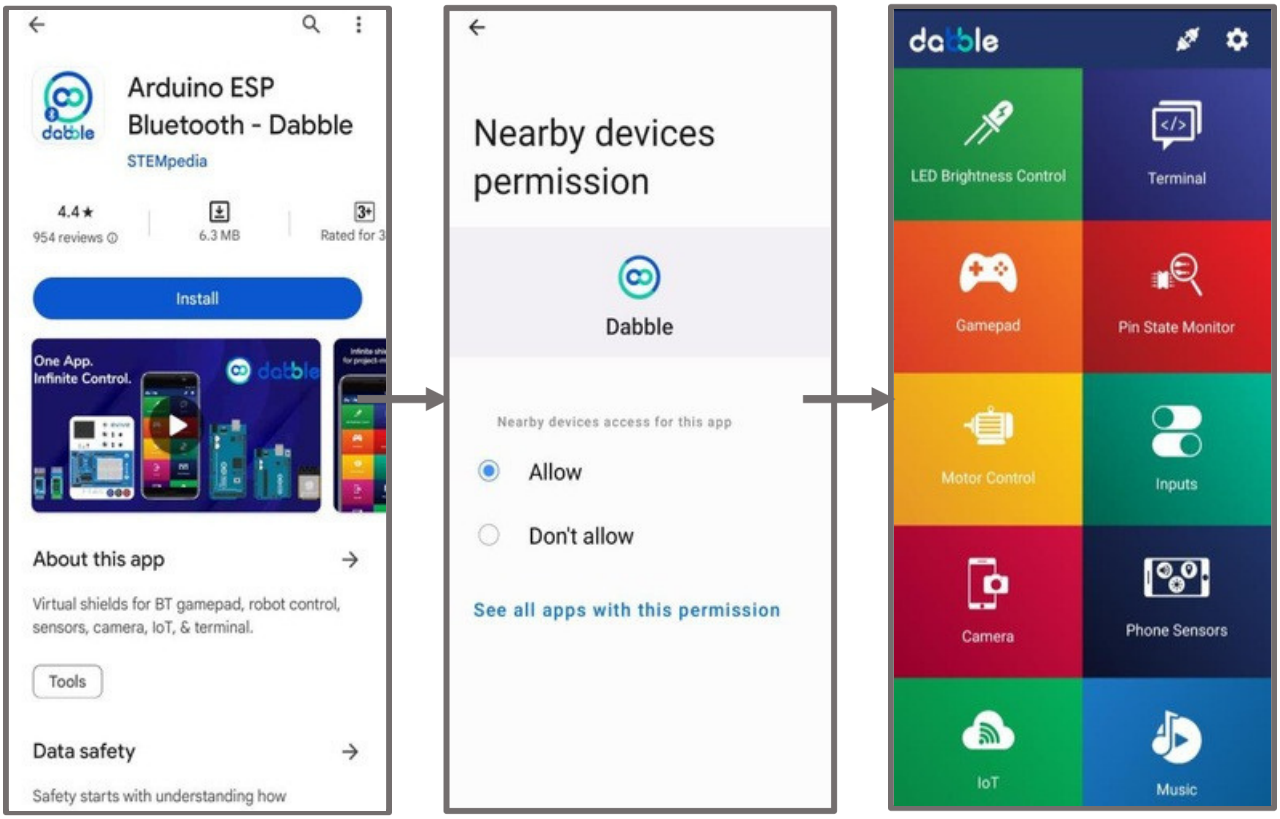
Type Dabble in the search box and Download Dabble application in your IOS smartphone from the App Store. Allow all the permissions asked by the dabble app



FOR ANDROID

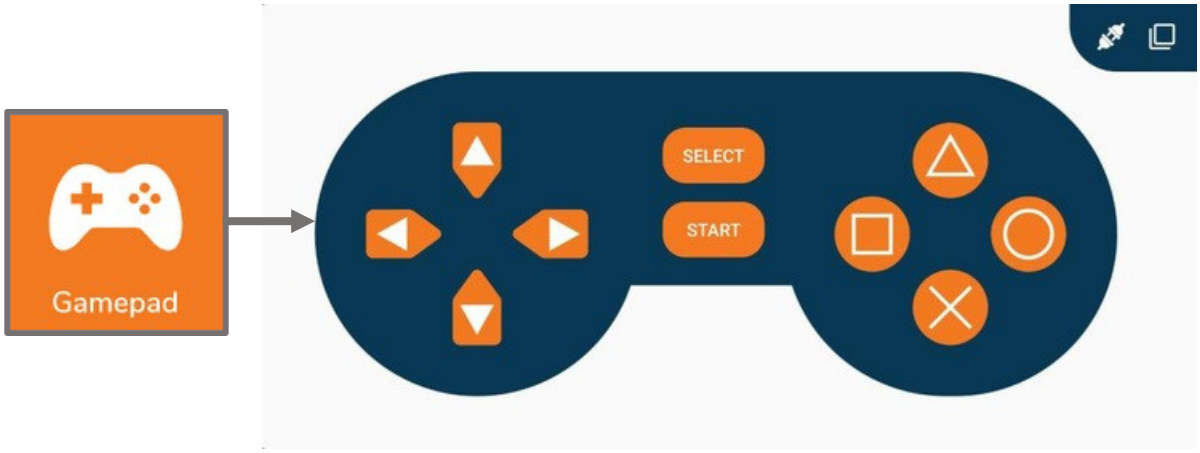
Type Dabble in the search box or click on the link to download Dabble application in your android smartphone from the Play Store. Allow all the permissions asked by the dabble app

For android, we have to provide additional permission. Go to the settings and search for the dabble app under the Apps section. Allow the ‘Nearby devices’ permission. This will allow dabble to connect to the rhinoBot.

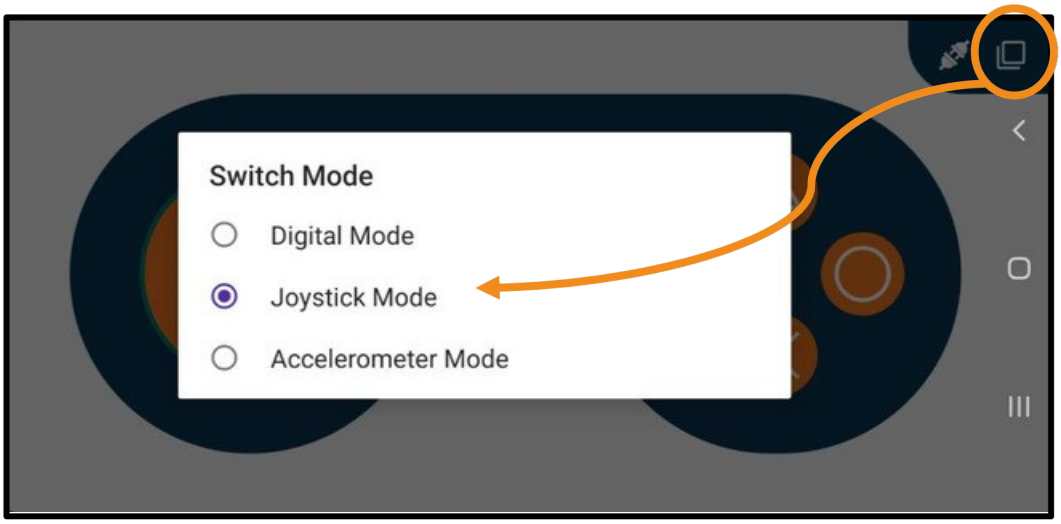


SETTING UP THE APPLICATION

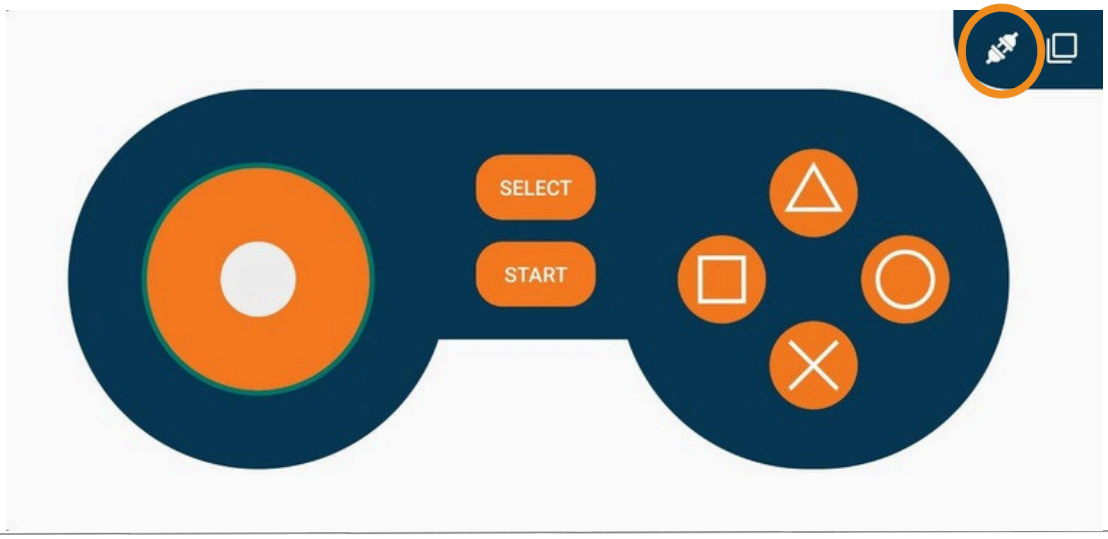
Open the application and the interface will show you multiple functional buttons. Click on the ‘gamepad’ to connect, run and control the rhinoBot.



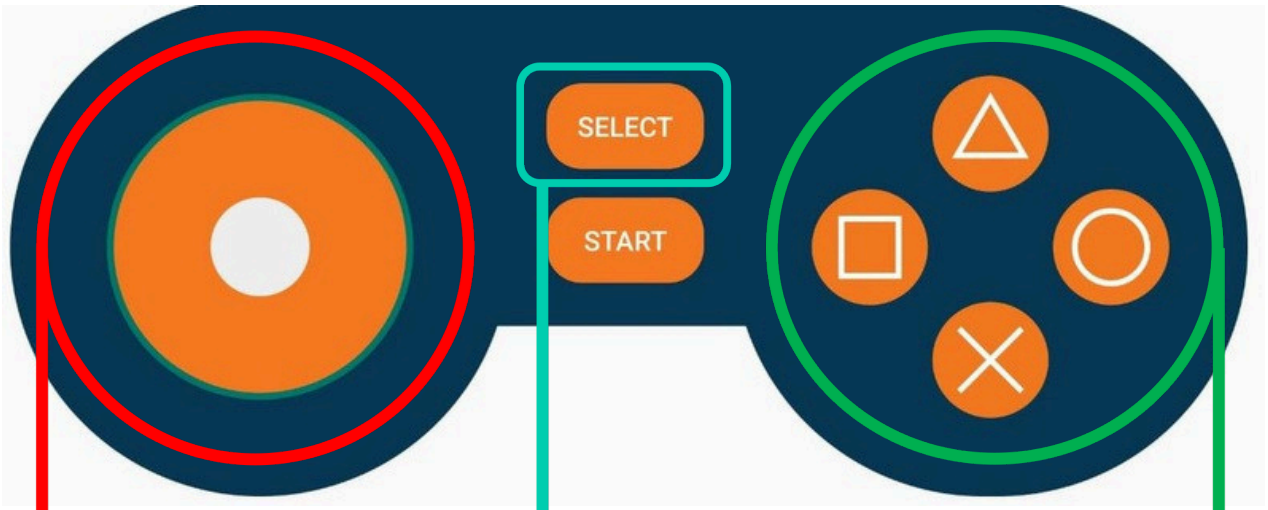
From the top right corner, click on the following icon to select the joystick mode.



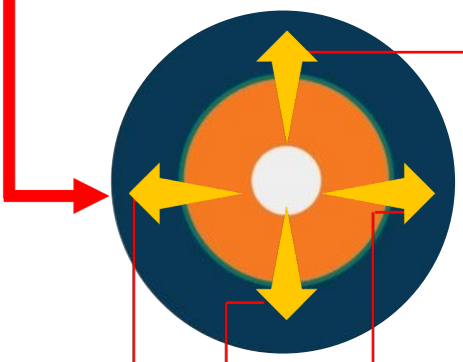
Select ‘BT05’ or ‘rhinoBot’ after clicking on the following icon from the top right corner to establish the connection with your rhinoBot.



CONTROLLING THE RHINOBOT



Click on the select button to
- Start the LEDs
- Change the Blinking Modes
- Stop the LEDs

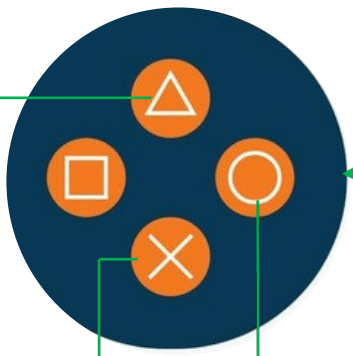


Left

Forward

Back

Right



Line Tracking Mode

Object Avoidance Mode

Exit all modes/ Manual Mode

Press and Hold the button to exit the modes

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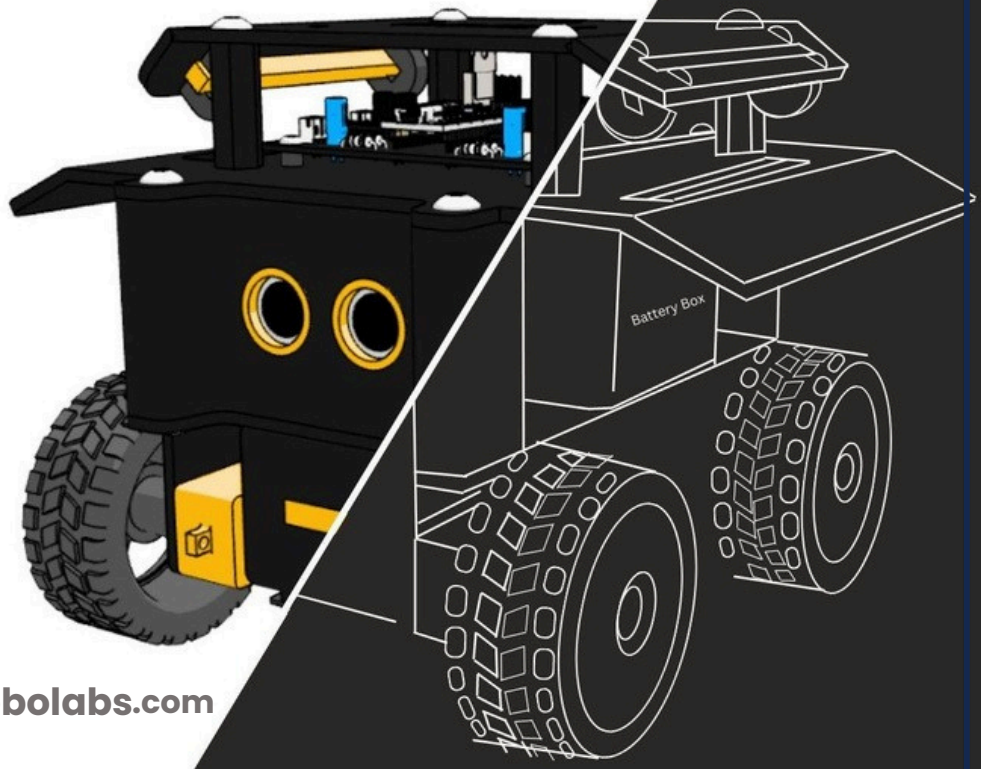

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