

# Activity

## Smartphone Controlled Robot

### Programming



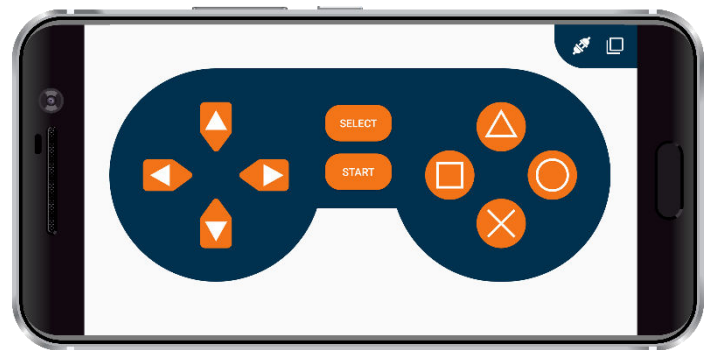
In this activity, you will program the two wheel drive robot to move forward, backward, left and right using gamepad module in Dabble app.

### COMPONENTS

Assembled Robot and Bluetooth Module.

### STEP-BY-STEP

1. Start an new PictoBlox program and select evive as the board.
2. Make five blocks to do the following functions:
  - a. **Go Straight:** Both motors will run forward with the speed of 100%.
  - b. **Go Backward:** Both motors will run backward with the speed of 100%.
  - c. **Turn Left:** Motor 1 will run backward and motor 2 will run forward with speed of 100%.
  - d. **Turn Right:** Motor 1 will run forward and motor 2 will run backward with speed of 100%;
  - e. **Brake:** Both motors will stop by locking the motor.



#### define Go Straight

```

run motor 1 in direction forward with speed 100 %
run motor 2 in direction forward with speed 100 %
  
```

#### define Go Backward

```

run motor 1 in direction reverse with speed 100 %
run motor 2 in direction reverse with speed 100 %
  
```

#### define Turn Left

```

run motor 1 in direction reverse with speed 100 %
run motor 2 in direction forward with speed 100 %
  
```

#### define Turn Right

```

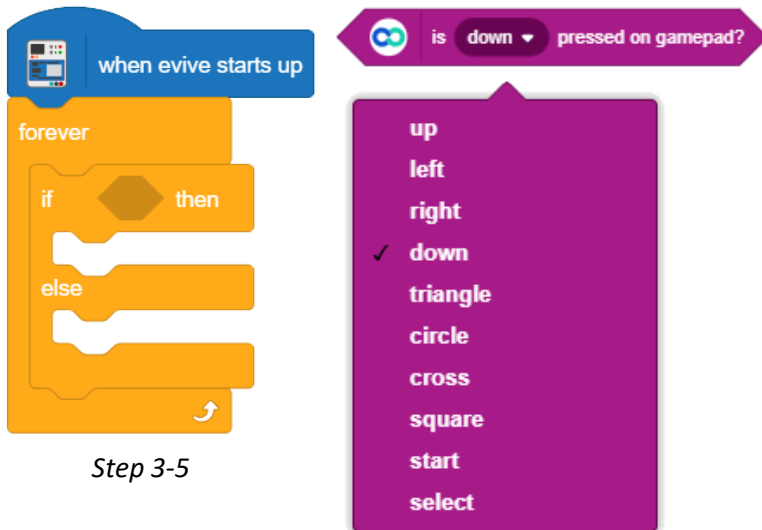
run motor 1 in direction forward with speed 100 %
run motor 2 in direction reverse with speed 100 %
  
```

#### define Brake

```

lock motor 1
lock motor 2
  
```



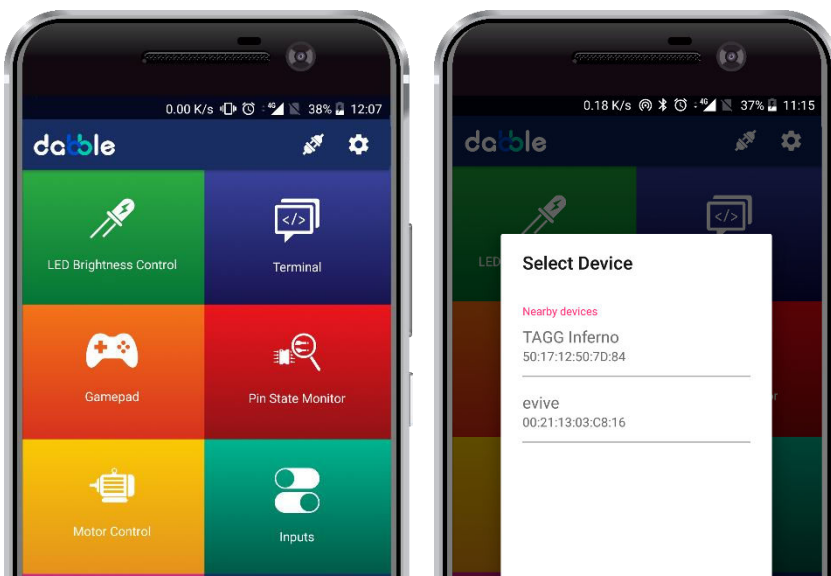


Step 3-5

3. Drag and drop when evive starts up block from evive extension.
4. Snap **forever** block from **control** palette below **when evive starts up** block.
5. Snap **if then** block from **control** palette inside the **forever** block.
6. For detecting if whether the selected button is pressed or not, we will use the **is () pressed on gamepad?** Block. If the button is pressed, then it return 1, else 0.
7. Using the **if-the else blocks** we will update the script made in step 5 to do the following:
  - a. If UP is pressed, then robot move forward.
  - b. Else, if DOWN is pressed, the robot move backward.
  - c. Else, if LEFT is pressed, the robot turn left.
  - d. Else, if Right is pressed, the robot turn right.
  - e. Else, the robot stops.
8. Using the above logic, make the script as shown in the right.
9. Switch to **Upload Mode** and Upload the code on evive.
10. Connect the Bluetooth Module to evive as shown in the figure.



Step 10



Step 11

Step 12

11. Turn on evive. Open the Dabble app and click on **connect icon** on top right corner of dabble.
12. List of available devices will come. Select the appropriate Bluetooth module from the list.
13. Open the **Gamepad Module** and start playing.