Lesson 22 – Getting Started with mBot

What we will learn

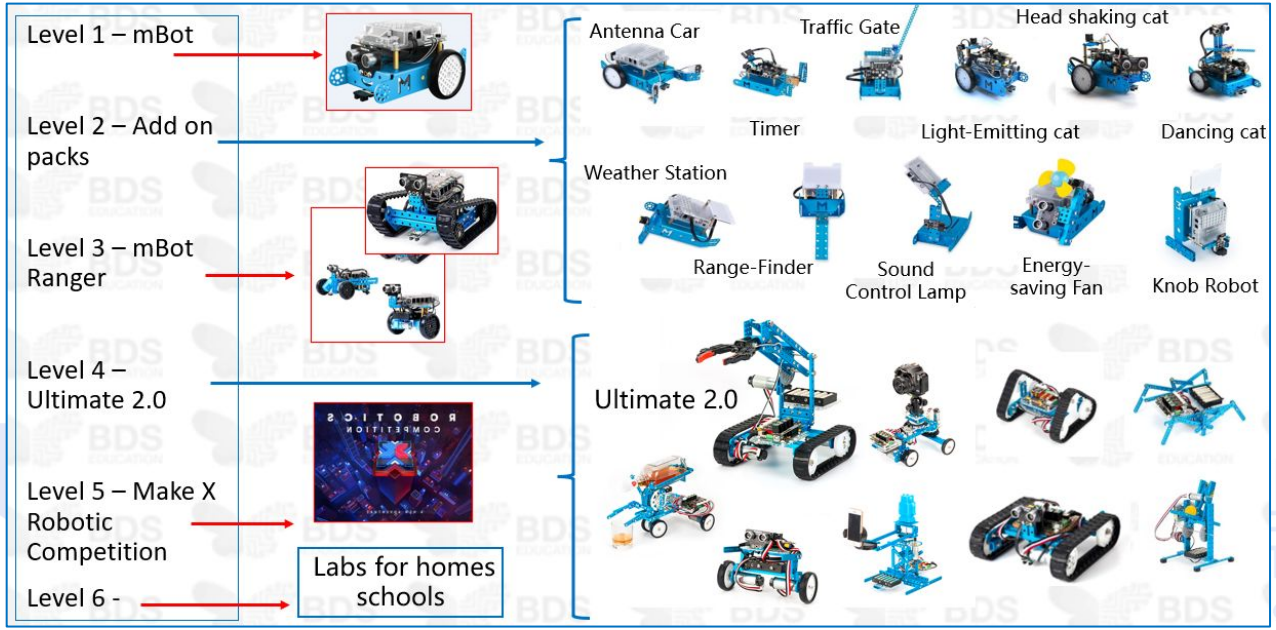
Codey Rocky was a pre-assembled robot designed to learn coding.

mBot is a family of kits, designed to put coding to work through Robotics.

The good news is, that what we learnt using sprites, applied to Codey Rocky, & what we have learnt using Codey Rocky will apply to mBot family.

We shall now learn the fundamentals of robotics.

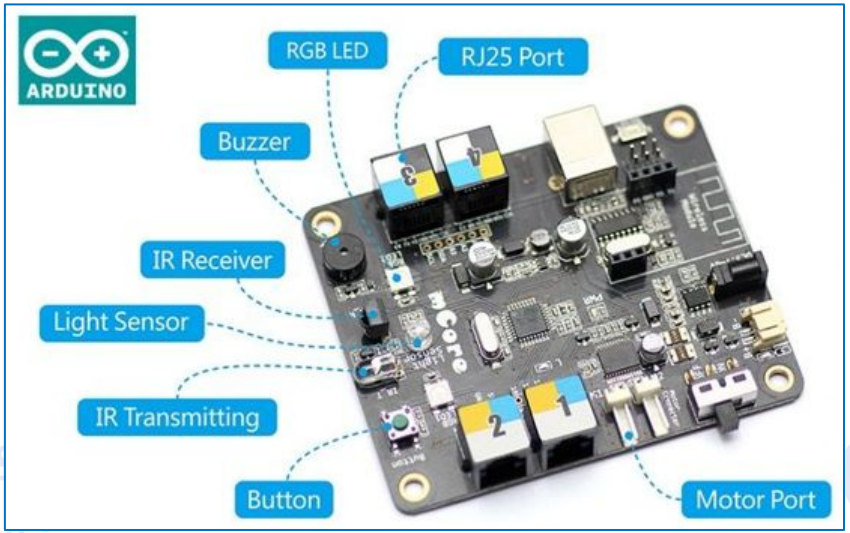
Six Level mBot Family that grows with the child



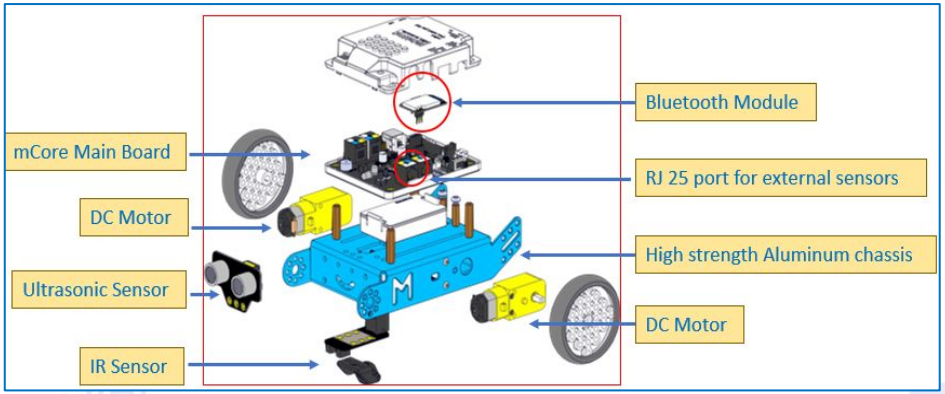
Components of Level 1 Robotic Kit - mBot

Comes with a step by step DIY Assembly Guide

Heart of mBot – mCore Arduino Board



Layout of Components



Follow the illustrated manual to assemble the mBot

Assembly Tool of mBot

Powering Options of mBot

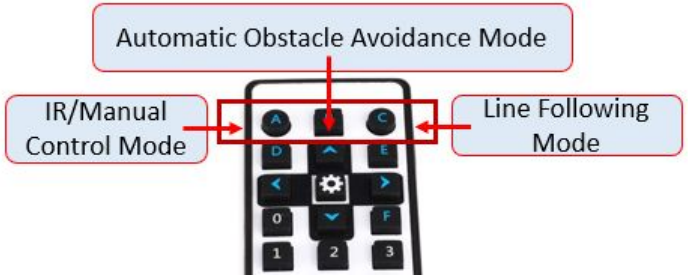
mBot voltage range – 3.7 V to 6.0 V DC

Powering option 1 – 4 x AA batteries in a battery holder with a 2.5mm Barrel plug that connects to mBot.

Powering option 2 – 3.7 V Lithium battery with standard 2.0 interface that connects to mBot.
It supports on board USB charging.

Powering option 3 – mBot can also be powered from a PC/laptop using a standard USB cable.

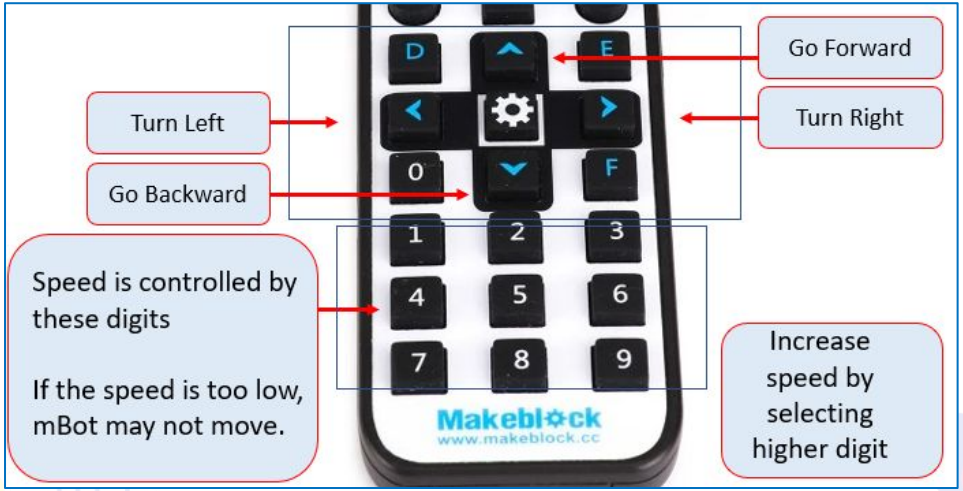
Operating Modes of mBot. **The three mode are shown below:**



IR/Manual mode, in turn has two modes:

- **IR control mode. This involves coding.**
- **Manual mode. This is to operate mBot manually without any coding.**

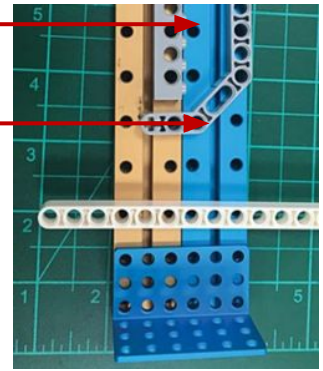
Manual Control of mBot. Button Functions are shown below:



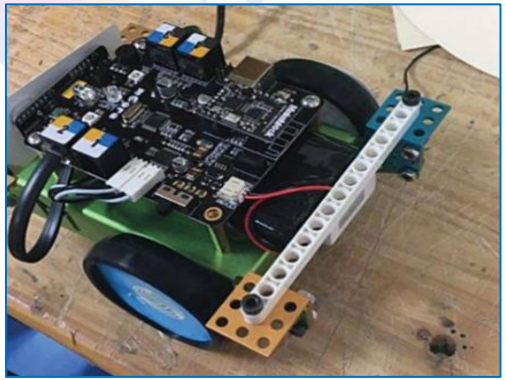
Compatibility with Lego

Here blue & golden are mBot structural parts

Grey & white blocks are of Lego.

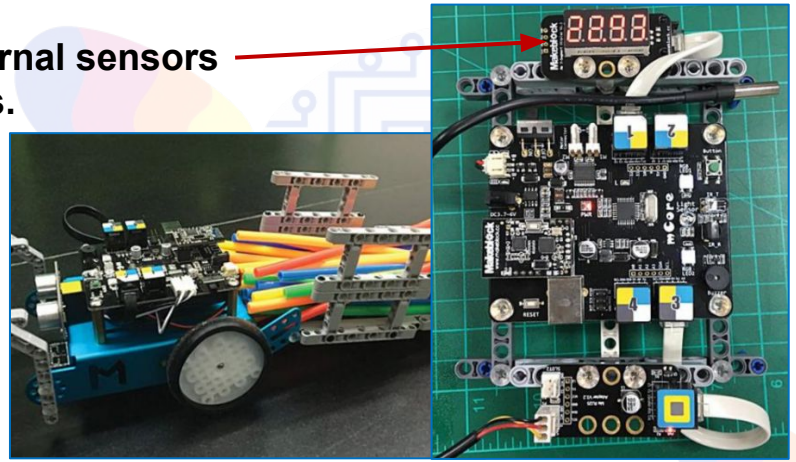


Both are compatible. Use these & similar blocks to expand the mBot structure.



Use the expanded structure to:

1. Mount external sensors & components.
2. Free imagination.
3. Explore possibilities.
4. Create more robots. & learn more.



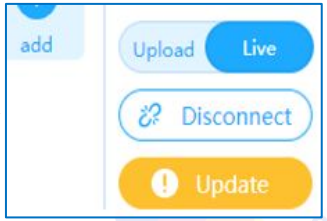
Let us now Learn how to use the mBot

Need for Firmware Update

A firmware update may be required on two occasions:

- When connecting for the first time.
- In case not used for some time.

To update, connect mBot to PC.
Select live mode. This screen appears.



If there is no update, it does not appear.

Connecting PC/Laptop to upload the Code

Once the code has been written, it must be uploaded to the mBot to play. Options are:

- **Use USB cable.**

- **Use Wireless dongle.**

Wireless in turn has two options:

- **Option 1 – Use in-built Bluetooth.**
  Version on PC must be 4.0.
- **Option 2 - In case it is not 4.0**
  use supplied 2.4 Ghz USB Dongle.

Takeaways…

- mBot is a family of robotic kits.
- Family keeps growing as the learning grows.

End of Lesson 22

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