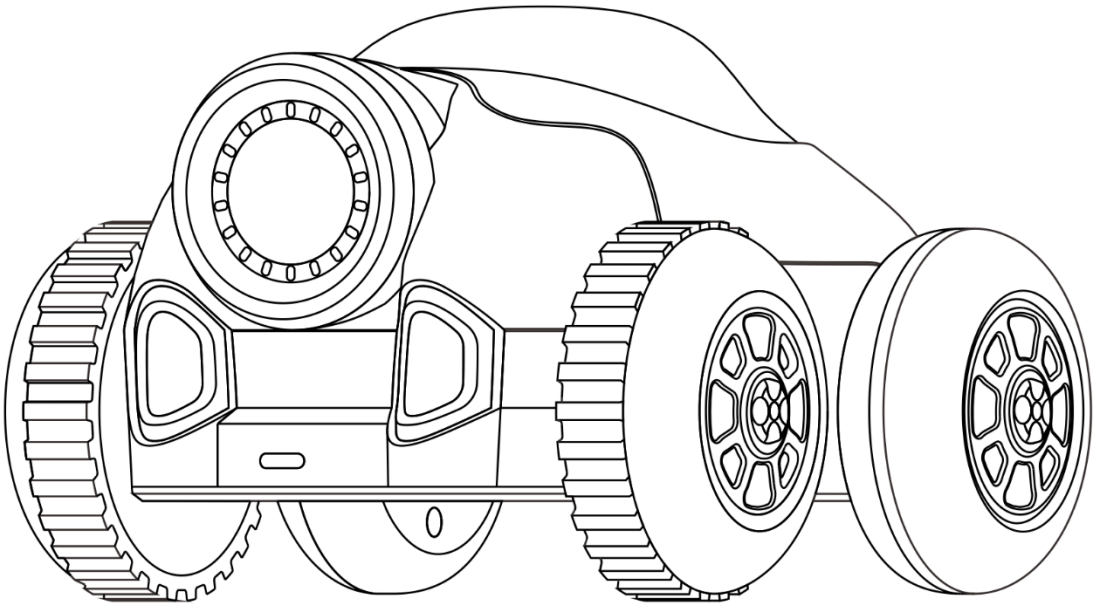
MaeGo

User Manual v1.0



Contents

1 Warning

1.1、Do not immerse the product or any part in water or any other form of liquid

1.2、Do not drop, throw, or kick the product as this may damage mechanical functions.

1.3、Do not allow MaeGo to roam freely or leave unattended near edges from which MaeGo could fall.

1.4、Do not allow MaeGo to work outdoor, cause the Lidar cannot work in sunshine.

1.5、It's recommended using MaeGo on a smooth surface.

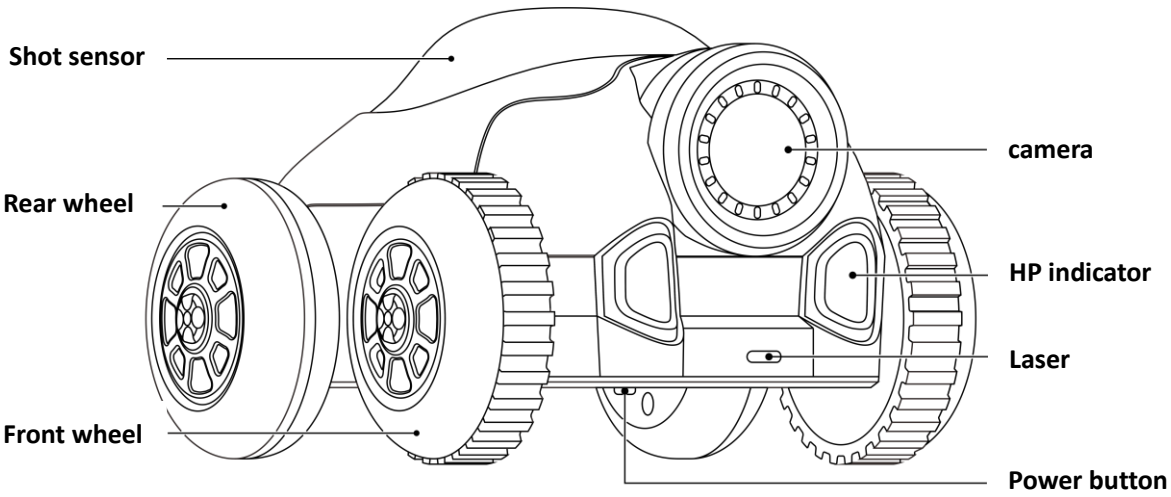
2 Overview

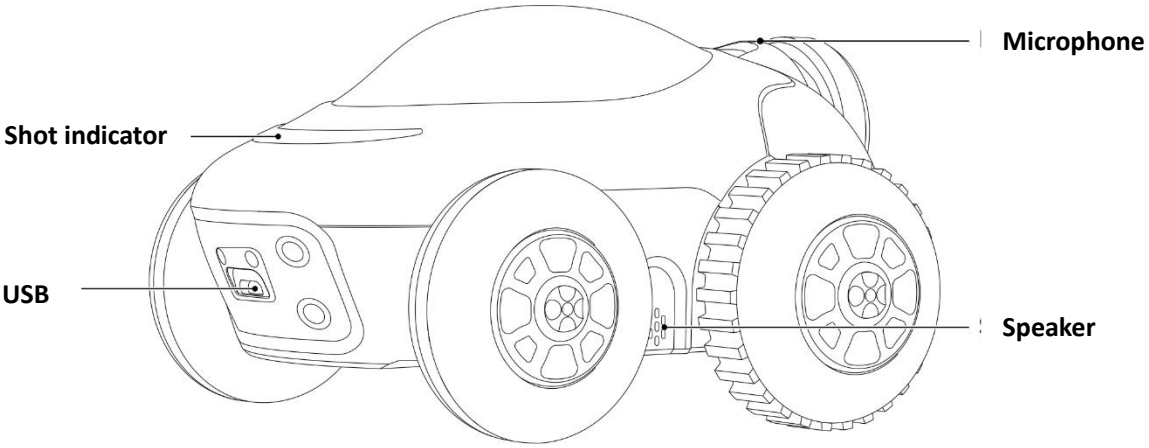
MaeGo is the world’ s first AI robot car that runs, stops, turns and performs preset tasks autonomously to play FPS games with you in reality.

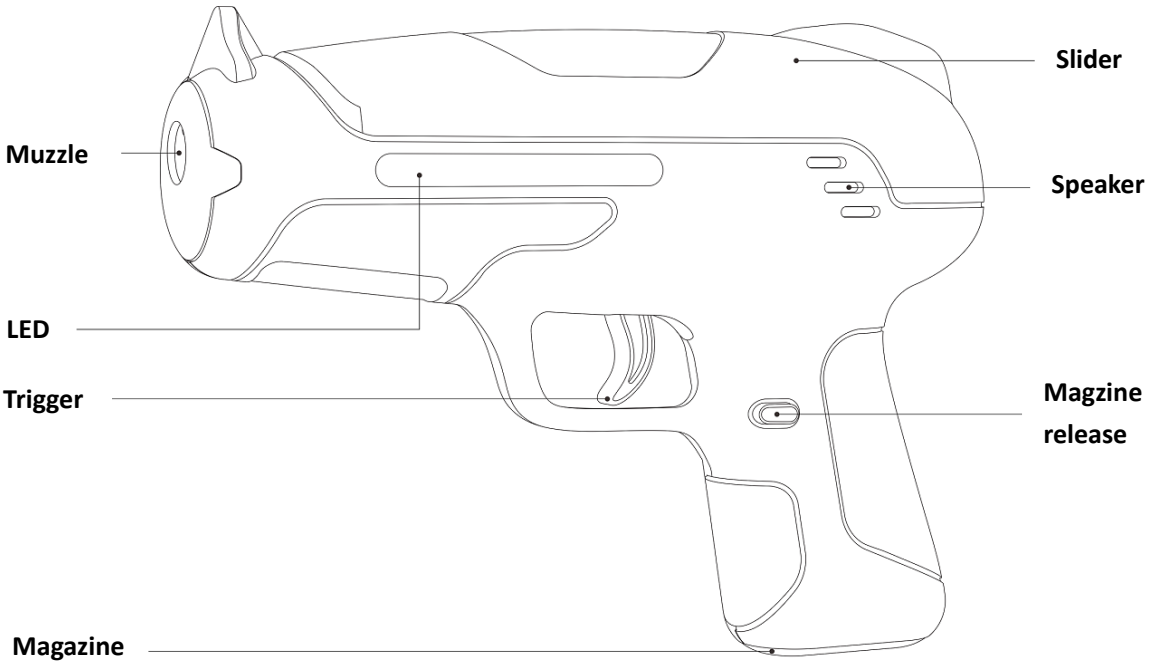
You can shoot infrared rays using the IR blaster or foam balls/darts from Nerf blasters at them in a multiplayer battle, having fun for hours with your families and friends.

MaeGo is more than an AI robot for shooting games, but also a coding platform to cultivate children's logic and strategic thinking and prepare them for school and future careers in STEM.

3 Diagram







4 Specifications

4.1 Robot

Size	150×114×82 (mm)
Weight	360g
Camera	Yes

Processor	Quadcore ARM Cortex-A35@1.3GHz
Controller	ARM Cortex -M4@120MHz
Lidar	Yes
IMU	Yes
IR	Yes
Microphone	Yes
Speaker	Yes
Battery	3.8V 1100mAh LiPo
Charger	USB
Running time	About 30 minutes
Charging time	About 60 minutes
Max speed	2m/s
WiFi	Yes
Coding	Pyhton, Blockly
Upgrade	OTA

4.2 IR Blaster

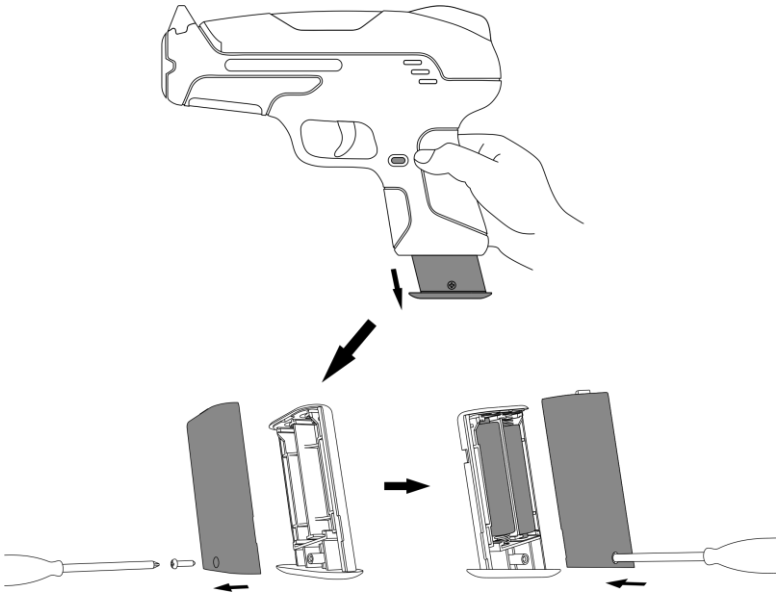
Size	176×132×40(mm)
Weight	160g (w/o battery)
IR	Yes
Max distance	10m
Speaker	Yes

LED	Yes
Battery	1.5V AAA×2 (Not Included)
Auto power off	Yes
Ejecting Magazine	Yes

5 Usage

5.1 IR blaster Battery Installation

2 AAA battery is needed for IR blaster. Please follow the steps bellow to install battery for IR blaster.



1: press the battery box (magazine) release and take the battery box out.

2: unscrew the cover of the battery box.

3: install the battery and screw the battery box cover back.

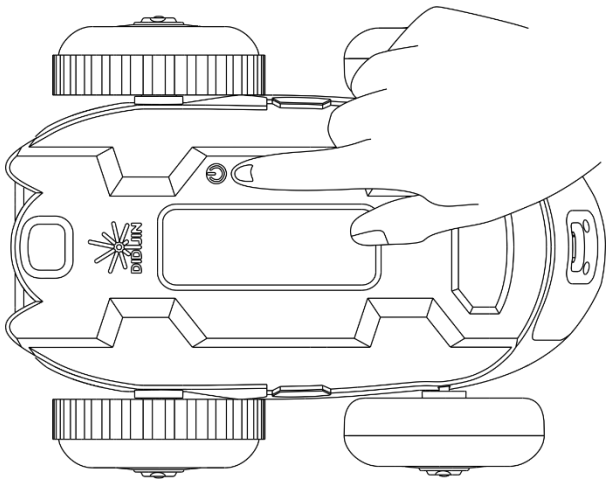
5.1 Robot Power On / Off

The power button is on the back of the Robot.

Actions for the button is:

Power on: press 1s

Power off: press 3s



LED indicators for power up:

Solid yellow: booting up

Blinks Red two times: battery is too low to power on, please charge it.

notes: the booting up process takes about 8s.

5.2 Mode switch

There are two modes for MaeGo, game and coding, in game mode, you can play target shooting game, MaeGo drive autonomously, in coding mode you can program it by Python or Blockly.

MaeGo enters game mode after power up by default, you can switch its

mode by double clicking its power button.

LED indicator:

Flash green 4 times : game mode

Turn on 1 second: coding mode

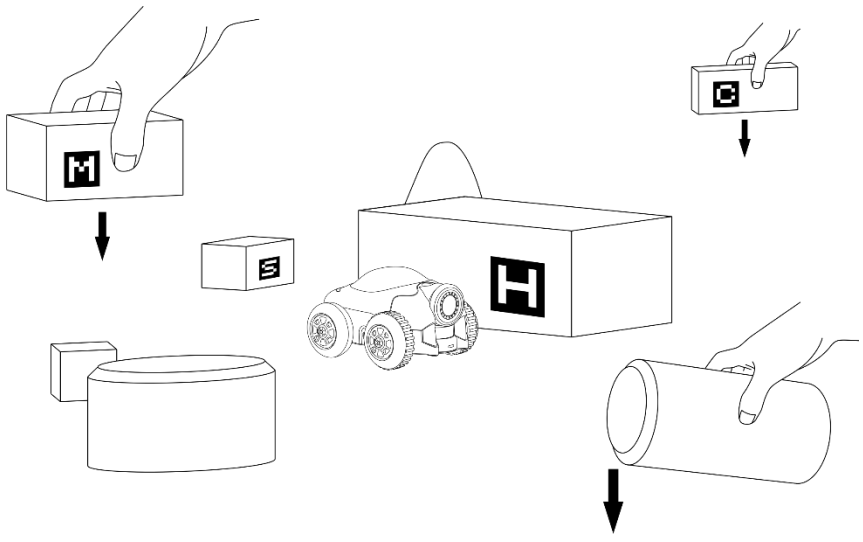
5.3 Game Mode

In the game mode, the robot will move autonomously, and you can shoot the MaeGo by the IR blaster or foam ball blaster.

Each time you shoot MaeGo, its shot indicator will flash and its HP indicator will change its color from green to yellow then to red. if MaeGo’ s HP indicator flash yellow or red means its HP is not enough, it will try to find a obstacle to hide and recover. If you can shoot MaeGo when its HP indicator flash red, you can shoot it over.

If MaeGo is shoot over, it can flip back in 20s for next game.

5.3.1 Place obstacles

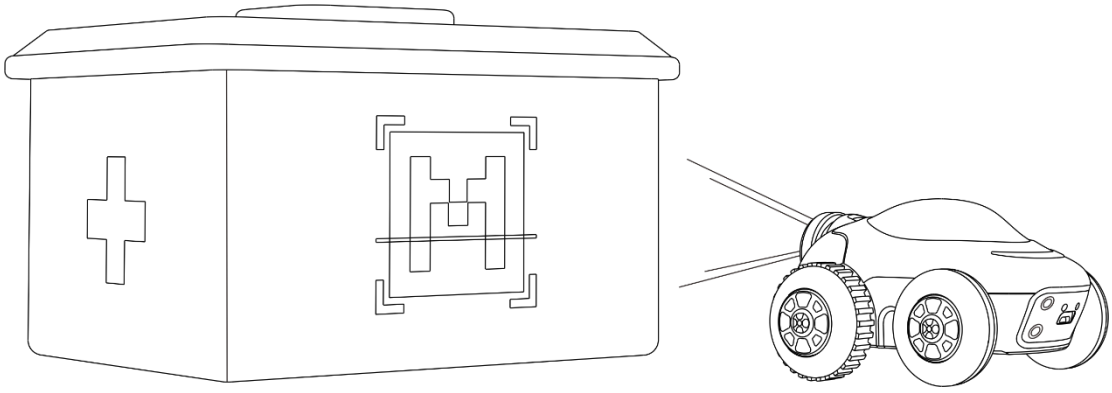


In the game mode, you can place some obstacles in the ground to add the fun of the game.

MaeGo scans the obstacles When it is running. If MaeGo gets shot, its HP (hit point) will drop, and it will try to find obstacles to hide from your shot. once it finds the obstacle where it can hide, it will enter recover mode to increase its HPs before coming out to challenge your shooting skill again.

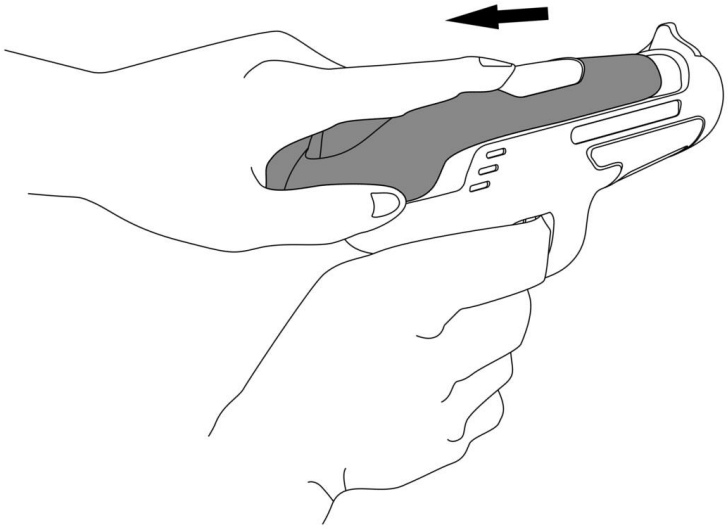
5.3.2 Vision Marker

Putting vision marker on obstacles can make the MaeGo enter different mode. For example, if the MaeGo finds vision marker "M" when it is running, it can double it HPs, which is going to be difficult for you to shoot it over.



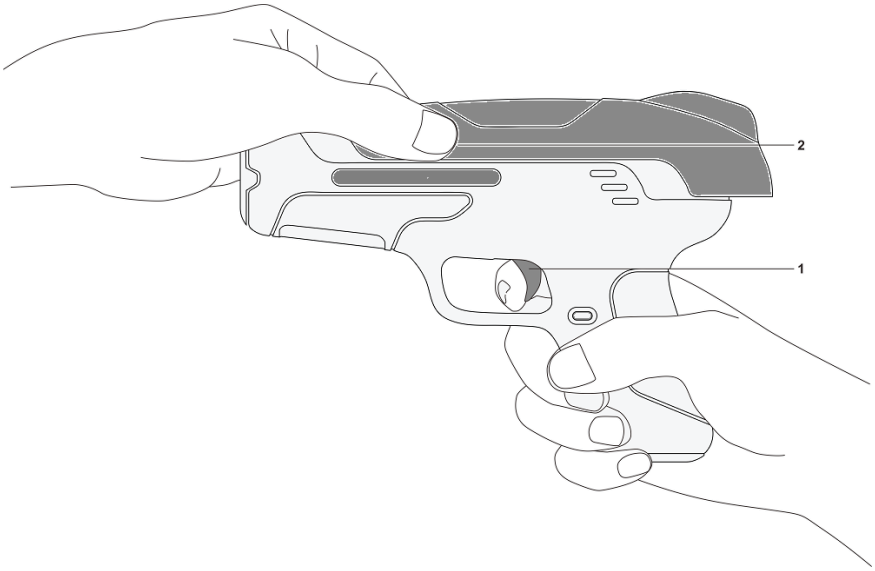
maker	means	comments
M	Medicine	Double MaeGo's HP
H	Home	MaeGo's home

5.3.3 Load IR Blaster



Before shooting, you need to pull the slide of the IR blaster to load the blaster. 10 times you can shoot after you load the Blaster. Each time you pull the trigger, the LED will flash, and speaker will play sound. if LED doesn’ t flash any more, you need to load the blaster again.

5.3.3 Switch IR blaster Bullet mode



The IR Blaster can be set to two different modes, and MaeGo’ s shot indicator flash different colors for this two different modes, GREEN for

mode 1, and RED for mode 2. So, you can set two or more IR blasters into 2 teams, to compete with your friends.

The IR blaster is set to mode 1 by default, In order to change the mode of the bullet, you need to pull the trigger first, then pull the slider, the IR blaster will switch between mode 1 and mode 2.

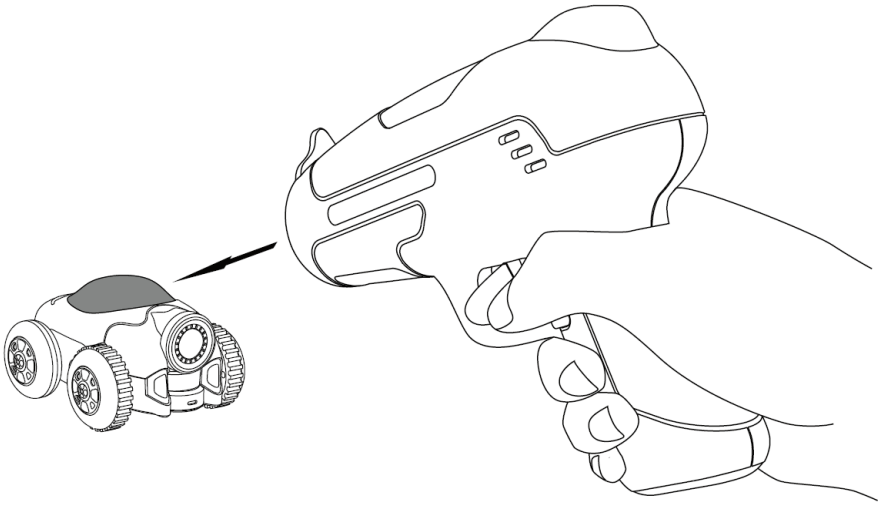
LED indicator:

Blink 1 time: mode 1

Blink 2 times: mode 2

5.3.4 Start Game

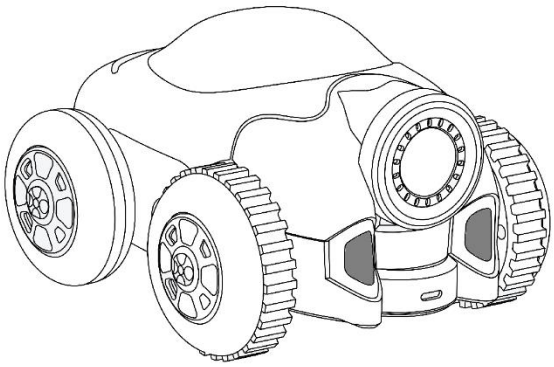
After powering on the robot and loading the IR blaster, shooting at the red semitransparent part on the top of robot can start the target shooting game.



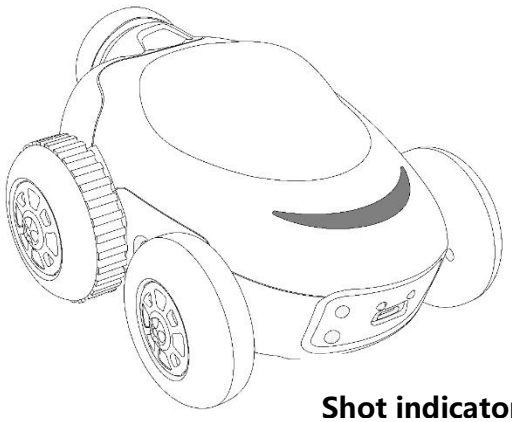
5.3.5 NERF Support

Besides IR blaster, foam ball blaster like NERF is also supported by MaeGo. So, if you have such a foam ball blaster, it' s going to be a more interesting way to play it with MaeGO.

5.3.6 LED Indicator



HP indicator



Shot indicator

The two front LEDs is the HP(hit point) indicator, if the robot gets shot, the color of the HP indicator will change from GREEN to YELLOW and then to RED. When the color is RED, means the HP is low, you can shoot it over.

The rear moon LED of the robot is the shot indicator, it flash if it gets shot.

And the color of the LED means different bullet mode.

mode	color		status	comments
game	red		flash	Battery low
	front	green	flash	Hp enough
		red	flash	Hp is not enough
	rear	Red	flash 1 time	gets shot by IR mode 1
		green	flash 1 time	gets shot by IR mode 1

5.4、Coding Mode

Beside game, MaeGo is also a coding platform, you can use Python or Blockly to program it.

5.4.1 MaeGo python

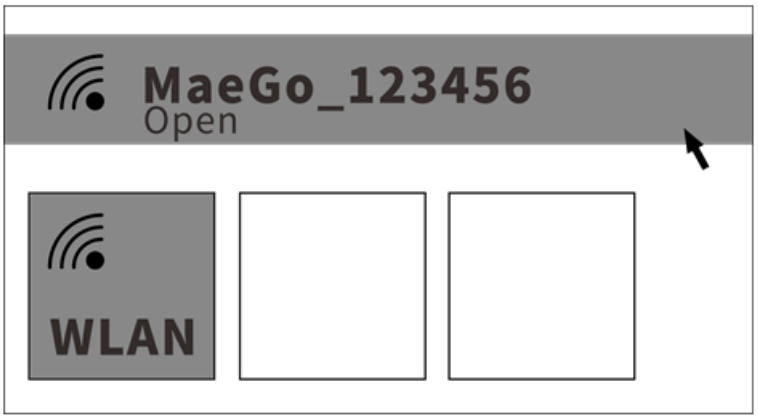
5.4.1.1 download MaeGo Python

http://www.didijin.com/index.php/maego-info/#Downloads

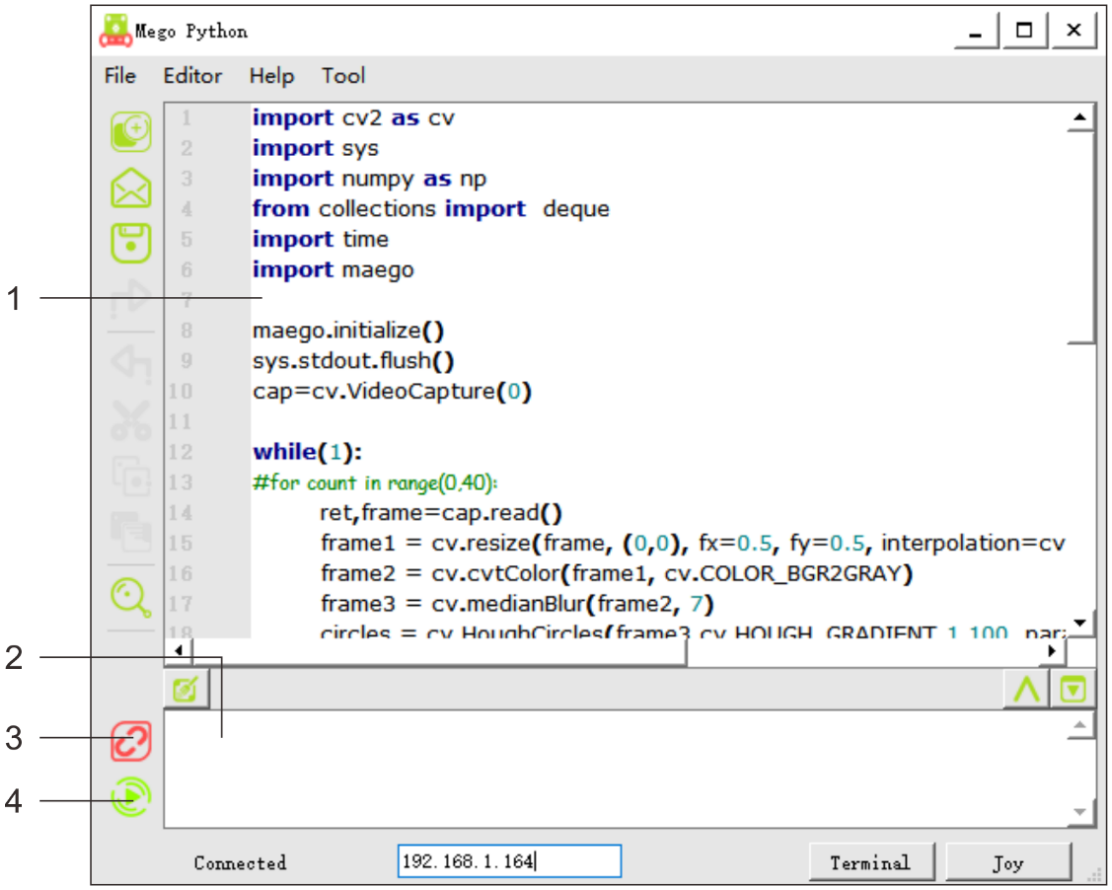
Notes: windows 7+ is required to install MaeGo Python.

5.4.1.2 connect PC to MaeGo’s WiFi Access Point

Open internet access menu of your computer and connect it to MaeGo’s WiFi access point MaeGo_xxxxxx (xxxxx is different on different product).



5.4.1.3 MaeGo Python



1：code editor area　　2：log display area

3：connect / disconnect to MaeGo　　4：run python code

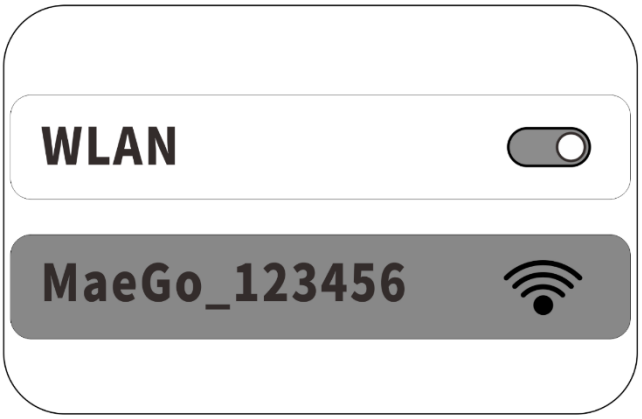
5.4.2 Blockly Coding

5.4.2.1 download MaeGo Blockly

http://www.didijin.com/index.php/maego-info/#Downloads

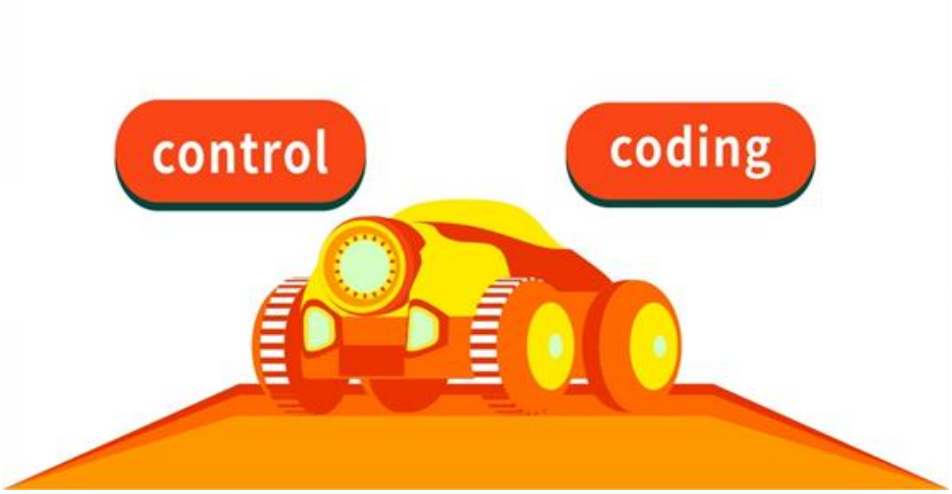
notes: only android version available now.

5.4.2.2 Connect Smart Phone to MaeGo' s WiFi Access Point

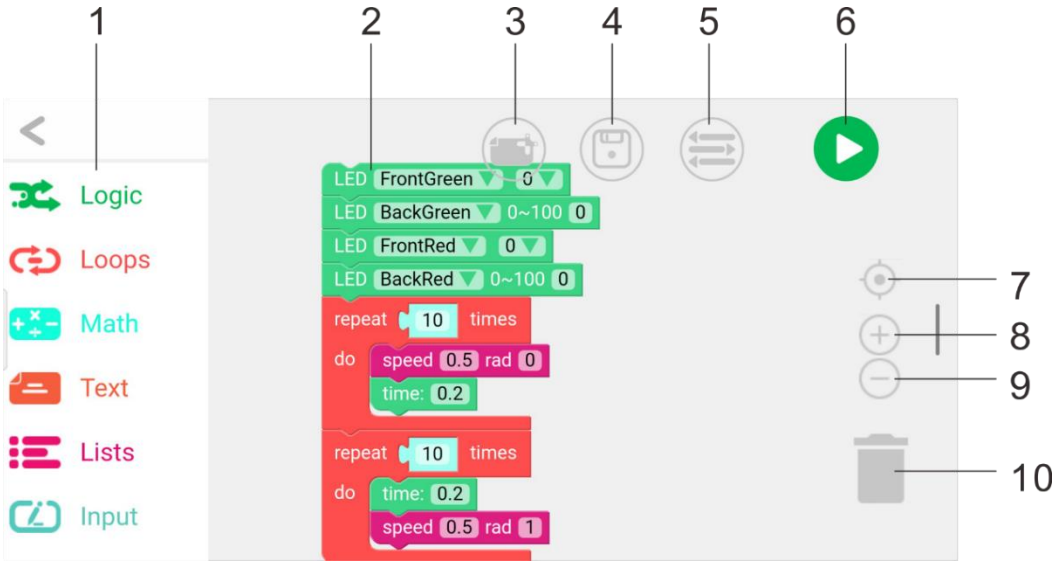


5.4.2.3 MaeGo APP

There are two functions on MaeGo App, blockly and fpv control.



5.4.2.4 Blockly



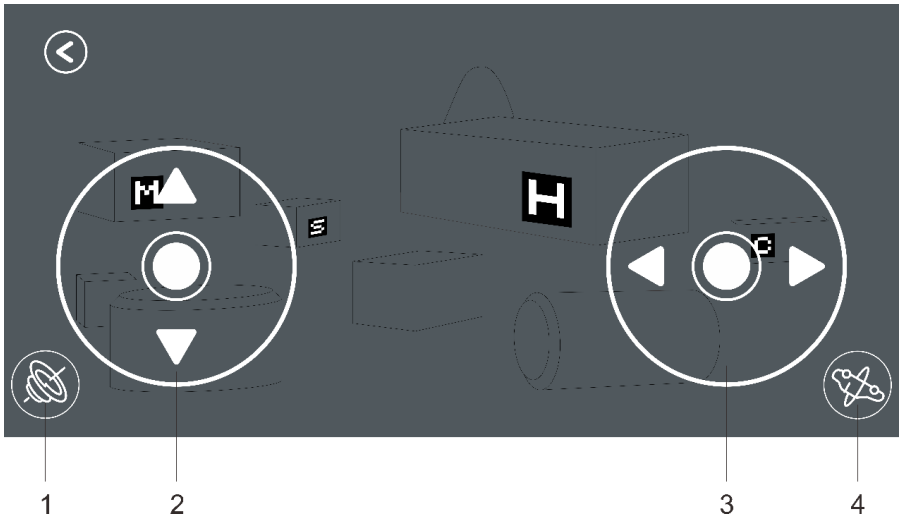
1: functions 2: edit area 3: new project 4: save project

5: project list 6: run code 7: back to center 8: zoom in

9: zoom out 10: delete

5.4.2.4 FPV control

This function can make MaeGo enter FPV mode, you can see what MaeGo see on your phone.

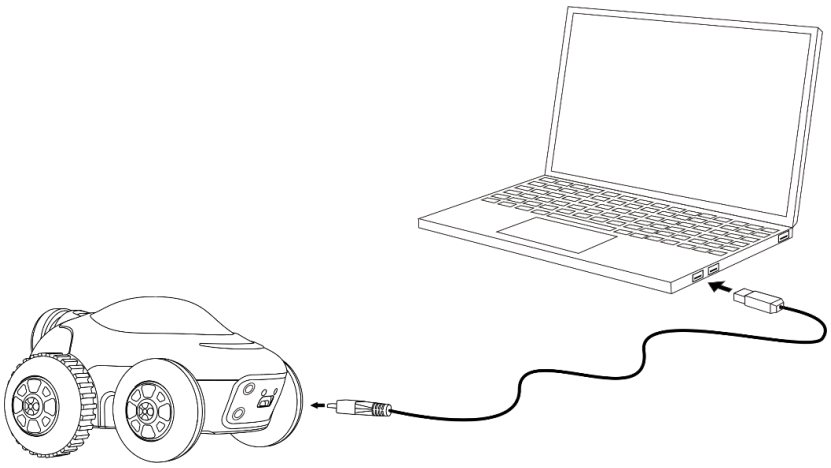


1: start gyroscope　　2: forward / backward

3: turn left / turn right　　4: flip

5.5 Upgrade

To upgrade the firmware of the MaeGo, you need to connect MaeGo to PC by the USB cable attached.



Then run MaeGo Python, and open the upgrade window in the tools menu, click the upgrade button to start the upgrade.

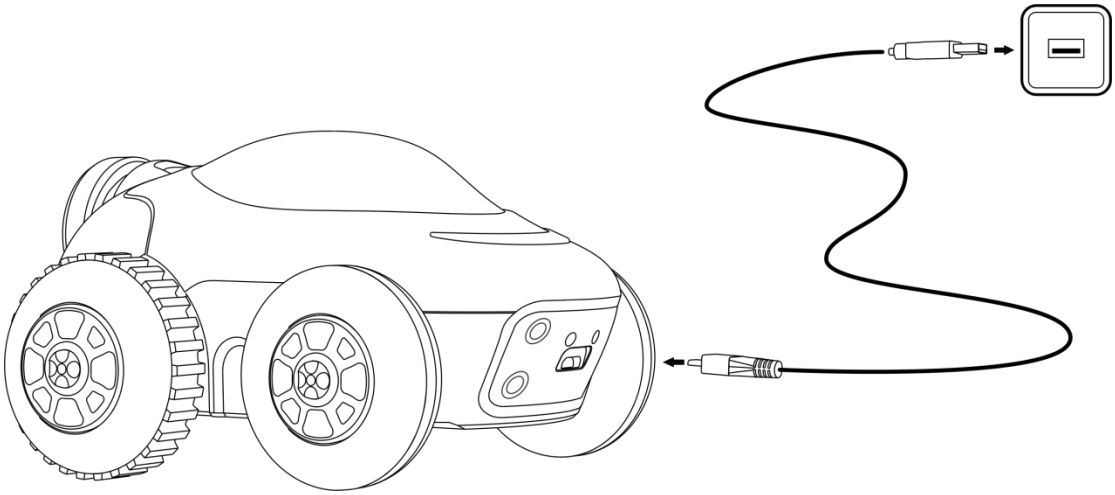
LED indicator:

flash yellow: upgrading.

Warning: Please make sure the battery is full before you start upgrading.

5.4 Charging

When the battery is low, connect MaeGo to a USB adapter to charge it.



LED indicator:

red：charging

green：full charged

Notes: charger with output current more than 2A is suggested. And it’s not recommended to charge it by a computer.

Appendix

Indicator States

Mode	color		status	notes
Poweron	Yellow		Solid	Powering on
	Red		Blinks 2 times	Battery low
Charging	Red		Solid	Charging
	Green		Solid	Charging finished
Mode switch	Green		Blinks 4 times	Switch to game mode
			Turn on 1 second	Switch to coding mode
Game	Front	Green	Blinks	Hp enough
		Red	Blinks	Hp is not enough
	Rear	Red	Blinks	Gets shot by bullet mode 1
		Green	Blinks	Gets shot by bullet mode 2
	Red		Blinks	Battery low
Coding				Programmed by user
upgrade	Yellow		Blinks	upgrading