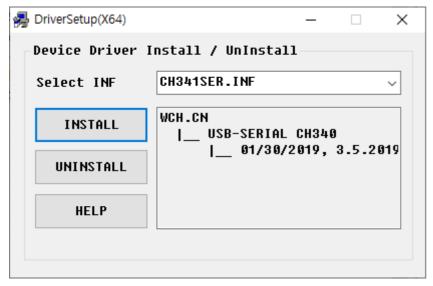


1. REQUIREMENTS

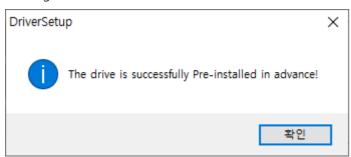
- Windows 10 (32bit or 64bit)

2. INSTALL THE DRIVER FOR THE BLE DONGLE

① Run SETUP.EXE in the installation folder before mounting the BLE dongle to a USB port.



② Pressing the INSTALL button installs the driver file.



3 When the BLE dongle is mounted on a USB port, the driver is recognized and recognized by Device Manager as USB-SERIAL CH340.



USB-SERIAL CH340(COM6)

3. PAIRING BLE DONGLE AND EX-MARS

The BLE dongle has a status LED and button switch. The status LED displays three states:

- ① There is no paired Bluetooth device and is waiting for pairing
 - : LED flashes at 0.3 second intervals, attempts pairing if there is an unpaired Xmas near the Bluetooth USB dongle (within 30 cm).
- 2 There is a paired Bluetooth device, but it is not connected
 - : LED flashes every second, press button switch for more than 3 seconds to ① status.
- 3 The paired Bluetooth device is present and connected
 - : LED ON, press button switch for more than 3 seconds to ① status.

4. INSTALLING THE EX-MARS CUBE SCRATCH

 $\widehat{\mathbb{D}}$ Run the 'ex-Mars Cube Scratch Installer $v \square$. $\square \square$.msi'.

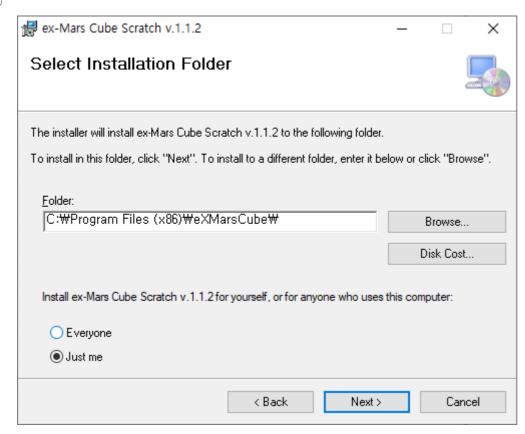
2

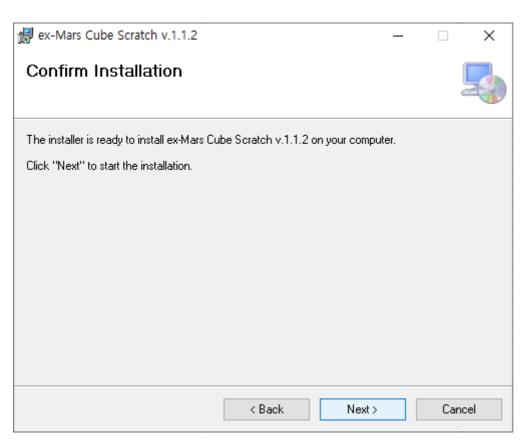
Welcome to the ex-Mars Cube Scratch v.1.1.2

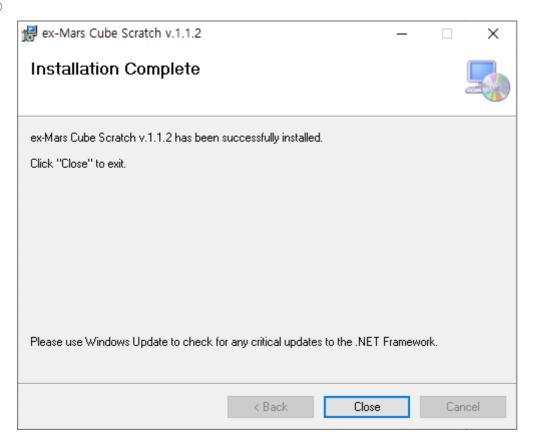
Setup Wizard

The installer will guide you through the steps required to install ex-Mars Cube Scratch v.1.1.2 on your computer.

WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.

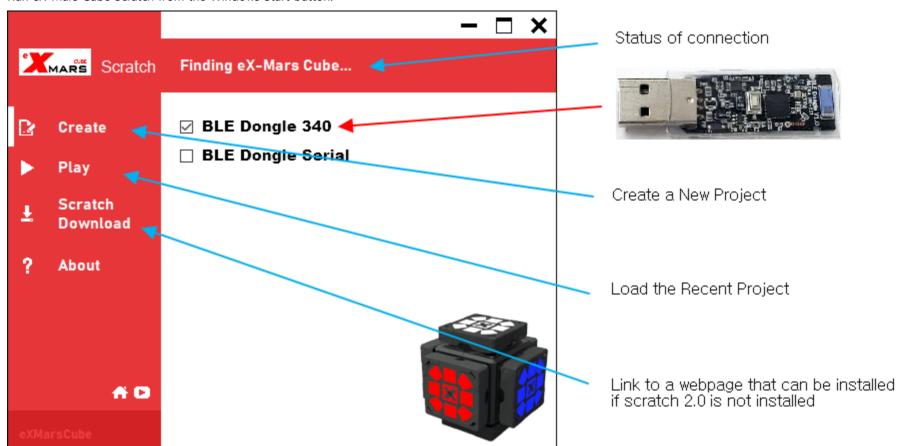






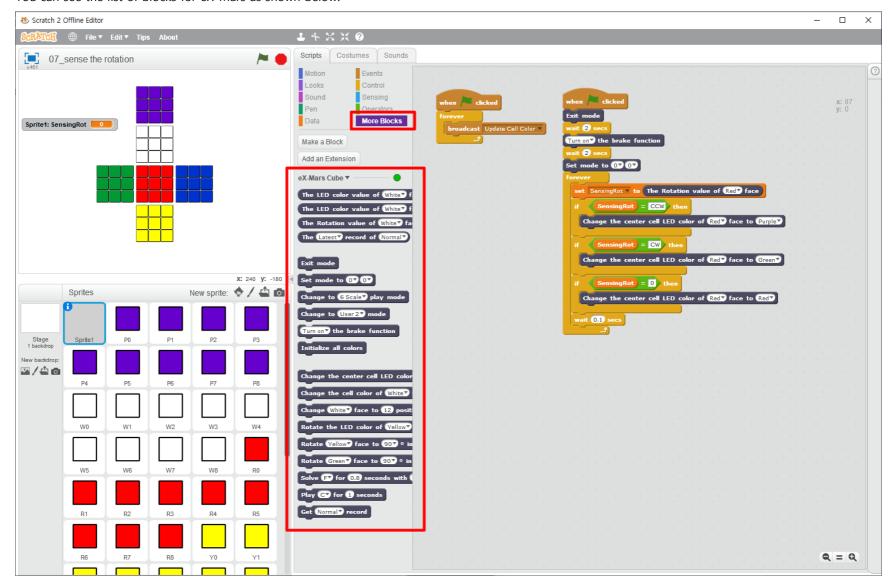
5. RUNNING THE EX-MARS CUBE SCRATCH

① Run eX-Mars Cube Scratch from the Windows Start button.



② If Scratch 2.0 is not installed, click the Scratch Download button in the figure above to download and install Scratch 2.0 from the official scratch site.

3 You can see the list of blocks for eX-Mars as shown below.



Example 1 - 01_Jinglebell.sb2

Run Jingle Bell Mode (Mode83) on eX-Mars.



Example 2 - 02_play music.sb2

Play a part of the children's song 'Mary Had a Little Lamb'.

```
when 🖊 clicked
broadcast Update Cell Color ▼
                                 vait 2.5 secs
                                Turn off the brake function
                                 vait 1 secs
                               Set mode to 0▼ 0▼
                                 wait 2 secs
                                Play Mi▼ for 0.6 seconds
                                Play Re♥ for 0.6 seconds
                                Play Do▼ for 0.6 seconds
                                Play Re▼ for 0.6 seconds
                                Play Mi▼ for 0.6 seconds
                                Play Mi▼ for 0.6 seconds
                                Play Mi▼ for 1.2 seconds
                                Play Re♥ for 0.6 seconds
                                Play Re▼ for 0.6 seconds
                                Play Rev for 1.2 seconds
                                Play Mi▼ for 0.6 seconds
                                Play Mi▼ for 0.6 seconds
                                Play Mi♥ for 1.2 seconds
```

Example 3 - 03_get the dice number.sb2

Run dice function of eX-Mars and read the dice.

```
when clicked

forever

broadcast Update Cell Color v

wait 2 secs

Set mode to 8 0 v

wait 3 secs

repeat until dice < 7

Get dice number record

wait 1 secs

set dice v to Dice number record
```

Example 4 - 04_select a mode by self rotation.sb2

Example of automating the process of manually selecting modes in eX-Mars.

```
when 🦰 clicked
broadcast Update Cell Color ▼
                                wait 2 secs
                                Set mode to 0▼ 0▼
                                 rait 2 secs
                                Exit mode
                                 rait 2 secs
                                Turn off▼ the brake function
                                wait 2 secs
                                set Main ▼ to 3
                                set Sub ▼ to 0
                                repeat (Main )
                                 Rotate Purple▼ face to 90▼ o in a CW▼ direction
                                  wait 1 secs
                                Rotate Yellow▼ face to 90▼ o in a CW▼ direction
                                 wait 2 secs
                                 repeat Sub
                                 Rotate Purpley face to 907 o in a CWY direction
                                Rotate Green▼ face to 90▼ o in a CW▼ direction
```

Example 5 - 05_user solving.sb2

After the user solves Mode 20, press the 'Space key' to show the game history.

```
when clicked

forever

broadcast Update Cell Color v

wait 2 secs

Turn on the brake function

wait 2 secs

Set mode to 2 0 0 v

wait 3 secs

wait until key space v pressed?

Get 20~28 mode v record

wait 1 secs

set Record v to The Latest record of 20~28 mode v

say Record for 2 secs
```

Example 6 - 06_bot solving.sb2

Example of automating the process of manually solving in Example 5.

```
broadcast Update Cell Color ▼
                                  ait 3 secs
                                Turn off▼ the brake function
                                Change to User3▼ mode
                                Set mode to 2▼ 0▼
                                  ait 10 secs
                                Solve FY for 0.8 seconds with PurpleY as front face
                                Solve R'▼ for 0.8 seconds with Purple▼ as front face
                                Solve F▼ for 0.8 seconds with Purple▼ as front face
                                Solve L▼ for 0.8 seconds with Purple▼ as front face
                                Solve L▼ for 0.8 seconds with Purple▼ as front face
                                Solve F'▼ for 0.8 seconds with Purple▼ as front face
                                Solve R♥ for 0.8 seconds with Purple♥ as front face
                                Solve F▼ for 0.8 seconds with Purple▼ as front face
                                Solve L▼ for 0.8 seconds with Purple▼ as front face
                                Solve L▼ for 0.8 seconds with Purple▼ as front face
                                Solve F▼ for 0.8 seconds with Purple▼ as front face
                                Solve FV for 0.8 seconds with PurpleV as front face
```

Example 7 - 07_sense the rotation.sb2

This example changes the color of the center block of red faces by detecting the direction of rotation when the user rotates the red faces.

```
when clicked

forever

broadcast Update Cell Color

wait 2 secs

Turn on the brake function

wait 2 secs

Set mode to 0 0 0 0 forever

set SensingRot to The Rotation value of Red face

if SensingRot = CCW then

Change the center cell LED color of Red face to Purple forever

if SensingRot = 0 then

Change the center cell LED color of Red face to Green

wait 0.1 secs
```

This document describes how to use scratches for eX-Mars and Bluetooth USB dongle users, and does not accept questions about coding content in this document.