

# New Physical Computing Software Options

## Scratch 3.0 with micro:bit

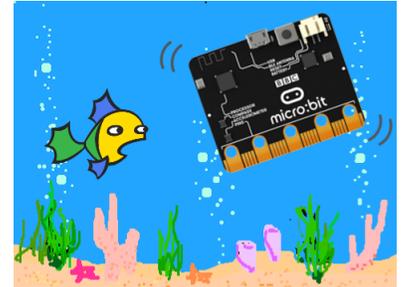
### BETA VERSION

The Scratch 3.0 micro:bit extension lets you control your micro:bit wirelessly using Scratch programming blocks. You can use the tilt sensor or push buttons to design a whole new way of interacting with your Scratch projects. Use the LED matrix to display information or create light animations.

**NOTE:** This is an experimental prototype for the upcoming Scratch 3.0 micro:bit extension. The micro:bit extension will be officially released along with Scratch 3.0 later in the Summer of 2018. This prototype works on Mac, ChromeOS, Linux, and Windows 10.

Go to this page and follow the directions to download a file you will copy to the micro:bit. Once this file is on the micro:bit, you will be able to use Scratch 3 with the micro:bit.

[llk.github.io/microbit-extension/iste18/](https://llk.github.io/microbit-extension/iste18/)



## microBlocks

### PRE-ALPHA VERSION (works best with micro:bit)

[Microblocks.fun](https://Microblocks.fun)

MicroBlocks is a new programming language inspired by Scratch that runs right inside microcontroller boards such as the micro:bit, the NodeMCU and Arduino boards. Support for the Circuit Playground Express is also planned.



MicroBlocks does not need a visual simulator since the actions you program are automatically run live on the Micro:bit. You don't need to upload or download the program either since it is transferred to the board as you program. Currently, microBlocks runs in a simple standalone interface built in GP. Its functionality should be embedded in SNAP! in the near future.

The microBlocks system allows for dynamic, parallel and interactive programming, just like in Scratch, but with the twist of letting your projects run autonomously inside the board without being tethered to a computer. Thus, microBlocks provides the immediacy and liveness of tethered blocks programming, while supporting real-world applications that require precision timing, autonomous operation, or physically embedding the processor into projects. For example, one might write a program to record acceleration data, then embed the microcontroller and a small battery in a model rocket to explore G-forces at launch time.

## Cognimates

### PLAY WITH ARTIFICIAL INTELLIGENCE

[codelab.cognimates.me](https://codelab.cognimates.me)

A Scratch-like interface allows you to play with artificial intelligence and machine learning, including work with Alexa, vision recognition, Twitter, a variety of robotics systems, and more.

Visit [mitmedialab.github.io/cognimates-website/about](https://mitmedialab.github.io/cognimates-website/about) for information, project samples, research, and more.

