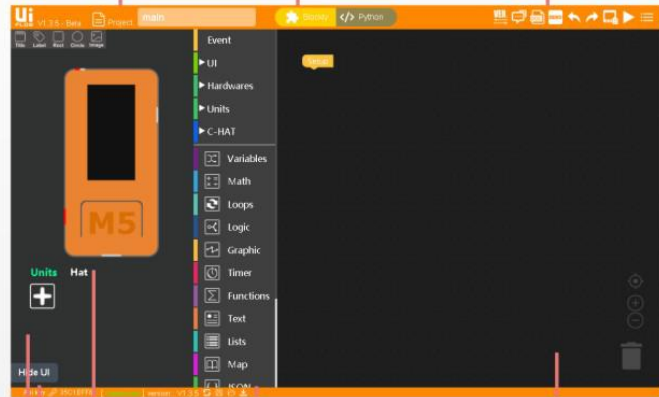# UIFlow Introduction

Project Title
Enter your project name here. Whenever you download a program to your computer or M5StickC it will retain this name.

Blockly</>Python
This button allows you to see the Python code that your blocks have generated and edit that code.

Menu Tab
From this bar you can access the forum, documentation, examples undo and redo actions upload files to the M5GO, run your code on the device and alter the settings.

UI Preview
Drag text and visual elements on to the M5StickC screen to create a UI. Blocks will appear in the UI panel to allow you to manipulate these elements.

Code blocks menu
Here we can find all the blocks we need to create programs.

Units
Here we can pick which Units (Sensors/Actuators) we want to use in our project and which port we plan to connect them to.

Hide UI
Hide the Ui Manager panel to free up more space in the coding area.

Coding Area
The coding area is where we drag blocks to, in order to build our program.

Code Blocks Menu

The code block menu contains all the blocks you need to create a vast amount of programs. From Hardware blocks which directly interface with the hardware of the M5StickC to maths for calculations and Logic to tie it all together. Work slowly through the basic blocks first before you move on to anything too advanced.

Event
Here you can find Loop and button press event blocks.

Hardwares
Program the internal peripherals of the M5StickC such as the LED, IMU, and Power management.

Units
Whenever you add a unit, it will appear hear along with all the code blocks related to it.

Math
Maths is essential in programming. Here you will find all the blocks necessary to make both simple and complex calculations.

Logic
Every program needs logic to decide which action to take when an event occurs.
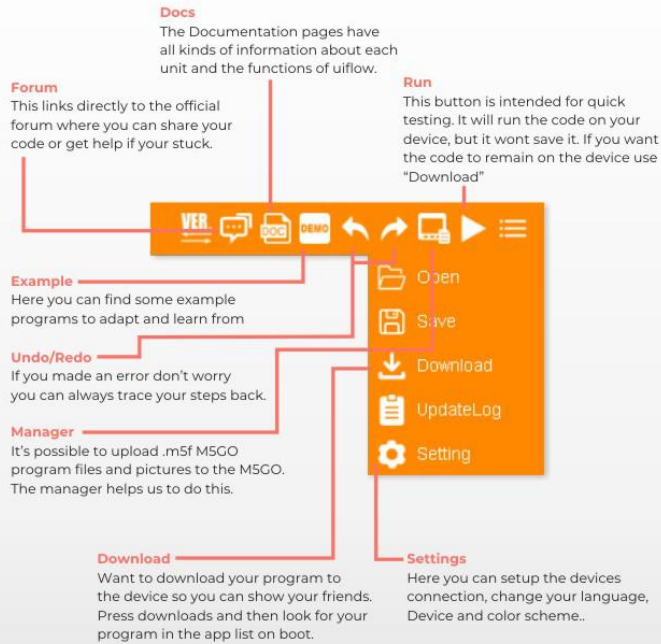
Advanced
Advanced blocks for experienced coders. You'll find blocks for networking, digital/analog pin control and more here.

Operations Menu

A closer look at the menu tab

This Main navigation bar gives you access to the forum, documentation pages, example programs undo and redo actions, file uploader, code on the device and alter the settings.

Docs
The Documentation pages have all kinds of information about each unit and the functions of uiflow.

Forum
This links directly to the official forum where you can share your code or get help if your stuck.

Run
This button is intended for quick testing. It will run the code on your device, but it wont save it. If you want the code to remain on the device use "Download"

Open
Save
Download
UpdateLog
Setting

Example
Here you can find some example programs to adapt and learn from

Undo/Redo
If you made an error don't worry you can always trace your steps back.

Manager
It's possible to upload .m5f M5GO program files and pictures to the M5GO. The manager helps us to do this.

Download
Want to download your program to the device so you can show your friends. Press downloads and then look for your program in the app list on boot.

Settings
Here you can setup the devices connection, change your language, Device and color scheme..

Coding Blocks Explained

Setup
The setup block is essential for any program to run. It defines the first thing that will happen when the code is uploaded or the device is switched on. It will only run once.

Setup

Loop
The loop block will run any code placed inside it indefinitely . That means unless you turn off the device it will continue to run without stopping.
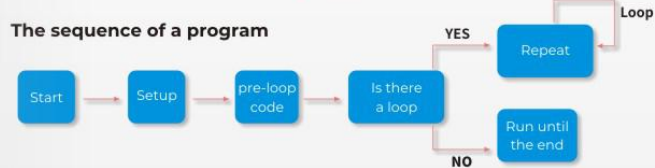
Loop

Wait
The wait block will delay your program for however many seconds you input. Sometimes this is necessary to see the result of some code that might have otherwise run so fast that you blinked and missed it.

Wait 1 s

The sequence of a program

Start → Setup → pre-loop code → Is there a loop → YES → Repeat → Loop

Is there a loop → NO → Run until the end

Code block connection
UIFlow uses blockly, a block based programming language. Blockly works a little bit like a jigsaw puzzle. When blocks are moved close together they snap into place and change color. This means they are connected and you have successfully created a chunk of code. If they don't change colour that means they are not connected and will not be run as part of the program.

Setup Loop   Setup Loop

UIFlow Tips
To duplicate a block, double click it with the left mouse button or right click and choose duplicate from the list.
To delete a block you can drag it back to the coding blocks menu or to the trash bin in the lower right corner.
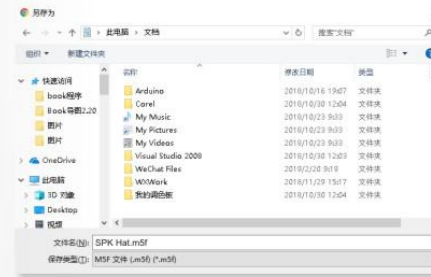
Saving and uploading programs

As we move through the lessons in this course we will go on to create more complicated programs which can not be finished in a short time.Therefore we can save our programs to our computer and upload them at a later date to continue working on them. It's always a good habit to save your work in case of a crash. To do this we can click save from the drop down menu and choose where we want to save it to. When we want to upload again, simply press open and find the .m5f file that we previously downloaded. Your program will be restored from where you left off.
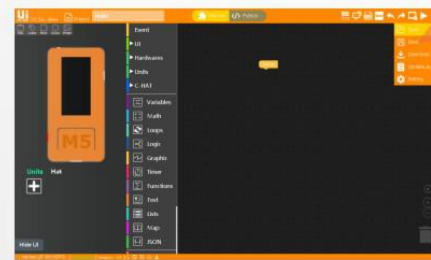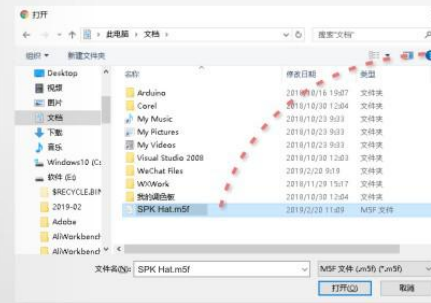
01 Open the Uiflow website. **(flow.m5stack.com)**

02 After you've finished coding click "Save"

03 Your program will be saved as a **.m5f** file

04 When you want to open a .m5f file, simply click **"Open"**

05 Find the file you previously downloaded and click open