Getting started with Scratch and PiFace

Scratch is a great graphical way of programming and can be set up so that it can read the inputs and control the outputs of PiFace.

This document contains the steps which must be followed to allow Scratch to talk to PiFace. If you download a premade image, then you don't need to follow these steps as it has been made for you. However, if you want to use your own image then you will need to go through the following steps. Note that this should only need to be done once, and is not needed each time you run Scratch.

These instructions are based on the steps detailed here:
http://wiki.scratch.mit.edu/wiki/Mesh

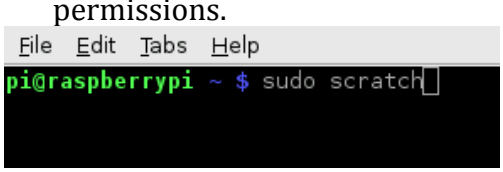
Before Starting!

Before following these steps you should have set up your Raspberry Pi so that you can run the PiFace emulator. Instructions for this are available in another document.

Enable Mesh

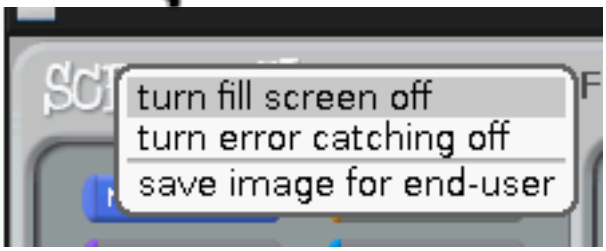
To use PiFace with Scratch first we need to enable Mesh functionality. This only needs to be done one. However, because it makes changes to Scratch itself, we need to use sudo. Once the changes have been made, you should not use sudo with Scratch.

1. Start the graphical desktop if you have not already by logging in and typing startx.
2. In a terminal type sudo scratch to start Scratch with the necessary permissions.

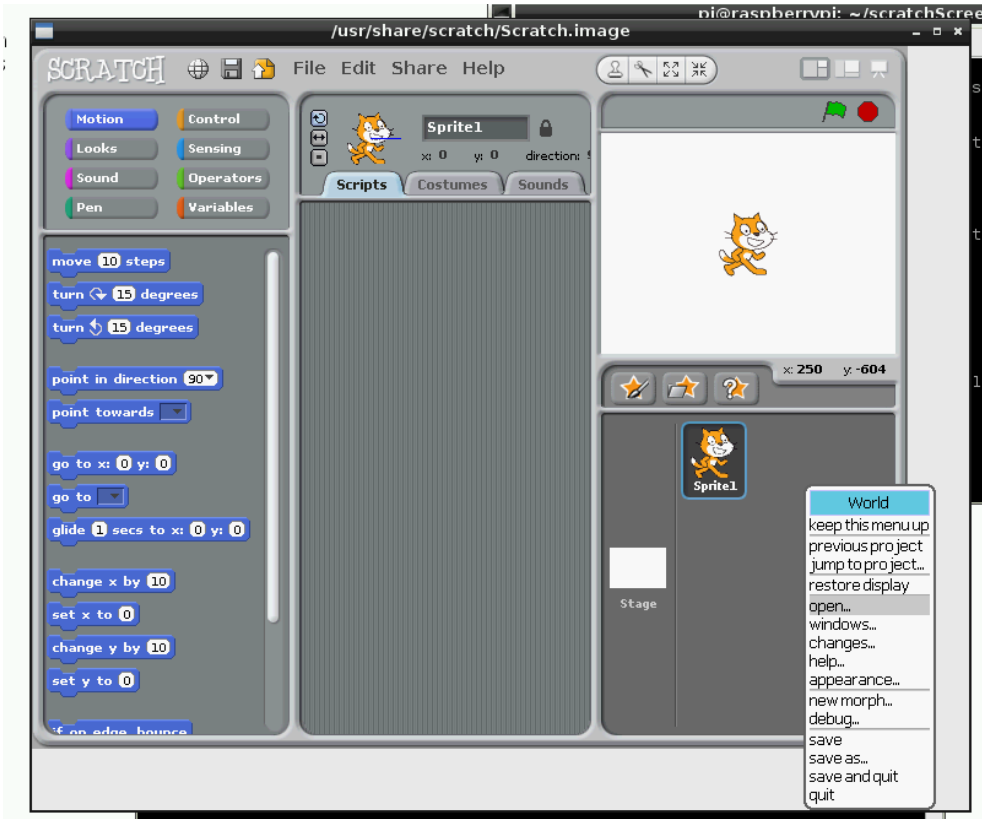


3. Hold down Shift key and click on the **R** in the Scratch logo.

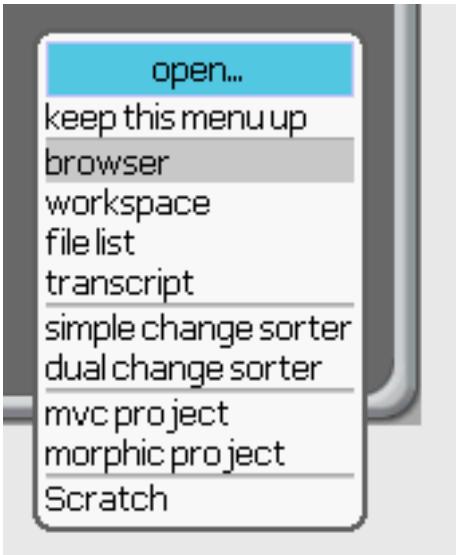
4. Click **turn fill screen off**.



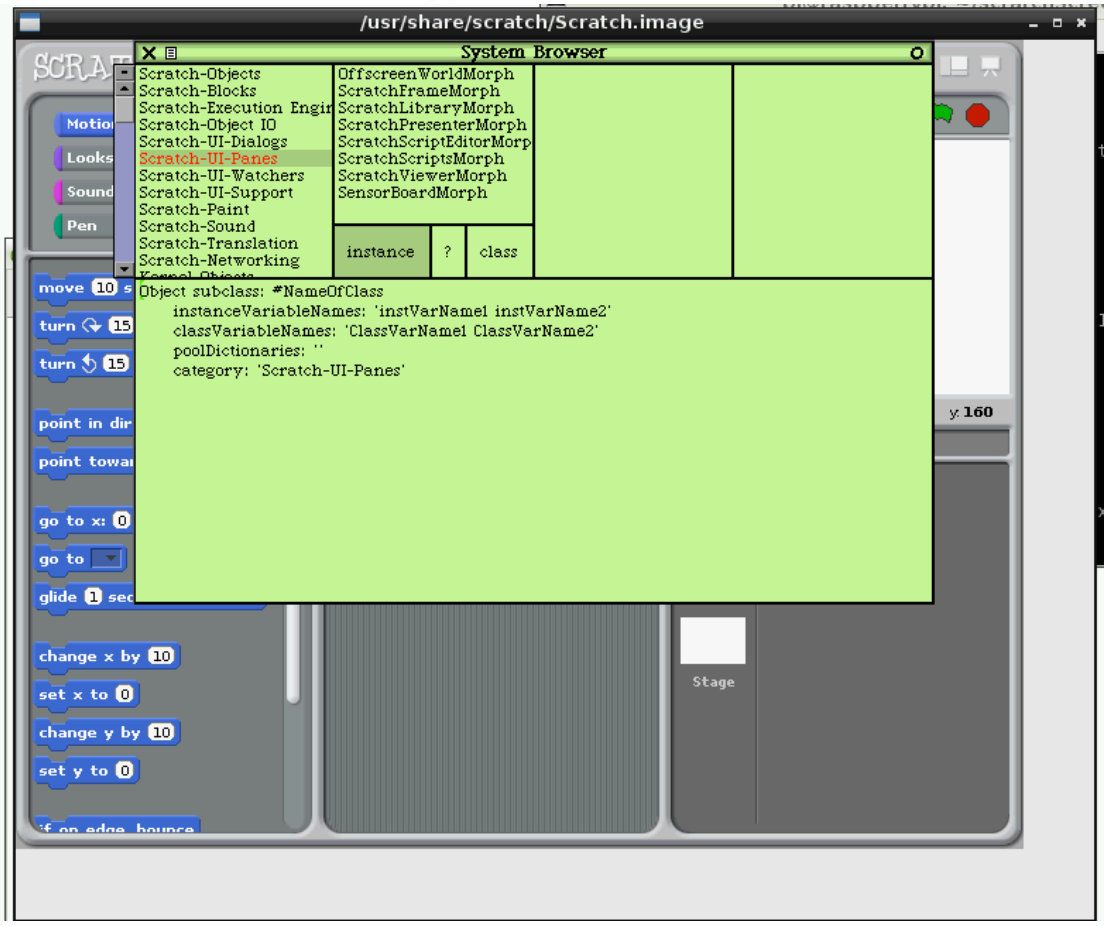
5. A white area at the bottom right side of the window will appear. Click on the white area and select **open...**.



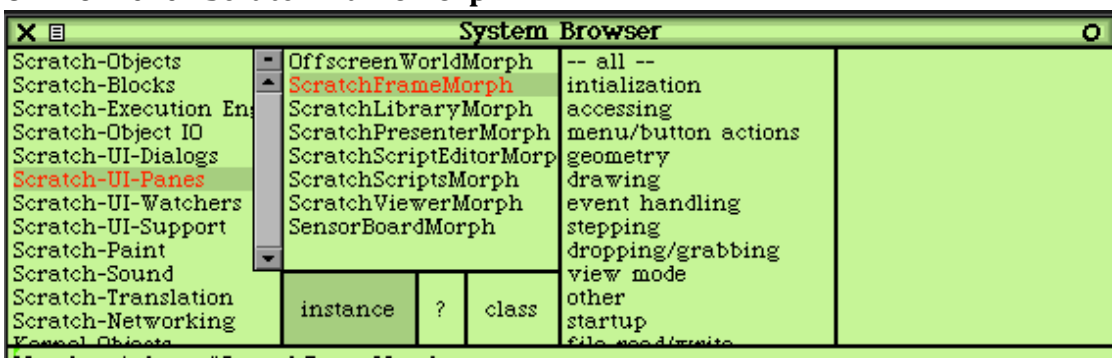
6. Click **browser**.



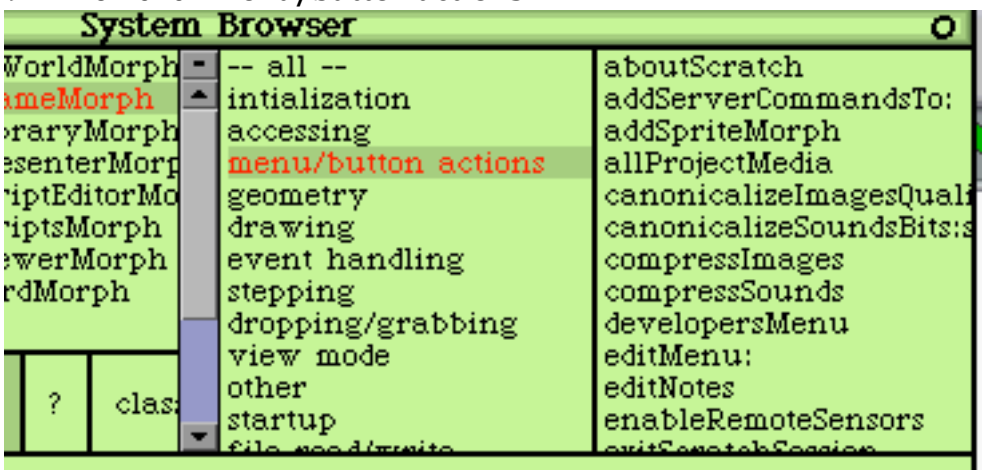
7. The *System Browser* will appear. Click **Scratch-UI-Panes**



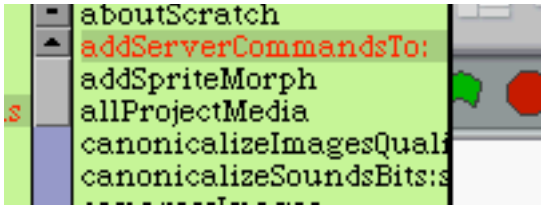
8. Now click **ScratchFrameMorph**.



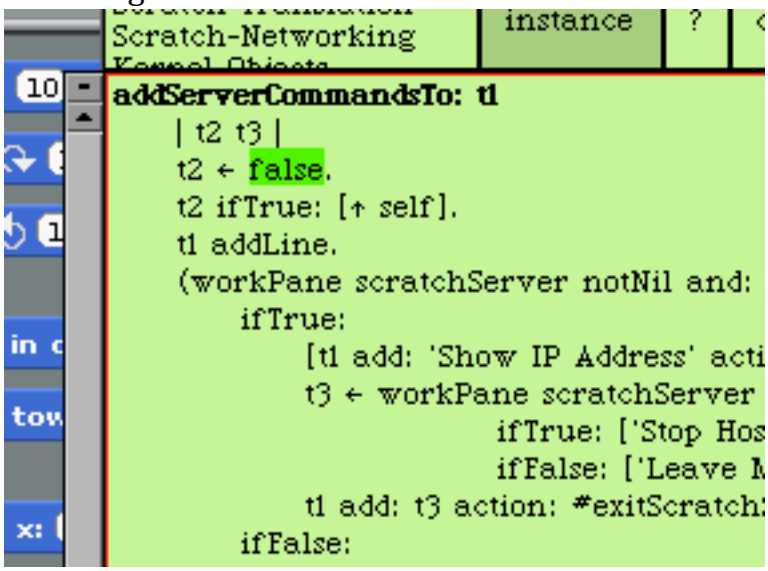
9. Then click **menu/button actions**.



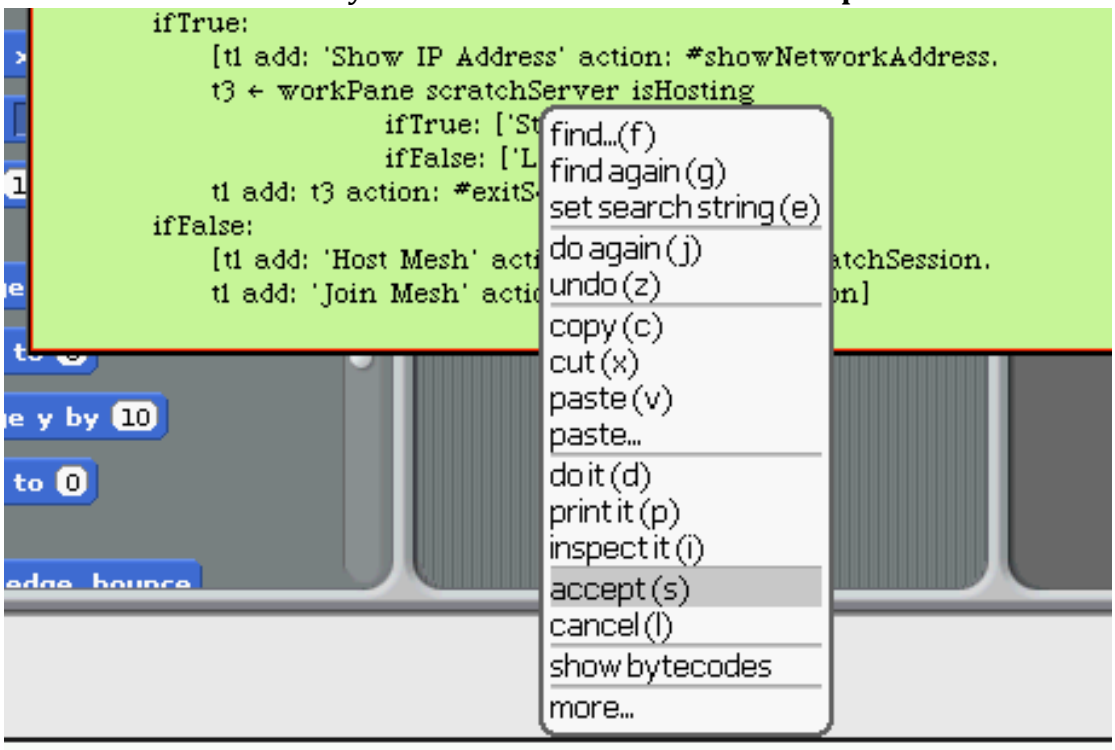
10. Then click **addServerCommandsTo:**.



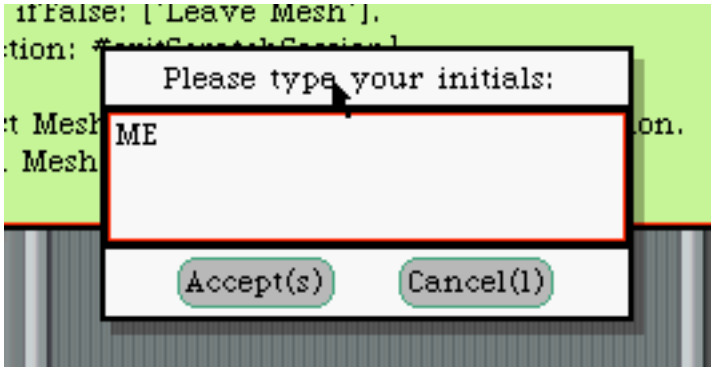
11. Change the **t2 ← true** text in the code to **t2 ← false**.



12. Hold the Control-Key and click on the code. Click **accept**.

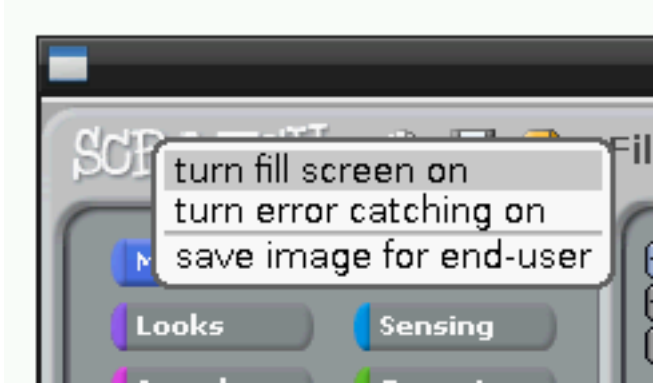


13. In the box that appears, enter in your initials and click **accept**.

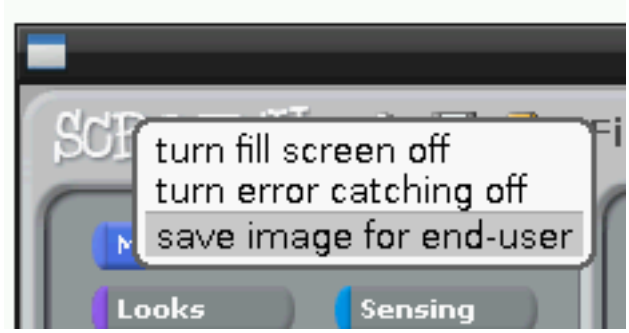


14. Click the cross to close the System Browser.

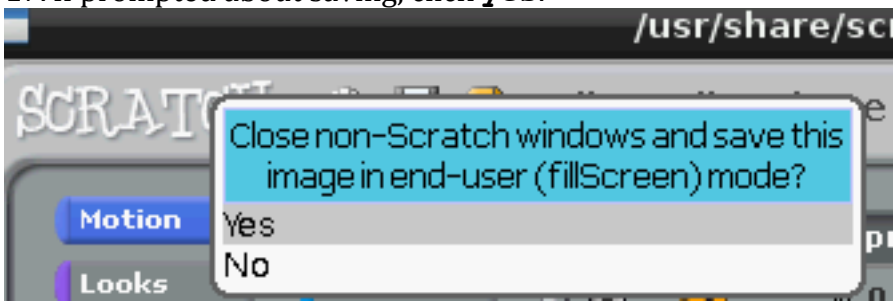
15. Shift-click the R again and select **turn fill screen on**.



16. Shift-click the R again and select **save image for end-user**.

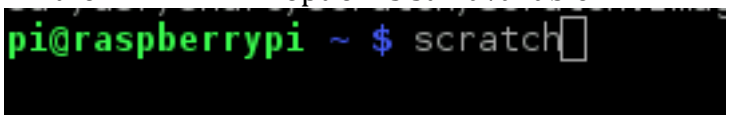


17. If prompted about saving, click **`yes`**.



18. To check that Mesh is now enabled, hold down Shift and click **`Share`**. Check to see that **`Host Mesh`** option is available.

19. Close Scratch.
20. Start Scratch with normal permissions i.e. type **`scratch`** (no sudo required), or double-click the desktop icon. Shift-click **`Share`** and check the **`Host Mesh`** option is still available.



Details of how to use Scratch and Mesh are available in another document.