

Experiments with input devices

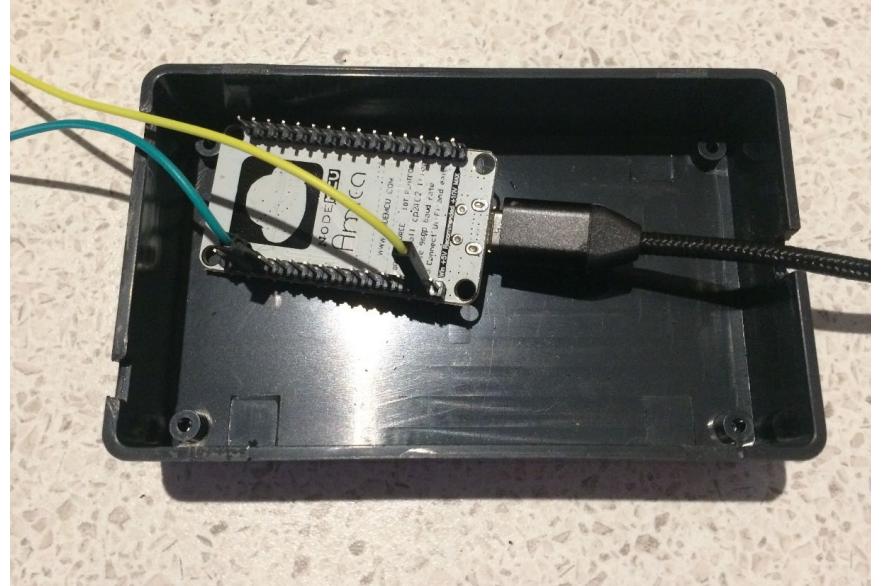
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Purchased materials

I bought the necessary materials, such as outdoor lights, Wi-Fi switches (to replace the in-line switches), a solar panel and more. I ran into a few problems as I started setting this project up, however.

These were problems such as Wi-Fi strength and connection issues, and the fact that the solar panel wasn't strong enough to power the Wi-Fi switches.

The possible solutions were either too expensive, or were unlikely, so I decided I would change the project altogether.



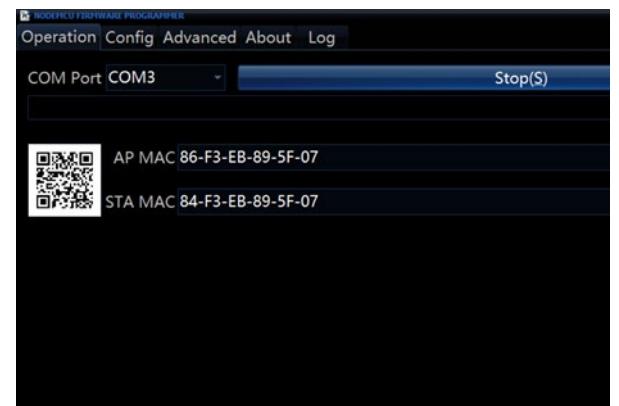
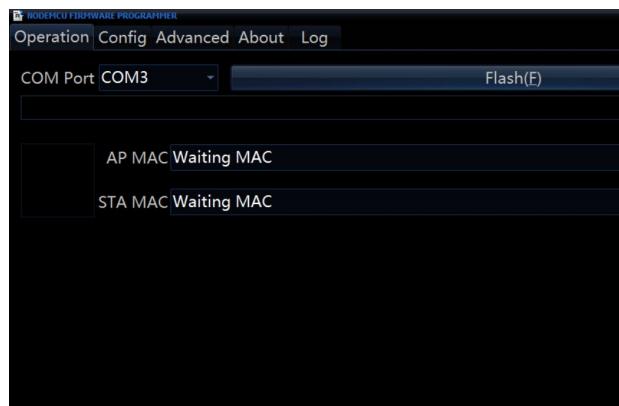
Building the external box: Using a saw, I cut a hole in the centre of one side of the box that would allow the USB cable to enter, and connect to a development board. I then cut a smaller hole in the opposite side of the box that would allow the cables to run from the board to a button. Finally, I attached the button to the top of the enclosure using super glue, and connected it to a power source.

Realizations

I realised that most of my project ideas were based around input devices, such as voice control, sensors and buttons. I also realised I wanted to do something that was practical and useful in my everyday life.

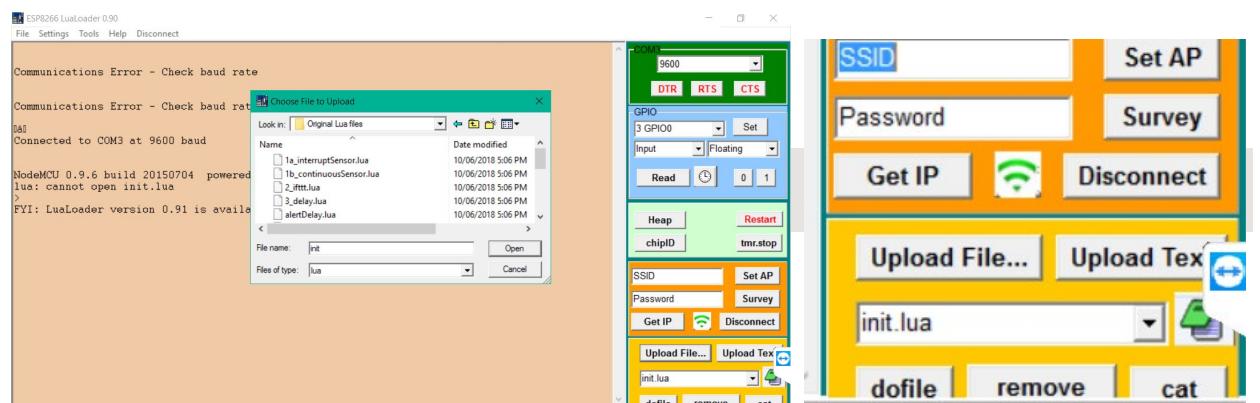
I live in a family of five, so it's hard to keep track of who has done what e.g. who has fed which pet and whether the dog has been walked or not. I wanted to come up with a simple system that can keep track of this using different inputs.

What I came up with was four buttons; three physical and one on my phone. When pressed, each button sends a message to a different service.



Downloading the firmware:

Downloaded a flashing software, and flashed the correct files onto the dev board.



1. Downloaded Lua Loader Master application.
2. Downloaded pre-written Lua files onto the board.
3. Modified some of the files, changing how the button worked and responded.
4. Downloaded these new files onto the board, automatically replacing the old files with the changed ones.
5. Set the Wi-Fi network and password, allowing the board to use Wi-Fi to perform its task.
6. Gave the board a soft restart, making sure it was aware of the changes I'd made.
7. These steps seem simple, but they were tricky to figure out and took a while.

