# Some buzzwords and overview

The project assumes an ESP8266 microcontroller. A portable powerbank is an option to carry the board around.

The wifi management is done with the **tzapu / WiFiManager** library which offers some convenient interface for setting up the hotspot: it starts off the board in station mode with the last known credentials and if that doesn't work, sets up a minimalistic server that aids the user to input their wifi credentials and some parameters needed for the mechanism to work. I have however turned the station with known credentials option off, as I'm only using the wifi for it's signal strength (a bit silly, perhaps, but there you go)

The library is really just a wrapper over the esps' own libraries that handle WiFi and signals, so I've used them normally and I assume this is going to work for a long time.

The notifications work thanks to the pushbullet and pushingbox servers/services: pushbullet offers a server that "connects" messages from the computer, phones and other registered devices, also offering an API that works through access tokens from your account

Pushingbox offers another api that is simpler and more toward just sending messages, by interfacing the one we have from pushbullet. Needs access token. Security could be better - uses http.

I used the WiFiClient from the esp standard library to send the request to the pushingbox to send the notification to the phone. Doable as the WiFiManager is just a wrapper.

# Instructions

## 1) Setup Pushbullet

- Create a free account at Pushbullet and activate it.
- Go **apps market / Google play** and search for PushBullet and **setup the application on your mobile device** using the **same account you've just created**. After that you should see your mobile smartphone in the **Devices** menu.
- Go to **Settings** menu (browser version) and create a new Access Token by pressing **Create Access Token** button. Write down this Access token. You will need it in the next step.

## 2) Setup Pushingbox

- Go to PushingBox, create a new account for free and login.
- Go to **Dashboard** and click on **My Services – > Add a service**. Select **PushBullet service** from the list.

- Give it a name, and paste your **pushbullet Access token** which you got from Pushbullet in step 1).
- After that go to **My Scenarios** and add a **new scenario**. You should now be able to add a **new Action** to your scenario.
- If you want to have the object name in the message add **$object_name$** somewhere in the text.
- Save the action and go back to your **virtual scenarios list**. You should be able to see your new scenario and copy the **DeviceId**

## 3) Connect to the hotspot

- In your device wifi settings, connect to the esp access point (ESP8622TrackerAP with password "securePassword")
- Open the sign in prompt that it gives you. Alternatively go to https://10.0.1.1 - it's hardcoded ip address
- Select "Configure wifi with no scan"
- Enter the name and password of your hotspot in the first two fields
- Enter the device id you got from pushingbutton in the device id box
- Optionally add an object name (for the object you are forgetting) to the setup
- After you save, connect to the hotspot
- If the connection times out you have to input its' name and password in the manager portal again - the LED on the board should indicate wether it's connected (if it's lit, it you are connected to the hotspot)

## 4) Go about your bussiness and forget about your object

- If your hotspot signal grows weaker (as you go away, in theory), once it hits a particular signal strength (-80 mdB, here), the esp will send a notification to your phone that you're forgetting your object