

“Who is at home?” Instructional Guide



Introduction:

For my IoT Application assignment I decided to create a smart home device which could be used to inform either myself or my wife Daire, when the other was home.

Video URL - https://youtu.be/WUFSqo_syLc

The process:

My first step in this process was to create a python script that would use the Bluetooth technology in the raspberry pi to search for devices at home and recognize either my wives or my phone.

To fulfil the combined knowledge aspect of this assignment – I created a mysql database on the pi which contained two tables. One titled tbl_deviceusers which held the MAC address of the associated phones as well as user names and the associated phone number of the other person in the house (for use in sms messaging later in the process)

```
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 22
Server version: 10.3.17-MariaDB-0+deb10u1 Raspbian 10

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

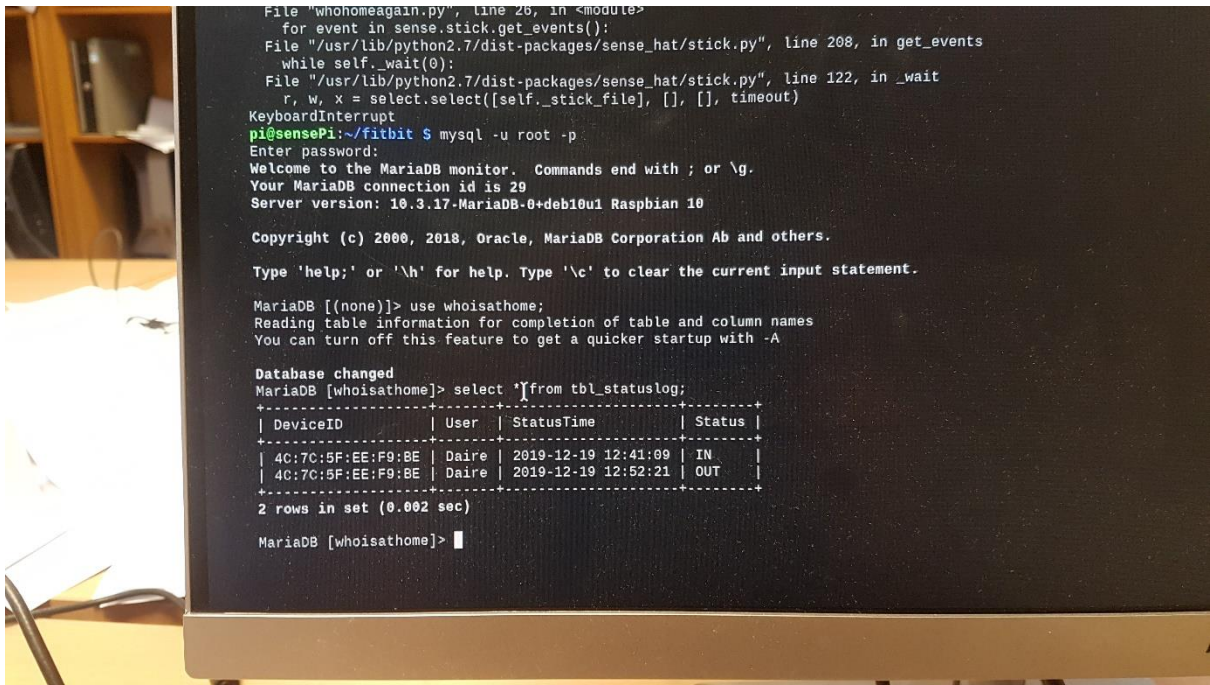
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use whoisathome
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

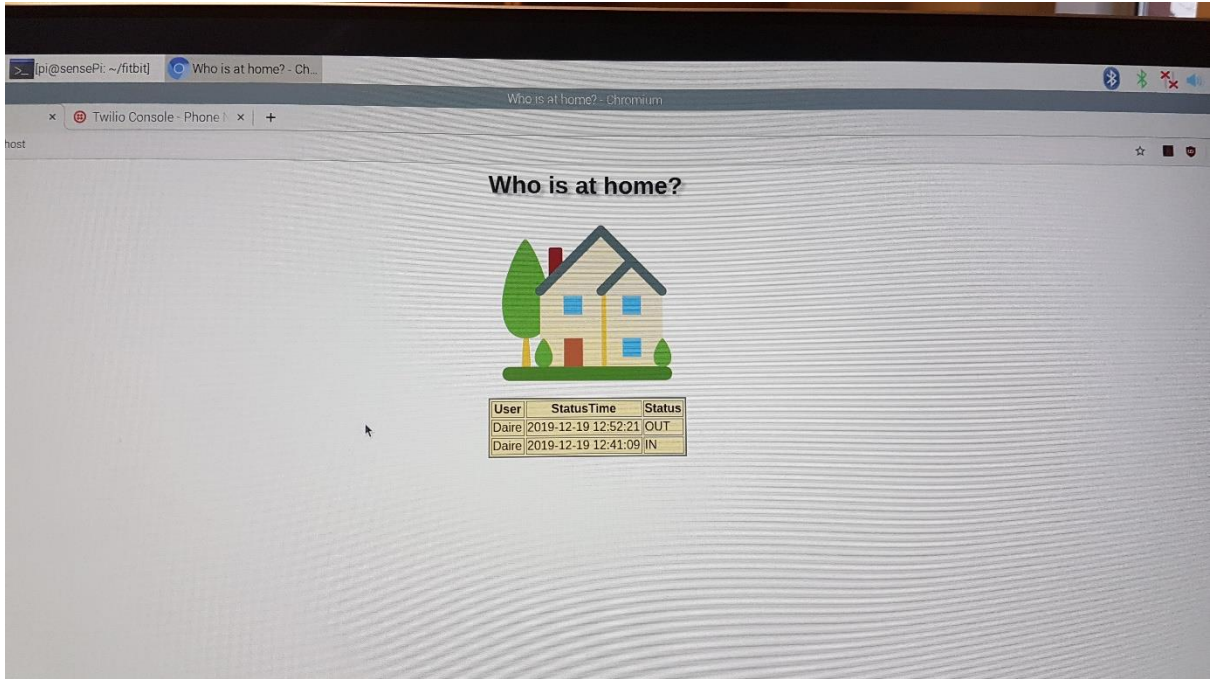
Database changed
MariaDB [whoisathome]> select * from tbl_deviceusers;
+-----+-----+-----+
| deviceId | user | smsNo |
+-----+-----+-----+
| 44:78:3E:CA:D8:DC | John | +353868201072 |
| 4C:7C:5F:EE:F9:BE | Daire | +353863343316 |
+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [whoisathome]> Ctrl-C -- exit!
Aborted
pi@sensePi:~/fitbit $ nano whohomeagain.py
pi@sensePi:~/fitbit $ python whohomeagain.py
looking for devices
found 1 devices
4C:7C:5F:EE:F9:BE
Daire Is Authenticated.
Last Status IN
Added to status log with status of OUT
Daire has left the house.
+353863343316
INFO:twilio.http_client:POST Request: https://api.twilio.com/2010-04-01/Accounts/AC36ac6c1777bf527f2968c401d113
INFO:twilio.http_client:PAYLOAD: {'Body': 'Daire has left the house.', 'To': '+353863343316', 'From': '+1418824
INFO:twilio.http_client:200 OK Response: 201 5000ms {"sid": "NW569536f67e7e44a99a1e1b4231a0d1", "date_created": "Thu
```

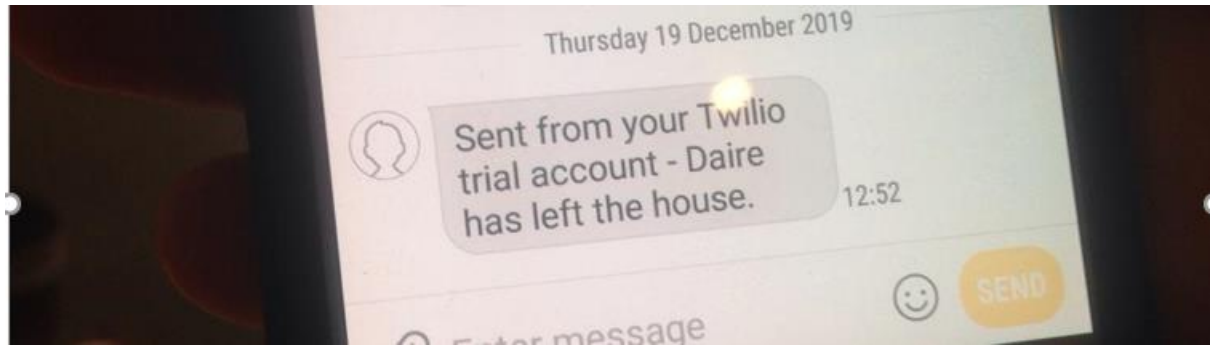
On running of python script the raspberry pi checks the tbl_deviceusers table of the database for the users details and if they are present checks the last status of the user and adds the new status to the statuslog table.



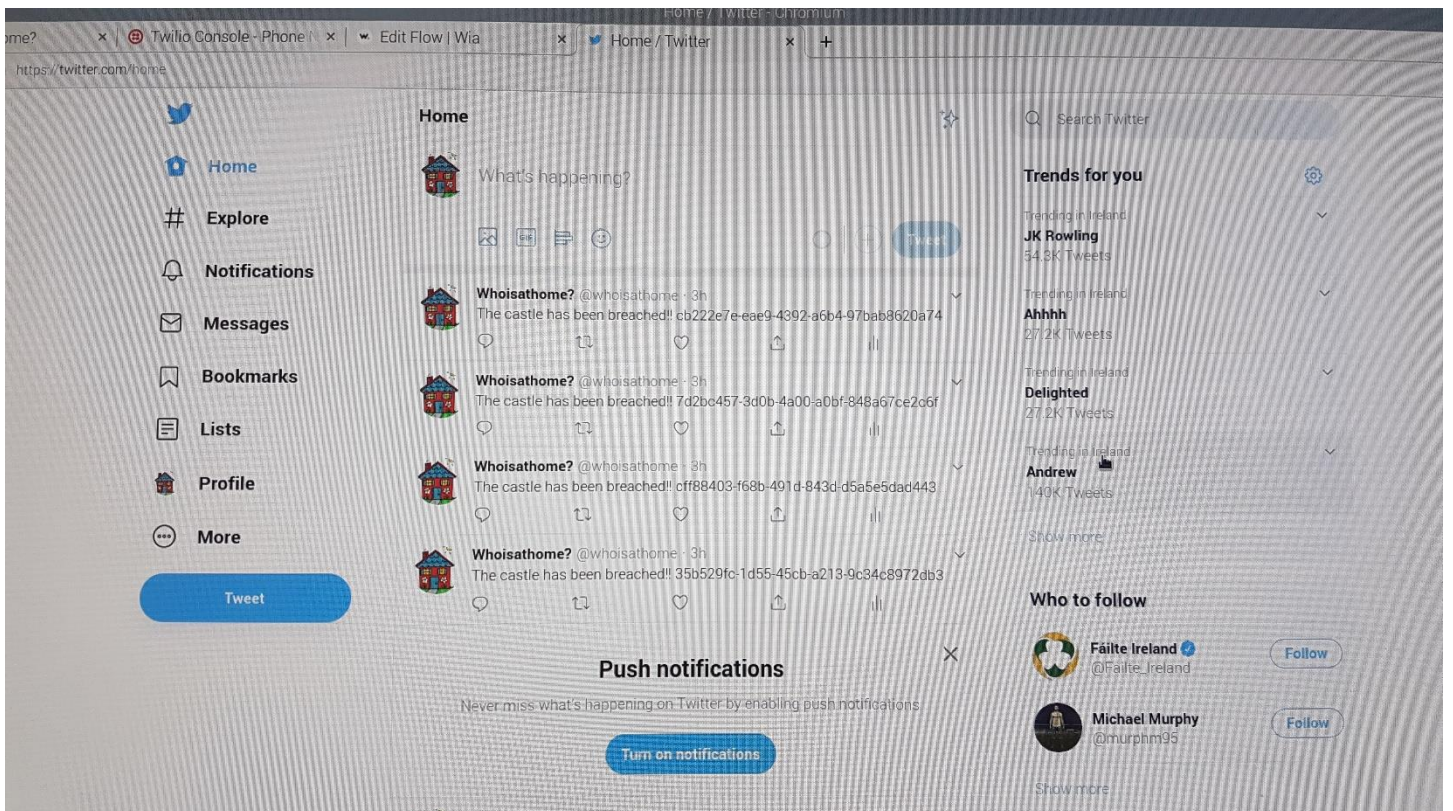
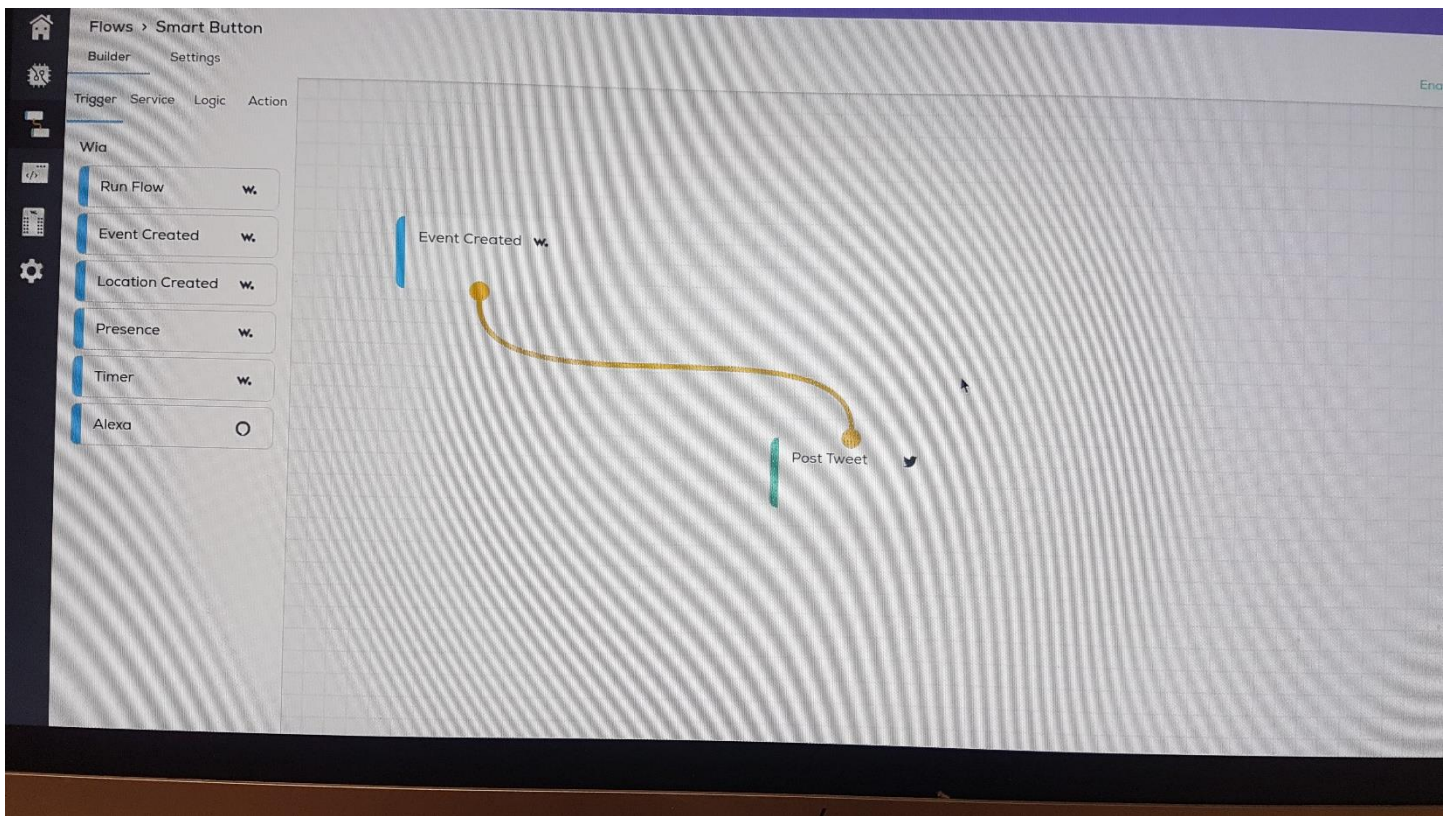
This is reflected on a website also hosted on the pi which allows the user to view the status log table



Using twillio messaging this also sends a message to the other user in the database informing them that someone has pressed the button and their status.



Using a flow on the Wia platform a tweet is also sent to a twitter account informing followers that “the castle has been breached”!



This smart home device has everything contained on the raspberry pi and using a cross platform of programs used on this course is a handy iot application that can prove beneficial to the McCann household in the future!