

Presence Detector Script

Using `arp-scan`, you will now write a script that:

- gets a list of connected devices to the local network
- gets a list of "known devices"
- echoes(prints) the intersection of connected devices and known devices

Put simply, the program will find the list of known devices that are connected to the network.

Create the Search Script

- On the RPi, open a terminal window (connect either by SSH or Screen/Keyboard), and, in your home directory, create a new directory called `presence` :

```
pi@sensePi:~ $ mkdir presence
pi@sensePi:~ $ cd presence
pi@sensePi:~/presence $
```

make directory

In this directory, create a new file in called `presence-detect.sh` and enter the following code:

```
#!/bin/bash

# presence-detect.sh
# searches for the MAC address of known devices

# do arp_scan to get connected mac addresses
connectedDevices=$(sudo arp-scan -l)

knownDevices=("d4:28:d5:37:7e:a2")

for device in "${knownDevices[@]}"
do
    if [[ "$connectedDevices" = *"$device"* ]]; then
        echo "$device is present!"
    else
        echo "$device is NOT present!"
    fi
done
```

- Save the file and change the files permissions to make it executable:

```
chmod +x presence-detect.sh
```

- Test the script by running it at the command line (`./presence-detect.sh`) .

```
pi@sensePi:~/presence $ ./presence-detect.sh
d4:28:d5:37:7e:a2 is NOT present!
pi@sensePi:~/presence $
```

presence detector

The script gets the result of `arp-scan` and assigns it to `connectedDevices`. It then searches `connectedDevices` for each MAC addresses contained in the `knownDevices` array (the above script only contains my phones MAC address).

The script should return indicating that the device was not detected (otherwise I want my phone back!).

- Now update the script and add another device in the `knownDevices` list that you can connect/disconnect easily. Perhaps add in your smartphones address.

```
knownDevices=("d4:28:d5:37:7e:a2" "xx:xx:xx:xx:xx:xx")
```

Now run the script again. Make sure you get a result that has both outcomes (present and not present).