Passenger Comfort Monitoring System
Version 1.08 Update

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1 Changes:

- Changed from adhoc mesh network to infrastructure network (“BoatNet").
- Added network discovery service
- Added LCD screen brightness control
- Updated command line “scan" tool
- Updated command line “updateClient" tool

2 Installation Instructions:

1. Download “PCMS-Update_v1.08.run" and copy into “pi" home directory. Full details on how to do this are given in Section 3.

2. From the command line run

   ```
   sh ./PCMS-Update_v1.08.run
   ```

   This will update the PCMS server and associated tools to the new version and will put the client update files into the client directory (where the sensors look for them).

3. Ensure sensors are connected to master unit. This may involve moving the master unit around the vessel and updating sensors one or two at a time if necessary. Start and stop a trip to make sure sensors are connected and working properly.

4. From the command line run "clientUpdate 1.08". This will take a few minutes to run and should give the output shown on the next page (9ca9 will be replaced with a different sensor name). The updateClient command will stay in a monitoring state for 5 minutes so if all sensors have completed their updates before it ends the update script can be stopped using Ctrl-C.

```
---------------------------------------
9ca9: Updating
9ca9: Running Update Script
9ca9: Updating Software
9ca9: Updating Scan Tool
9ca9: Updating Wifi Interfaces
9ca9: Updating Init Script
9ca9: Update Complete - Rebooting
---------------------------------------
```

Once the updateClient 1.08 command has been run no further user input is required. The sensor update process follows the following sequence:

(a) Running the “updateClient 1.08" command instructs the server to send a mqtt message to all connected sensors with an “update" command

(b) The sensors download a script name update.sh and update.md5 from the master unit (using the original mesh network)

(c) The sensors reboot. As part of the initialisation process after the reboot the sensors check (using the md5 file) and then run the script. While still on the mesh network, the script downloads additional sensor updates from the master unit and runs them.

(d) The update script replaces the PCMS code on the sensor and modifies the wifi details to use “BoatNet".

(e) The sensor unit reboots again. When it reinitialises after the reboot it should now automatically connect to the “BoatNet" wifi.

5. Repeat steps 3 & 4 until all sensors have been updated. If you try to update a sensor multiple times with the same update version you should get a message:

   ```
   9ca9: Already at current version
   ```

6. Run the “scan" command to confirm all sensors are now visible on the local network. The output of the scan command should be as follows:

```
Unit    Wifi    IP          Client  Client
Name    Signal  Address     Running Status
-----------------------------------------------------
9ca9    91%     10.0.0.247  Yes     waiting
-----------------------------------------------------
```

3 Copying Update File

There are a few options for getting the update file onto the master device. If the master unit has internet connectivity (which hopefully it does so that it can send the daily trip logs via email) you can get the update file by running

```
wget https://github.com/andrewbaglin/PCMS/raw/main/PCMS-Update_v1.08.run
```

Alternatively, you can SFTP into the unit using Filezilla or WinSCP or similar software with the username “pi" and the password “M0lsl!nj3n" (same as used to access the command line). To find the address of the master unit run “ifconfig eth0" from the command line on the master unit.

Finally, if all else fails, copy the program onto a USB drive and copy it into the “pi" home directory. Plug in the USB drive containing the PCMS-Update_v1.08.run file and type the following commands:

```
mkdir usb
sudo mount /dev/sdb1 usb
cp usb/PCMS-Update_v1.08.run ~
sudo umount usb
rmdir usb
```