

EN-37: The Mobile user interface

- Vykon HVAC automatically generates two sets of navigation and graphical views when the HVAC applications are configured. One set of views is designed for use by a browser such as is available on most PC platforms and utilises the NiagaraAX Framework® “Px” media. The other set of views use the alternative Niagara ‘Hx’ media and is specifically designed as a Mobile user interface for use with mobile browsers such as is available on platforms like the ‘iPod touch’. This engineering note describes the use and set up of the Mobile user interface which was introduced at Release 2.2
- A mobile user interface device such as an iPod touch may access the Vykon HVAC applications in the JACE® controller via a Wireless connection. Such a system is illustrated in Figure 1

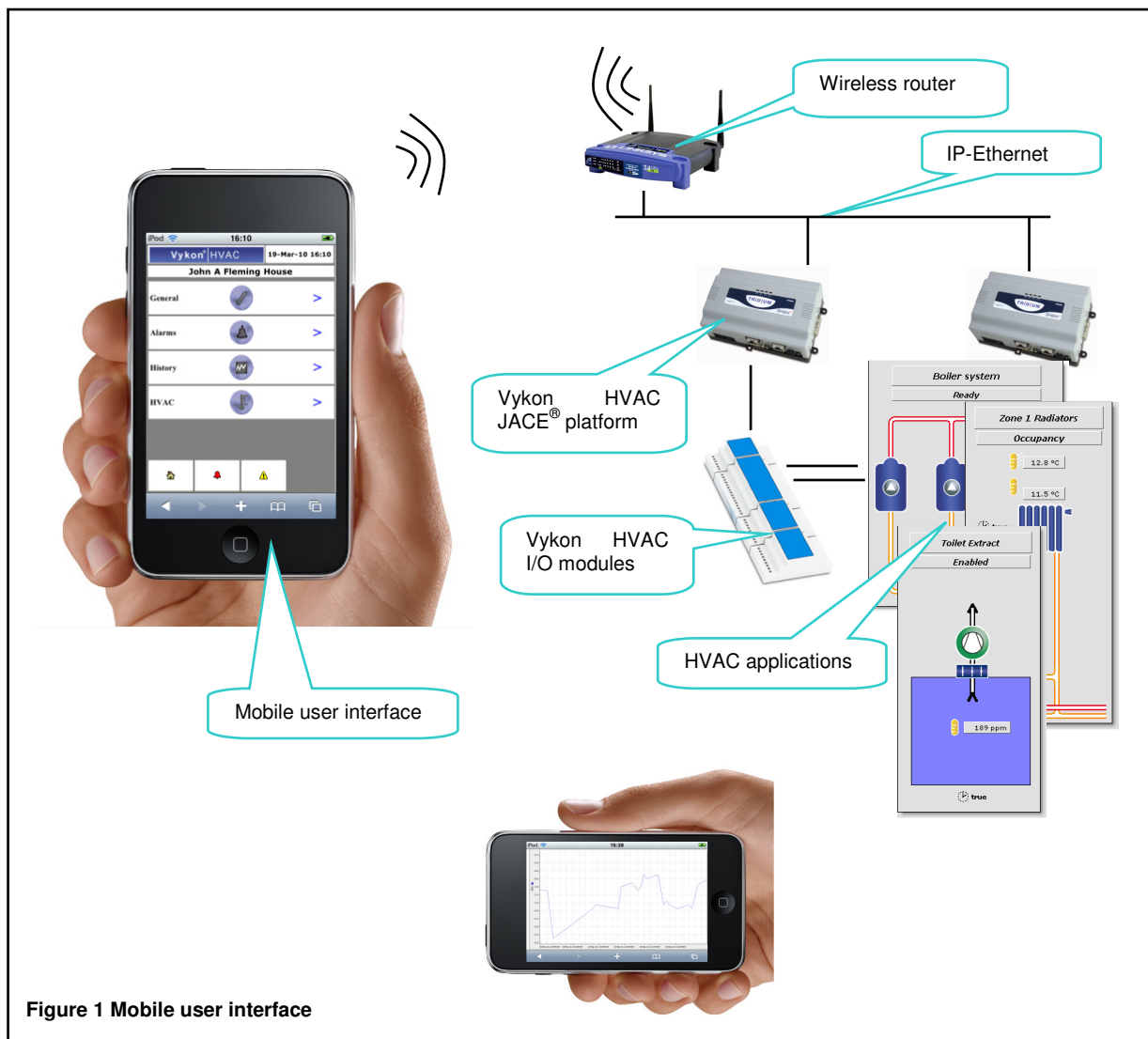
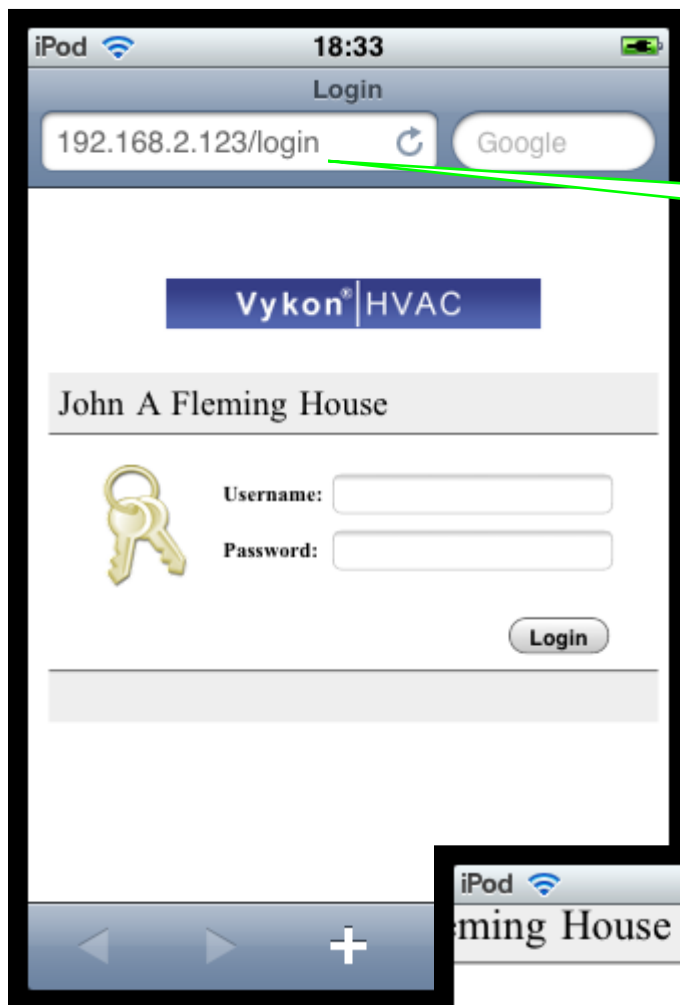


Figure 1 Mobile user interface

- In the following pages of this engineering note, the mobile user interface is described with some example screens starting with the mobile browser initial login to the station...

Start the Browser



Vykon HVAC station IP address

Each user automatically has a 'mobile' Username which is simply the addition of the prefix "mobile" onto the normal Username.

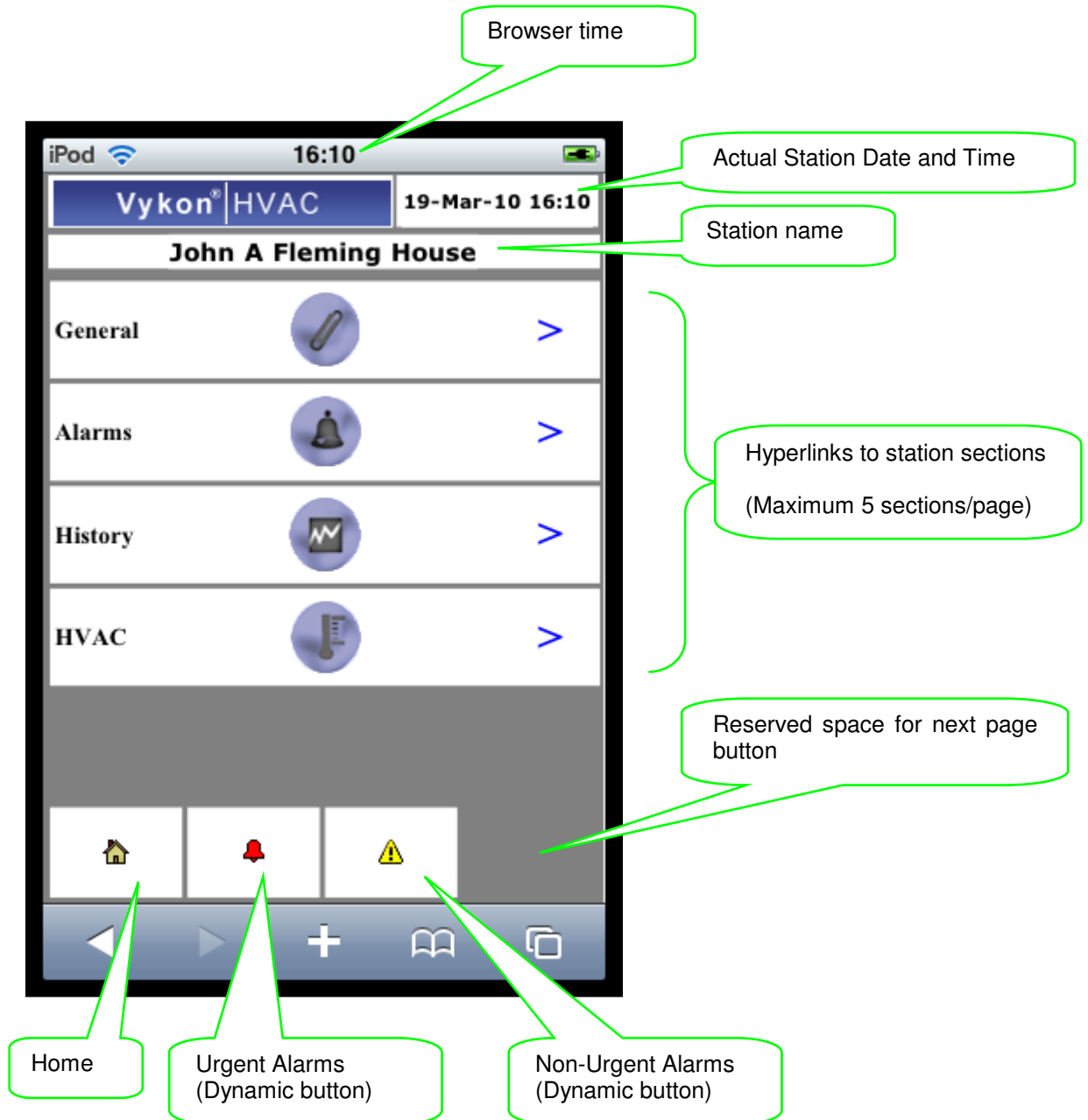
For example:
mobileexpert
mobilemanager
mobilemaintenance
etc....



The user enters the same Username password

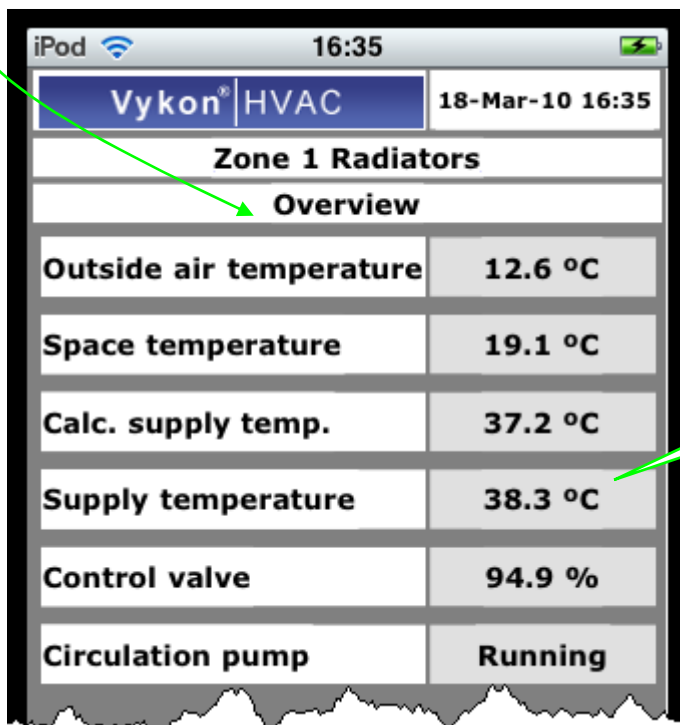
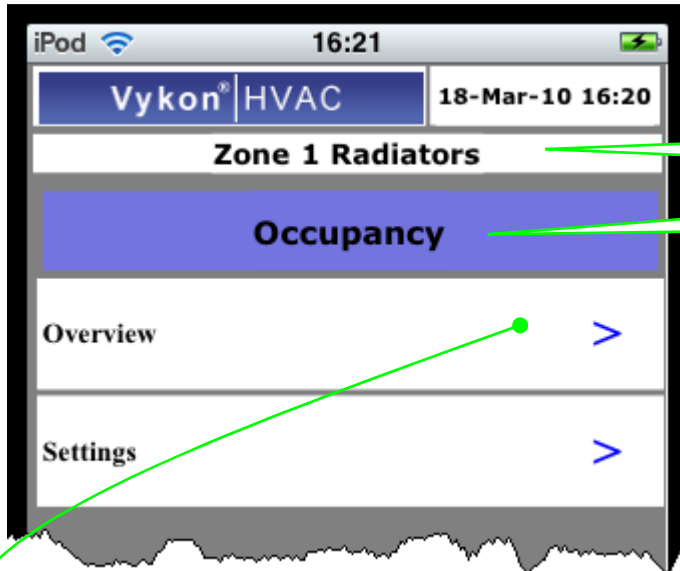
Home Page

Here is the Home page of a typical Vykon HVAC station



Application Page

Here are some typical pages from an Application:



Settings adjustment

Here is the adjustment of a setting in a typical application:

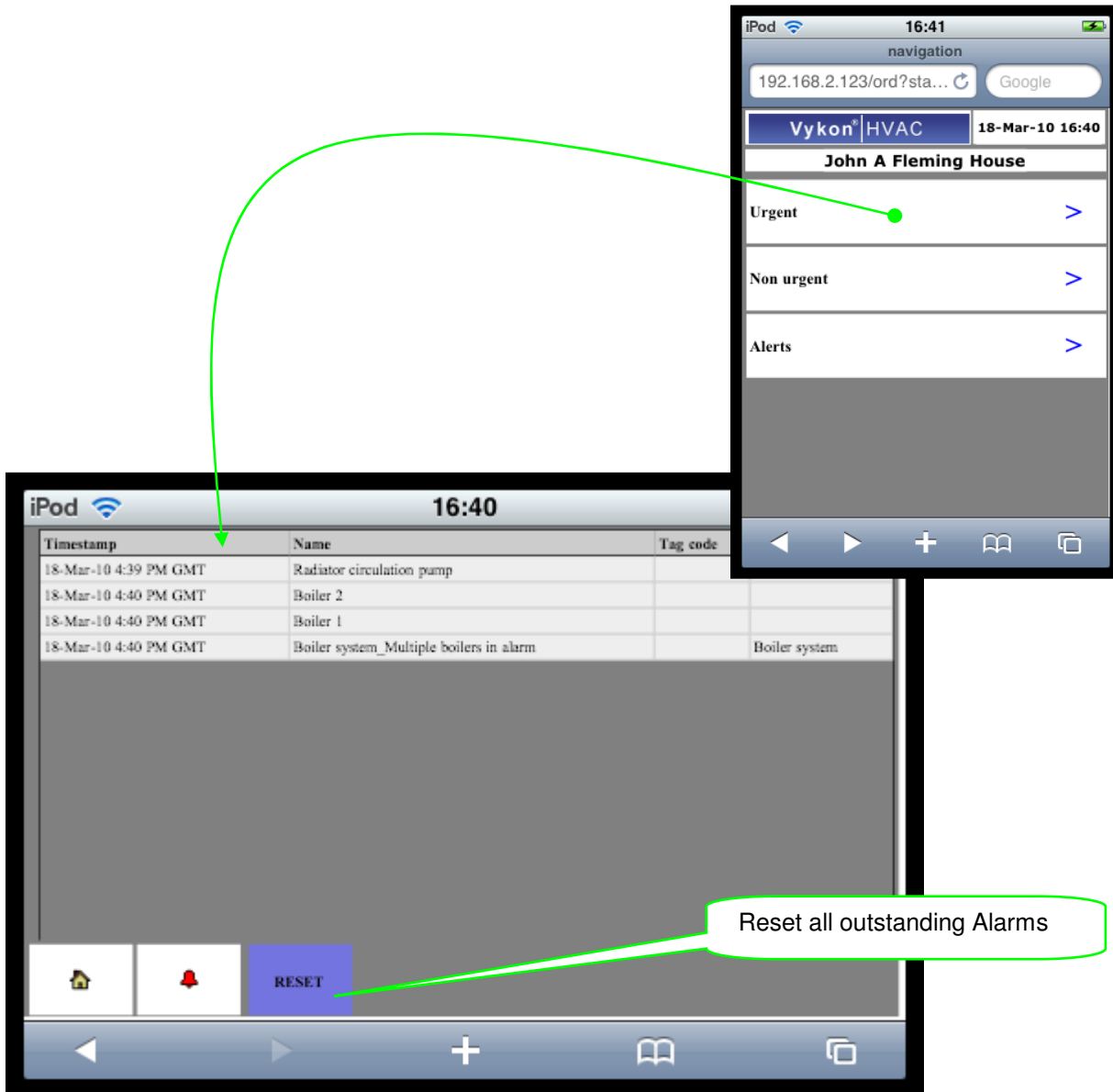
Unit of adjustment step

Up and down adjustment

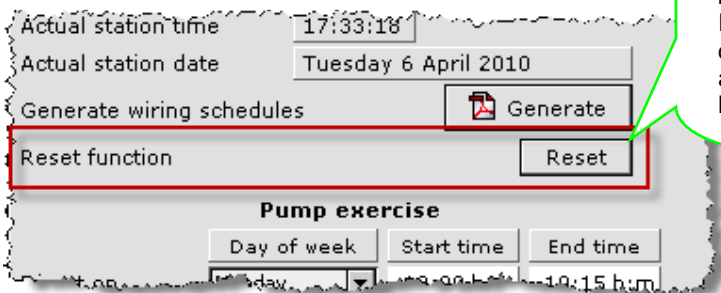
Note:
The value displayed in the view is updated by the station. Therefore when you make an adjustment there **will** be a short delay before the changed value is reflected in the view – be patient!

Alarm view

Here is the Alarms menu from the Home menu 'Alarms' hyperlink:



Note:
The RESET button in the mobile alarm view has the same functionality as the 'Reset' function and button in the 'General' application and also the Reset push button I/O (if fitted) in a panel. In all cases activation of reset will acknowledge all alarms and in the process, release the equipment lockout from any 'Ack' alarms



Histories view

Here are histories from the Home menu 'History' hyperlink:

The image consists of three screenshots of an iPod interface, illustrating the process of viewing and building a chart from history data.

Top Screenshot (16:37): Shows the 'Histories' and 'Current Charts' sections. The 'Histories' list includes items like 'ahu_calc. supply temperature', 'ahu_heatwheel calc.', and 'supply temperature'. A callout bubble points to the 'ahu_calc. supply temperature' item with the text: "Double click to select a history to be a current chart".

Middle Screenshot (18:09): Shows the 'Current Charts' section with a list of selected items: 'flow temperature', 'space air temperature', 'zone 1 radiators calc.', and 'flow temperature'. Below the list are 'Build' and 'Clear' buttons. A callout bubble points to the 'Build' button with the text: "Build the chart".

Bottom Screenshot: Shows a line graph of temperature (°C) over time. The y-axis ranges from 15.0 to 19.4. The x-axis shows dates from 29-Mar-10 1:45 PM BST to 29-Mar-10 1:46 PM BST. The graph shows a fluctuating temperature line.

Web browser technologies and supported platforms

- The mobile user interface in Vykon HVAC has been designed to support all web browsers that have been built using the WebKit application framework. WebKit was originally created by Apple Inc for use as the engine of their Safari web browser. It has been subsequently developed and is now an open source web browser engine used by others including Nokia, Google, Bitstream and Torch Mobile. The web browser available in the Linux based Android mobile operating system is also based upon WebKit
- Whilst traditional PC based web browsers such as MS Internet Explorer and Mozilla Firefox were not built with WebKit they do nevertheless render the Vykon HVAC mobile user interface successfully because they also support 'Hx media' views
- The Niagara Hx views of the Vykon HVAC mobile user interface have been based upon the 3.5 inch screen of the 'late 2009 - iPod touch' whose resolution is 320x480 pixels at 163 pixels per inch giving a 3:2 aspect ratio
- Webkit contains an 'auto-fit to screen size' functionality and therefore it is likely that a WebKit based web browser using a different resolution to that selected will auto-fit the 'Hx media' views
- When the Vykon HVAC mobile user interface was released the following hardware platforms and browser technologies had been tested or investigated:

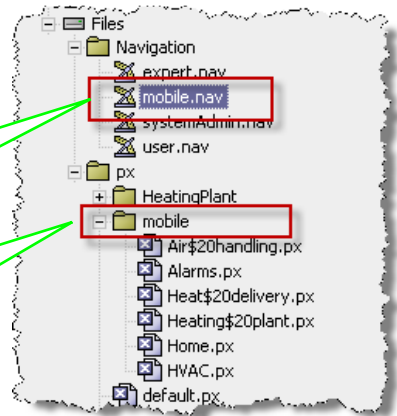
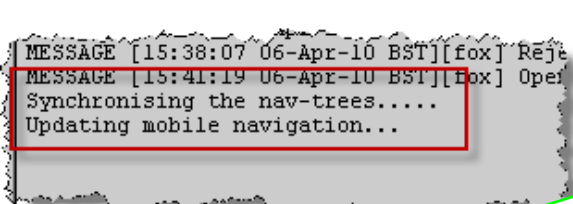
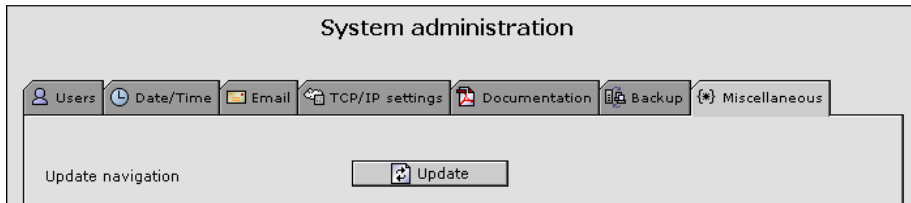
Hardware	Operating System	Tested?	Notes
PC	Windows XP and higher	Yes	MS IE6 and higher, Mozilla Firefox 2 or later, Google Chrome, Apple Safari
iPod touch & iPhone	iPhone OS 2.1 and higher	Yes	
Nokia	Symbian S60 3 rd generation and higher	Yes	Tested on N95 & N97
Various	Windows Mobile 5 and higher	Yes	Iris browser from Torch mobile. (Skyfire is untested but we believe should also work.
Blackberry	Unknown	No	Opera browser on Blackberry should work
Various	Android OS 1 and higher	No	Should work on Chrome lite browser

Testing the mobile interface using the PC browser

Simply enter the mobile user into a PC browser to access the mobile views:

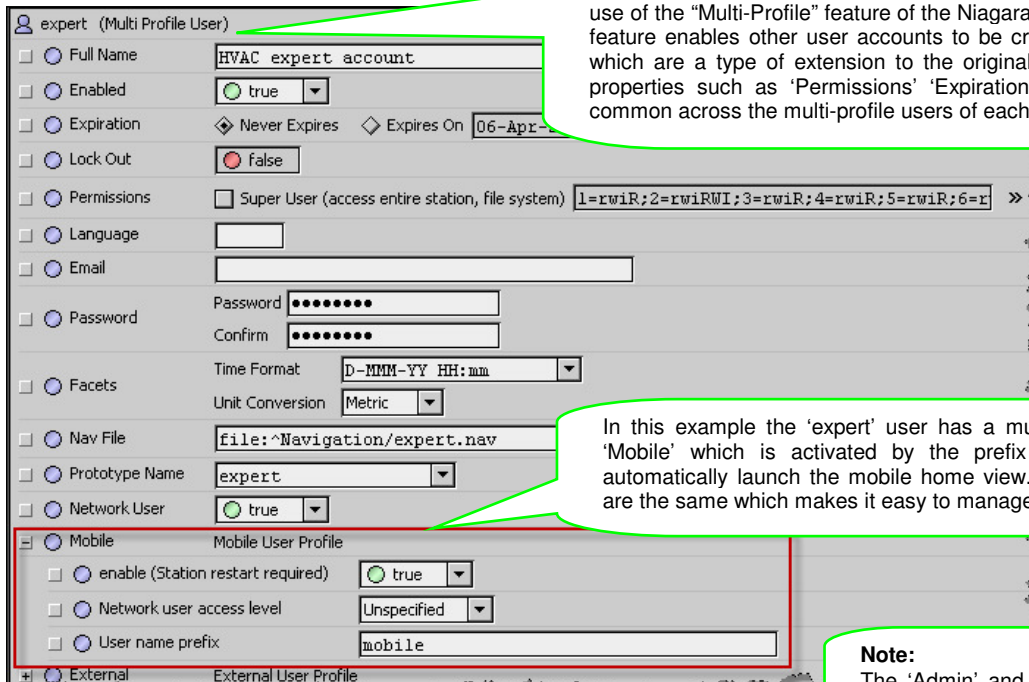
Navigation

When the Vykon HVAC station is started in the PC platform, the navigation trees are automatically synchronised and updated as part of the station's start-up routine. This however, does not occur automatically when the station starts in the JACE controller although the navigation trees can be manually updated at any time from the 'System admin.' menu ...Miscellaneous...Update button:



A dedicated navigation file called 'mobile.nav' is created which is automatically updated with references to the mobile views of the applications. Note that the mobile view menu screens are created automatically and stored in ^px/mobile.

Users



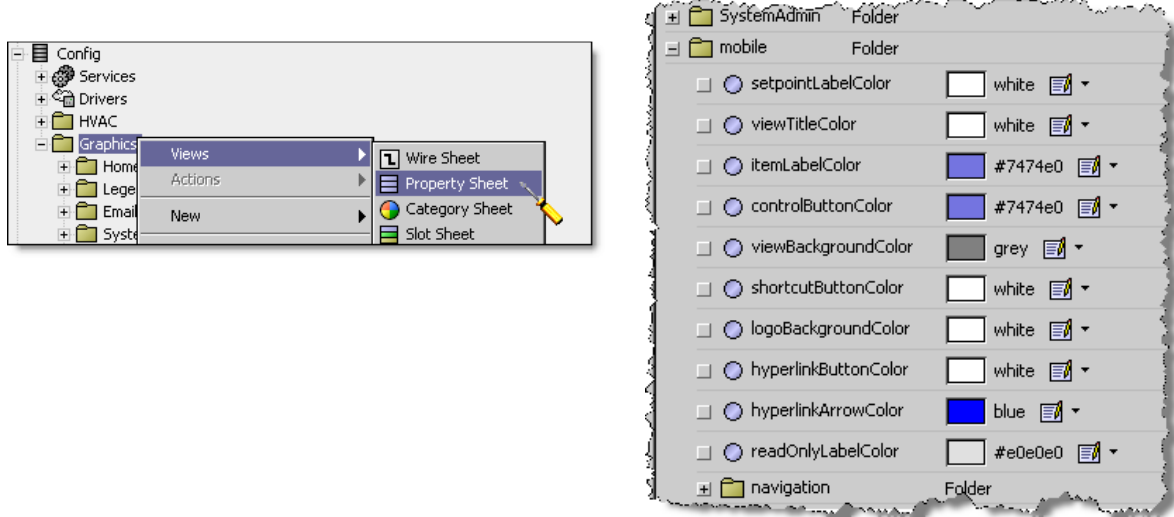
The management of mobile users in Vykon HVAC is achieved by use of the "Multi-Profile" feature of the Niagara AX user service. This feature enables other user accounts to be created and maintained which are a type of extension to the original user. It means that properties such as 'Permissions' 'Expiration' and 'Password' are common across the multi-profile users of each user.

In this example the 'expert' user has a multi-profile user called 'Mobile' which is activated by the prefix 'mobile'. This will automatically launch the mobile home view. All other properties are the same which makes it easy to manage the user accounts.

Note:
The 'Admin' and 'Guest' users **do not** have multi-profile users

Customising mobile view colours

It is possible to customise the colours of the mobile views by adjusting the colour properties in the property sheet of the 'Graphics' folder:



Safari browser settings

Here are some Safari browser settings:

