

ALTUI Plugin for VERA / Lite / Edge on UI5 or UI7

Micasaverde /GetVera is producing a product family of zWave controllers called Vera 3, Vera Lite and Vera Edge now. These product come with a user interface layer called UI and which exists in 2 versions as we speak : UI5 and UI7.

Unfortunately the long awaited UI7 has been kind of a disappointment , especially with its unresponsiveness , not really well optimized screen real estate, and difficult to deal with for 3rd party plug in writers. It was also promising a mobile user interface and the application does not resize well on phone or on desktops and the mobile version of the application is not user friendly.

I started to work on a UI replacement.

This document covers:

1. The overall project objectives & “big” rules
2. The screen shots
3. The installation instructions
4. Some internal explanation of the source code & architecture

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The project initial objectives

I am not fully satisfied with UI5 or UI7 and I think we can provide very quick improvement. French users of Orange HomeLive system on internet seems to be Highly largely unsatisfied by the UI and we could improve this relatively easily adopting a refreshed approach & architecture. (remains to be seen if orange is going to be open to this but we should try)

Objectives

1. **Fast & immediately responsive** (except LUA Jobs of course, cant control that). Asynchronous / threaded programming as much as possible.
2. Avoid the classic UIx issues with too many **heterogeneous js frameworks**, inconsistent CSS rules requiring ticks all over the place and overuse of the “! Important”
3. Does **not require anything** other infrastructure than the **VERA** itself and a simple plugin. No PHP, No DB, No additional server running. Just plain VERA
4. Really use the **power of the client side** machine (big processors & memory) and far less the Vera side.
5. Works well on all screen size, **full responsive design** using bootstrap
6. Really use [**bootstrap**](#) facilities for responsiveness, should work on Phone 4S as well as tablets, as well as desktop / large screens. Same app, same code, same access url
7. Skinnable using Bootstrap themes
8. Dashboards should be optimized in screen real estate. **Undo the UI5 design decision** which links the Scene editor with the dashboard. You can only put in scene what is in the dashboard (unless you use the advanced feature). Dashboard requires maximum use of the screen real estate, Scene editor is something else.
9. Plugin authors should be able to control the display of their device using a **simple javascript functions** , even on the dashboard page. Should not be limited to a VERA Box api or any complex undocumented json behaviors. Just a dynamically loaded javascript which can make full use of bootstrap & useful libraries provided
10. **Full reuse of dynamic icons** (don t want to recreate icons or each plugin logics here) from the json descriptions
11. **Dashboards should customizable by the end user**, he chooses the pages and the devices he wants to see (not done yet at this point !)
12. reuse of UI7 json descriptions for dashboards, control buttons etc
13. Works on UI5 and UI7 with minor degradation on UI5 (housemode for instance)
14. Localizable

DONE and functional so far

I already uses this more than UI7 on my ipad/phone and desktop at home. So far achievements are the following:

An alternative UI for VERA boxes based on UI5 UI7

This plugin offers an alternative user interface for your VERA(s) controllers that is more pleasant and works on any kind of device as a web application which will automatically adjust to screen size.

It works as a simple plugin and you just need your browser. it supports UI5 and UI7 veras and can aggregate in the same screen the devices from multiple separate VERA boxes.

It is not just a re skin of UI5/7, and will offer a number of additional feature

LATEST VERSION : V 0.62.467 July 22nd 2015 :

Extra features not present in UI5 UI7:

- Fully responsive design / all form factors supported , no need to install a new application on your mobile
- works indifferently on UI5 and UI7 boxes and thus offers an enhanced experience even on older boxes without adding load to your controller. it maximizes the power of our modern browser and seldomly relies on the VERA controller
- works with **multiple VERA controllers**, you can see & interact with devices and scenes of multiple controllers transparently
 - made of elements out of your devices (variables, actions, images, text) but also cameras, graphical gauges
 - can mix and match devices from multiple VERA controllers
 - nice Hi/FI like on/off button
 - nice analog gauges to display a chosen device variable value
 - with a full Wysiwig editor mode for pages
 - drag and drop of control to add/remove and aligns
 - selectable page background with CSS3 property : gradient, images or even video background if you want !
- extensible design with javascript modules for plugins dashboard & control panels
- compatibility with most 3rd party plugins (IPhone locator google map), all but a few custom devices are controllable.
- all custom icons are displayed , even in remote access mode
- Complex graphics made with D3JS library, animated graphs for device parent child relationships, zWave neighbors, zWave routes & route quality.
- Power/Energy consumption graph
- Parent Child relationship on a force layout d3js map
- zWave neighborhood map with color based on PolloOk % status. Click able node on zWave map
- zWave Route Quality Chart
- Table of device with choose able / sortable columns and ability to export

- trigger remote execution of user chooseable unix OS command and display output.
- History button to automatically display Scene last Execution timestamps from the lua log files
- Device: Variables displayed ordered alphabetically and with enhanced display format (dates shown as dates, url as url)
- Device: Variables just click and edit, no messy checkbox to edit variable even to enter JSON or special characters
- History button to automatically display Device Variable Changes from the lua log files
- supports lua log and ANSI color display
- Auto detection of new version & updates
- Client device specific Favorite device / scene selection (your favorites may be different on your phone or your pc)
- Persistence of settings, preferences, filtering selection in various screens
- Powerful filter on pages (by category, room, name, battery)
- Visible battery status
- Plugin page: List of installed, direct button to reach the store, update from store, uninstall, to reach help page from the author, direct button to view content/download plugin files
- Plugin page: plugin files selectio and easy content display in editor
- Display of manually installed plugin
- Camera: live video feed in local mode, images in remote mode

Features equivalent to UI5 UI7:

- local and remote access via UI7 MMS authentication servers
- fully featured for room devices scenes plugins
- Room: List, Create, Rename
- Scene: List, Execution, Create, Edit (triggers, timers, actions, event lua code, time restriction, housemode selection)
- Scene Mode selection (UI7 only)
- Scene Pause feature : in one click
- Trigger time range restriction (new feature of latest UI7, now in AltUI too)
- Device: List, responsive design page, "as you type" Filter by name/category/room
- Device: small dashboard panels to fit many device on one screen. Dynamic icons as defined by the plugin author in the JSON file
- Device: Variables: List & Edit with enhanced display format (dates shown as dates, url as url)
- Device: UpnP Actions: List & trigger with parameters
- Device: Control panel: per the static JSON file of the author. Display "flash" and "javascript" tab. In addition it can be customized via a ALTUI plugin.
- Device: Attributes: List / Edit
- Device: UpdateNeighbours feature in device Actions dialog box
- Custom pages: Use mode (kiosk) and Edit. User can create its own set of custom pages by drag and drop of widgets like device icon, web images, device action button, device variable/labels, camera picture or google gage.

Alignment tools to create nice looking panel, customizable background by css3 (images, gradiant...), persistent storage of the pages on the VERA box by the LUA plugin

- Lua test code editor / Lua startup code editor
- scene editor
- Plugin management (install, updates, deletes)
- language aware (EN FR IT provided), open design to add other languages as well
- Compatible with most plugins including those with javascript tabs using the UI5 UI7 javascript API. like the RGBW plugin support

Customization

- Each device type can have its own custom panel : Datamine, Infoviewer, Weather, Light sensor, Holiday plugins, IPhone Locator, IPX800
- Simple javascript API to dynamically load custom plugins to display device small panels, device large control panels, device icons. ask me for details, but basically you do not need to master lots of things as long as you know how to use jquery and to write HTML elements in a parent container. I will integrate your contributions
- Display of Watts & last trip date on device dashboards
- Skinnable based on bootstrap styles you can find on <https://bootswatch.com/>
- Extensible architecture (device dashboard & panel can be extended by a custom JS module).developpers are welcomed to contact me on how to do this
- Selectable home page by a url parameter (home=)
- Selectable language by a url parameter (lang=)
- language list extensible by a simple javascript, ask me & contribute if you want

Although the prefered way to customize the display of a device in ALTUI is to write a small javascript plugin,

ALTUI provides a fast and easy customization of display of a device by the mean of 2 reserved service/variables

that can be added manually by the user to any device. ID = 'urn:upnp-org:serviceId:altui1' , Variable = 'DisplayLine1' and 'DisplayLine2'

1. you add the variables to the device.
2. if no drawing plugin is specified , then altui will look for these variables, if found, it will display one (or both) per line. each variable text content is included in a <div> which has a CSS class called altui-DisplayLine1 or altui-DisplayLine2 for possible theming if needed. Variable content will be HTML encoded so that HTML injection is not possible
3. if no drawing plugin is specified and if ALTUI does not find these one of these 2 variables, it will display the default ellipsis glyph , signifying "default drawing"

Prerequisite requirements

- Just a classical plugin , no extra HW or servers

HOW TO USE / LOCAL and REMOTE ACCESS

- UI5 & UI7 local access:
http://<yourip>/port_3480/data_request?id=lr_ALTUI_Handler&command=home#
- optional parameter: lang=ll for language (fr,en,it) , home=xx where xx is one of pageHome, pageUsePages, pageDevices, pageScenes to force a start page
- UI7 remote access: <https://vera-ui.strongcubedfitness.com/Veralogin.php>
- UI5 remote access : method explained here
=><http://forum.micasaverde.com/index.php/topic,30310.msg225132.html#msg225132>

OFFICIAL VERSION in Mios store

- <http://apps.mios.com/plugin.php?id=8246>

INSTALL

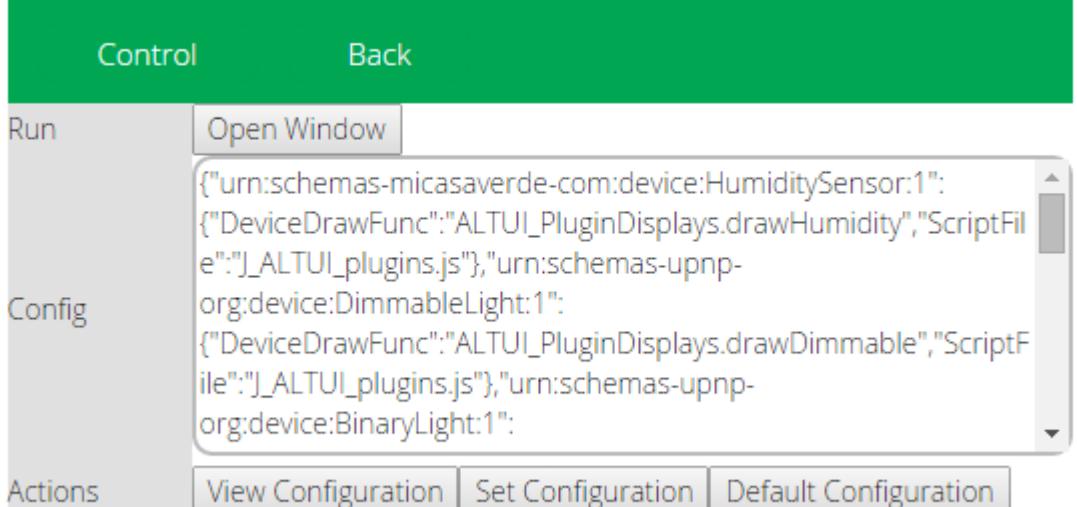
- official version : by the store or the UI7 "Apps' menu
- latest version : accept the autoupdate dialog box proposal , or install by opening this link in your browser
http://<yourip>:3480/data_request?id=action&serviceId=urn:micasaverde-com:serviceId:HomeAutomationGateway1&action=CreatePlugin&PluginNum=8246&Version=28172
ignore error messages displayed by this page and wait until your unit reloads...

ALTUI Device VARIABLES

- **PluginConfig** : JSON structure to configure ALTUI optional modules. a UPNP action registerPlugin() can be used to programmatically add a ALTUI-plugin for custom device drawing
- **RemoteAccess** : remote access url for MMS login
- **ThemeCSS** : a full url to download a CSS skin for ALTUI
- **UI7Check** : true if running on UI7
- **Version** : the LUA plugin version
- **LocalCDN** : a full path name from VERA root '/' where the necessary files for ALTUI are stored. can be left empty and ALTUI will get files from the internet but this option enables an internet free operation of ALTUI

- **ExtraController** : a optional , comma seperated list of additional VERA controllers to use. the main controller must not be listed and this variable can be left empty if you use only one VERA with ALTUI
- **Debug** : 1 for extra debugging logs
- **Data_xx_xx** variables : internal storage for ALTUI user pages definitions
- **Data_CustomPages_0** : JSON array of user custom page names

Screen shots:

LUA plugin	<p>Plugin Setting for configuration :</p> <p>Open => launch the ALTUI window</p> <p>Dynamic configuration for additional modules/plugin display functions</p> <p>Reset config to default</p> <p>Open & View configuration in a online json viewer</p>  <pre> Control Back Run Open Window Config {"urn:schemas-micasaverde-com:device:HumiditySensor:1": "DeviceDrawFunc":"ALTUI_PluginDisplays.drawHumidity","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:DimmableLight:1": "DeviceDrawFunc":"ALTUI_PluginDisplays.drawDimmable","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:BinaryLight:1": Actions View Configuration Set Configuration Default Configuration </pre>
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JSON Editor Online

New Open ▾ Save ▾ Help

```

1  [{"urn:schemas-micasaverde-com:device:HumiditySensor:1":{"DeviceDrawFunc":"ALTUI_PluginDisplays.drawHumidity","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:DimmableLight:1":{"DeviceDrawFunc":"ALTUI_PluginDisplays.drawDimmable","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:BinaryLight:1":{"StyleFunc":"ALTUI_PluginDisplays.getStyle","DeviceDrawFunc":"ALTUI_PluginDisplays.drawBinaryLight","ControlPanelFunc":"ALTUI_PluginDisplays.drawBinLightControlPanel","ScriptFile":"J_ALTUI_plugins.js"}, "info":{"ui7Check":"true"}, "urn:schemas-micasaverde-com:device:TemperatureSensor:1":{"DeviceDrawFunc":"ALTUI_PluginDisplays.drawTempSensor","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:cplus:1":{"DeviceDrawFunc":"ALTUI_IphoneLocator.drawCanalplus","ScriptFile":"J_ALTUI_iphone.js"}, "urn:schemas-micasaverde-com:device:MotionSensor:1":{"DeviceDrawFunc":"ALTUI_PluginDisplays.drawMotion","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:IPhoneLocator:1":{"StyleFunc":"ALTUI_IPhoneLocator.getStyle","DeviceDrawFunc":"ALTUI_IPhoneLocator.drawIPhone","ControlPanelFunc":"ALTUI_IPhoneLocator.drawControlPanel","ScriptFile":"J_ALTUI_iphone.js"}, "urn:schemas-micasaverde-com:device:WindowCovering:1":{"DeviceDrawFunc":"ALTUI_PluginDisplays.drawWindowCover","ScriptFile":"J_ALTUI_plugins.js"}}
  
```

object {9}

- urn:schemas-micasaverde-com:device:HumiditySensor:1 {2}
- urn:schemas-upnp-org:device:DimmableLight:1 {2}
- urn:schemas-upnp-org:device:BinaryLight:1 {4}
 - StyleFunc : ALTUI_PluginDisplays.getStyle
 - DeviceDrawFunc : ALTUI_PluginDisplays.drawBinaryLight
 - ControlPanelFunc : ALTUI_PluginDisplays.drawBinLightControlPanel
 - ScriptFile : J_ALTUI_plugins.js
- info {1}
- urn:schemas-micasaverde-com:device:TemperatureSensor:1 {2}
- urn:schemas-upnp-org:device:cplus:1 {2}
- urn:schemas-micasaverde-com:device:MotionSensor:1 {2}
- urn:schemas-upnp-org:device:IPhoneLocator:1 {4}
- urn:schemas-micasaverde-com:device:WindowCovering:1 {2}

Remove Access via MMS servers for UI7 boxes

Step 1:

Step2:

	<p>Click on the device you want to reach</p> <table border="1"> <thead> <tr> <th>InternalIP</th> <th>Platform</th> <th>Firmware</th> <th>Mac Address</th> <th>Relay</th> </tr> </thead> <tbody> <tr> <td>192.168.1.16</td> <td>Sercomm%20NA301</td> <td>1.7.961</td> <td>00:0C:29:00:00:00</td> <td>vera-us-oem-relay31.mios.com</td> </tr> </tbody> </table> <p>Toggle Details</p> <p style="text-align: right;">AltUI, amg0</p>	InternalIP	Platform	Firmware	Mac Address	Relay	192.168.1.16	Sercomm%20NA301	1.7.961	00:0C:29:00:00:00	vera-us-oem-relay31.mios.com
InternalIP	Platform	Firmware	Mac Address	Relay							
192.168.1.16	Sercomm%20NA301	1.7.961	00:0C:29:00:00:00	vera-us-oem-relay31.mios.com							
Home mode selection White & dark theme	<p>Welcome to VERA Alternate UI</p> <p>This is a project under work, more to come.</p> <table border="1"> <tr> <td>Home</td> <td>Away</td> <td>Night</td> <td>Vacation</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>AltUI, amg0</p>	Home	Away	Night	Vacation						
Home	Away	Night	Vacation								

Room list
and
create/delet
e actions

The screenshot shows the 'vera' web interface with the URL 192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#. The top navigation bar includes links for 'Messages', 'Maison / Pièces', 'Pièces', 'Périphériques', 'Scènes', 'Plugins', 'Pages Perso', and 'Plus...'. The main content area is titled 'Pièces' and displays a table of rooms. A search bar at the top of the table says 'Room name...'. A 'Créer' (Create) button is located above the table. The table has columns for 'ID', 'Name', and 'Actions'. The 'Actions' column contains small red trash can icons. The room list is as follows:

ID	Name	Actions
11	0-iPhones	
4	Bureau	
10	Ch Amis	
8	Ch Clementine	
7	Ch Parent	
5	Cine	
3	Cuisine	
13	Dressing	
6	Exterieur	
2	Hall Etagé	
14	Piscine	
12	RFX	
1	Salon	

Scene list and execution

The screenshot shows the VERA AltUI software interface. The left sidebar contains a navigation menu with categories like Tous, Favoris, Pas de Pièce, 0-IPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Extérieur, Hall Etage, Piscine, RFX, and Salon. The main area is titled "Scènes" and displays a list of 12 scenes, each with an "Exécute" button, edit icon, and delete icon. The scenes are:

Scene Name	Category	Last Run
Alexis 1km	Favoris	2015-07-23 13:24:58
Alexis 3km	Favoris	2015-07-21 20:14:29
Battery is Low	Tous	2015-01-31 18:52:28
CanalPlus	Tous	2015-07-23 00:31:33
Cine_PS3_OFF	Tous	2015-06-30 15:06:16
Cine_PS3_On	Tous	2015-06-30 14:59:17
Cine_Tv_Off	Tous	2015-06-14 22:45:29
Cine_TV_On	Tous	2015-05-25 14:33:42
Film-Regarder	Tous	2015-05-24 21:22:19
IPX not reachable	Tous	2015-05-25 14:33:42
Maison-AvecCam	Tous	2015-07-22 12:51:52
Maison-NoCam	Tous	2015-07-22 11:21:19

Device Main page

color coding of headers according to device state.

State icons & dynamic display icon logic completely reused from the Vera files JSON description files of vera plugins

The screenshot shows the VERA AltUI web interface on a computer screen. The title bar includes tabs for 'Vera™ Smarter Home C', 'MiOS Apps', 'VERA AltUI', and 'MiCasaVerde Forum - Ind...'. The main content area is titled 'Devices' with a breadcrumb 'Home / Devices' and a 'Messages' dropdown. On the left, a sidebar lists rooms: All, Favorites, No Room, 0-iPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Exterieur, Hall Etage, Piscine, RFX, and Salon. The main area displays a grid of 15 device cards:

- (*)Frederique Guede iPhone #95: 0.007 km, UNMUTED
- (*)iPhone de Alexis #94: 0.023 km, UNMUTED
- 3 in 1 sensor (light) #179: 18 % or lux
- 3 in 1 sensor (temperature) #178: 25°C
- 4 in 1 (Humidity) #65: 60 %
- 4 in 1 sensor #62: 49% (2015-06-25 22:49:10), ARM
- AEON Keyfob #139: ...
- 4 in 1 sensor light #64: 0 % or lux
- 4 in 1 sensor (temp) #63: 20°C
- Ampli 1 #185: OFF
- Ampli 2 #186: OFF
- Ampli Onkyo #100: 95 Watts, ON
- Bouteille #24: 2 Watts, ON
- CPLUS Decodeur #166: #3 FRANCE 3, ON
- ALTUI #162: NORMAL

Tooltips with device attributes

Devices

ZWave



Ø

Prise Groupe Clim



800 Watts

ON



Jardin



OFF



Bouteille



2 Watts

ON



Violet Clementine

_Scene Controller



Ø

Lamp



id: 6
device_type: urn:schemas-upnp-org:device:BinaryLight:1

id_parent: 1
embedded: 0

disabled: 0

device_file: D_BinaryLight1.xml

impl_file:

model:

altid: 4

ip:

mac:

time_created: 1331907034

category_num: 3

subcategory_num: 0

room: 1

name: Lampadaire

onDashboard: 0

device_json: D_BinaryLight1.json

manufacturer: Everspring

local_udn: uuid:4d494342-5342-5645-0006-000002b03150

dirty: false

Violet



Store

autocomplete
filter box

The screenshot shows the Vera AltUI web interface. The top navigation bar includes links for 'Smarter Home C', 'VERA AltUI', and 'JavaScript: How to genera...'. The main title is 'Devices' with a 'Create +' button. A search bar contains the text 'ipx'. On the left, a sidebar lists rooms: All, 0-iPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Exterieur, Hall Etage, and RFX. The main area displays several device cards. One card for 'IPX Lumiere Portail' has a green circular icon. Another card for 'IPX Relay1' shows a lightbulb icon with a green dot. A third card for 'IPX T Ext' shows a lightbulb icon with a red dot. A fourth card for 'IPX T Tuyau' shows a lightbulb icon with a yellow dot. A fifth card for 'IPX800' shows a lightbulb icon with a blue dot. Below these are two more cards: one for '0 2' with a lightbulb icon and a dropdown menu set to '#107'; and another for '4 in 1 sensor' with a sensor icon and a dropdown menu set to '#62'. Each card includes a toggle switch labeled 'OFF'.

Ability to filter on device Battery,

Display of battery levels

The image displays two screenshots of the VERA AltUI web interface, version 1.0.2, running on a local network at 192.168.1.16.

Screenshot 1 (Top): Devices Overview

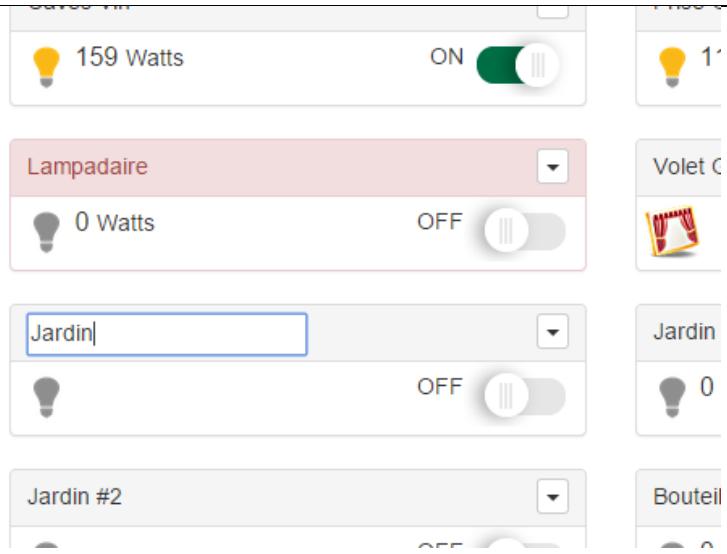
This screenshot shows the main "Devices" page. On the left is a sidebar with room categories: All, No Room, 0-iPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Exterieur, Hall Etage, Piscine, and RFX. The main area shows three devices: "Ampli Onkyo" (#100), "Bouteille" (#123), and "CPLUS" (#166). The "Bouteille" device is highlighted with a green status bar indicating "0 Watts" and "OFF". Below the devices is a search bar for "Device Name".

Screenshot 2 (Bottom): Device Category Filtering

This screenshot shows the same interface but with a different view. A dropdown menu is open over a device entry for "Humidity" (#111), which shows "72 %". The dropdown menu lists various device categories: All, Camera, Dimmable Switch, Humidity Sensor, Light Sensor, On/Off Switch, Remote, Scene Controller, Sensor, Temperature Sensor, and Window covering. To the right of the dropdown, another device entry for "RFX Hum" (#111) is shown with "72 %".

Click on device title
to rename

Exterieur
Ch Parent
Ch Clementine
Ch Amis
0-iPhones
RFX
Dressing



Device Control Panel screen emulate VERA and display the same control panel as the “flash” tab of the device on VERA

Button are functional are trigger UPNP actions.

“UsedIn” button to show how a device is used in triggers & scene actions

The top screenshot shows the 'Messages' tab for an iPhone device. The device details are as follows:

- Attributes: PRESENT, UNMUTED, UNDEBUG
- Variables: 0-iPhones
- Actions: Refresh
- Used in: (button)

The bottom screenshot shows the 'Control' tab for an IPX800 device. The configuration options are:

- IPX ip:(port): 192.168.1.10
- Update Frequency: 180 seconds.
- Show Output Relays: 1,2,3,4,5,6,7
- Show Digital Input:
- Show Analog Inputs: 1,2
- Special actions: GetIPX Names

The image displays two side-by-side screenshots of the Vera UI interface.

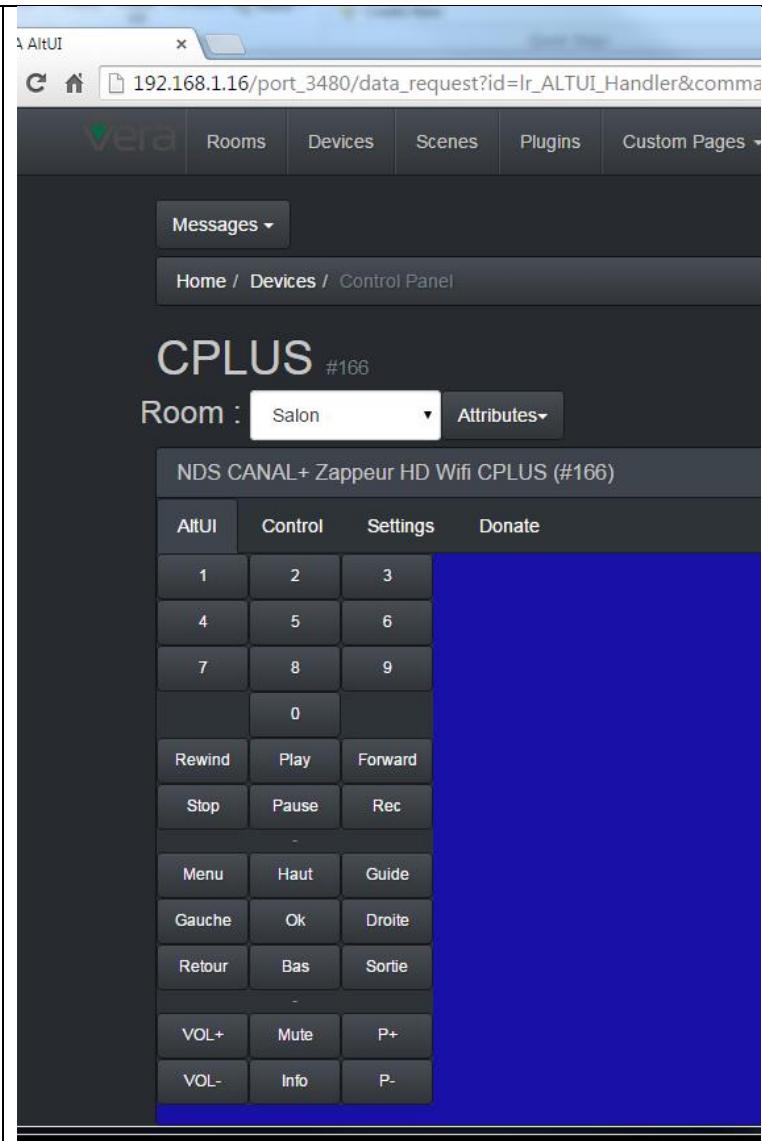
Top Screenshot: A detailed view of a device named "(*iPhone de Alexis #94)". The "Used in" tab is selected, showing four triggers associated with this device:

- trigger 'Below 1km' in scene #57 'Alexis 1km'
- trigger 'Above 3km' in scene #56 'Alexis 3km'
- trigger 'AM is away' in scene #49 'Maison-AvecCam'
- trigger 'AM is present' in scene #48 'Maison-NoCam'

Bottom Screenshot: A control panel for a "Thermostat Thermostats #6". The "Room" dropdown is set to "No Room". The control area includes:

- Thermostat buttons: Off, Auto, Cool, Heat
- Fan buttons: Auto, On, Cycle
- Energy Save buttons: Energy, Normal
- Temperature sliders: 34 (red) and 68 (blue)

Default control panel can be overridden by a custom JS panel.
Example for the CPLUS plugin



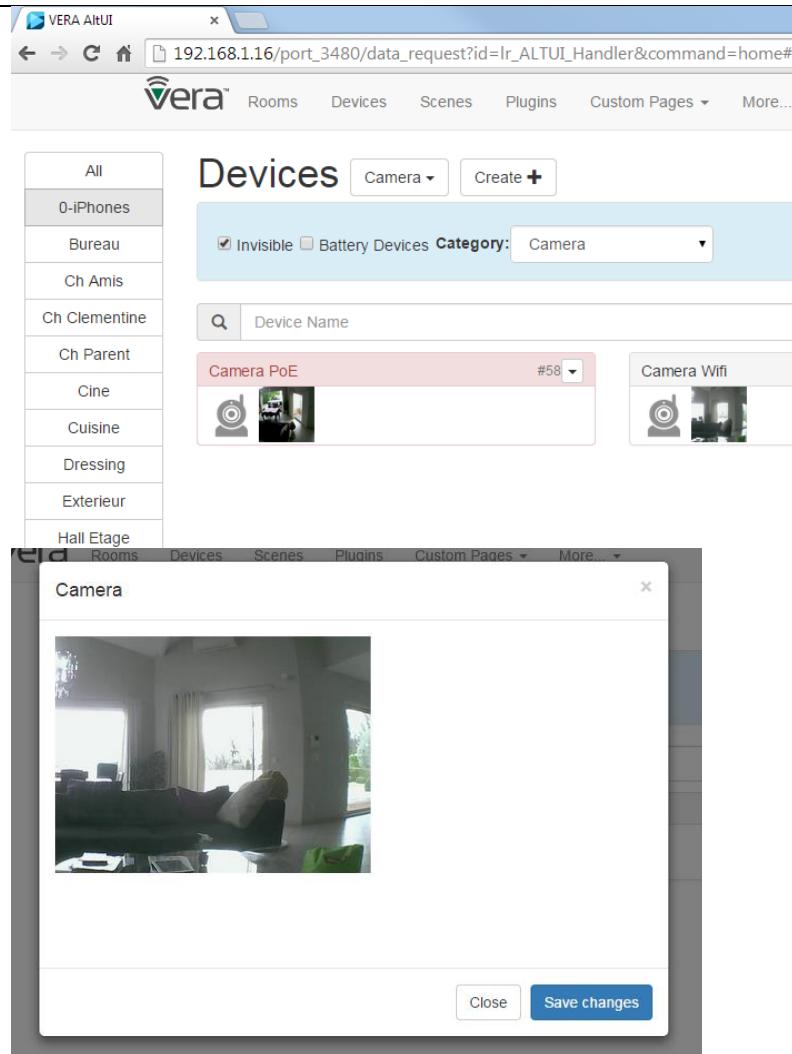
Camera support.

Click on thumbnail to view

Or go into the device control panel

In REMOTE mode: get snapshot of images

In LOCAL mode: get **direct video** stream



	<p>Room : Salon Attributes Debug</p> <p>Horizontal Patrol Stop Vertical Patrol</p> <p>Camera preset positions</p> <p>1 2 3 4 5 6 7 8</p>																																																			
<p>Optional display of device attributes &</p> <p>In DEBUG mode only (flag on the LUA device) We can see the Control tab json definition (for debug)</p>	<table border="1"> <thead> <tr> <th>Room :</th> <th>No Room</th> <th>Attributes</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>125</td> <td>device_type</td> <td>urn:schemas-upnp-org:device:IP</td> <td>room</td> <td>0</td> <td>id_parent</td> <td>0</td> </tr> <tr> <td>embedded</td> <td>0</td> <td>disabled</td> <td>0</td> <td>device_file</td> <td>D_IPX800.xml</td> <td>altid</td> <td></td> </tr> <tr> <td>time_created</td> <td>1416757981</td> <td>plugin</td> <td>7426</td> <td>impl_file</td> <td>I_IPX800.xml</td> <td>name</td> <td>IPX800</td> </tr> <tr> <td>manufacturer</td> <td>GCE Electronic</td> <td>model</td> <td>IPX800 v3</td> <td>mac</td> <td>00:04:A3:93:A2:7B</td> <td>user</td> <td></td> </tr> <tr> <td>pass</td> <td></td> <td>ip</td> <td>192.168.1.10</td> <td>device_json</td> <td>D_IPX800_UI7.json</td> <td>local_udn</td> <td>uuid:4d494342-5342-5645-007d</td> </tr> <tr> <td>dirty</td> <td>false</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>GCE Electronic IPX800 v3 IPX800 (#125)</p> <p>Control Settings Donate</p> <p>Firmware 3.05.46 Version v0.42 UNDEBUG</p> <p>Refresh IPX Names</p>	Room :	No Room	Attributes	id	125	device_type	urn:schemas-upnp-org:device:IP	room	0	id_parent	0	embedded	0	disabled	0	device_file	D_IPX800.xml	altid		time_created	1416757981	plugin	7426	impl_file	I_IPX800.xml	name	IPX800	manufacturer	GCE Electronic	model	IPX800 v3	mac	00:04:A3:93:A2:7B	user		pass		ip	192.168.1.10	device_json	D_IPX800_UI7.json	local_udn	uuid:4d494342-5342-5645-007d	dirty	false						
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time_created	1416757981	plugin	7426	impl_file	I_IPX800.xml	name	IPX800																																													
manufacturer	GCE Electronic	model	IPX800 v3	mac	00:04:A3:93:A2:7B	user																																														
pass		ip	192.168.1.10	device_json	D_IPX800_UI7.json	local_udn	uuid:4d494342-5342-5645-007d																																													
dirty	false																																																			

Fully Responsive design that works on iPad or even iPhone 4S small screen

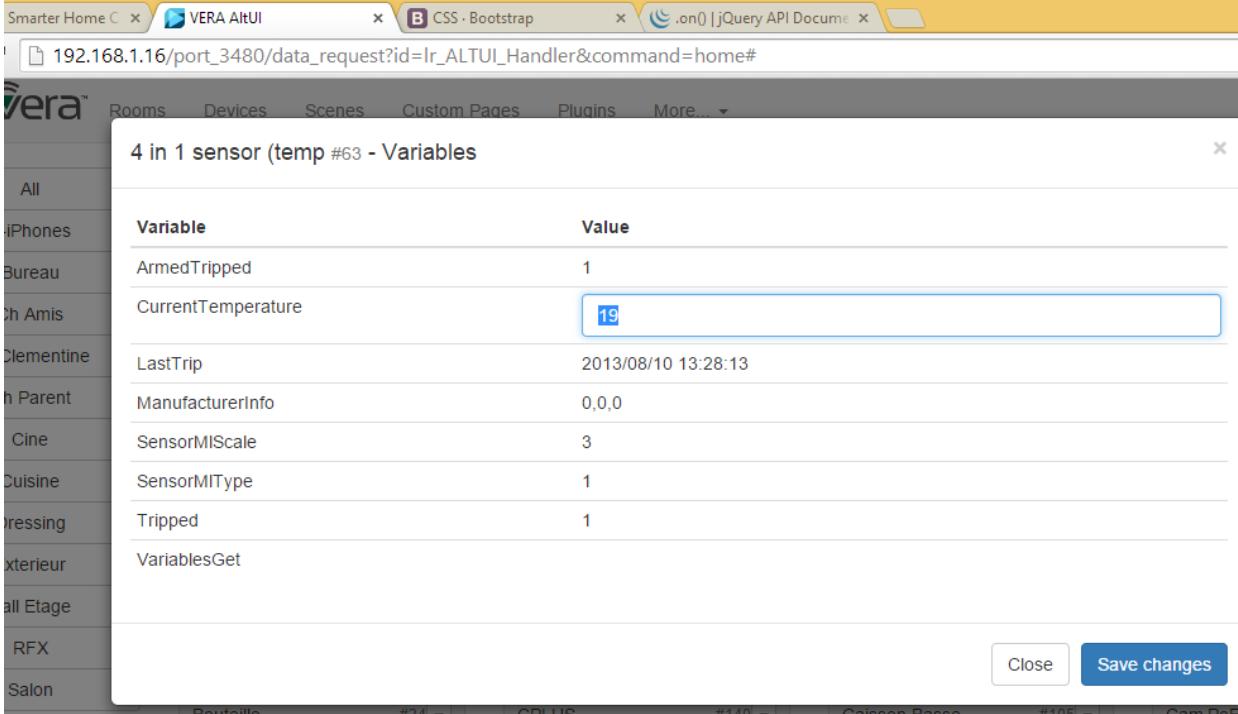
On iPad for instance, it adds columns when you rotate the iPad

The image displays two screenshots of the Vera mobile application. The left screenshot shows the 'Devices' screen, which includes a search bar, a filter dropdown, and a list of devices. The first device listed is '(*Frederique Guede iPhone' located at 0.018 Km, and the second is '(*iPhone de Alexis' located at 0.024 Km. The right screenshot shows the 'Rooms' screen, which includes sections for 'Rooms', 'Devices', 'Scenes', and 'More...'. It also shows two light switch controls labeled '0%' and 'OFF'.

Device variables presented. Timestamp presented as dates , url as clickable url

The image displays a screenshot of the Vera web interface, specifically the 'Variables' section for a '4 in 1 sensor (temp #0-63'. The table lists the following variables:

Variable	Valeur
ArmedTripped	1
CurrentTemperature	22
LastTrip	10/8/2013 13:28:13
ManufacturerInfo	0,0,0
SensorMIScale	3
SensorMIType	1
Tripped	1
VariablesGet	

	<table border="1"> <tr><td>PrevDistance</td><td>0.022</td></tr> <tr><td>PrevLat</td><td>45.226020072629</td></tr> <tr><td>PrevLong</td><td>5.7773084007257</td></tr> <tr><td>PrevUpdate</td><td>06/05/2015 09:16:54 <input type="button" value="x"/> <input type="button" value="^"/> <input type="button" value="▼"/></td></tr> <tr><td>RTSpeed</td><td>0</td></tr> <tr><td>Range</td><td>0.2</td></tr> <tr><td>RootPrefix</td><td>(*)</td></tr> </table> <table border="1"> <tr><td>LocationExtraInfo</td><td>GPS:10:false</td></tr> <tr><td>MapUrl</td><td>http://maps.google.com/?q=%28%2A%29iPhone+de+Alexis@45.226040692111,5.777306389069</td></tr> <tr><td>MsgText</td><td>Poll: 2015-05-06 09:36 / 600 s</td></tr> <tr><td>MsgText2</td><td>0.02 Km @ 0.00 Km/h on 2015-05-06 09:27</td></tr> <tr><td>Muted</td><td>0</td></tr> <tr><td>Password</td><td>Q2xlbtB0aW5l</td></tr> </table>	PrevDistance	0.022	PrevLat	45.226020072629	PrevLong	5.7773084007257	PrevUpdate	06/05/2015 09:16:54 <input type="button" value="x"/> <input type="button" value="^"/> <input type="button" value="▼"/>	RTSpeed	0	Range	0.2	RootPrefix	(*)	LocationExtraInfo	GPS:10:false	MapUrl	http://maps.google.com/?q=%28%2A%29iPhone+de+Alexis@45.226040692111,5.777306389069	MsgText	Poll: 2015-05-06 09:36 / 600 s	MsgText2	0.02 Km @ 0.00 Km/h on 2015-05-06 09:27	Muted	0	Password	Q2xlbtB0aW5l
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MsgText2	0.02 Km @ 0.00 Km/h on 2015-05-06 09:27																										
Muted	0																										
Password	Q2xlbtB0aW5l																										
Edit device variable by click into , then click out	 <p>The screenshot shows a browser window with the URL http://192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#. The page title is "VERA AltUI". The left sidebar lists rooms: All, iPhone, Bureau, Ch Amis, Clementine, Ch Parent, Cine, Cuisine, Dressing, Extérieur, Hall Etage, RFX, and Salon. The main content area is titled "4 in 1 sensor (temp #63 - Variables)". It displays a table with columns "Variable" and "Value". The table rows are:</p> <table border="1"> <thead> <tr> <th>Variable</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>ArmedTripped</td> <td>1</td> </tr> <tr> <td>CurrentTemperature</td> <td>19</td> </tr> <tr> <td>LastTrip</td> <td>2013/08/10 13:28:13</td> </tr> <tr> <td>ManufacturerInfo</td> <td>0,0,0</td> </tr> <tr> <td>SensorMIScale</td> <td>3</td> </tr> <tr> <td>SensorMIType</td> <td>1</td> </tr> <tr> <td>Tripped</td> <td>1</td> </tr> <tr> <td>VariablesGet</td> <td></td> </tr> </tbody> </table> <p>At the bottom right are "Close" and "Save changes" buttons.</p>	Variable	Value	ArmedTripped	1	CurrentTemperature	19	LastTrip	2013/08/10 13:28:13	ManufacturerInfo	0,0,0	SensorMIScale	3	SensorMIType	1	Tripped	1	VariablesGet									
Variable	Value																										
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SensorMIScale	3																										
SensorMIType	1																										
Tripped	1																										
VariablesGet																											

History of variable changes (based on Lua logs)

Date	Ancien	Nouveau
07/23/15 13:36:36.659	22	22
07/23/15 14:04:36.711	22	22
07/23/15 14:32:36.597	22	22

Device UPNP action & parameters callable from the user interface. UPnp definitions dynamically read from the D_ & S_xx files

Installed
Plugin
screen and
Update with
a button

Nom	Version	Fichiers	Actions	Mise à jour	Désinstaller
Virtual ON/OFF Switches	1.32	Fichiers	?		
Wunderground Weather Plugin	1.58	Fichiers	?		
VistaCam PT&HD IP Cameras	3.0	Fichiers	?		
Day or Night	3.5	Fichiers	?		
Samsung TV Remote	0.5	Fichiers	?		
iPhone Detector Plugin	2.3	Fichiers	?		
IPX800	0.43	Fichiers	?		
Freebox Revolution	1.0	Fichiers	?		
HouseModes Plugin	1.60	Fichiers	?		
Alternate UI	0.62	Fichiers	?		

Click on “I” directly brings to Apps Store
 Click on “update” triggers an update of the plugin from the apps store
 Click on “?” opens the developer HELP page
 Select a file opens the file content display page (cf next slide)

File content
display box

```

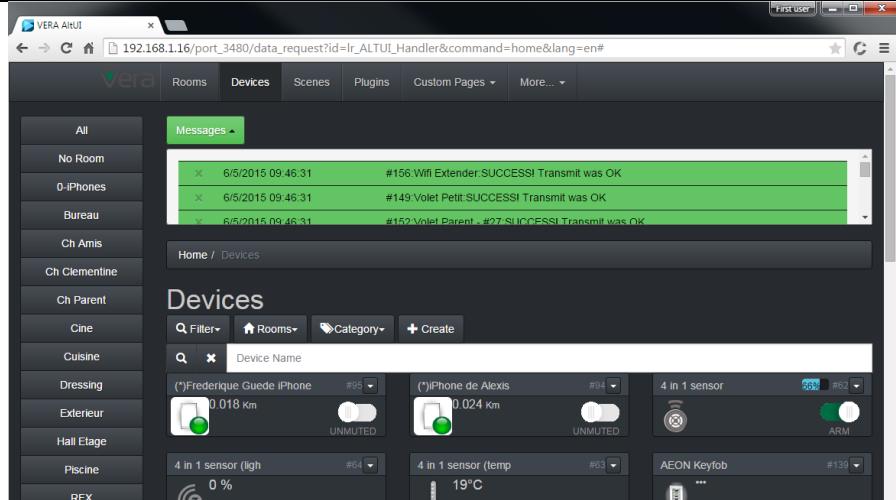
D_VSwitch.json:
{
  "flashicon": "icons\\iconVSwitch.png",
  "halloIconsDir": "pics\\hallo",
  "state_icons": [
    "iconVSwitch_0.png",
    "iconVSwitch_100.png"
  ],
  "x": "2",
  "y": "4",
  "inScene": "1",
  "DisplayStatus": {
    "Service": "urn:upnp-org:serviceId:VSwitch1",
    "Variable": "Status",
    "minValue": "0",
    "MaxValue": "1"
  },
  "doc_url": {
    "doc_language": 1,
    "doc_manual": 1,
    "doc_version": 1,
    "doc_latestversion": 0
  }
}

```

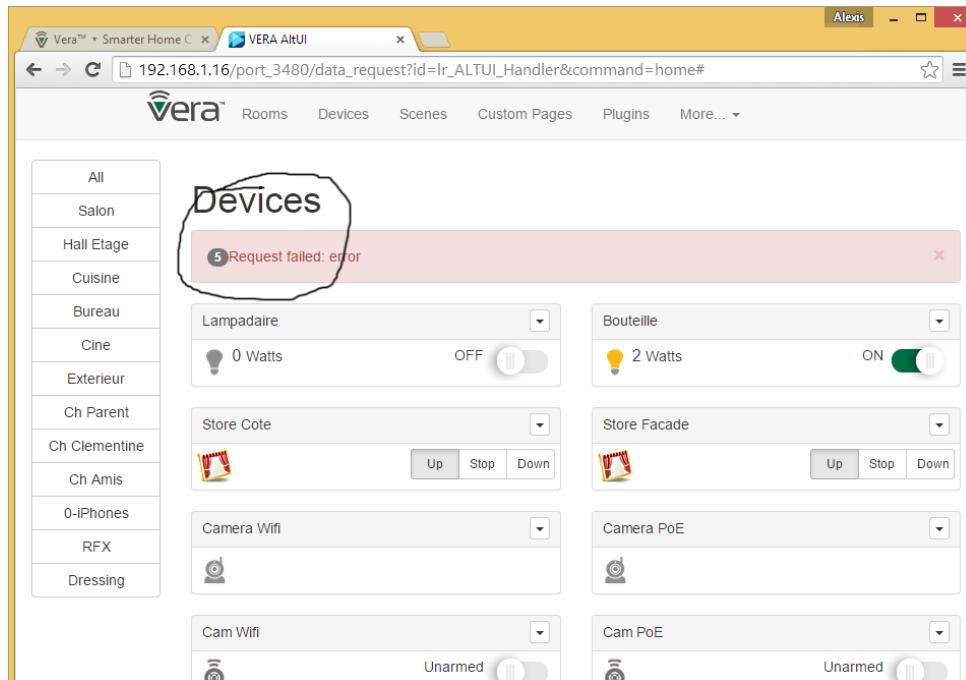
[Download](#)

Message Box for messages.

Badge for repeated messages.



Example of “grouped” error message with a badge number while LUA is restarted for instance



Modify Lua Startup editor

The screenshot shows a browser window titled "VERA AltUI" with the URL "192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#". The page title is "LUA Startup". A section titled "Lua startup code:" contains the following Lua code:

```
MYIP = nil
-- luup.attr_set("invisible","",20)

--- DEVICES
DEVID_CAVE = 3
DEVID_CLIM = 4
DEVID_WND_BUREAUPEIT = 26
DEVID_WND_STORECOTE = 29
DEVID_WND_STOREFAACADE = 30
DEVID_VACATION = 31
DEVID_MOTION_ENTREE = 156
DEVID_MOTION_411 = 62
DEVID_LIGHT_LAMPADAIRE = 6
DEVID_LIGHT_BOUTEILLE = 24
DEVID_LIGHT_CINE = 32
DEVID_LIGHT_JARDIN = 20
DEVID_LIGHT_ENTREE = 41
DEVID_LIGHT_ESCALIER = 51
DEVID_WEATHER = 45
DEVID_TEMP_EXT = 46
```

A "Submit" button is located below the code editor.

Lua test code

The screenshot shows a browser window titled "Vera" with the URL "192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#". The page title is "LUA Code Test". A green notification bar at the top says "Test code succeeded". Below it, a message states: "This test code will succeed if it is syntactically correct and does not return false. an error in the code or a return false will trigger a failure". A "Lua Test Code:" input field contains the code "return true". A "Submit" button is located below the input field.

Scene editor

VERA AltUI

Rooms Devices Scenes Plugins Custom Pages More... ▾

Messages -

Home / Scenes / Scene Edit

Edit Scene #57

Alexis 1km

Run ✓ 2015-05-05 09:05:37

Room :

D-IPhones

Name :

Alexis 1km

Runs in mode :

Home Away Night Vacation

Triggers -

Below 1km (*)iPhone de Alexis (#94) Distance goes below Distance < 1

+

Timers -

+

Actions -

0 sec

+

Lua

Lua scene code:

```
--- message
local current = os.time()
local message = "\nBelow 1km. \nHeure:" .. os.date("%c",current) .. "\n"
pushingbox_notify( message )
return true
```

The screenshot shows a user interface for creating a automation rule in a home automation system. The rule consists of four main components: a Timer, a Trigger, a Scene Group, and a Group Action.

Timer

- TimerName:** new timer
- TimerType:** day of week
- TimerDayOfWeek:** Mo, Tu, We, Th, Fr, Sa, Su (checkboxes)
- TimerTime:** hh:mm:ss (text input) and At a certain time of day (dropdown)

Trigger

- TriggerName:** enter TriggerName
- Device:** 4 in 1 sensor
- Events:** Whenever _DEVICE_NAME_ is armed and detects motion (selected)
- Other options include:
 - Select ...
 - Whenever _DEVICE_NAME_ is armed and stops detecting motion
 - Whenever _DEVICE_NAME_ detects motion whether is armed or disarmed
 - Whenever _DEVICE_NAME_ stops detecting motion whether is armed or disarmed
 - Battery level goes below

Scene Group

- Delay:** enter Delay

Group Action

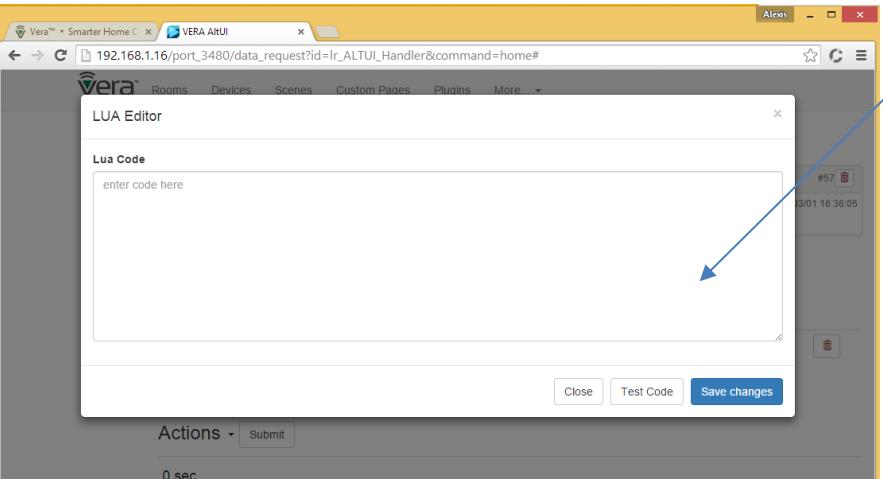
- Device:** Escalier
- Action:** SetTarget
- newTargetValue:** 1

Lua event trigger (does not exist any more in UI7 but it works fine) so I added it back with a test code button right there

Trigger timing restriction

Trigger

Below 1km (*)iPhone de Alexis (#94) Distance goes below Distance < 1



0 sec

Lua

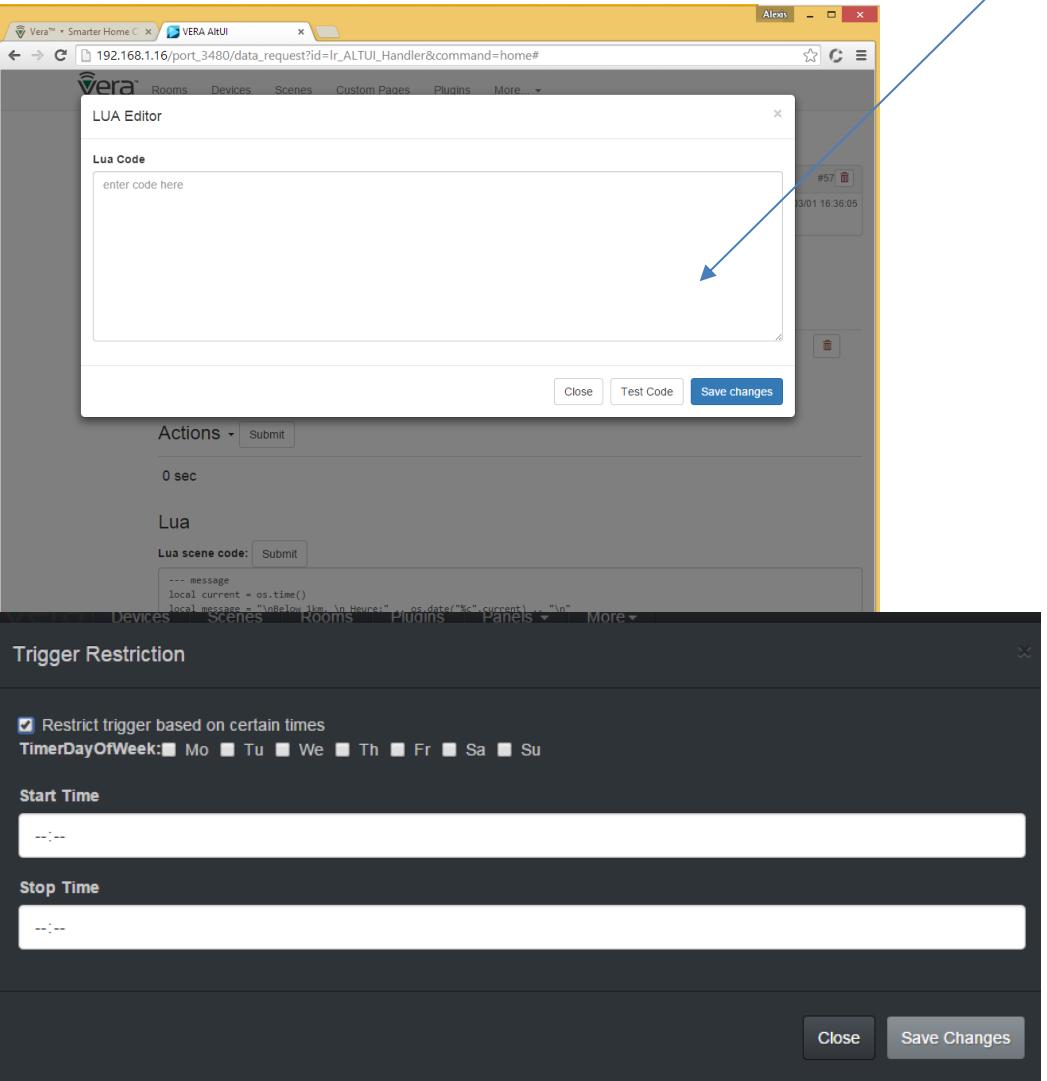
```
--- message  
local current = os.time()  
local message = "\nBelow 1km in Heure:\n" .. os.date("%c", current) .. "\n"
```

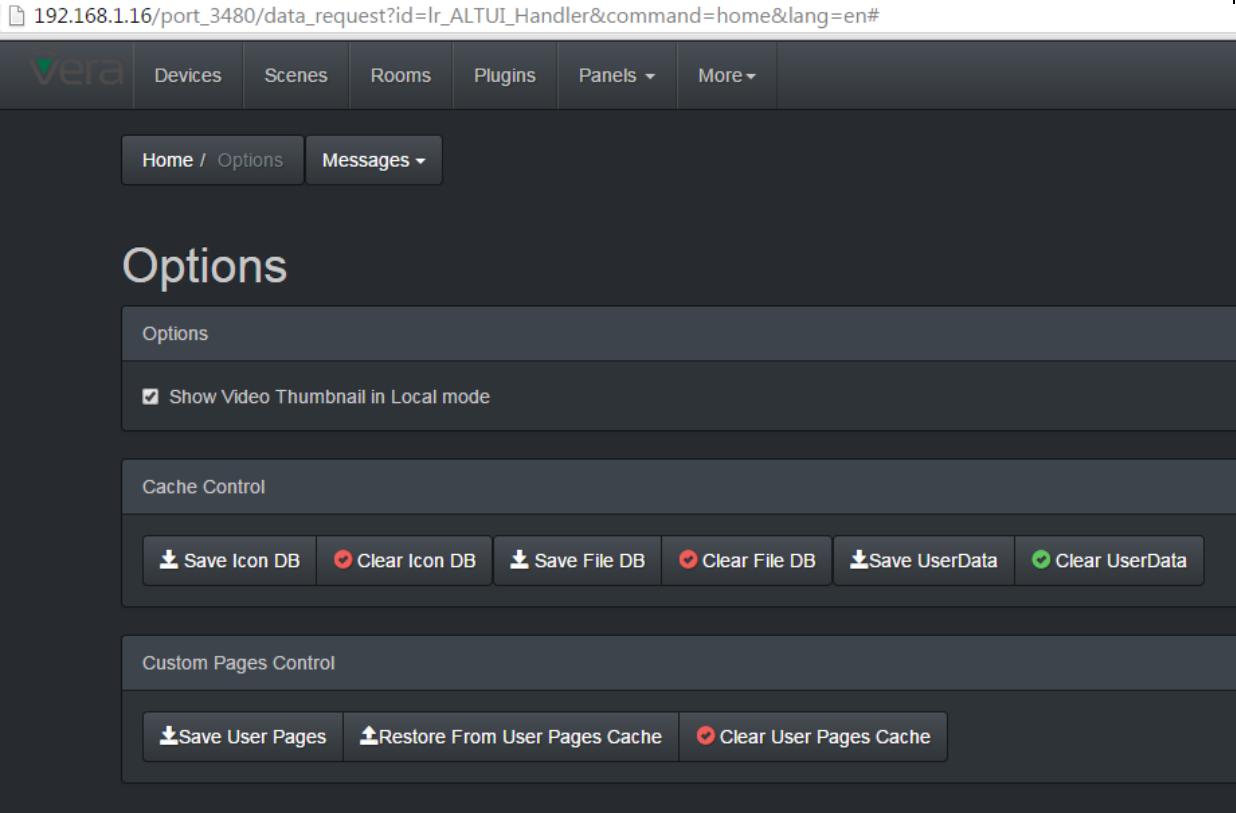
Restrict trigger based on certain times
TimerDayOfWeek: Mo Tu We Th Fr Sa Su

Trigger Restriction

Start Time
--:--

Stop Time
--:--



OPTIONS and User controllable Cache	<p>Cache for Icons (in remote access, icons are delivered as data uri , base64 and can be cached by the app)</p> <p>Cache for device pnp files (D_xx S_xx) to avoid reloading when not needed.</p> <p>Cache for last user_data to optimize useage from remote location.</p> 
--	---

OS commands with editor of favorite commands

The screenshot shows the Vera OS Command interface. At the top, there is a navigation bar with links for Home, Devices, Scenes, Rooms, Plugins, Panels, More, and a search bar. Below the navigation bar, the title "OS Command" is displayed. A sub-header "Enter a Vera OS (Unix) command, the stdout will be returned and displayed below" is present. A horizontal menu bar contains links for Frequent Commands, Disk Usage, Free Space (which is selected), Plugin Files, Log Sizes, Search Logs, and Tail Logs. Below the menu, a table lists favorite commands with their actions and labels:

Actions	Label	Command
disk	Disk Usage	du
space	Free Space	df -h
plugin	Plugin Files	ls -l /etc/cmh-ludi
log	Log Sizes	ls -l /var/log/cmh
log	Search Logs	cat /var/log/cmh/LuaUPnP.log grep '(O)'
log	Tail Logs	tail -n 50 /var/log/cmh/LuaUPnP.log

Below the table, there is a section labeled "OS Command" containing a text input field with "df -h" and a "Run" button. At the bottom, there is a section labeled "Output" displaying the results of the "df -h" command:

```
Filesystem      Size   Used Available Use% Mounted on
rootfs        9.5M    3.5M     6.0M  36% /
/dev/root      9.5M    9.3M      0 100% /root
tmpfs         61.9M   2.0M    59.9M  3% /tmp
/dev/mtdblock6 9.5M    3.5M     6.0M  36% /overlay
overlayfs:/overlay 9.5M    3.5M     6.0M  36% /
tmpfs         512.0K    0     512.0K  0% /dev
/dev/mtdblock10 64.8M   7.5M    57.2M  12% /storage
/dev/mtdblock10 64.8M   7.5M    57.2M  12% /etc/cmh-firmware
/dev/mtdblock10 64.8M   7.5M    57.2M  12% /etc/cmh-backup
/dev/mtdblock9   4.8M    4.8M      0 100% /mios
```

Credits

192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home&lang=en#

Vera Devices Scenes Rooms Plugins Custom Pages More... ▾

Home / Credits Messages ▾

Credits

GetVera (<http://getvera.com/>)
the zWave Getaway and backend platform

Bootstrap (<http://getbootstrap.com/>)
set of css and javascript components for responsive design user interfaces

jQuery (<http://jquery.com/>)
javascript framework and browser differences abstraction layer

jQueryUI (<http://jqueryui.com/>)
jQuery User Interface widgets (like slider)

Touch Punch (<http://touchpunch.furf.com/>)
jQuery UI fix for touch screen devices

Bootstrap Validator (<https://github.com/1000hz/bootstrap-validator>)
Form validator in Bootstrap 3 style

D3js (<http://d3js.org/>)
D3 Data Driven Documents & Les Miserables tutorial

Bootgrid (<http://www.jquery-bootgrid.com/>)
Jquery Bootstrap Grid

amg0 (<http://forum.micasaverde.com/>)
reachable as amg0 on this forum

Plugins / Custom device

Freebox Server #113

Room : Salon Attributes

Freebox Server (#113)

Configuration		Server		Périphériques		Appels		Player		TTS	
Télécommande (ID):	28067401	Player:	Player 1	Sauver							
AV	Freebox	On/Off		Up							
1	2	3	Left	OK	Right						
4	5	6		Down							
7	8	9	Vol +	Mute	Prog +						
	0		Vol -	Rec	Prog -						
TV	TNT	Radio	<<	Play/Pause	>>						
Nombre (numéro chaîne):				Envoyer							

ZWave Network neighborhood view

VERA AltUI

192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#

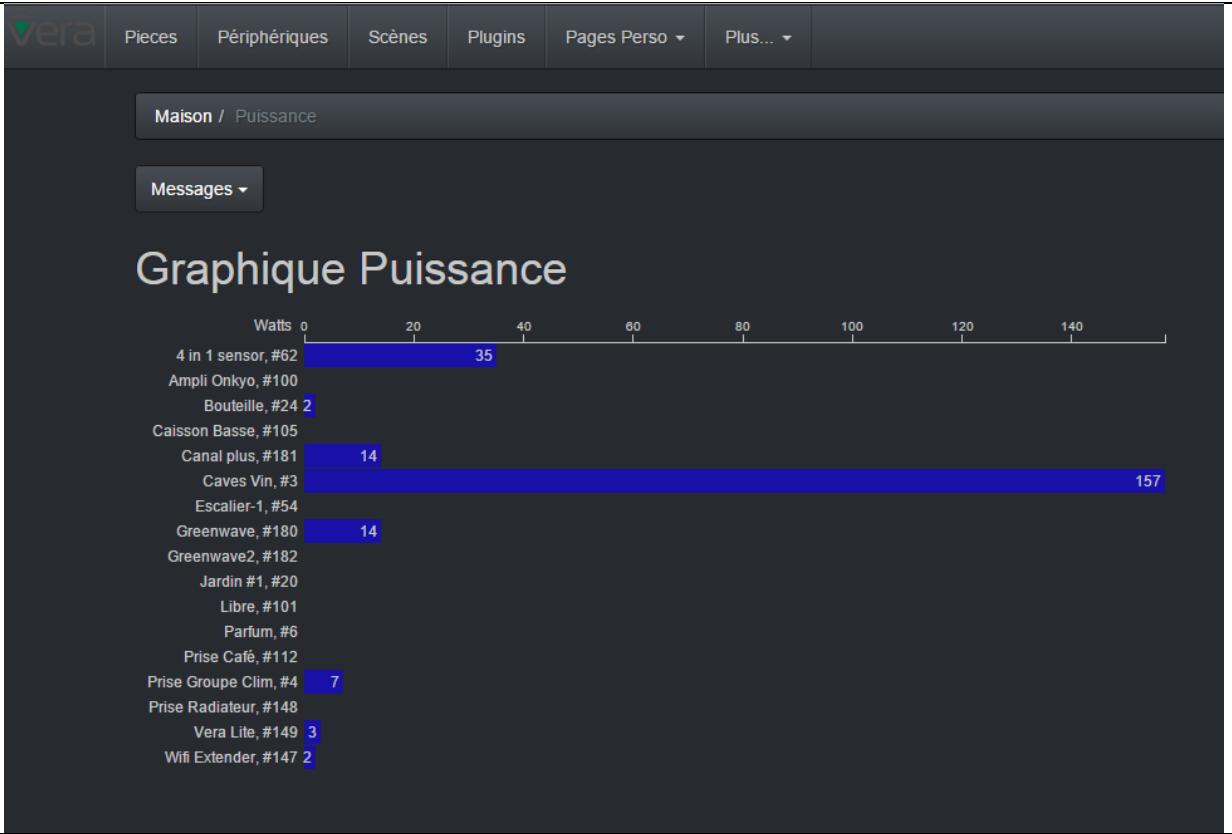
Maison / ZWave

Messages

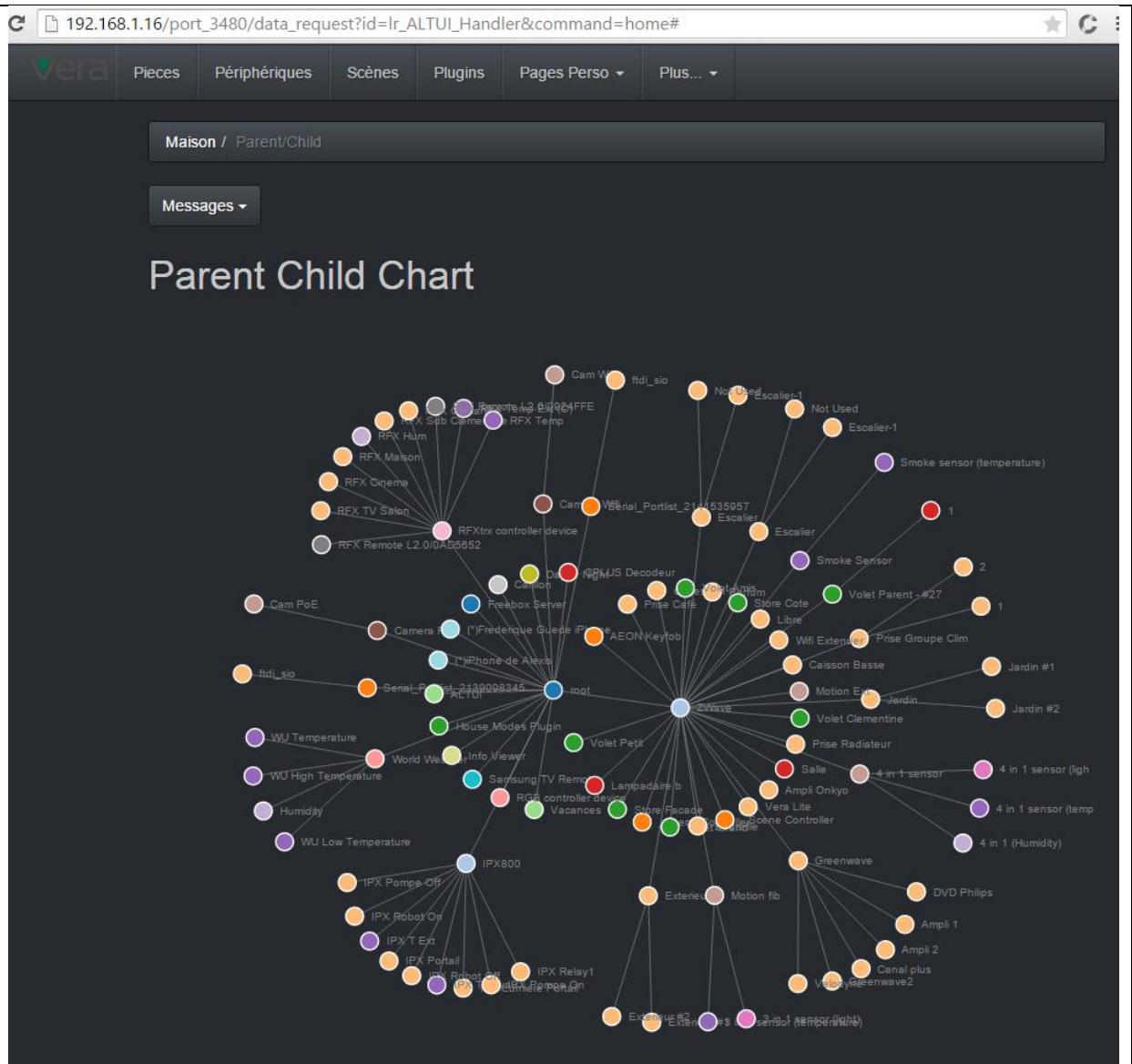
ZWave Network

The ZWave Network neighborhood view displays a grid of devices and their connections. The vertical axis lists devices: Scene Controller, #2; Caves Vin, #3; Prise Groupe Clim, #4; Lampadaire, #6; Volet Grand, #7; Jardin, #19; Bouteille, #24; Volet Petit, #26; Volet Parent - #27, #27; Volet Clementine, #28; Store Cote, #29; Store Façade, #30; Salle, #32; Extérieur, #40; Volet Amis, #44; Escalier, #50; Escalier, #51; 4 in 1 sensor, #62; Ampli Onkyo, #100; Amplis, #101; Caisson Basse, #105; Prise Café, #112; AEON Keyfob, #139; Wifi Extender, #147; Prise Radiateur, #148; Vera Lite, #149; Scene Controller, #155. The horizontal axis represents the neighborhood, with connections shown as red squares in the grid.

Power
Energy



Parent Child
force layout
diagram



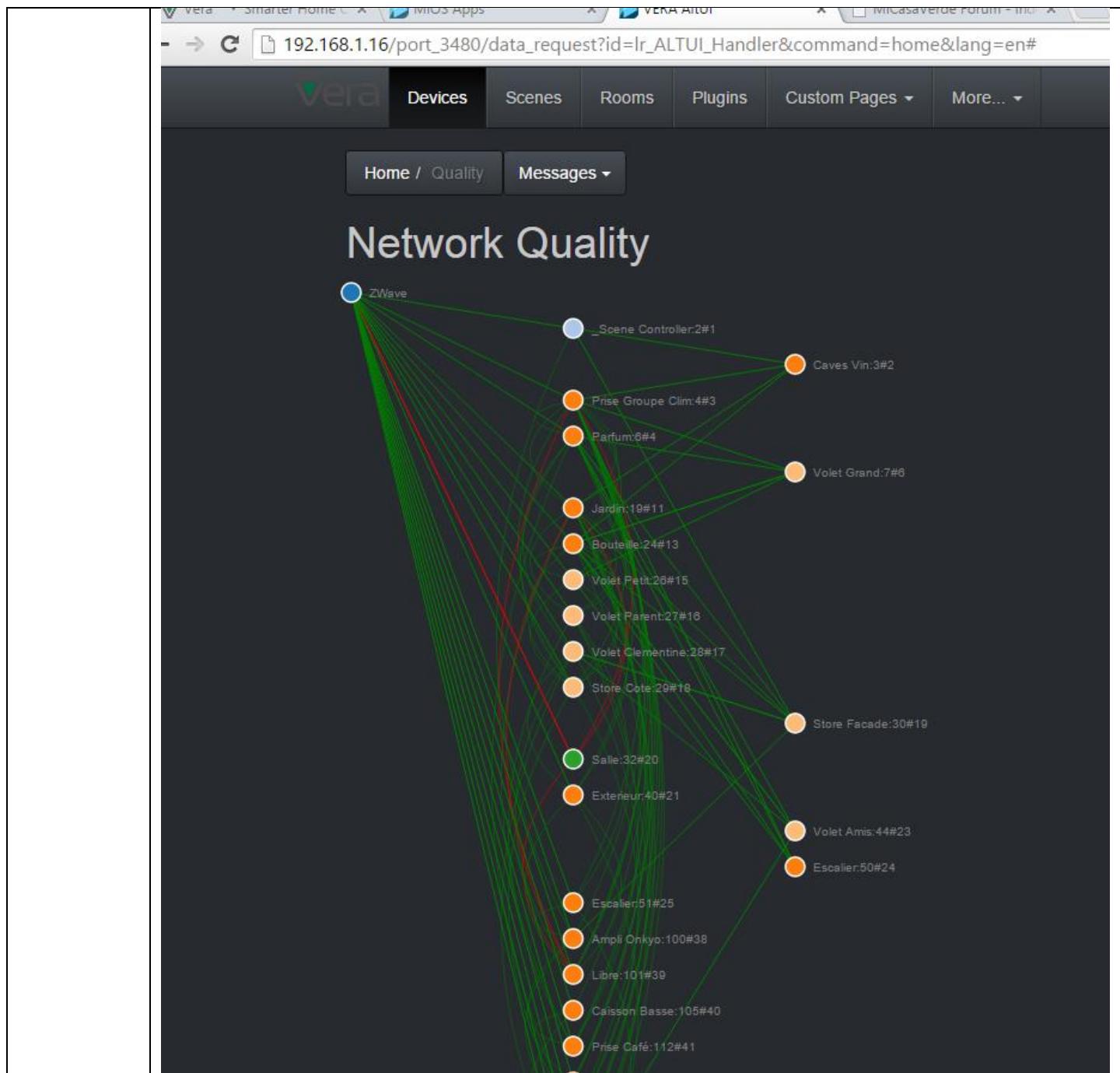


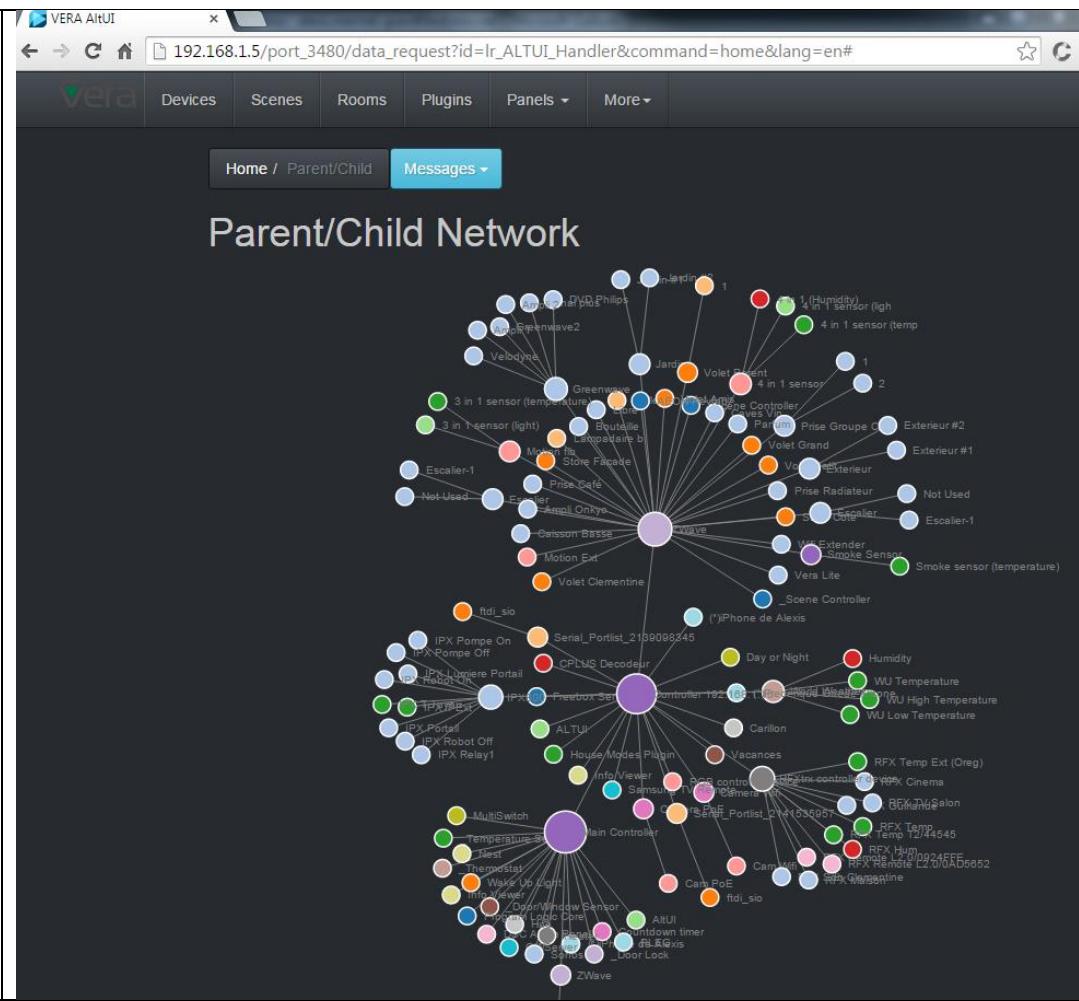
Table with
selectable
and
orderable
columns

The screenshot shows a web browser window with the address bar displaying "192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#". The page title is "VERA AIRUI". The main content area is titled "Table Périphériques". The table has the following columns: id, atid, id_parent, name, device_type, device_file, impl_file, and device_json. The table contains 103 entries, with the first few rows shown below. A navigation bar at the bottom includes icons for back, forward, search, and page numbers (1 to 5).

id	atid	id_parent	name	device_type	device_file	impl_file	device_json
95	0		(*)Frederique Guede iP...	urn:schemas-upn...	D_IPhone.xml	I_IPhone.xml	D_IPhone_UI7.json
94	0		(*)iPhone de Alexis	urn:schemas-upn...	D_IPhone.xml	I_IPhone.xml	D_IPhone_UI7.json
106	e1	4	1	urn:schemas-upn...	D_BinaryLight1.xml		D_BinaryLight1.js...
102	e1	27	1	urn:schemas-upn...	D_DimmableLigh...		D_DimmableLigh...
107	e2	4	2	urn:schemas-upn...	D_BinaryLight1.xml		D_BinaryLight1.js...
179	m3	177	3 in 1 sensor (light)	urn:schemas-mic...	D_LightSensor1....		D_LightSensor1.j...
178	m1	177	3 in 1 sensor (temperat...	urn:schemas-mic...	D_TemperatureS...		D_TemperatureS...
65	m5	62	4 in 1 (Humidity)	urn:schemas-mic...	D_HumiditySens...		D_HumiditySens...
62	30	1	4 in 1 sensor	urn:schemas-mic...	D_MotionSensor...		D_MotionSensor...
64	m3	62	4 in 1 sensor (ligh	urn:schemas-mic...	D_LightSensor1....		D_LightSensor1.j...

Showing 1 to 10 of 103 entries

Multi Controller mode



AltUI #0-23

Attributes Variables Actions Used in

toto AltUI (#23) No Room ▾

Control Settings Donate

Run Open Window

Theme //docs.google.com/uc?authuser=0&id=0B6TVdm2A9rnNLWlIeEZC

Home Page /port_3480/data_request?id=lr_ALTUI_Handler&command=home

- home=(pageHome , pageRooms , pageDevices , pageScenes , pageSceneEdit , pageUsePages , pageEditPages , pageCredits , pageLuaTest , pageLuaStart , pageZwave , pageLocalization , pagePower , pageChildren , pageRoutes , pageOsCommand)
- lang=(en , fr , it)

Local CDN ? optional localcdn pathname, uses internet otherwise

Extra Controllers 192.168.1.16

Config {"urn:schemas-micasaverde-com:device:PowerMeter:1": {"DeviceDrawFunc":"ALTUI_PluginDisplays.drawPowerMeter","ScriptFile":"J_ALTUI_plugins.js"}, "urn:schemas-micasaverde-com:device:SmokeSensor:1": {"DeviceDrawFunc":"ALTUI_PluginDisplays.drawSmok

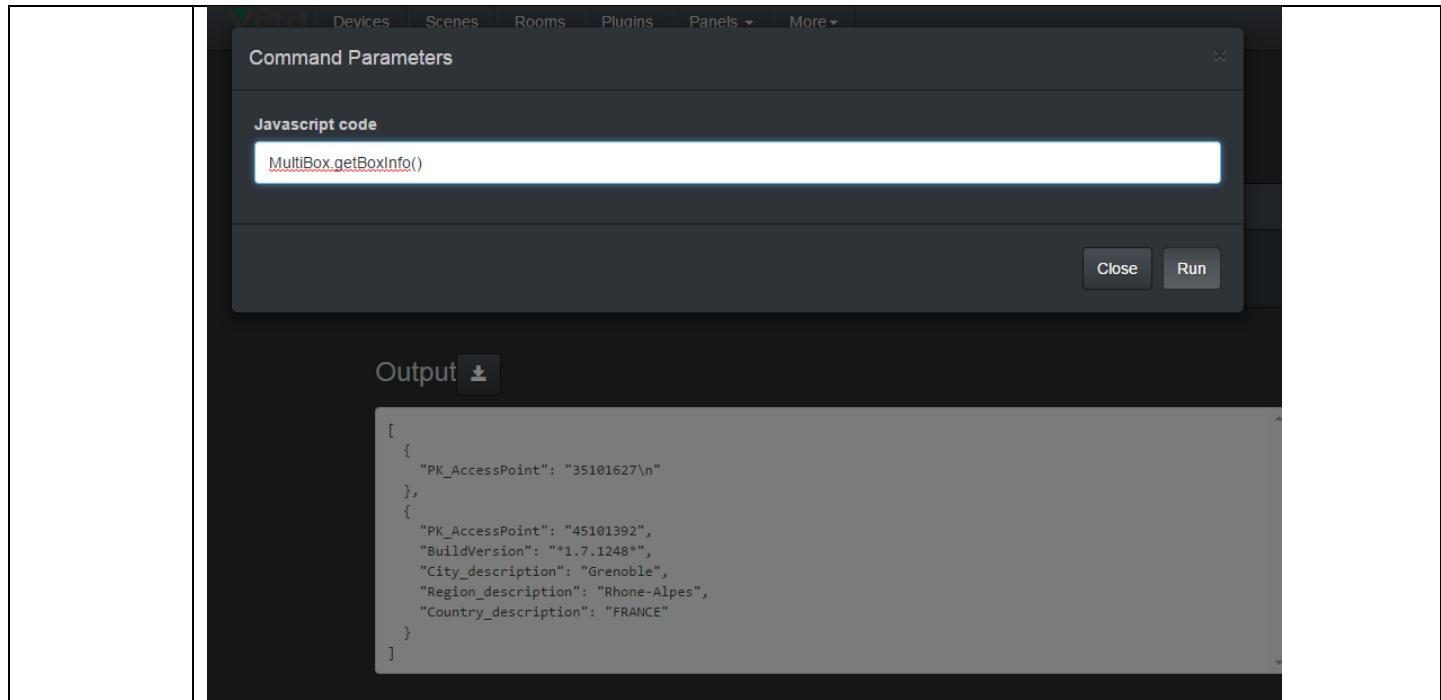
Actions View Configuration | Set Configuration | Default Configuration

The screenshot shows the configuration interface for an AltUI device. At the top, there's a header with the device name 'toto AltUI (#23)' and a '#0-23' identifier. Below the header is a navigation bar with tabs: 'Attributes', 'Variables', 'Actions', and 'Used in'. The 'Attributes' tab is currently selected. A dropdown menu labeled 'No Room' is open. The main content area is divided into sections: 'Control' (with 'Run' and 'Open Window' buttons), 'Theme' (set to a specific Google Docs URL), 'Home Page' (set to a local port), and 'url options' (containing a detailed list of URL parameters). Below these are 'Local CDN ?' (set to 'optional localcdn pathname, uses internet otherwise') and 'Extra Controllers' (set to '192.168.1.16'). A scrollable 'Config' section displays JSON-like configuration data for two devices: a Power Meter and a Smoke Sensor. At the bottom, there are three buttons: 'View Configuration', 'Set Configuration', and 'Default Configuration'.

DEBUG tools

The screenshot shows a browser window titled "VERA ALTUI" with the URL "192.168.1.5/port_3480/data_request?id=lr_ALTUI_Handler&command=home&lang=en#". The page is titled "Debug Tools" and contains a "Debug Actions" section with four buttons: "All devices", "One Device's States", "Variable search", and "Javascript code". Below this is an "Output" section containing a JSON array:

```
[  
  {  
    "service": "urn:micasaverde-com:serviceId:SceneController1",  
    "variable": "Scenes",  
    "value": "",  
    "id": 0  
  },  
  {  
    "service": "urn:micasaverde-com:serviceId:HaDevice1",  
    "variable": "IgnoreRoom",  
    "value": "1",  
    "id": 1  
  },  
  {  
    "service": "urn:micasaverde-com:serviceId:HaDevice1",  
    "variable": "LastUpdate",  
    "value": "",  
    "id": 2  
  }]
```



Skins

AltUI is based on bootstrap and can accept any bootstrap theme as a base skin. The AltUI device has a variable called ThemeCSS which should contain a url to a .css file like a bootstrap theme. You can download some bootstrap theme from here for instance.

<https://bootswatch.com/>

in this example, I have put a bootstrap theme file in my google drive account and gave it a public access & url such that it can be downloaded by AltUI

The screenshot shows the AltUI web interface with the 'Settings' tab selected. The 'Config' section contains the following JSON:

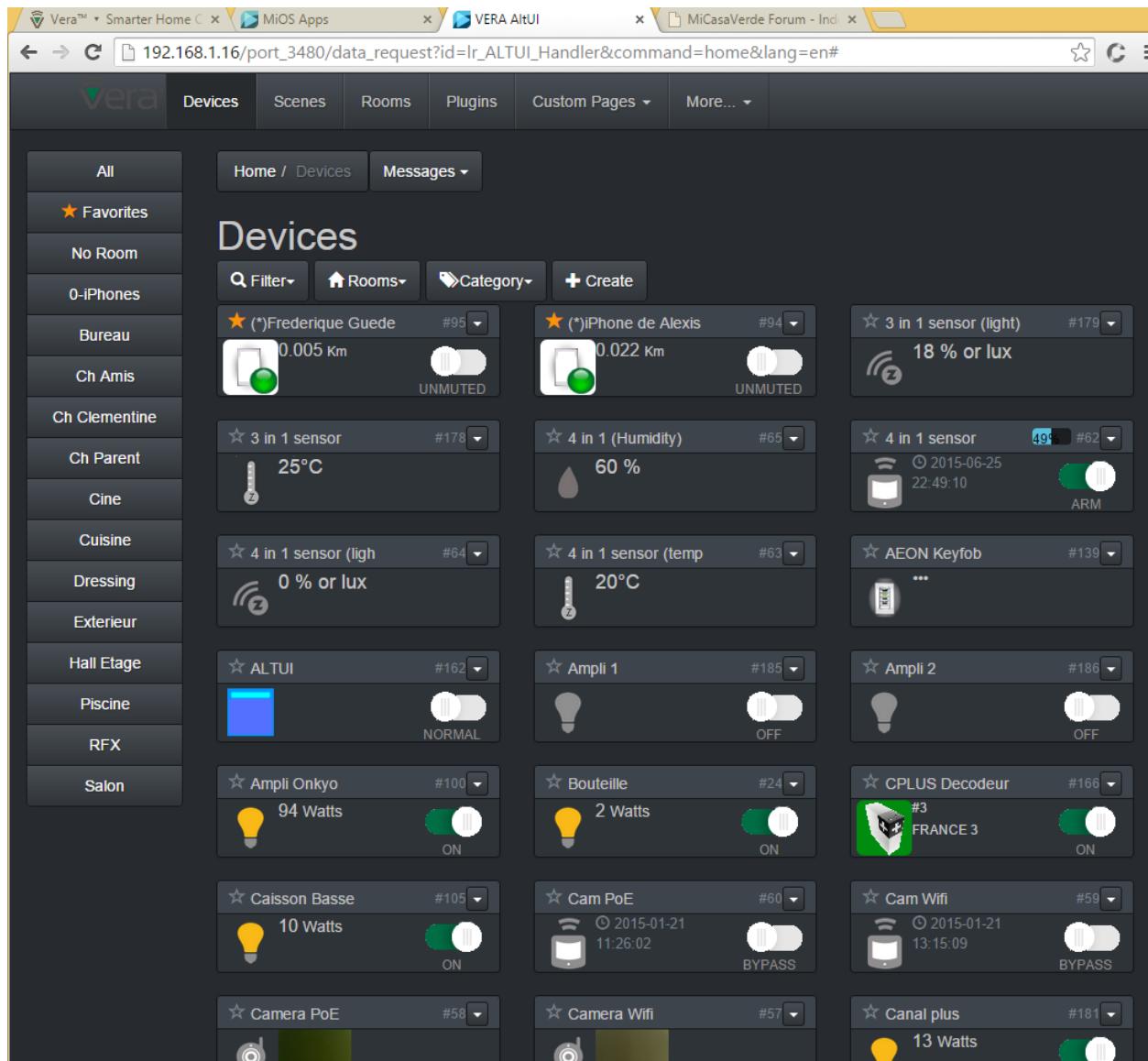
```
{"urn:schemas-micasaverde-com:device:PowerMeter:1": {"DeviceDrawFunc": "ALTUI_PluginDisplays.drawPowerMeter", "ScriptFile": "J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:DigitalSecurityCamera:2": {}}
```

The 'Theme' section displays a URL to a Google Docs document:

```
//docs.google.com/uc?authuser=0&id=0B6TVdm2A9rnNLWlIeEZDN1ZGU0k&export=download
```

The 'Actions' section includes three buttons: 'View Configuration', 'Set Configuration', and 'Default Configuration'.

The result is this for instance:



Localization

AltUI will detect the browser preferred language and uses it to download an extra javascript file called J_ALTUI_loc_xxx.js where xxx is the language reported by the browser javascript engine:

```
var language = window.navigator.userLanguage || window.navigator.language;
if (language != 'en')
    UIManager.loadScript('J_ALTUI_loc_'+language+'.js');
```

Then the J_ALTUI_loc_xxx.js contains string translations which will be applied automatically in AltUI

```
Localization.init( {
    "Home": "Maison",
```

```

"Welcome to VERA Alternate UI": "Bienvenu dans AltUI pour VERA",
"Rooms": "Pièces",
"Devices": "Périphériques",
"Control Panel": "Contrôle",
"Scenes": "Scènes",
"Scene Edit": "Edition de Scène",
"Plugins": "Plugins",
"Custom Pages": "Pages Utilisateur",
>Edit Pages": "Pages Editeur",
"Credits": "Crédits",
"LuaTest": "LuaTest",
"LuaStart": "LuaStart",
"Optimize": "Optimise",
"Editor": "Editor",
"Custom Pages Editor": "Editeur de Pages",
" LUA Startup": "LUA Startup",
" LUA Code Test": "LUA Code Test",
"Optimizations": "Optimisations",
"Unmuted,Muted": "Normal,Mute",
"Normal,Debug": "Normal,Debug",
"Up": "Haut",
"Stop": "Stop",
"Down": "Bas",
"Open": "Ouvre",
"Unlock,Lock": "Unlock,Lock",
"Bypass,Arm": "Libre,Armé",
"Use Custom Pages": "Utilise Pages",
>Edit Custom Pages": "Edit Pages",
"More": "Plus",
"Remote Access Login": "Accès à Distance",
"Reload Luup Engine": "Redemarrer Luup",
"Lua Startup Code": "Code Démarrage Lua",
"Lua Test Code": "Code Test Lua",
"Localization": "Localisation",
"Misc": "Divers",
>Create": "Créer",
"Runs in mode": "Exécute seulement en mode",
"Run": "Exécute",
"OFF,ON": "OFF,ON",
"Working": "Travail",
"Holiday": "Vacances",
"Wind": "Vent"
};


```

Localization control is visible in the “More” Menu and shows all not localized terms found:

JI x

192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#

Vera Pièces Péphériques Scènes Plugins Pages Perso Plus... ▾

Messages ▾

Maison

Bienvenu dans AltUI pour VERA

Maison	Distant	Nuit	Vacances

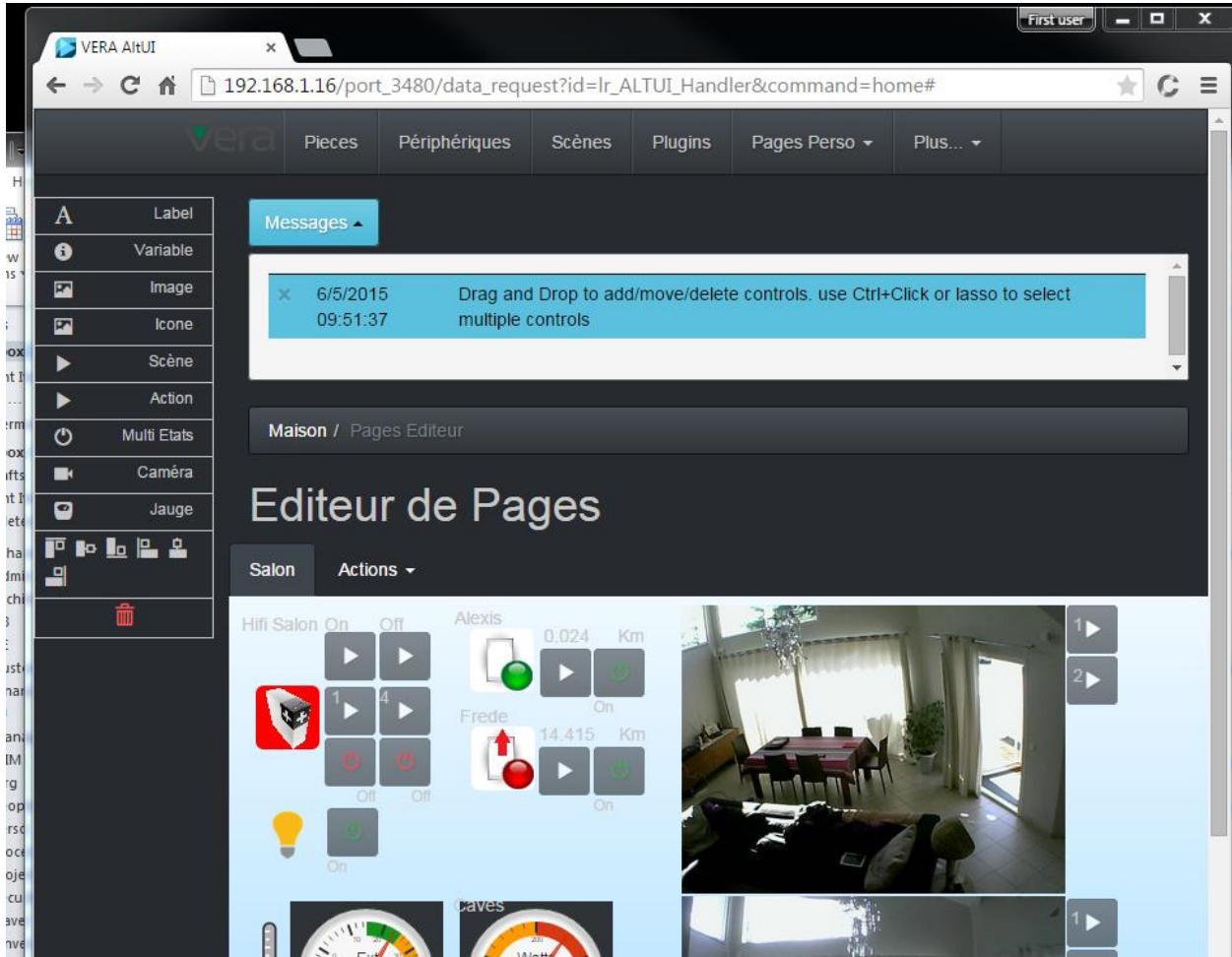
Ce Plugin est un projet en cours, il continue d'évoluer au fil du temps. Vous pouvez suivre les évolutions sur le Forum Micasaverde

Localization information:

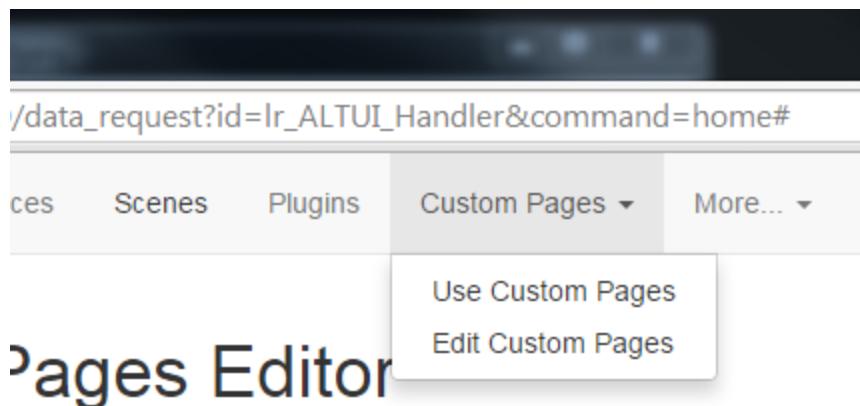
```
browser query: userlanguage: language:fr
Unknown terms:{}
```

Custom Pages

The following below explains the concept around custom pages. Example:



You can basically create your own panels and retrieve these panels whenever you want. For this you have 2 new Menu commands

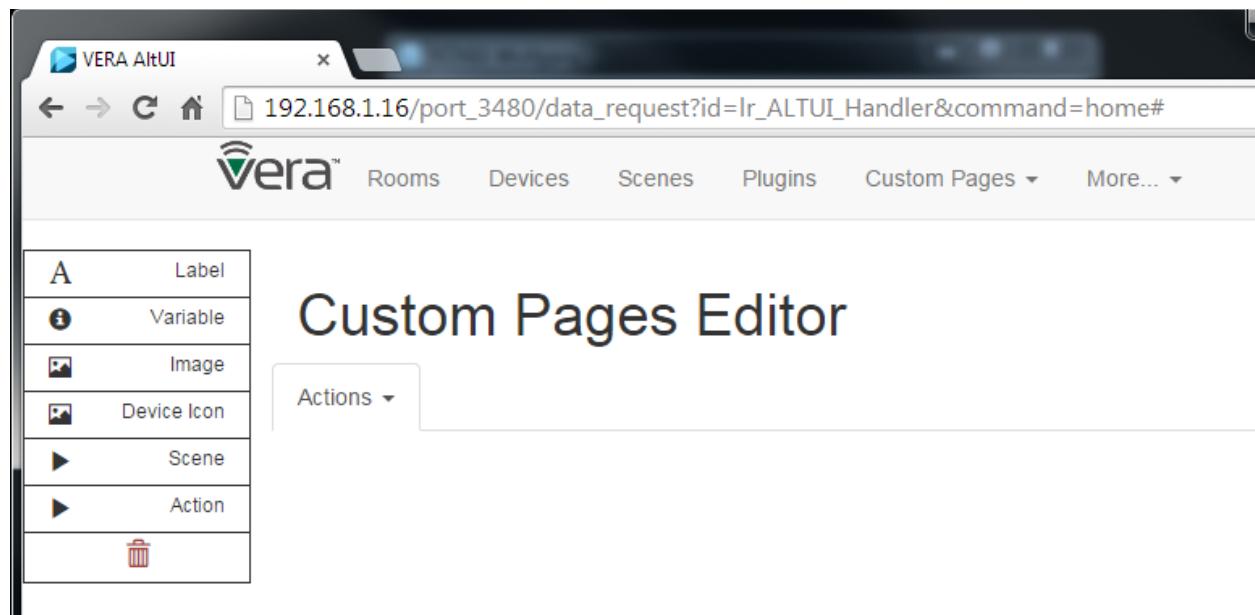


- Use Custom pages : just for readonly use of a custom panel you have built
- Edit Custom pages : to edit the panel.

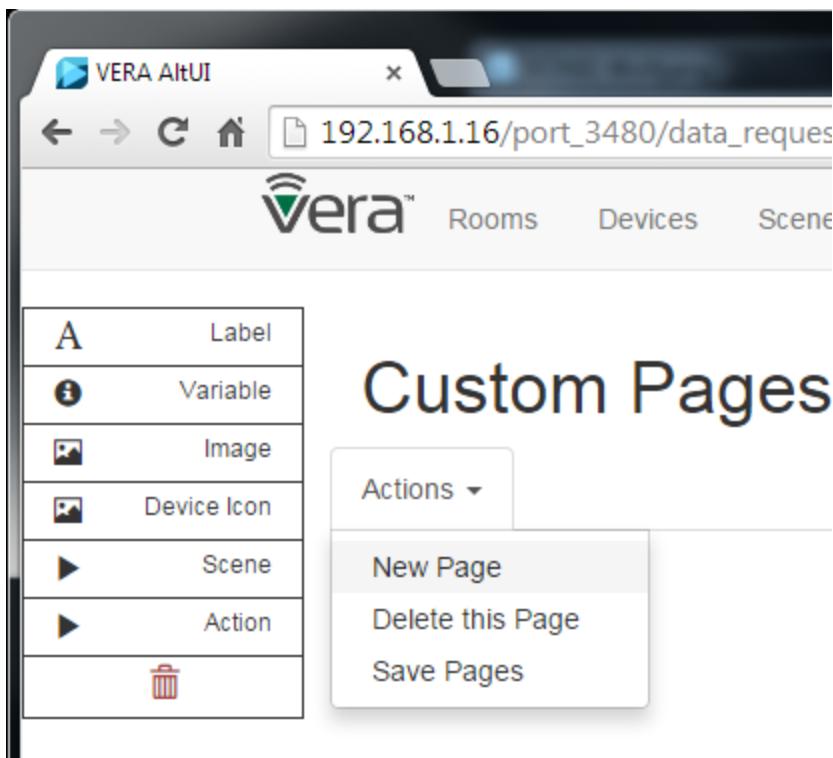
The first time you go there, you will not see any custom pages as you have not created any yet. So let's start by going into Edit mode first.

On the left, you have a list of tools in a toolbox. For now there are 3 tools:

- The Label one : to show a static label
- The Variable one : to display a current device variable value
- The trashcan : to delete a widget from a panel screen by drag and drop.

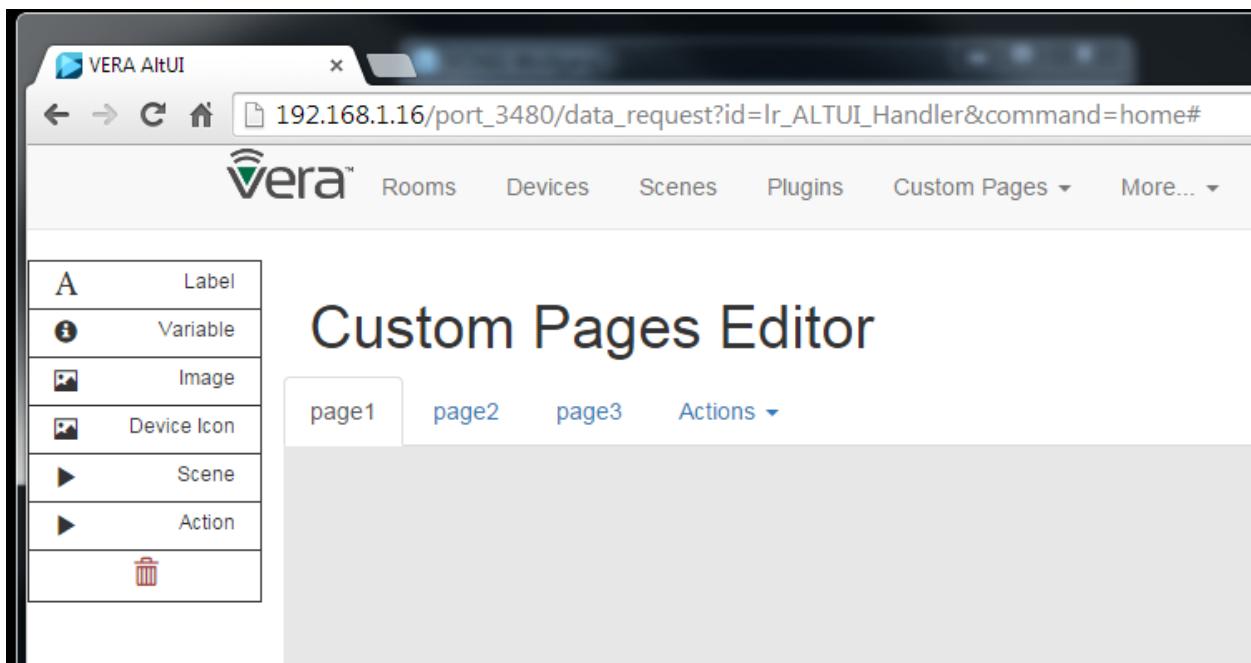


For now, you do not see any page , so let's create one by going into the menu Actions.

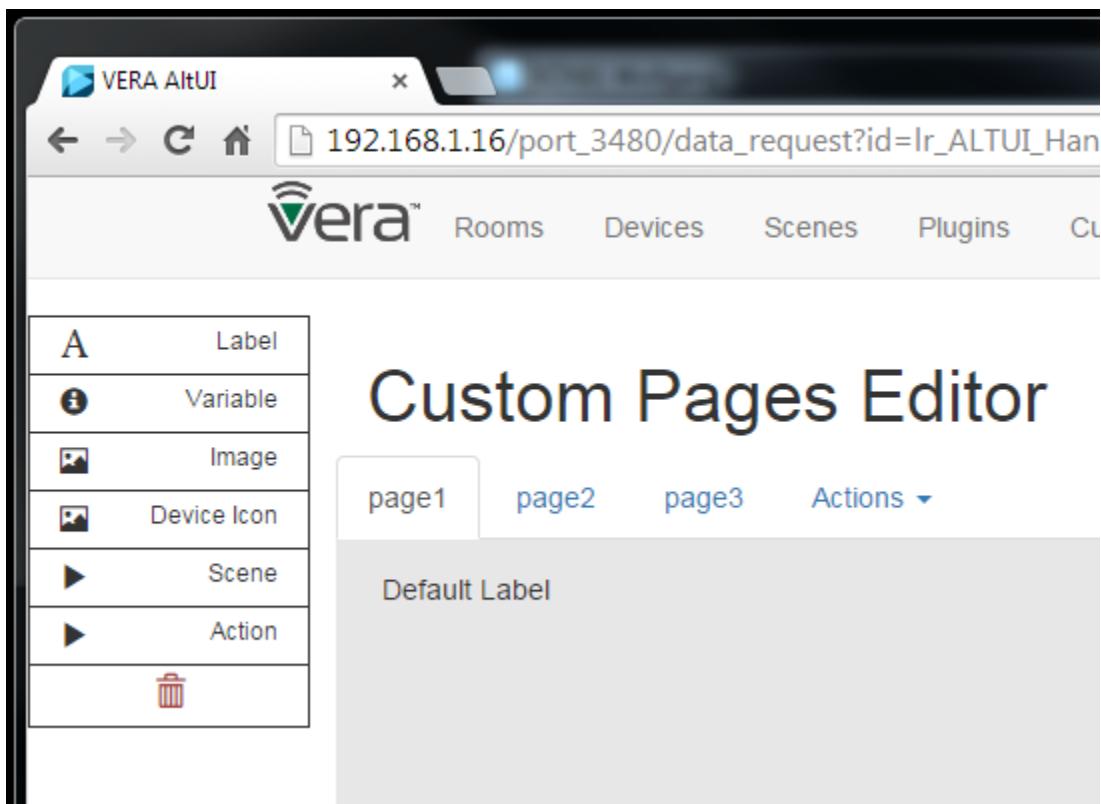


Click New page and your first page is created and is empty for now, but you see a grey canvas where you are going to position your controls.

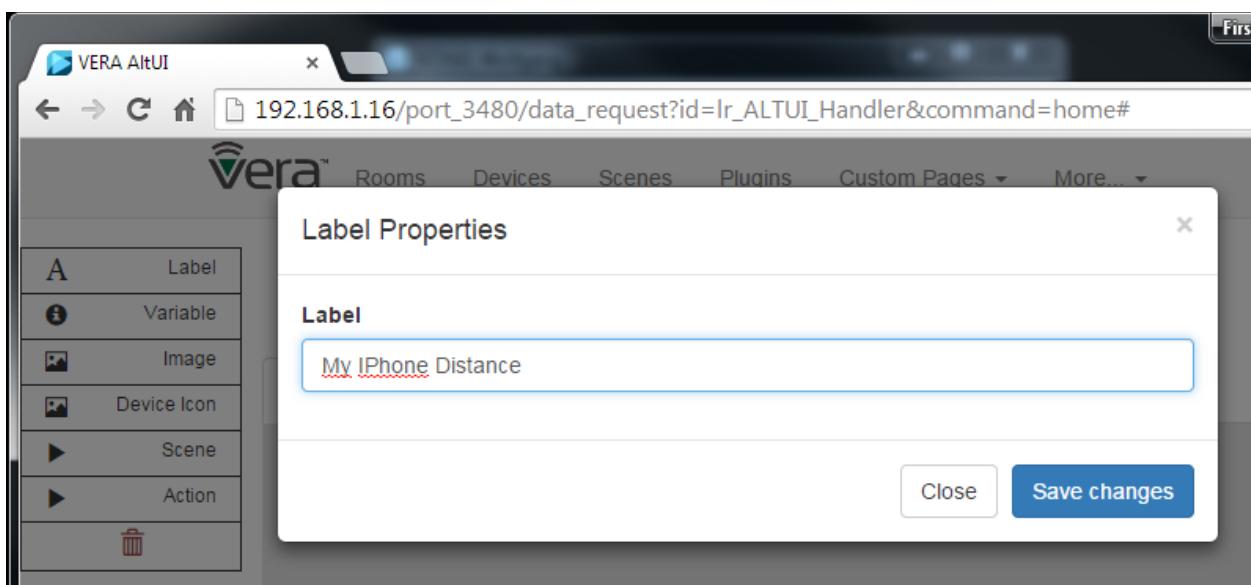
You can create several pages, they will be displayed as “Tabs” you can select to move from one page to the other.



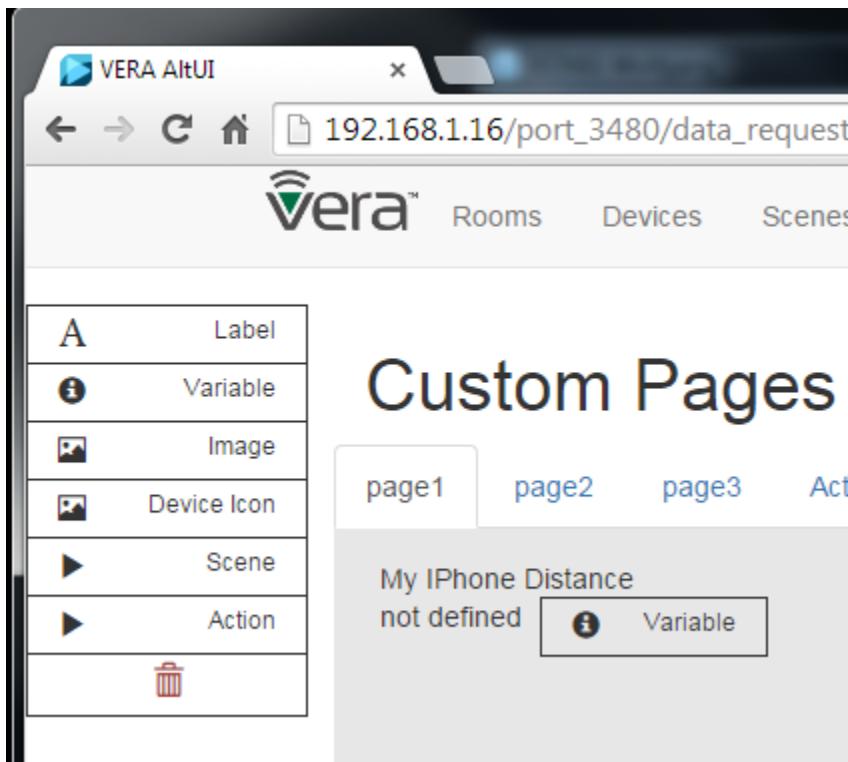
Now, lets position a few control on the panel. I have a IPhoneLocator plugin in my vera and I want to display the distance and the unit it is reporting. So you are going to select the first tool (the A for labels) and drag it into the canvas area. It will create a default label right at the position you left it.



By clicking on it you can change this Default Label.



As expected the label has changed on the canvas. I now want to report a dynamic value coming from the device variable, I will use the second tool from the toolbox (the I for Info, which is a variable). I want the distance and the unit which are 2 different variables on this plugin so I will drag and drop 2 “Info” controls. You can move around a control after you have dropped it on the canvas surface, just move them around as you want.



Double clicking on the variable, you can change the parameters so let's now select the right variables.

The screenshot shows a web browser window for the Vera Home Automation system. The URL is `192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#`. The main menu includes Rooms, Devices, Scenes, Plugins, Custom Pages, and More... A sidebar on the left has sections for Label, Variable, Image, Device Icon, Scene, Action, and a trash bin. The 'Variable Properties' dialog is open, showing a 'Device' section with '(*)iPhone de Alexis' and a 'Variable' section with a dropdown menu. The dropdown menu lists several variables, with 'Unit : (urn:upnp-org:serviceId:IPhoneLocator1)' highlighted in blue.

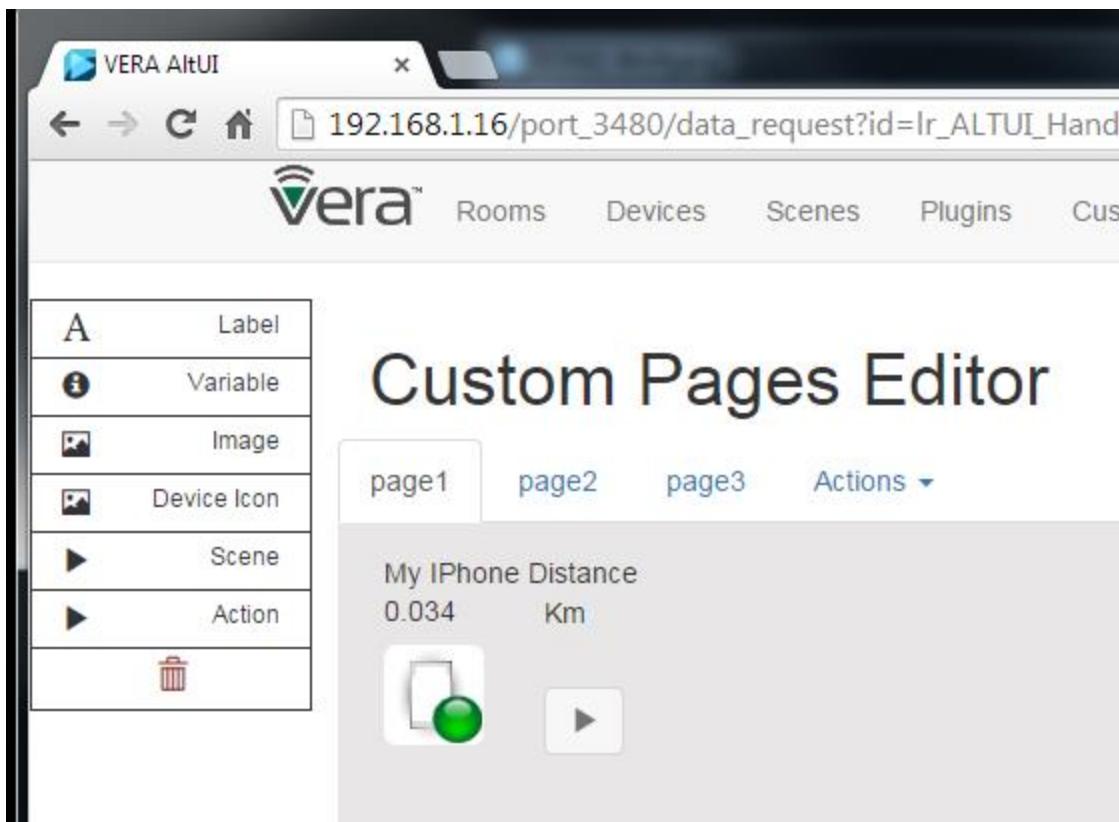
Variable
Unit : (urn:upnp-org:serviceId:IPhoneLocator1)
MsgText2 : (urn:upnp-org:serviceId:IPhoneLocator1)
Muted : (urn:upnp-org:serviceId:IPhoneLocator1)
Password : (urn:upnp-org:serviceId:IPhoneLocator1)
PollingAuto : (urn:upnp-org:serviceId:IPhoneLocator1)
PollingBase : (urn:upnp-org:serviceId:IPhoneLocator1)
PollingDivide : (urn:upnp-org:serviceId:IPhoneLocator1)
PollingExtra : (urn:upnp-org:serviceId:IPhoneLocator1)
PollingMap : (urn:upnp-org:serviceId:IPhoneLocator1)
Present : (urn:upnp-org:serviceId:IPhoneLocator1)
PrevDistance : (urn:upnp-org:serviceId:IPhoneLocator1)
PrevLat : (urn:upnp-org:serviceId:IPhoneLocator1)
PrevLong : (urn:upnp-org:serviceId:IPhoneLocator1)
PrevUpdate : (urn:upnp-org:serviceId:IPhoneLocator1)
RTSpeed : (urn:upnp-org:serviceId:IPhoneLocator1)
Range : (urn:upnp-org:serviceId:IPhoneLocator1)
RootPrefix : (urn:upnp-org:serviceId:IPhoneLocator1)
TimerID : (urn:upnp-org:serviceId:IPhoneLocator1)
UI7Check : (urn:upnp-org:serviceId:IPhoneLocator1)
Unit : (urn:upnp-org:serviceId:IPhoneLocator1)
Version : (urn:upnp-org:serviceId:IPhoneLocator1)

Let's add the icon of the device (which will follow the dynamic states as defined per the plugin author)

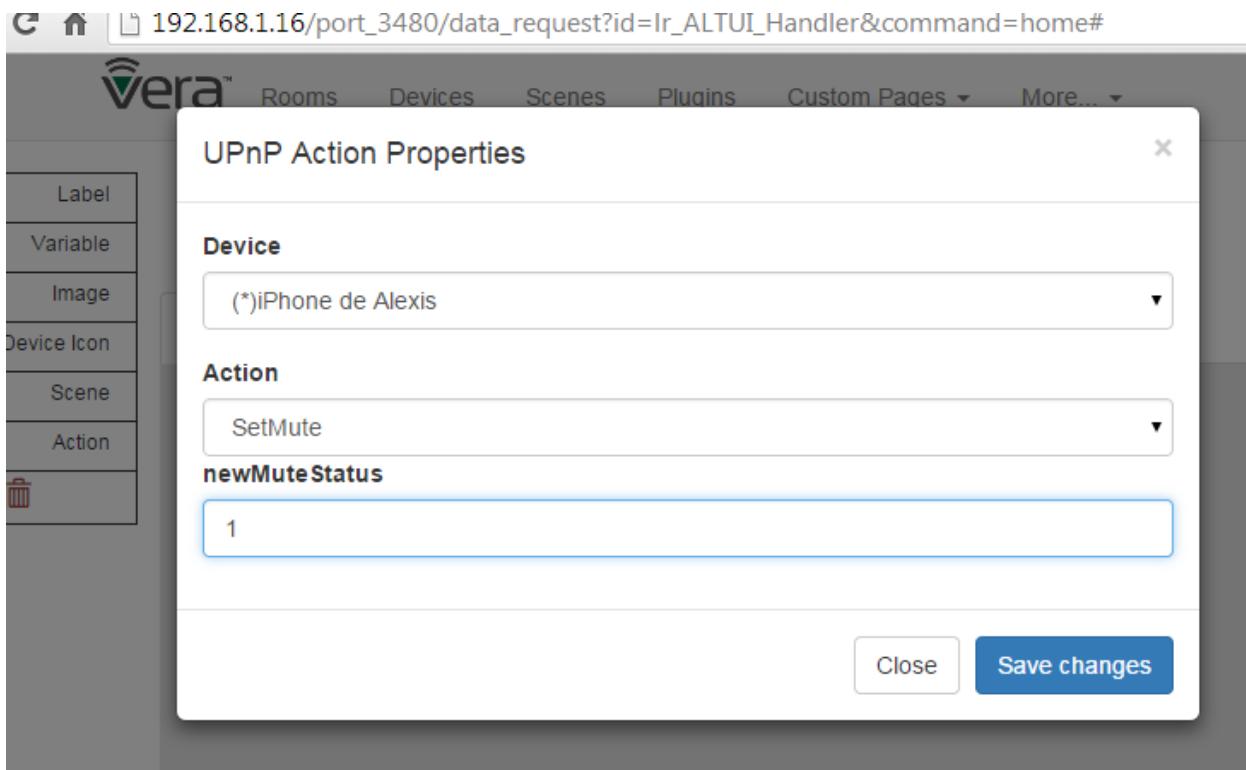
The screenshot shows a web browser window with the address bar containing `192.168.1.16/port_3480/data_request?id=lr`. The page title is "Custom Pages Ec". On the left, there is a sidebar with icons for Label, Variable, Image, Device Icon, Scene, Action, and a trash can. The main content area displays a card with the title "My iPhone Distance" and the value "0.034 Km". Below the card is a small image icon.

The screenshot shows a modal dialog box titled "Icon Properties". In the "Device" section, the dropdown menu is set to "(*iPhone de Alexis)". At the bottom right of the dialog are "Close" and "Save changes" buttons.

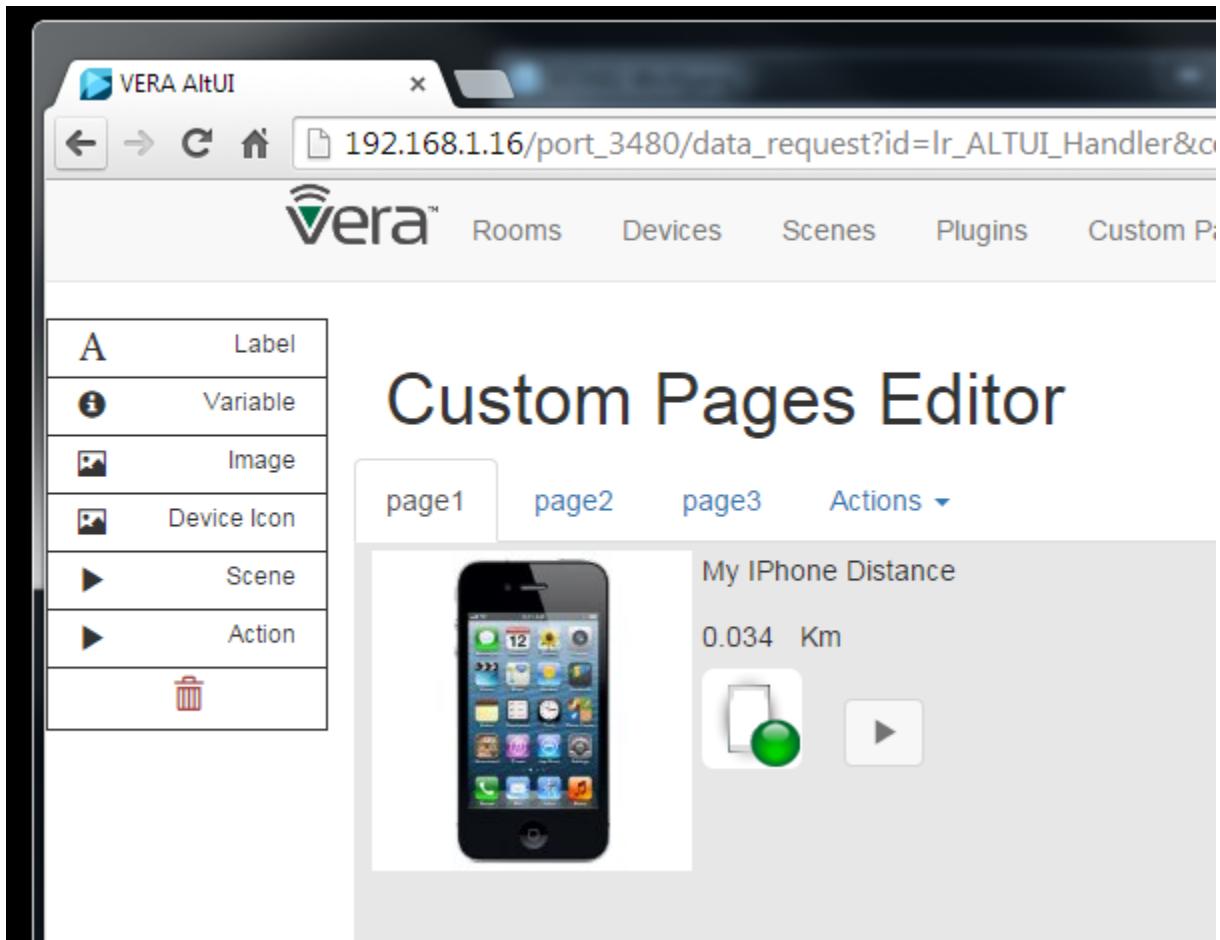
And Let's add a mute button.



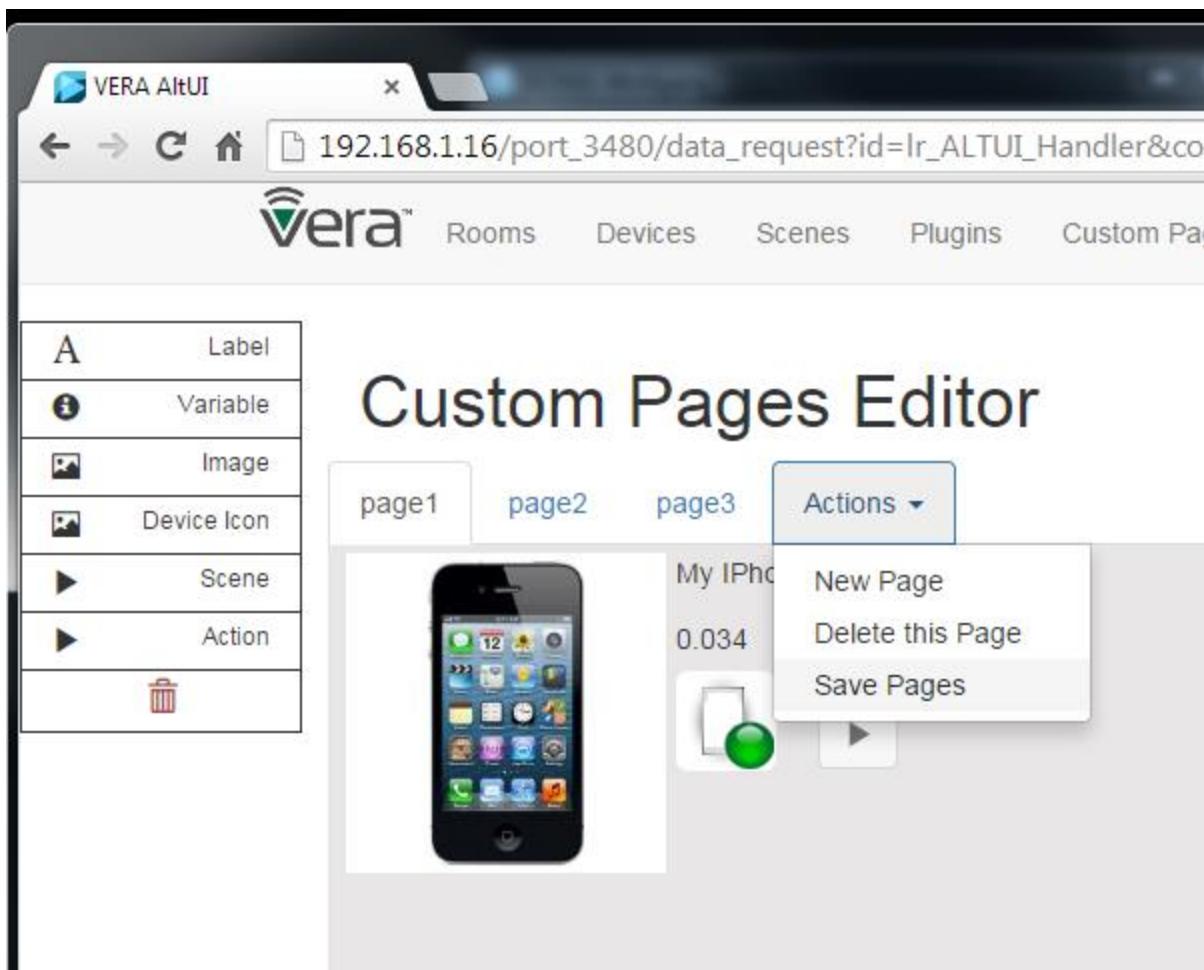
Which we need to configure to run the right UPNP action:



Et voila (with a 3rd tool from the toolbox , image which can be any URL or data uri (for embedded image))



I now want to save it so that it can be persisted and reopened next time so I go into the Actions/Save menu.



That is it , now the page is visible by the Custom Pages / “Use custom page” menu and you can close your browser and reopen it , it will still be there.

Now I can simply use it in read only mode and the button & icon are functional



All pages definitions are stored in the LUA plugin variable “CustomPages”, you can see it from ALTUI and copy paste in a JSON online viewer if you are interested

The screenshot shows a web browser window with the URL `192.168.1.5/port_3480/data_request?id=Ir_ALTUI_Handler&command=home#`. The page title is "Adding options to a select". The main content area displays the "Vera" UI5 interface. A modal dialog titled "ALTUI #4 - Variables" is open, listing the following variables:

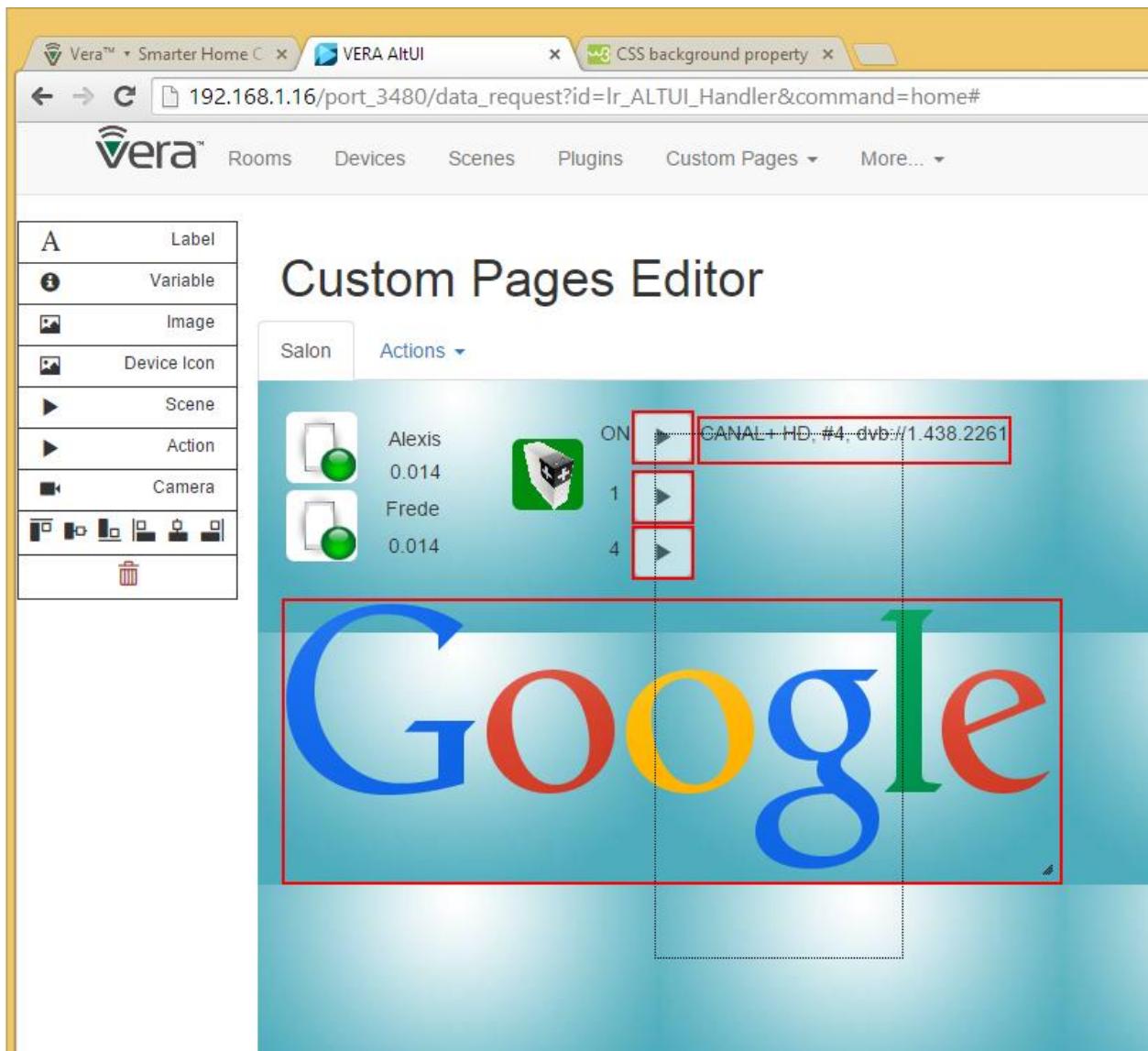
Variable	Value
CustomPages	<pre>[{"id":1,"name":"page1","children":[{"id":1,"cls":"altui-widget-label","position":{"top":10,"left":10,"width":100,"height":30}, "widget-variable","position":{"top":30,"left":14}, "properties":{"deviceid":"5","serviceid":3,"cls":"altui-widget-variable","position":{"top":30,"left":98}, "properties":{"deviceid":1,"serviceid":2,"variable": "Unit"}}}], {"id":2,"name":"page2"}, {"id":3,"name":"page3"}]</pre>
Debug	0
LastUpdate	0
PluginConfig	<pre>{"urn:schemas-micasaverde-com:device:DoorSensor:1": {"DeviceDrawFunc": "AltUI_PluginDisplay_drawDoorSensor", "ScriptFile": "DoorSensor.js", "AltUI_Plugin": "DoorSensor", "Icon": "DoorSensorIcon.png", "Label": "Door Sensor", "Type": "DoorSensor", "Status": "Normal", "LastUpdate": 0}}</pre>

Other capabilities:

- Page Property menu items enables to:
 - Change a page name
 - Change a page background , any valid CSS3 background string is accepted. Solid color, gradient, radiants, stripes, url('http://xxxx/image.png') are valid. See the syntax of “**background**” css property

On this Picture you can see various important elements:

- The lasso (dotted line) rectangle enabling the selection of multiple controls. Ctrl+Click is also supported
- The alignments tools in the left tool bar
- The resize handle at the bottom right corner of the image enabling you to size the image.



This will continue to evolve to add some more new tools (which can be VERA related or even something totally different like a google chart gauge or whatever)

- New 2 state button tool
- New Google gauge with customizable min max & color ranges

Vera™ Smarter Home C × UIS × Alternate UI to UI7 × VERA AltUI

192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#

Vera Rooms Devices Scenes Plugins Custom Pages More

A Label
Variable
Image
Device Icon
Scene
Action
Multi State
Camera
Gauge
Actions

Custom Pages Editor

Drag and Drop to add/move/delete controls. use Ctrl+Click or lasso

Salon Actions ▾

Alexis 0.022 Km
Frede 20.148Km

Ext 10 Piscine 8

Caves Watts 155

The screenshot shows the Vera Custom Pages Editor interface. On the left, there's a sidebar with a list of control types: A (Label), Variable, Image, Device Icon, Scene, Action, Multi State, Camera, Gauge, and Actions. Below this is a large area for editing a custom page titled "Salon". The page contains several controls: a lightbulb icon with two "Off" buttons; a green circular icon labeled "Alexis" with a "0.022 Km" label and a "On" button; a red circular icon labeled "Frede" with a "20.148Km" label and a "On" button; three analog gauges labeled "Ext" (value 10), "Piscine" (value 8), and "Watts" (value 155); and a small thermometer icon. There's also a "Caves" label. A header bar at the top includes tabs for "Rooms", "Devices", "Scenes", "Plugins", "Custom Pages", and "More". The address bar shows the URL "192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#".

OnOff Button Properties

Device
(*iPhone de Alexis

Variable
Muted : (urn:upnp-org:serviceId:IPhoneLocator1)

Inverted

OffLabel
Off

Action to switch OFF
SetMute

newMuteStatus
0

OnLabel
On

Action to switch ON
SetMute

newMuteStatus
1

[Close](#) [Save changes](#)

UI5 Installation Instructions (similar for UI7)

PREFERRED METHOD:

- Install from store <http://apps.mios.com/plugin.php?id=8246>
- Then override with latest version where xxx is the latest revision number :
http://code.mios.com/trac/mios_alternate_ui/changeset/xxxxx/?old_path=%2F&format=zip

DETAILS

1) Upload all these files

Nom	Modifié le	Type
J_ALTUI_uimgr.js	08/03/2015 17:13	Fichier JS
J_ALTUI_verabox.js	08/03/2015 16:12	Fichier JS
L_ALTUI.lua	08/03/2015 15:36	Fichier LUA
J_ALTUI_utils.js	07/03/2015 00:33	Fichier JS
J_ALTUI_plugins.js	01/03/2015 19:10	Fichier JS
J_ALTUI_iphone.js	01/03/2015 15:51	Fichier JS
D_ALTUI.json	28/02/2015 16:49	Fichier JSON
J_ALTUI.js	18/02/2015 13:52	Fichier JS
D_ALTUI_UI7.json	15/02/2015 21:06	Fichier JSON
I_ALTUI.xml	15/02/2015 18:01	Fichier XML
S_ALTUI.xml	15/02/2015 18:01	Fichier XML
J_ALTUI_jquery.ui.touch-punch.min.js	01/02/2015 22:48	Fichier JS
D_ALTUI.xml	17/01/2015 16:05	Fichier XML
L_ALTUIjson.lua	17/01/2015 15:41	Fichier LUA
iconALTUI.png	17/01/2015 15:38	Image PNG

Example:

Upload files

d Choisissez un fichier J_ALTUI_utils.js

d Choisissez un fichier L_ALTUI.lua

d Choisissez un fichier J_ALTUI_plugins.js

d Choisissez un fichier J_ALTUI_iphone.js

d Choisissez un fichier J_ALTUI.js

d Choisissez un fichier I_ALTUI.xml

d Choisissez un fichier S_ALTUI.xml

d Choisissez un fichier D_ALTUI_UI7.json

d Choisissez un fichier D_ALTUI.json

d Choisissez un fichier D_ALTUI.xml

d Restart Luup after upload

d

2) Create a device

ONLY DO THIS IF THE DEVICE DOES NOT ALREADY EXIST. If you installed from the store, the device has been created automatically for you

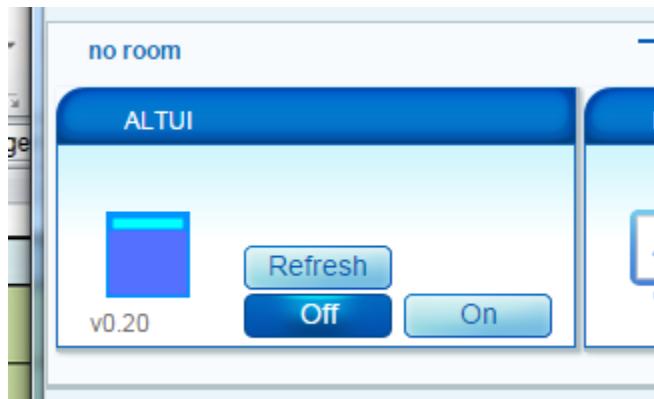
Create device

Device type	
Internal ID	
Description	
Upnp Device Filename	D_ALTUI.xml
Upnp Implementation Filename	I_ALTUI.xml
Ip Address	
MAC	
Room	--no room--
Parent device	No parent/Please select
	<input type="button" value="Create device"/>

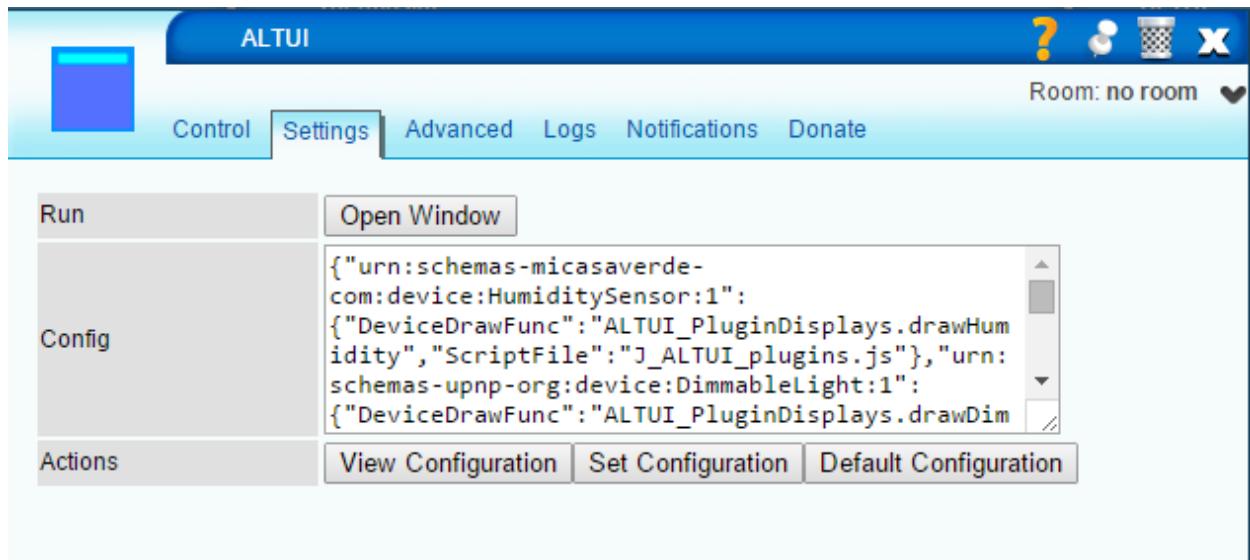
3) Reload lua



4) Find the device in UI5



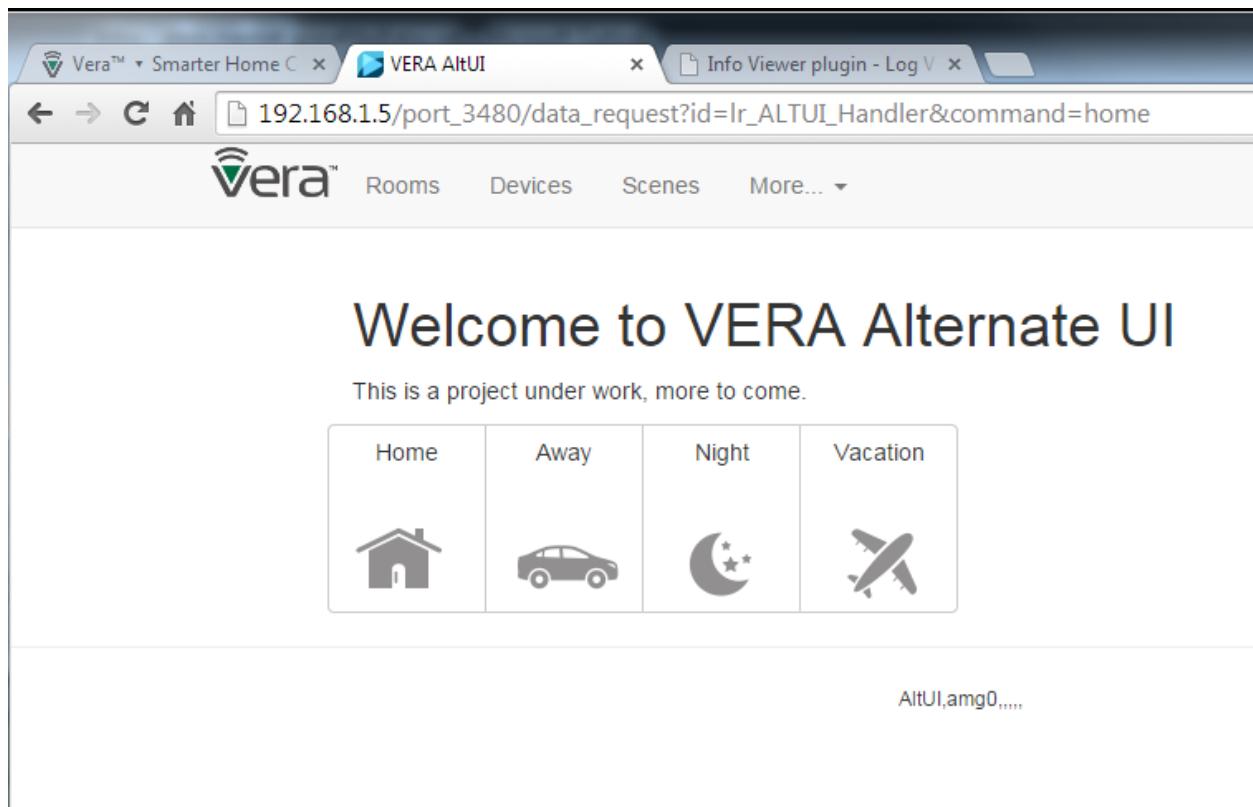
5) Open the settings tab



- View configuration : view the JSON configuration object in a JSON online viewer
- Set configuration : set the ALTUI plugin configuration
- Default : reset to default

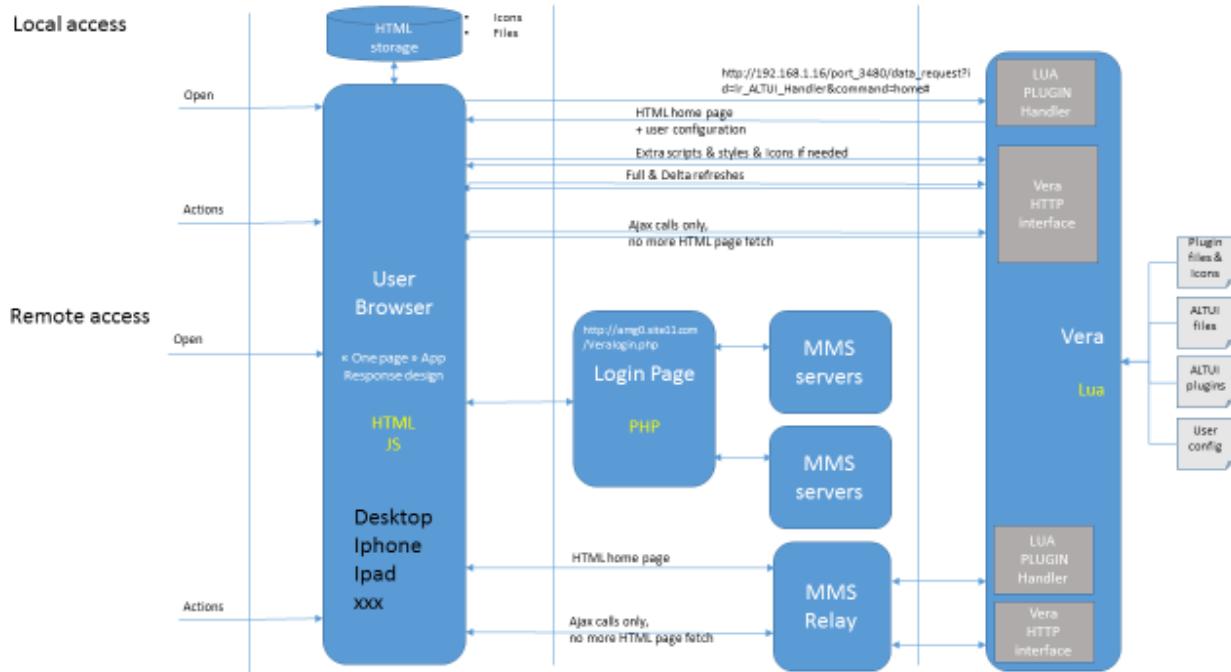
6) Click on open window

- a. "modes" cannot work on UI5 of course but rest should be ok



Architecture and Source Code organization

Data Flows



Extensibility

Mechanisms to extend

- Device dashboard drawing js function
- Device control panel js function
- New pages can be added (Upnp devices, IP devices, Custom user pages , floor plan dashboard , google gauges etc)

Javascript modules for customizable plugins

Plugins drawing are javascript modules providing function code and style css necessary. All the modules are loaded dynamically when needed

Plugins can customize/extend the drawings of device for 2 distinct scenario.

- a) the small device box on the Device page
- b) a control panel, dedicated for one device, having almost the full page to play with and display specific device status , controls, drawings etc... (I added this "control panel" feature just in the drop down menu under Variable & Actions items.)

A default implementation is provided for both obviously. Right now the “control panel” one is useless and work in progress but I demonstrate the ability on 2 devices uses a custom control panel function. the Binary Light and the iPhone Locator. The point for me was to explain / demonstrate the extensibility

of the architecture and how it would work. if JS developpers / plugin authors have interest to create a control panel for their device (or some other device), we can integrate their work easily in independent modules

Now a bit on the "how":

- each device type can have a custom javascript file. this is declared in the .LUA file L_ALTUI.lua. The "PluginConfig" LUA device variable contains the JSON object for this configuration and **can be modified to add new plugins.**
- in the configuration, for a given device type you can specify a script file (`["ScriptFile"]="J_ALTUI_plugins.js",`) , a small device box drawing function (`["DeviceDrawFunc"]="ALTUI_PluginDisplays.drawBinaryLight",`) , a full blown control panel drawing function (`["ControlPanelFunc"]="ALTUI_PluginDisplays.drawBinLightControlPanel",`) and a style function for your own CSS (`["StyleFunc"]="ALTUI_PluginDisplays.getStyle",`). All these are optional, default implementation is provided in any case. All these scripts & functions are dynamically loaded and executed when needed by the main page.
- The declared function can be qualified by any number of module name thus enabling to use the javascript module object pattern.
 - o Function can be 'myfunction()'
 - o Or 'myModule.mySubModule.myFunction()' (any depth)
- see examples of Style and drawing functions in J_ALTUI_plugins.js or J_ALTUI_iphone.js

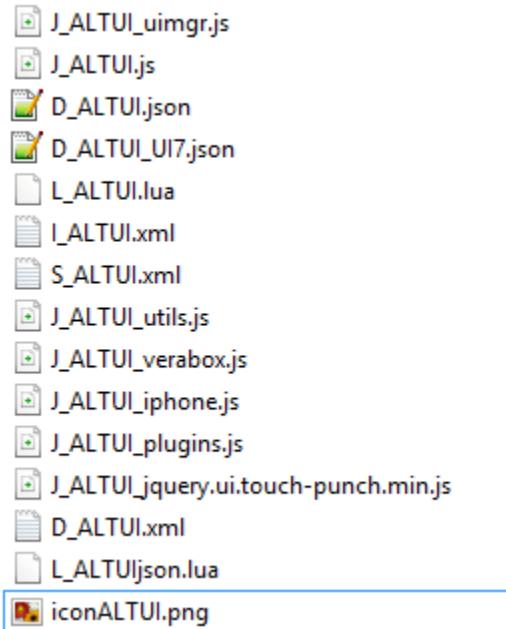
Note:

- the `["DeviceDrawFunc"]` takes input parameters like (devid, device) and must return a string which the HTML going into the small device box on the main page.
- the `["ControlPanelFunc"]` works slightly different in order to give almost full DOM control to the code writer. It takes input parameters like (devid, device, domparent (jquery based) and must write directly its HTML code into the domparent object (using `$(domparent).append(...)`). it felt more comfortable for the contralPanel function to really write in the DOM as they almost own the full page this time.

Full Source code

all code available on http://code.mios.com/trac/mios_ipx800/browser/trunk/AltUI so feel free to try if you are interested.

Source Files:



- **J_ALTUI_uimgr.js**
 - o Implements the UIManager object. This object is in charge of all drawing on pages
 - Error messages
 - Device Drawing (default & custom) – manages the loading of JS files needed. Evaluate Icon conditions based on existing UI5 or UI7 descriptions.
 - Scene Drawing (and editor)
 - Refresh UI (when new data is arriving)
 - The main entry points (pagesxxx() function per each page of the app)
 - House mode on UI7 only . the LUA plugin tells the application if we are on UI5 or UI7
 - o It maintains internally the cache for device type information (json, Upnp descriptions etc)
- **J_ALTUI.js**
 - o The classical JS for the setting page of the UI5 or UI7 plugin
- **D_ALTUIxx.json**
 - o The classical JSON files for the UI5 or UI7 plugin
- **L_ALTUI.lua**
 - o The main plugin lua code
 - o It is seldomly used, just to register a handler to act as a web server serving initially the first home page layout, and eventually responding to a few (one so far) ajax call from the client. The idea is to not use it as much as possible to offload the application work on the client side as explained in the initial project rules. VERA is small, our PC are big
 - o It will act as the data persistent place where configuration and (in the future) user custom pages descriptions are stored & saved as device variable. UI7 can store and

display JSON in its variable. UI5 has trouble to display it in the advanced tab as the string are not htmlEncoded but this is not a problem; we can manage this display & edit in the plugin JS setting page.

- **I_ALTUI.xml , S_ALTUI.xml**
 - o Classical device files.
 - o A Reset uPNP action is implemented to restore configuration to default
 - o In the future, we may need a few to manage user custom pages, not sure yet
- **J_ALTUI_utils.js**
 - o Global utilities like string.format() addition, ro string.htmlEncode(), htmlDecode() addition to the string prototype
 - o CSS Styles required by the application are managed here and injected dynamically (avoid having to change the .LUA file and reloading every time)
 - o It initializes the application by launching the Init() for the UIManager object and the VeraBox object
- **J_ALTUI_verabox.js**
 - o Implements the communication with VERA
 - o The UPnpHelper module
 - facilitates building of URL (get set variables, run upnp, all the VERA Http calls basically including the HAG SOAP one)
 - Provides facilities for plugin author like simple SetOnOff() , SetArm() methods
 - o The FileDB module
 - A cache of dynamically loaded files (D_xx files S_xx files, or whatever). Key is the file name.
 - In the future, I intent to use HTML5 persistent storage to cache content on a even longer term basis (even when user closes the browser)
 - o The DialogManager module
 - To register dialog box html in the DOM
 - To refresh the dialog DOM if needed before displaying
 - A modal , not interruptible show_loading() hide_loading() spinner dialog
 - o The VeraBox module
 - The core data load engine.
 - Manages getting the user_data and status_data using the loadversion versioning and various optimizations documented
 - Manages all information in a cache to not load it twice
 - Highly asynchronous, code executed in callback methods instead of waiting
 - getWeatherSettings : _getWeatherSettings,
 - getBoxInfo : _getBoxInfo,
 - getLuaStartup : _getLuaStartup,
 - getRooms : _getRooms, // in the future
getRooms could cache the information and only call _getRooms when needed

- getDevices : _getDevices,
 - getDeviceByID : _getDeviceByID,
 - getScenes : _getScenes,
 - getSceneByID : _getSceneByID,
 - getPlugins : _getPlugins,
 - getHouseMode : _getHouseMode,
 - setHouseMode : _setHouseMode,
 - getStatus : _getStatus,
 - getStates : _getStates,
 - evaluateConditions : _evaluateConditions, // evaluate a device condition table (AND between conditions)
 - deleteRoom : _deleteRoom,
 - runScene : _runScene,
 - deleteScene : _deleteScene,
 - reloadEngine : _reloadEngine,
 - setStartupCode : _setStartupCode,
 - setScene : _setScene,
 - getCategoryTitle : _getCategoryTitle,
 - getDeviceTypes
 - initEngine()
- UI5 and UI7 simulation apis
 - x.
- **J_ALTUI_IPhone.js**
 - The custom drawing functions for the IPHONE locator plugin and the French Canal Plus control Plugin
 - Dynamically loaded when/if needed and configured in the LUA “PluginConfig” table to be loaded
- **J_ALTUI_Plugins.js**
 - Same but for all the out of the box devices provided by VERA (bin lights, motion, temp sensors, heater , etc)
- **J_ALTUI_jquery.ui.touch-punch.min.js**
 - A small jquery 3rd party to make the ipad/iphone/ touch screen device compatible with the click event () so that touchend event can be used as a mouse click
- **J_ALTUI_loc_nn.js (where nn is the 2 letter language code)**
 - All terms localization, file for the right language is dynamically loaded (or preloaded by the LUA plugin if the lang=xx was on the url)

Basic rules for developers:

I most welcome any programmers help in this project if they are interested in submissions. The rules are simple,

- use bootstrap grid model (row / cols) for full responsive design, I'd like to keep it running from desktop to ipad to iPhone 4S screen !
- minimize additional JS framework : I am trying to use bootstrap, jquery, jqueryUI , a bootstrap validator , google chart, d3js , bootgrid, and that's all.
- use JS module pattern (same as UI7) see example in the various modules. prefix private function with a '_' and public function with a naming convention doSomethingToSomethingElse()
- all CSS class: try to always use the prefix : altui-xxx-xxx etc
- avoid synchronous call when possible (always possible almost)