

## **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 3<sup>rd</sup> 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 – VERSION 0.29

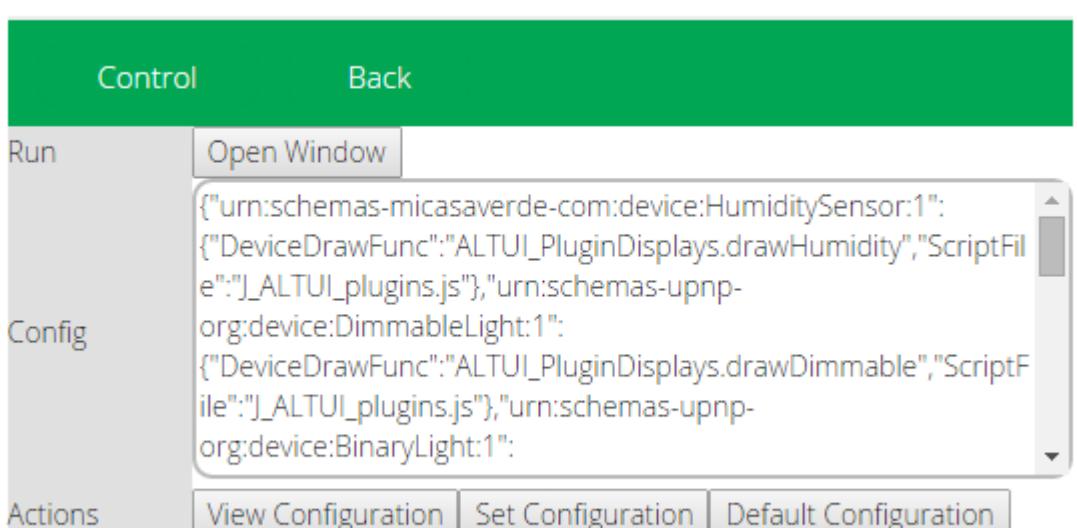
I already uses this more than UI7 on my ipad/phone and desktop at home. So far achievements are the following:

- Single plugin to install. Then access via the setting tab, or directly via :  
[http://<veraip>/port\\_3480/data\\_request?id=lr\\_ALTUI\\_Handler&command=home#](http://<veraip>/port_3480/data_request?id=lr_ALTUI_Handler&command=home#)
- **Remote access login** via a PHP page located at <http://amg0.site11.com/Veralogin.php> or <http://www.amg0.890m.com/Veralogin.php>
  - Un like UI5 UI7, All plugins **custom ICONS are working** on remote access screen ! The backend servers of VERA ( MMS ) are not transporting/caching custom icons. This application uses a different technique, the plugin handler transmit necessary images as data URI and the client caches them
- Full responsive design, bootstrap & jquery based . check on your iPad when you rotate from portrait to landscape, it is quite fun , it just adds a column
- Themable , white & dark theme examples. Other bootstrap themes should work too
- HouseMode view & change on ui7
- Footer display of VERA parameters ( serial etc )
- List / Delete Rooms
- List devices with ultra simple and small dashboard
  - Device drawing can be customized by an individual js file. List of files to load is hard coded in the .LUA plugin code file but I ll change that later
  - Device Variable display : alphabetically sorted, htmlEncoded ( so xml & json appear properly ) , **humanly readable timestamps**.
  - Device variable Edit capability : click on it, modify, click out ( it will save it automatically )
  - Device UPNP action dialog to dynamically retrieve actions & parameters names and enable the user to trigger action from this dialog.
  - Device Control Panel for a full page drawing customizable by device type dynamically. By default if no plugin is provided to customize the control panel , **the control panel page will display the same “control” tab as the pluging is doing on the VERA box** UI5 UI7 ( “flash” & “javascript” tab in the JSON device settings ). It will try to emulate the vera device control placement rules as much as possible so the look & feel is similar to what the plugin author intended. If that is not enough or if a finer grained customization is wished in the user interface, the full ability to write a custom UI in a dynamically loaded javascript module is possible
  - Ability to filter devices on the device page by
    - per Room of devices
    - per Category of Device
    - per Battery device or not
    - per Visible /Invisible status
    - by name ( filter “as you type” a name to search)
  - Display / color of Battery level

- Room filtering selection in the left bar
- List Delete , Edit, Run Scene
  - Full display of the scene parameters & lua code
  - Display of last run, next rune timestamp
  - Room filtering selection
  - Edit features :
    - enable/disable & delete for triggers/timers/actions/groups and room assignment.
    - Delete individual triggers/timers/actions/groups
    - Add/edit Lua code for event triggers ( UI7 does not have this capability, UI5 used to have it )
  - Wip...
- 2 fully asynchronous engines : user\_data/l\_data processing engine and UI refresh engine.
- See device dashboard and can filter by room
  - Implemented :
    - powerswitch, humidity, temperature, dimmers, door lock, door sensor, window covers
    - example of custom 3<sup>rd</sup> party plugin display: iphonelocator, cplus,
    - Motion sensor ( arm / trip status )
    - all device icons are working ( even if dynamic) including 3<sup>rd</sup> party plugin, including old UI5 mode ones
    - camera,
    - 3<sup>rd</sup> party plugin ( but if authors are interested it is very easy, checkout the IphoneLocator .JS file )
- Plugins
  - Icon, name and version
  - List of installed 3<sup>rd</sup> party plugins with version and button to go directly to
    - Author help page
    - MIOS App Store page for the plugin
    - Single button to update to latest version
  - Update & Uninstall button
  - Plugin File download & viewer
- Lua restart command in the menu
- Vera reboot command in the menu
- Lua startup code edition
- Lua test code dialog box ( broken feature on UI7 chrome )
- User control for the cache of icon & files in persistent storage ( local storage HTML5 so persistent on a given machine ). User can save or clear the cache. It will avoid redownloading icons unnecessarily
- Localization control : list all localized terms which have not been translated. Language selected is the browser language but this can be overiden by putting **lang=xx** on the url

- Credit page

## Screen shots:

LUA plugin	<p>Plugin Setting for configuration :</p> <p>Open =&gt; launch the ALTUI window</p> <p>Dynamic configuration for additional modules/plugin display functions</p> <p>Reset config to default</p> <p>Open &amp; View configuration in a online json viewer</p>  <pre> {   "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": {} }   </pre>
------------	---

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><a href="#">Toggle Details</a></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#](http://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 displays two windows of the Vera AltUI interface, both showing a list of scenes. The top window is titled "Scènes" and shows a grid of scene cards. The bottom window is also titled "Scenes" and shows a similar grid. Both windows include a sidebar on the left with a list of room categories: Tous, Pas de Pièce, 0-iPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Exterieur, Hall Etage, Piscine, RFX, and Salon.

**Scènes (Top Window):**

Scene Name	ID	Last Run
Alexis 1km	#57	✓ 2015-05-06 09:06:37
Battery is Low	#8	✓ 2015-01-31 18:52:28
Cine_PS3_OFF	#55	✓ 2015-05-02 22:59:09
Cine_TV_On	#58	✓ 2015-03-20 22:36:23
Film-Regarder	#4	
Alexis 3km	#56	✓ 2015-05-02 17:48:59
CanalPlus	#53	✓ 2015-05-05 19:43:13
Cine_PS3_On	#54	✓ 2015-03-21 18:56:24
Cine_Tv_Off	#59	✓ 2015-03-20 23:13:47
IPX not reachable	#51	

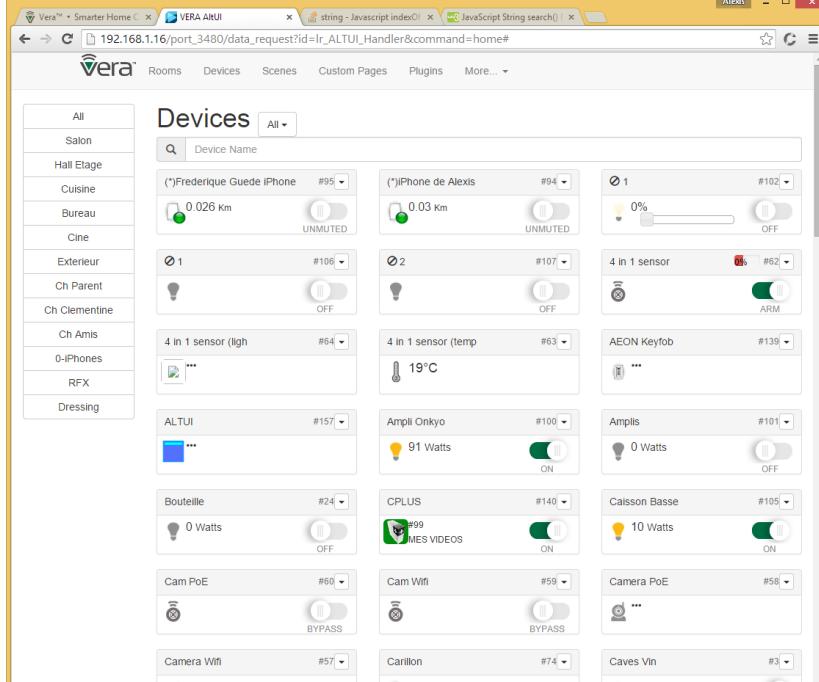
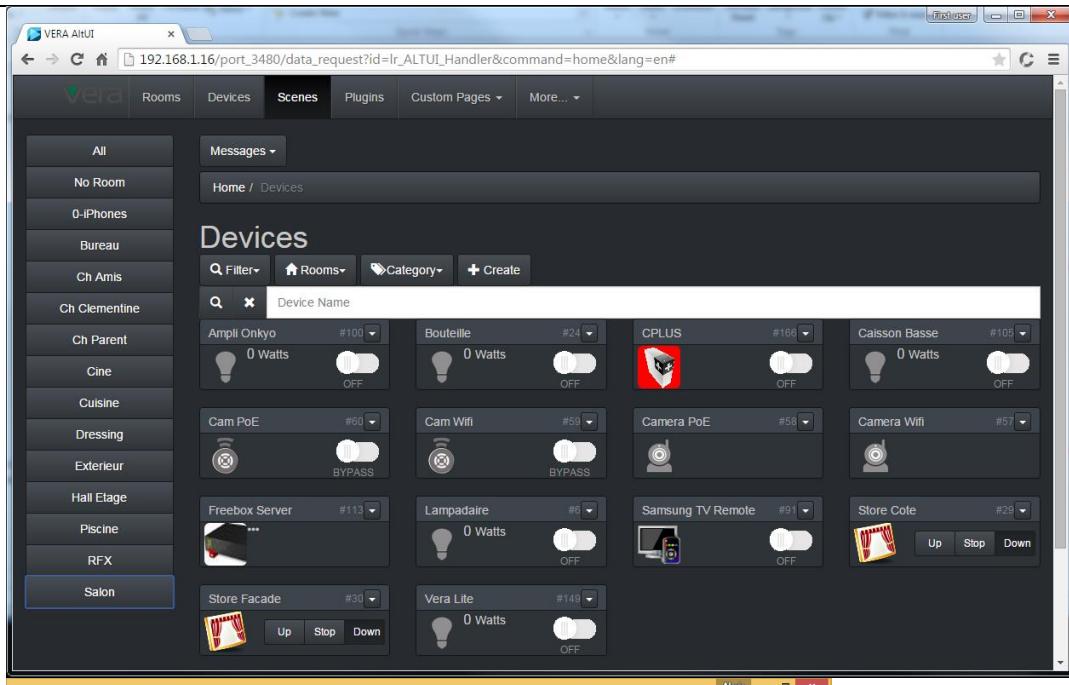
**Scenes (Bottom Window):**

Scene Name	ID	Last Run
Alexis 1km	#57	✓ 2015/02/22 17:05:56
Battery is Low	#8	✓ 2015/01/31 18:52:28
Carillon	#27	
Cine_PS3_On	#54	✓ 2015/02/21 19:05:26
Cine_Tv_Off	#59	
Alexis 3km	#56	✓ 2015/02/19 20:23:00
CanalPlus	#53	✓ 2015/02/22 15:09:43
Cine_PS3_OFF	#55	
Cine_TV_On	#58	✓ 2015/02/21 19:05:26
Film-Regarder	#4	✓ 2015/02/21 21:33:46

## 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



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



0

Jardin



0

Violet



Store

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

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 1.0.5, running on a local network at 192.168.1.16.

**Screenshot 1 (Top): Devices Overview**

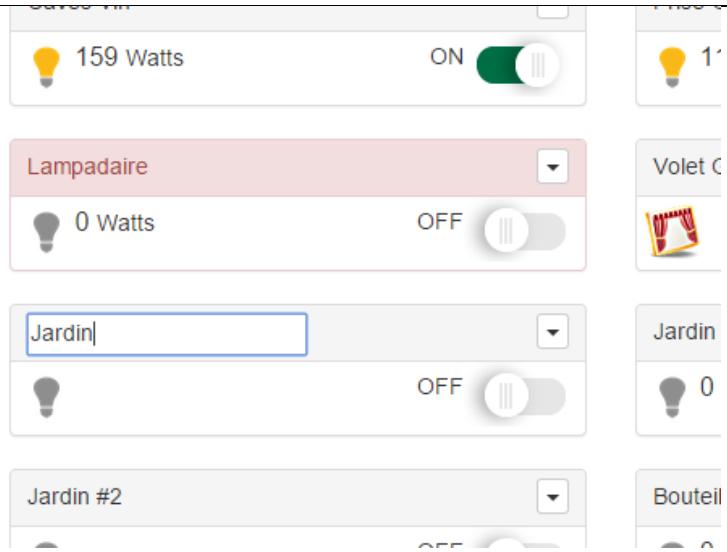
This screenshot shows the main "Devices" page. On the left is a sidebar with room categories: All, No Room, 0-iPhones, Bureau, Ch Amis, Ch Clementine, Ch Parent, Cine, Cuisine, Dressing, Exterieur, Hall Etage, Piscine, and RFX. The main area shows three devices: "Ampli Onkyo" (#100), "Bouteille" (#123), 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" is visible, also showing "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.

VERA AltUI

192.168.1.16/port\_3480/data\_request?id=lr\_ALTUI\_Handler&command=home&lang=en#

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

Messages ▾

Home / Devices / Control Panel

**IPX800 #125**

Room : No Room ▾ Attributes ▾

GCE Electronic IPX800 v3 IPX800 (#125)

**Control** Settings Donate

Firmware 3.05.46  
Version v0.42

UNDEBUG

Refresh IPX Names

VERA AltUI

192.168.1.16/port\_3480/data\_request?id=lr\_ALTUI\_Handler&command=home&lang=en#

Rooms Devices Scenes Plugins Custom Pages More... ▾

Messages ▾

Home / Devices / Control Panel

**IPX800 #125**

Room : No Room ▾ Attributes ▾

GCE Electronic IPX800 v3 IPX800 (#125)

**Control** Settings **Donate**

IPX ip:port: 192.168.1.10 Test Configure  
Update Frequency: 180 seconds.  
you can also configure a PUSH from the ipx800 with the following path: /data\_request?id=lr\_IPX800\_Handler&mac=\$M&deviceID=125  
Show Output Relays: 1,2,3,4,5,6,7 csv list of numbers 1..32  
Show Digital Input:  
Show Analog Inputs: 1,2 csv list of numbers & optional type : 1..2 or 1P..2M  
Special actions: GetIPX Names

UI5 VERA AltUI Vera™ Smarter Home C Alexs

192.168.1.5/port\_3480/data\_request?id=lr\_ALTUI\_Handler&command=home#

Rooms Devices Scenes Custom Pages Plugins More... ▾

**\_Thermostat Thermostats #6**

Room : No Room ▾ Attributes ▾ Debug ▾

Thermostat

Off Auto Cool Heat

Fan

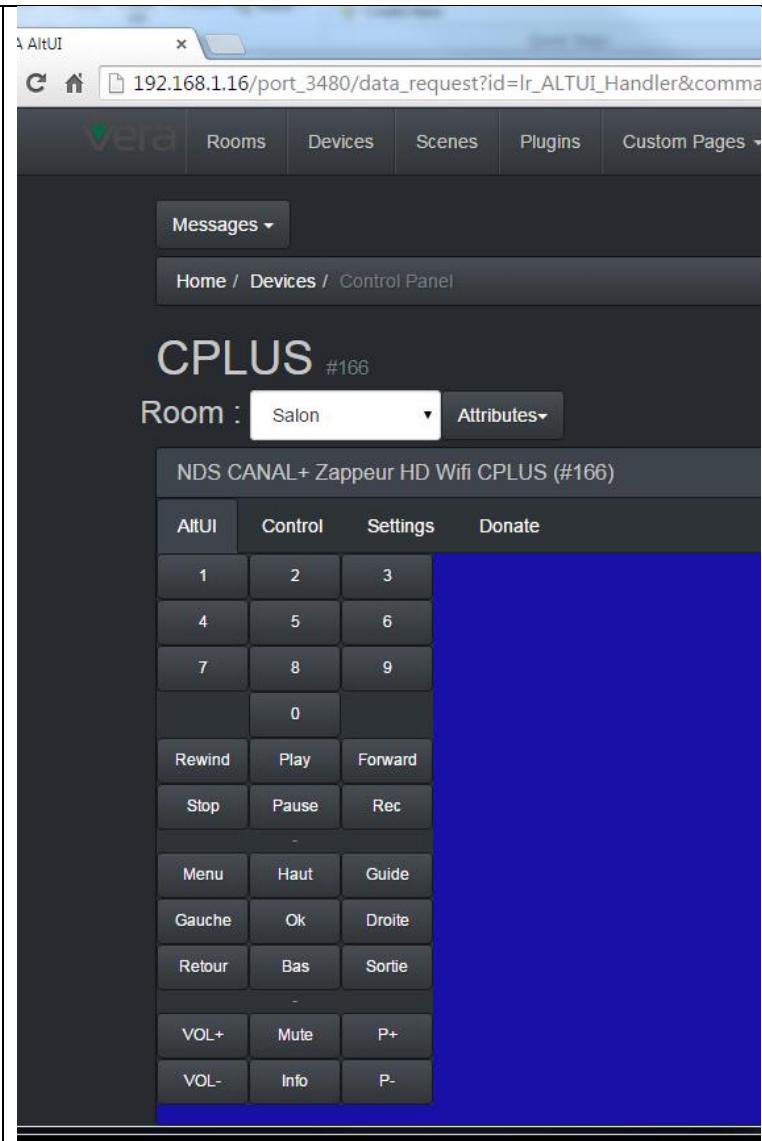
Auto On Cycle

Energy Save

Energy Normal

34 68

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



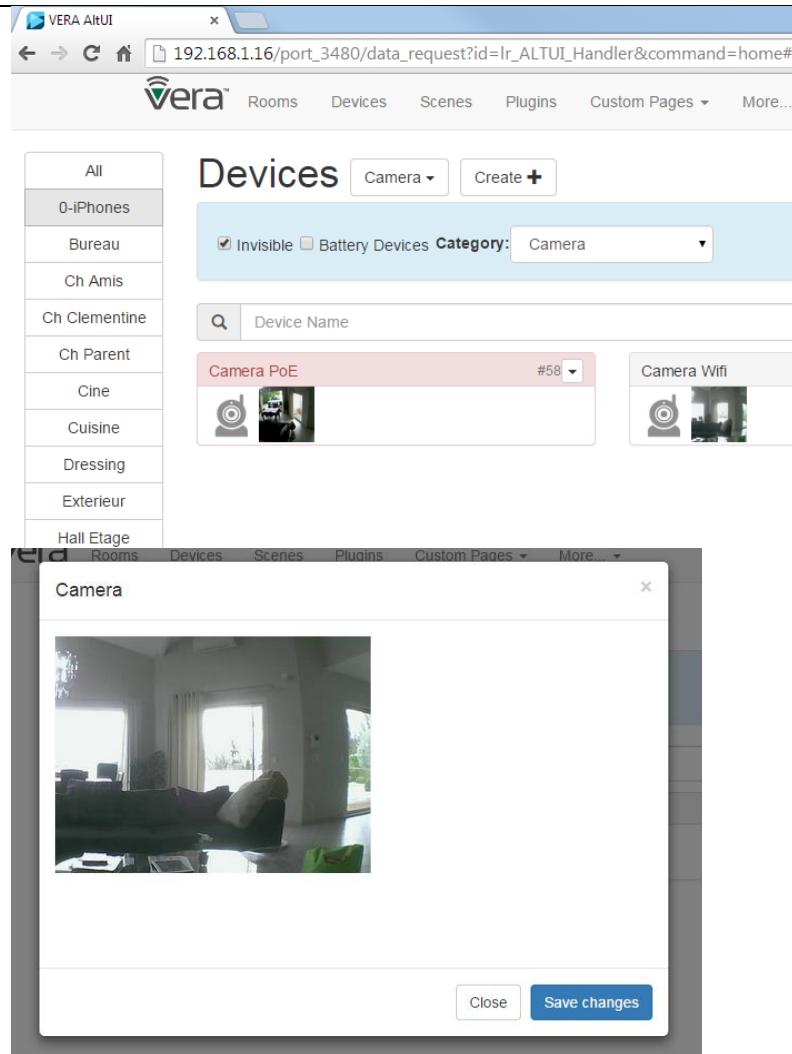
Camera support.

Click on thumbnail to view

Or go into the device control panel

In REMOTE mode: get snapshot of images

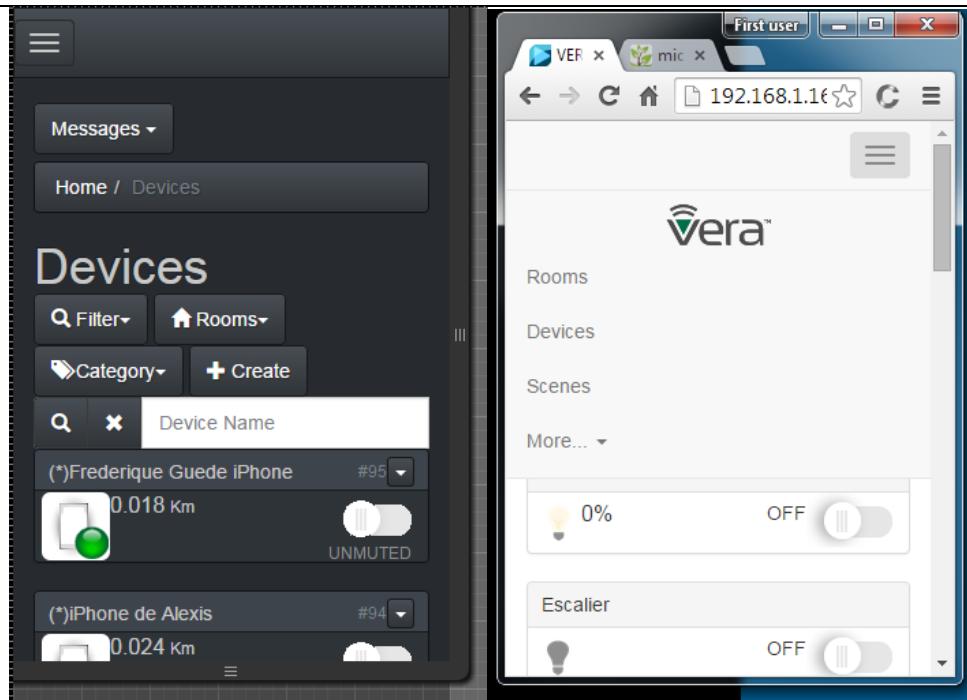
In LOCAL mode: get **direct video** stream



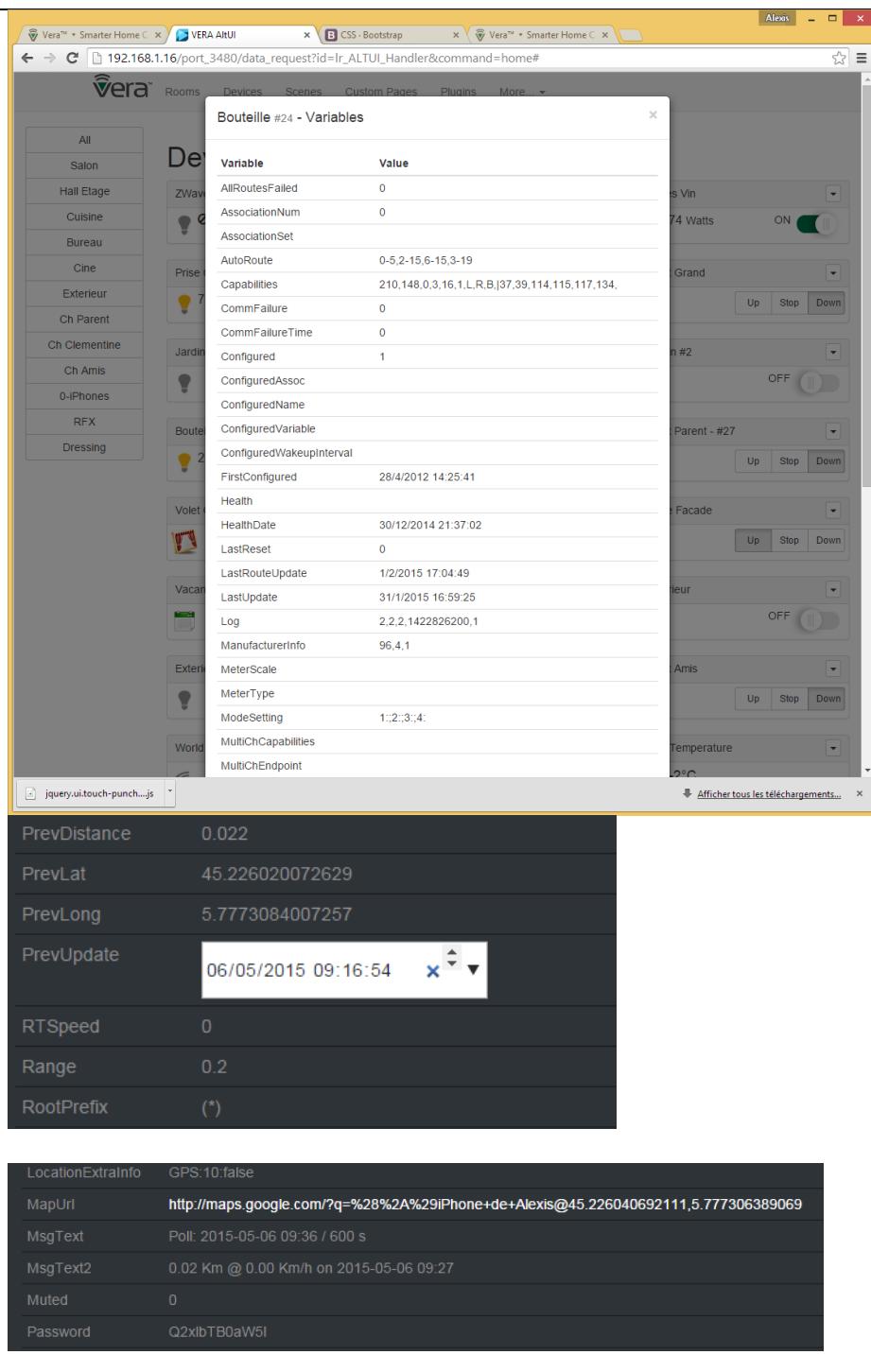
<p><b>Optional display of device attributes &amp;</b></p> <p><b>In DEBUG mode only ( flag on the LUA device ) We can see the Control tab json definition ( for debug )</b></p>	

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



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



The screenshot shows the Vera Home Automation software interface. A modal window titled "Bouteille #24 - Variables" is open, displaying a table of device variables and their values. The variables listed include AllRoutesFailed, AssociationNum, AssociationSet, AutoRoute, Capabilities, CommFailure, CommFailureTime, Configured, ConfiguredAssoc, ConfiguredName, ConfiguredVariable, ConfiguredWakeupInterval, FirstConfigured, Health, HealthDate, LastReset, LastRouteUpdate, LastUpdate, Log, ManufacturerInfo, MeterScale, MeterType, ModeSetting, MultiChCapabilities, and MultiChEndpoint. Below this modal, there is a list of variables with their values:

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="▼"/>
RTSpeed	0
Range	0.2
RootPrefix	(*)

At the bottom of the screen, there is another table with the following data:

LocationExtraInfo	GPS:10:false
MapUrl	<a href="http://maps.google.com/?q=%28%2A%29iPhone+de+Alexis@45.226040692111.5.777306389069">http://maps.google.com/?q=%28%2A%29iPhone+de+Alexis@45.226040692111.5.777306389069</a>
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	Q2xlTB0aW5l

Edit device variable by click into , then click out

The screenshot shows a web-based interface for managing smart home devices. A modal window titled "4 in 1 sensor (temp #63 - Variables)" is open, listing various device variables and their current values. One variable, "CurrentTemperature", has its value field selected, highlighted with a blue border. The interface includes a sidebar with room names like "All", "Salon", "Bureau", etc., and a bottom navigation bar with tabs for "Rooms", "Devices", "Scenes", "Custom Pages", "Plugins", and "More...".

Variable	Value
ArmedTripped	1
CurrentTemperature	19
LastTrip	2013/08/10 13:28:13
ManufacturerInfo	0,0,0
SensorMIScale	3
SensorMIType	1
Tripped	1
VariablesGet	

Buttons at the bottom right of the modal are "Close" and "Save changes".

Device UPNP action & parameters callable from the user interface. UPnp definitions dynamically read from the D\_ & S\_xx files

The screenshot shows a detailed view of a device's actions. A modal window titled "Prise Groupe Clim #4 - Actions" is displayed, listing various actions and their parameters. The "SetTarget" action is currently selected, with two input fields: "newTargetValue" and "newTargetValue". The background shows a list of other devices and their status, such as "Bureau" being ON and "Exterieur" being OFF. The interface includes a sidebar with room names and a bottom navigation bar.

Action	Parameters
SetTarget	newTargetValue newTargetValue
GetTarget	
Status	
ResetKWH	
Reconfigure	
StressTest	
Remove	
Poll	
ToggleState	
SetPollFrequency	PollingEnabled PollingEnabled
	PollMinDelay PollMinDelay

Installed  
Plugin  
screen and  
Update with  
a button

Name	Version	Files	Actions	Update	Uninstall	
Virtual ON/OFF Switches	1.32	Files	?	↻	×	
Wunderground Weather Plugin	1.58	Files	?	↻	×	
VistaCam PT&HD IP Cameras	3.0	Files	?	↻	×	
Day or Night	3.5	Files	?	↻	×	
Samsung TV Remote	0.5	Files	?	↻	×	
iPhone Detector Plugin	2.3	Files	?	↻	×	
IPX800	0.42		D_IPhone.json	?	↻	×
Freebox Revolution	1.0		D_IPhone.xml	?	↻	×
HouseModes Plugin	1.60		D_IPhone_UI7.json	?	↻	×
Alternate UI	0.47		I_IPhone.xml	?	↻	×
Canal Plus Satellite Decoder	0.35		J_IPhone.js	?	↻	×
			L_IPhone.lua	?	↻	×
			L_IPhoneEnc.lua	?	↻	×
			L_IPhoneJson.lua	?	↻	×
			S_IPhone.xml	?	↻	×
			RawPhone.lua	?	↻	×

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

```

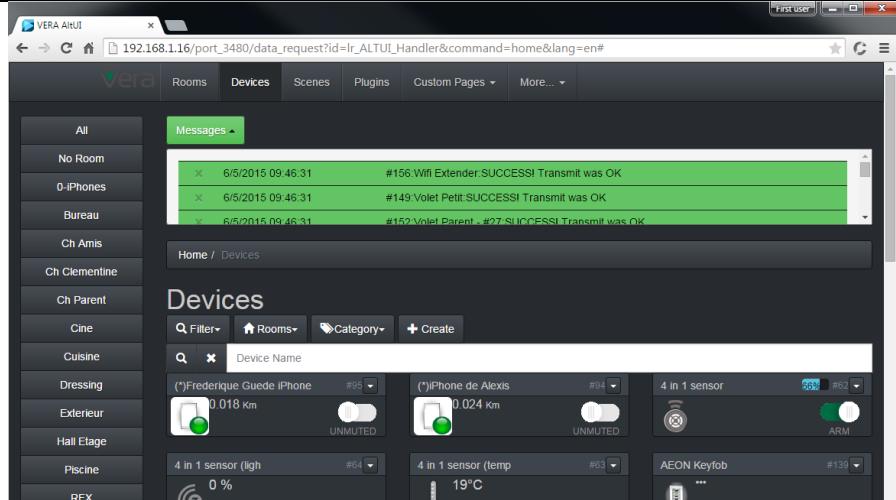
D_IPX800_UI7.json:
{
  "flashicon": "http://code.mios.com/trac/mios_ipx800/export/65/trunk/iconIPX800.png",
  "default_icon": "http://code.mios.com/trac/mios_ipx800/export/65/trunk/iconIPX800.png",
  "halloIconsDir": "pics/hallo",
  "state_icons": [
    "iconIPX800_0.png",
    "iconIPX800_100.png",
    {
      "img": "..\..\..\icons\iconIPX800_0.png",
      "conditions": [
        {
          "service": "urn:upnp-org:serviceId:IPX8001",
          "variable": "IconCode",
          "operator": "==",
          "value": 0
        }
      ],
      "img": "..\..\..\icons\iconIPX800_100.png"
    }
  ]
}

```

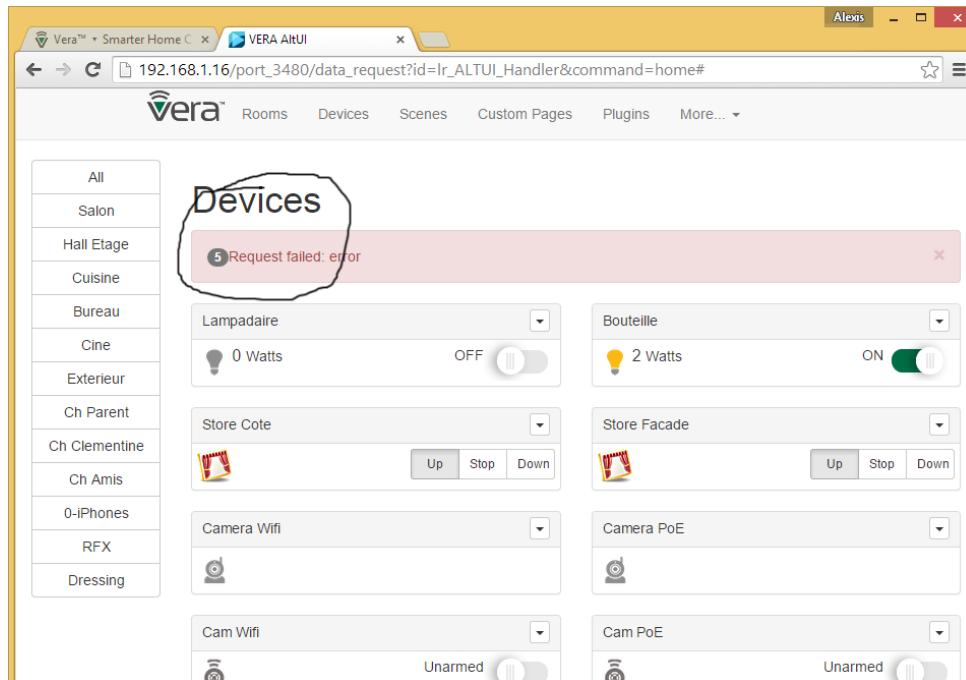
[Download](#)

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 web 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_BUREAUPIETIT = 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 web 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 :

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 configuring automation rules. There are four open dialog boxes:

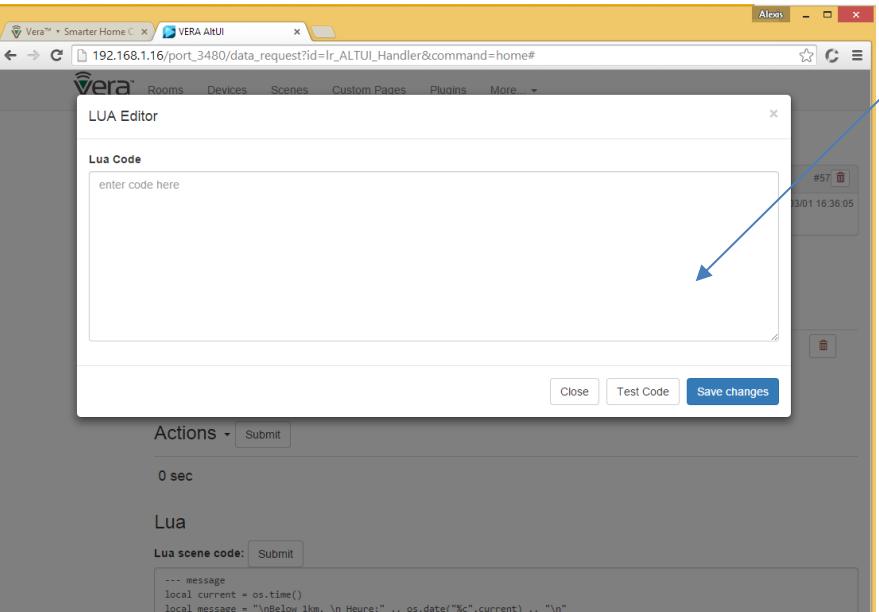
- Timer**:
  - TimerName**: new timer
  - TimerType**: day of week
  - TimerDayOfWeek**: Mo, Tu, We, Th, Fr, Sa, Su (checkboxes)
  - TimerTime**:
    - hh:mm:ss
    - At a certain time of day
- Trigger**:
  - TriggerName**: enter TriggerName
  - Device**: 4 in 1 sensor
  - Events**:
    - Whenever \_DEVICE\_NAME\_ is armed and detects motion
    - Select ...
    - Whenever \_DEVICE\_NAME\_ is armed and detects motion (highlighted)
    - 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

Each dialog box has a Close button and a Save changes button.

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

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



LUA Editor

Lua Code  
enter code here

Actions

0 sec

Lua

Lua scene code:

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

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>
-------------------------	---

## Credits

Vera™ Smarter Home C VERA AltUI First user  192.168.1.16/port\_3480/data\_request?id=lr\_ALTUI\_Handler&command=home#   

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

# 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

---

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

---

For those who really like this plugin and feel like it, you can donate what you want here on Paypal. It will not buy you more support not any garantee that this can be maintained or evolve in the future but if you want to show you are happy and would like my kids to transform some of the time I steal from them into some *concrete* returns, please feel very free ( and absolutely not forced to ) to donate whatever you want. thank you !

[Faire un don](#)





---

AltUI v0.30, amg0, 45101392, \*1.7.961\*, Grenoble, Rhone-Alpes, FRANCE  
\$Revision: 356 \$,\$Date: 2015-03-09 18:14:47 +0100 (lun., 09 mars 2015) \$

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 red squares indicating connections between devices.



# 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:

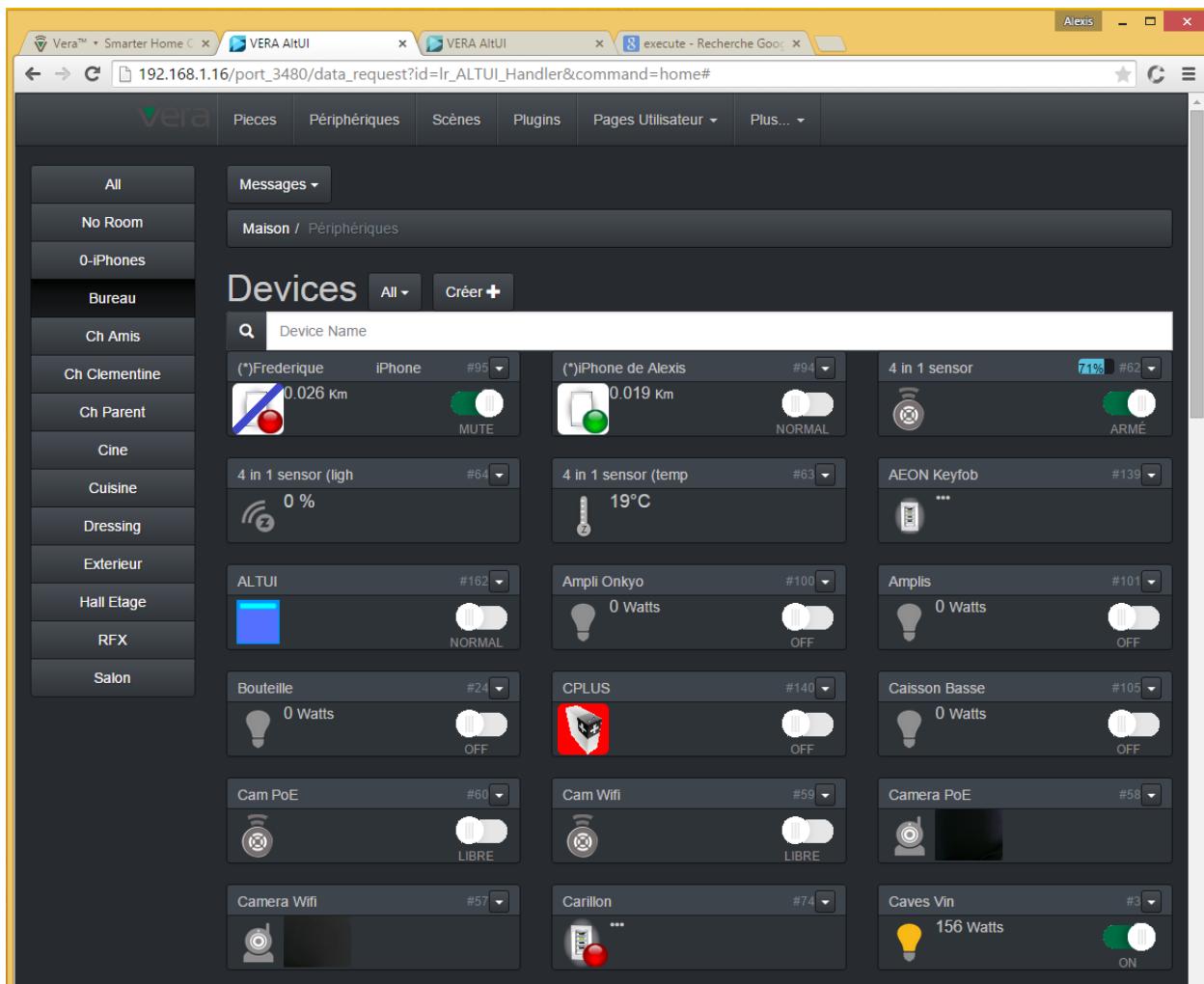
```
{"urn:schemas-micasaverde-com:device:PowerMeter:1": {"DeviceDrawFunc": "ALTUI_PluginDisplays.drawPowerMeter", "ScriptFile": "J_ALTUI_plugins.js"}, "urn:schemas-upnp-org:device:DigitalSecurityCamera:2": {}}
```

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": "Pieces",
    "Devices": "Périphériques",
    "Control Panel": "Controle",
    "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

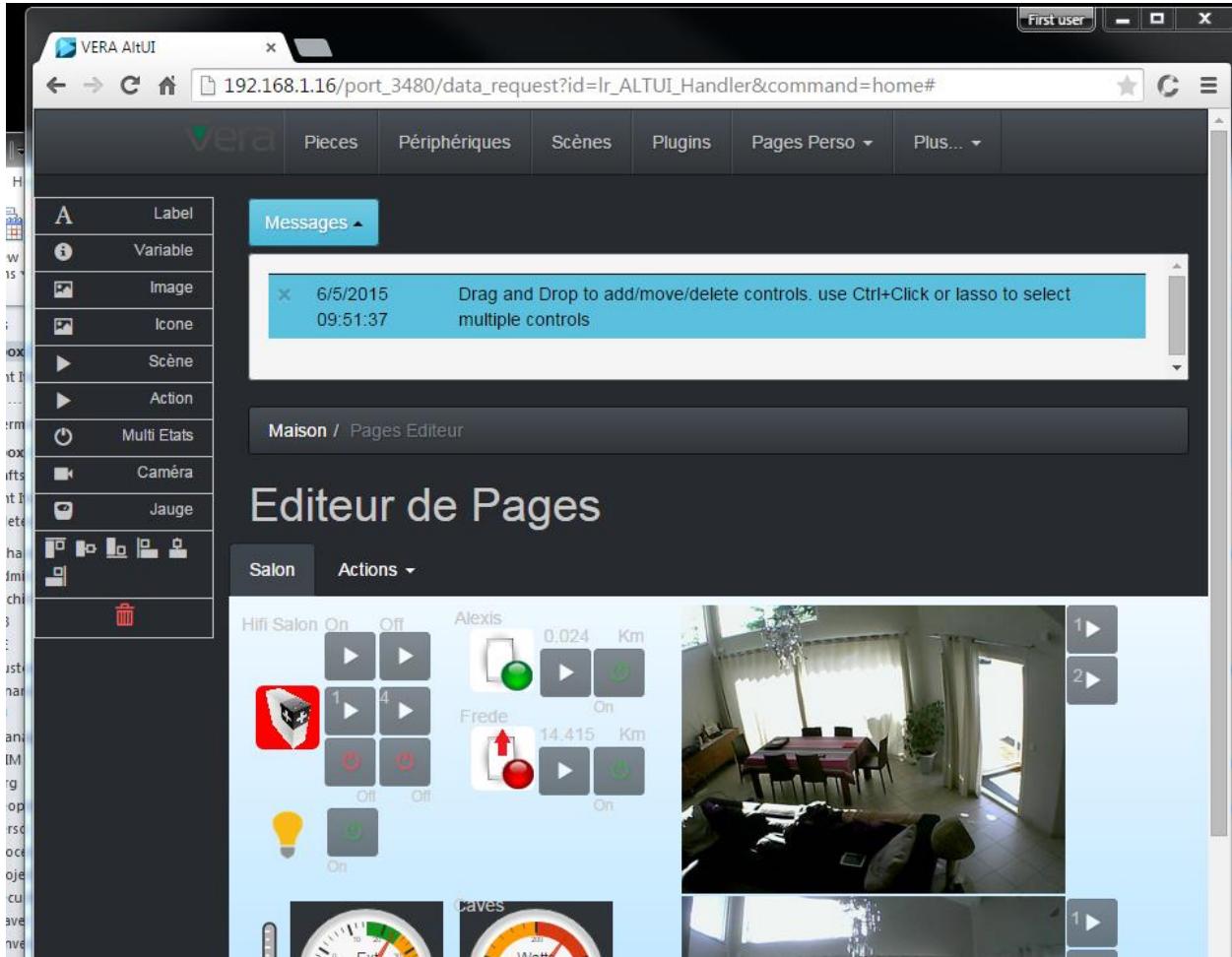
Ce Plugin est un projet en cours, il continue d'évoluer au fil du temps. Vous pouvez suivre les évolutions sur le Forum Micasaverde

**Localization information:**

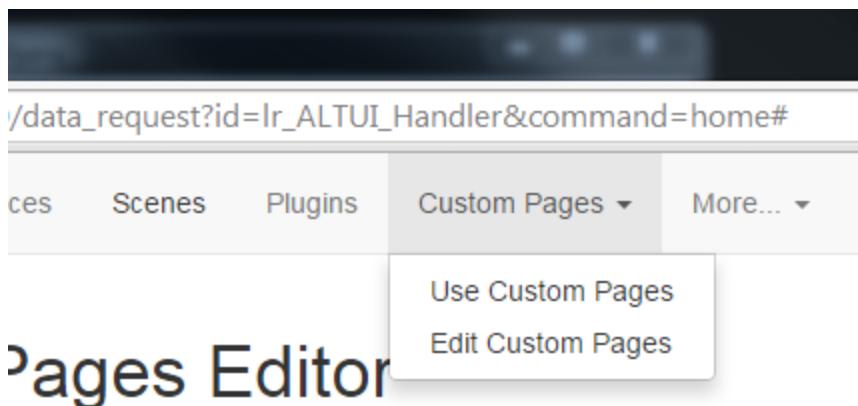
```
browser query: userlanguage: language:fr
Unknown terms:{}
```

# 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

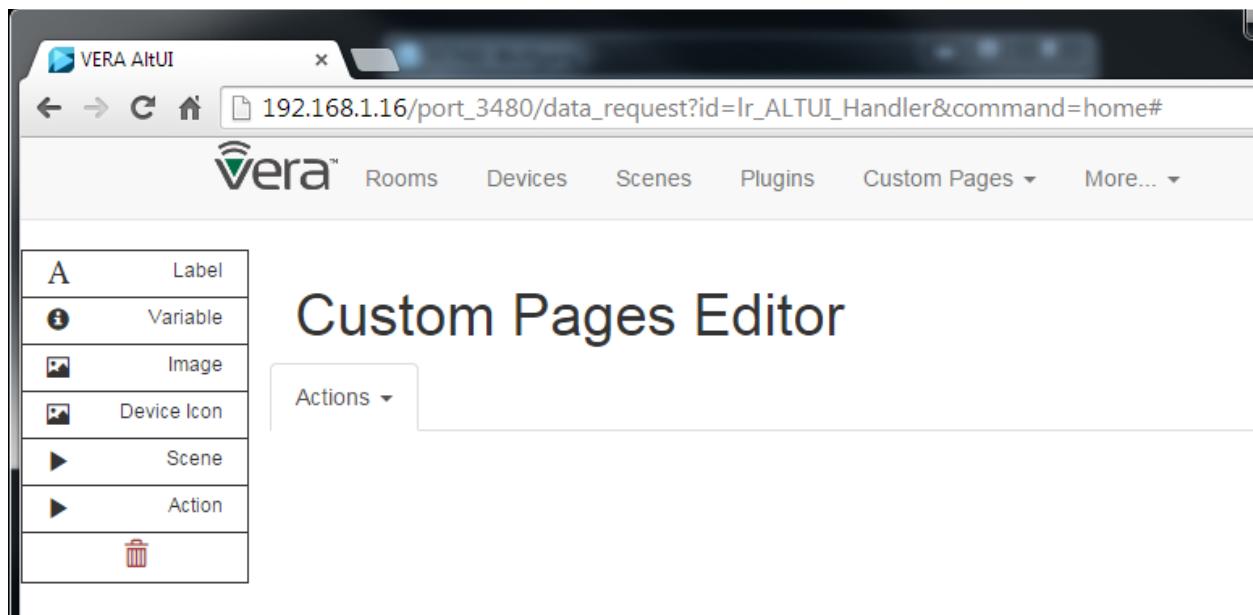


- Use Custom pages : just for readonly use of a custom panel you have built
- Edit Custom pages : to edit the panel.

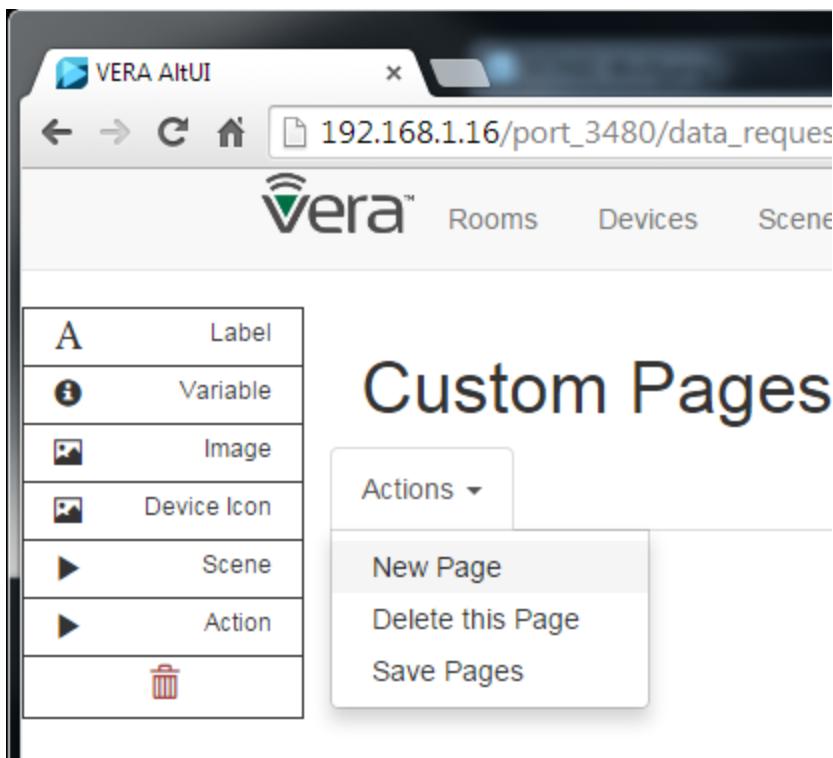
The first time you go there, you will not see any custom pages as you have not created any yet. So let's start by going into Edit mode first.

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.

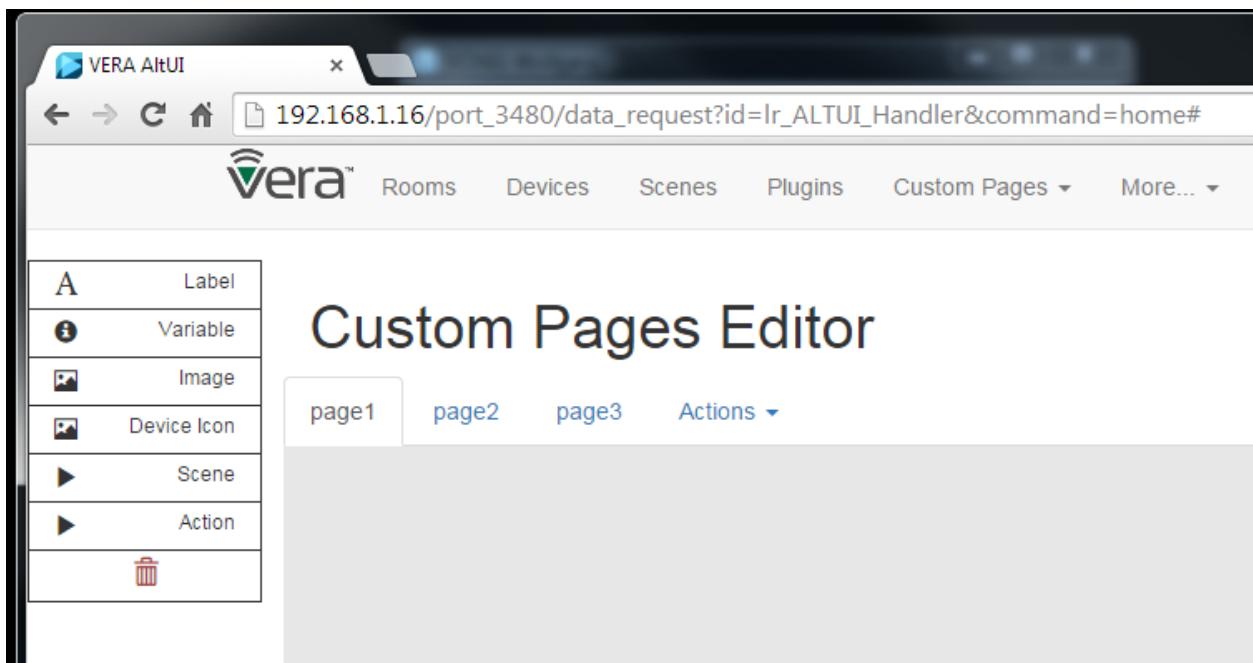


For now, you do not see any page , so let's create one by going into the menu Actions.

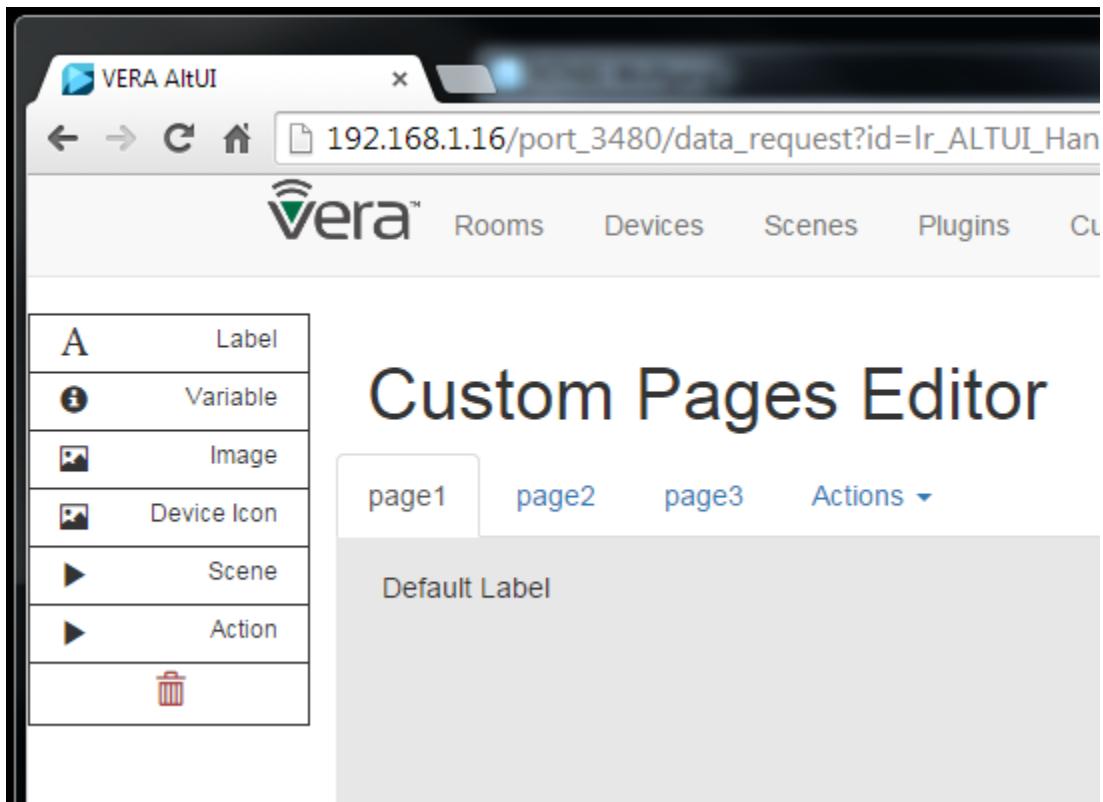


Click New page and your first page is created and is empty for now, but you see a grey canvas where you are going to position your controls.

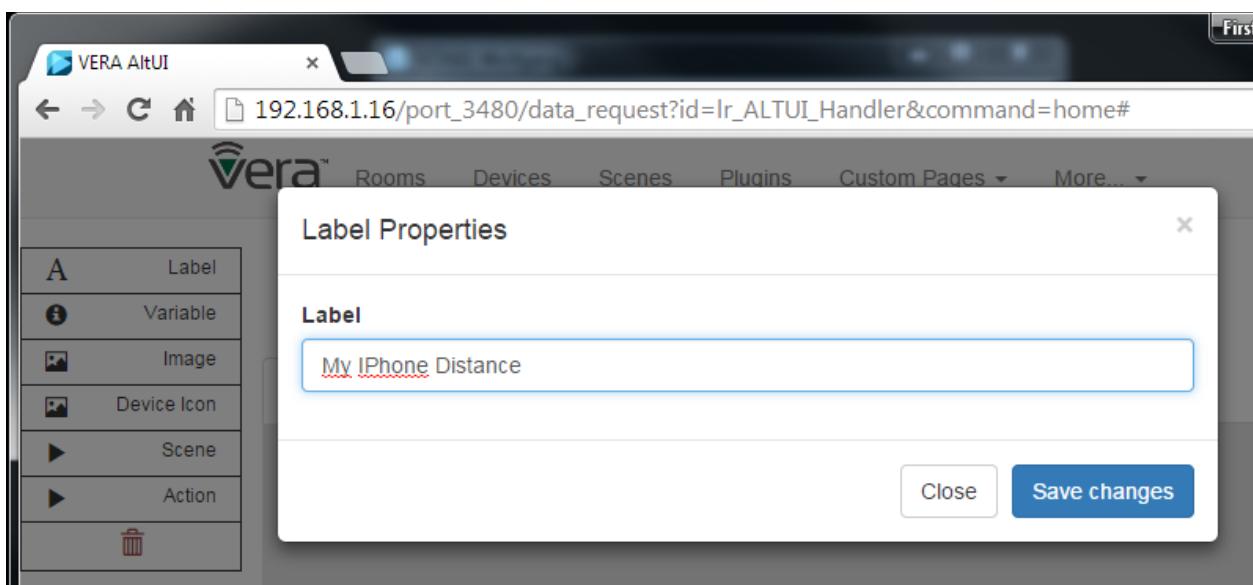
You can create several pages, they will be displayed as “Tabs” you can select to move from one page to the other.



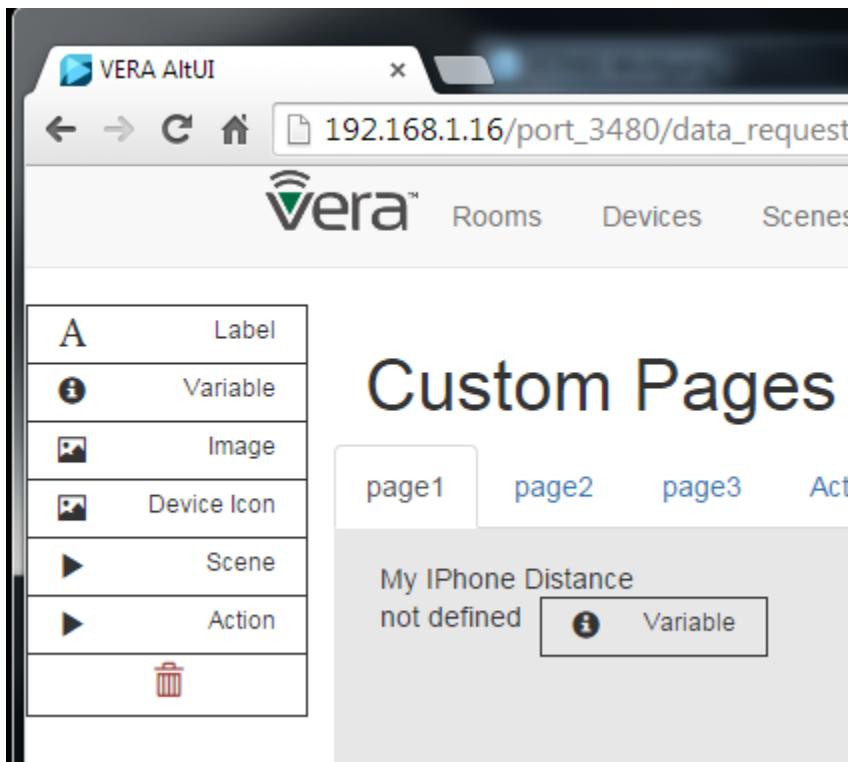
Now, lets position a few control on the panel. I have a IPhoneLocator plugin in my vera and I want to display the distance and the unit it is reporting. So you are going to select the first tool ( the A for labels ) and drag it into the canvas area. It will create a default label right at the position 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 with the URL `192.168.1.16/port_3480/data_request?id=lr_ALTUI_Handler&command=home#`. The page title is "VERA AltUI". The main menu includes "Rooms", "Devices", "Scenes", "Plugins", "Custom Pages", and "More...". A sidebar on the left contains a list of icons with labels: "A Label", "Variable", "Image", "Device Icon", "Scene", "Action", and a trash icon.

The central area is titled "Variable Properties" and contains two sections: "Device" and "Variable". Under "Device", the value "(\*)iPhone de Alexis" is listed. Under "Variable", a dropdown menu is open, showing a list of variables. The variable "Unit : (urn:upnp-org:serviceId:IPhoneLocator1)" is highlighted with a blue selection bar at the bottom of the list.

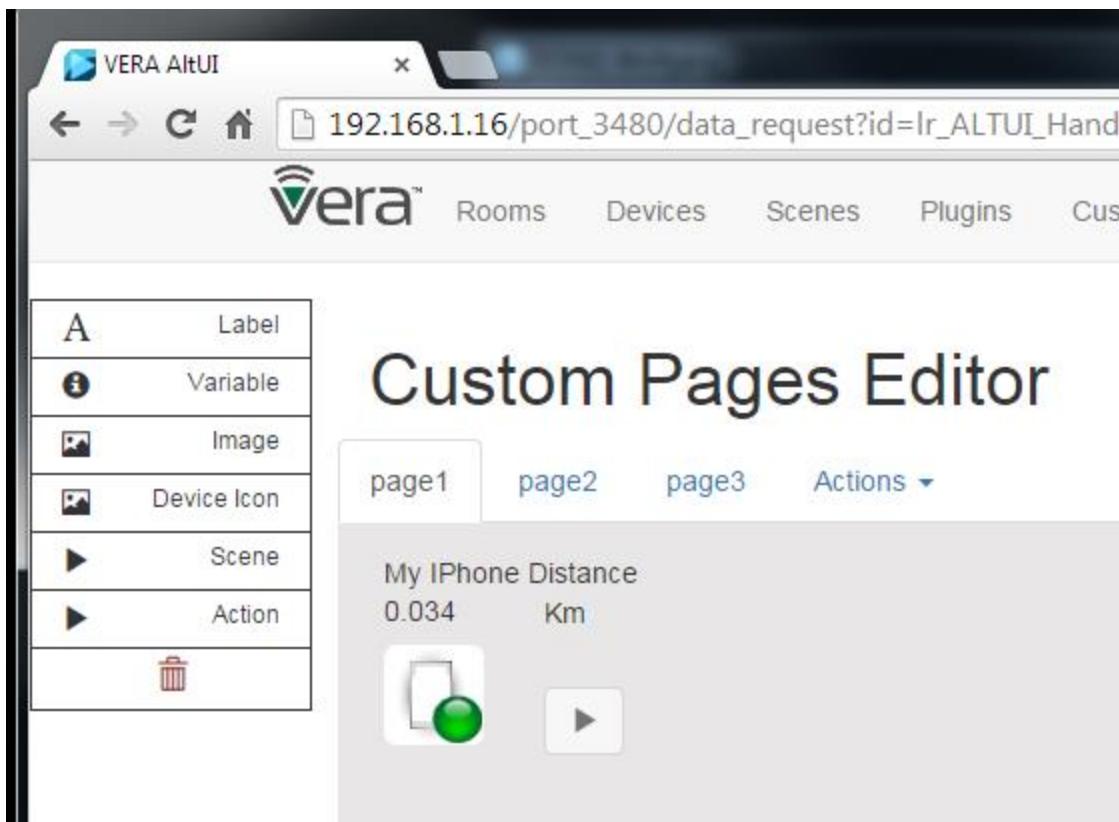
- Unit : (urn:upnp-org:serviceId:IPhoneLocator1)
- MsgText2 : (urn:upnp-org:serviceId:IPhoneLocator1)
- Muted : (urn:upnp-org:serviceId:IPhoneLocator1)
- Password : (urn:upnp-org:serviceId:IPhoneLocator1)
- PollingAuto : (urn:upnp-org:serviceId:IPhoneLocator1)
- PollingBase : (urn:upnp-org:serviceId:IPhoneLocator1)
- PollingDivider : (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 )

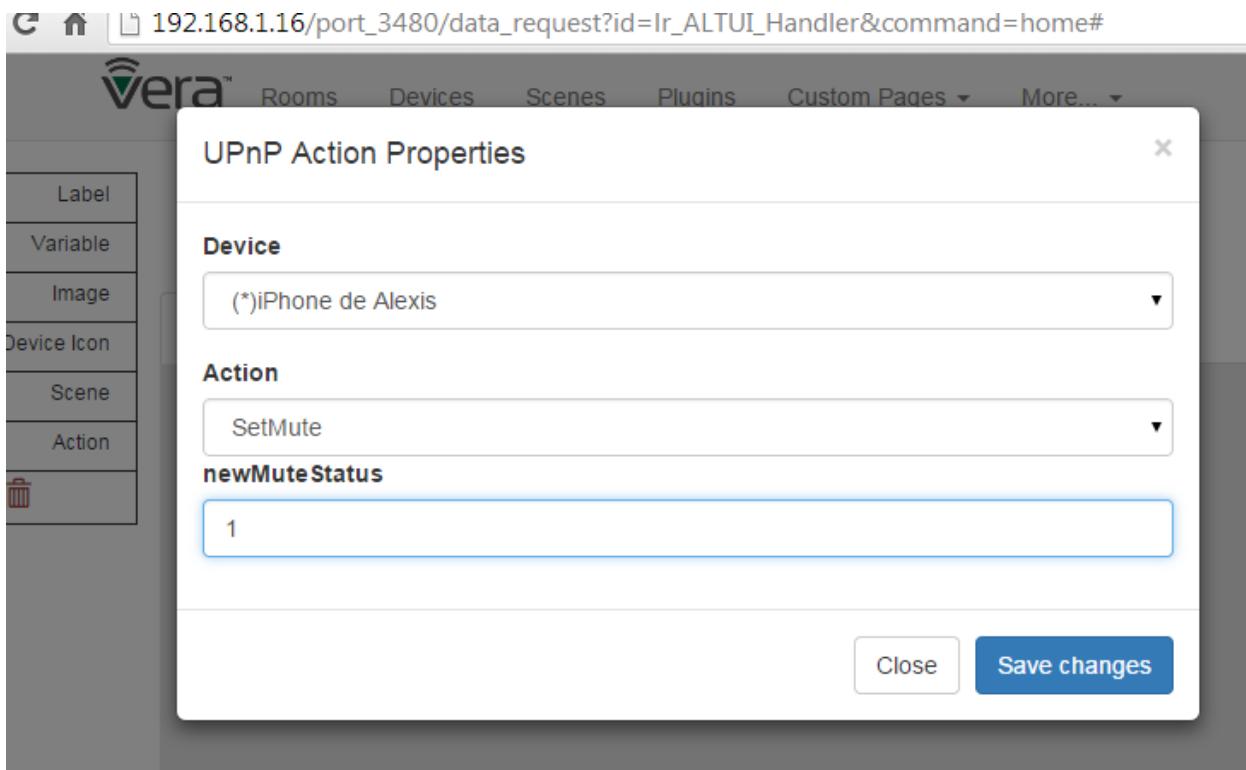
The screenshot shows a web browser window with the URL `192.168.1.16/port_3480/data_request?id=lr`. The page title is "Custom Pages Ec". On the left, there is a sidebar with icons for Label, Variable, Image, Device Icon, Scene, Action, and a trash can. The main content area displays the text "My iPhone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

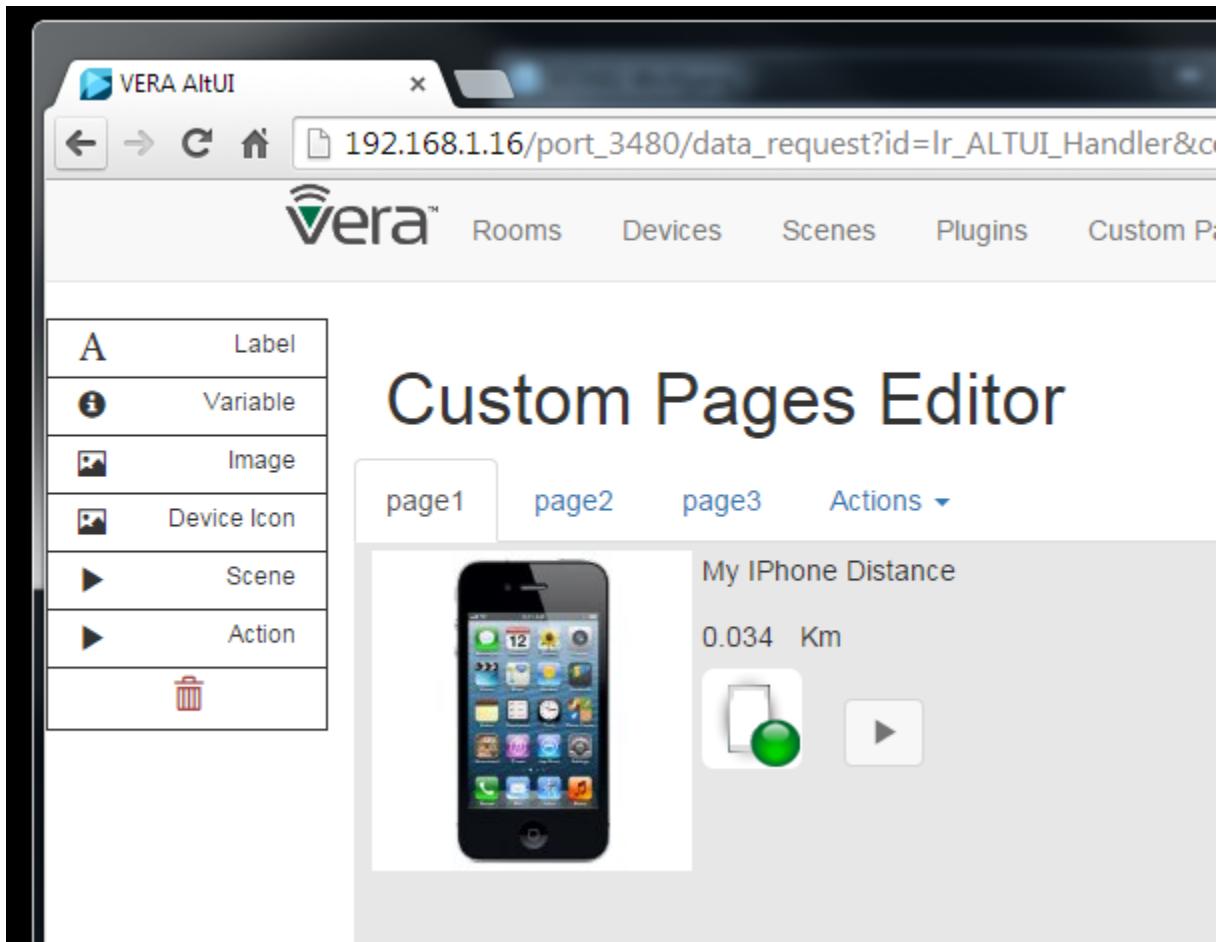
And Let's add a mute button.



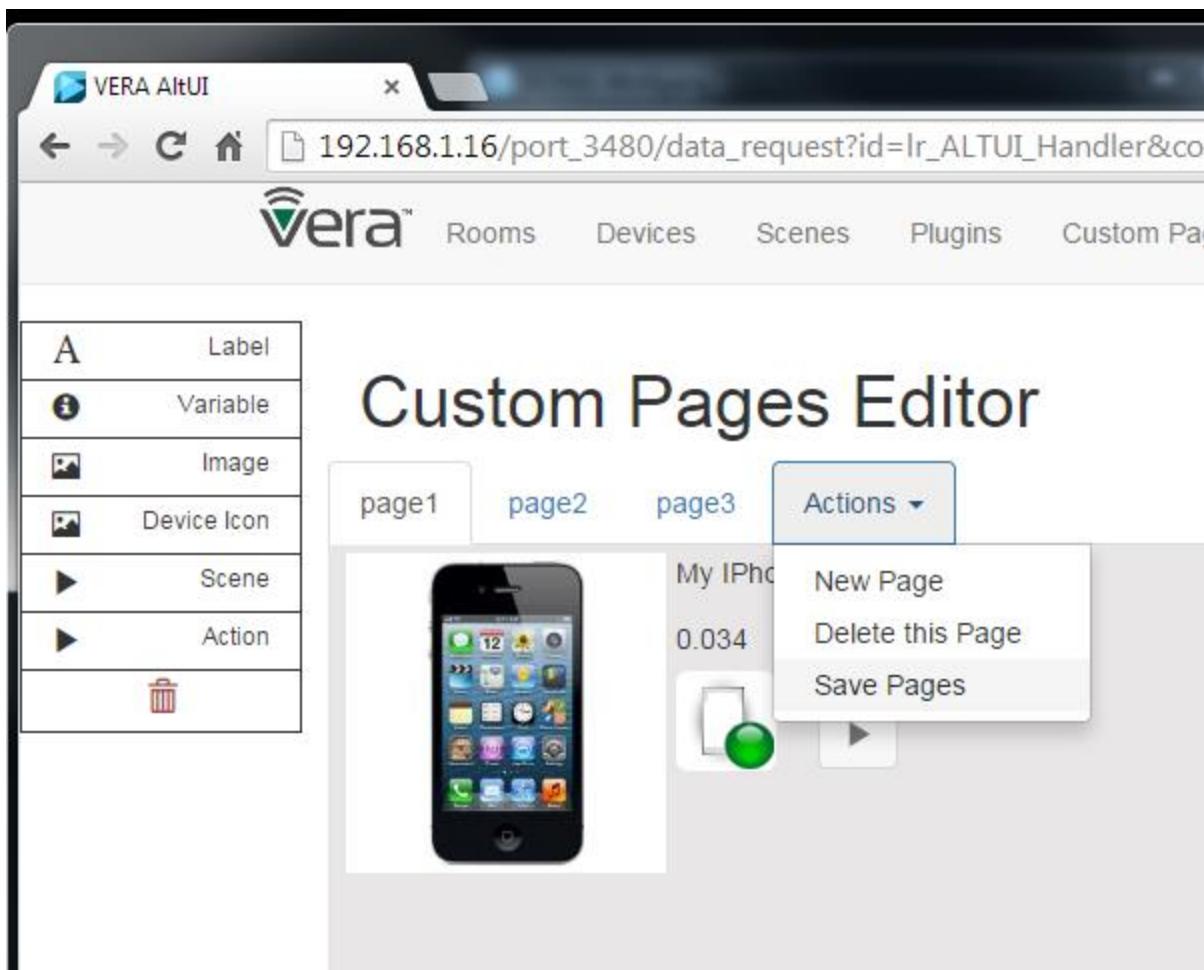
Which we need to configure to run the right UPNP action:



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

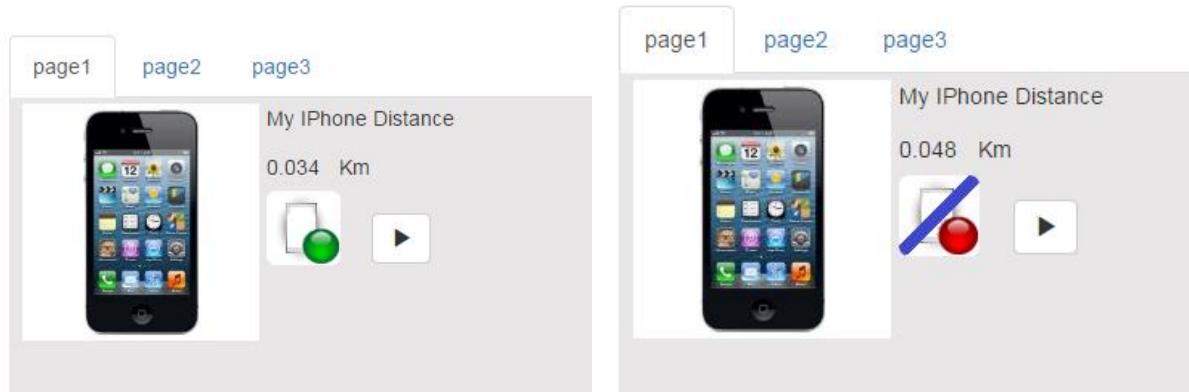


I now want to save it so that it can be persisted and reopened next time so I go into the Actions/Save menu.



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 three tabs: 'UIS', 'VERA AltUI', and 'Adding options to a select'. The 'VERA AltUI' tab is active, displaying the URL '192.168.1.5/port\_3480/data\_request?id=Ir\_ALTUI\_Handler&command=home#'. Below the tabs is the Vera logo and a navigation bar with links to 'Rooms', 'Devices', 'Scenes', 'Plugins', 'Custom Pages', and 'More...'. A sidebar on the left contains a tree view with 'All' selected, followed by 'Test Room', 'autre', and 'test'. The main content area is titled 'ALTUI #4 - Variables' and contains a table with the following data:

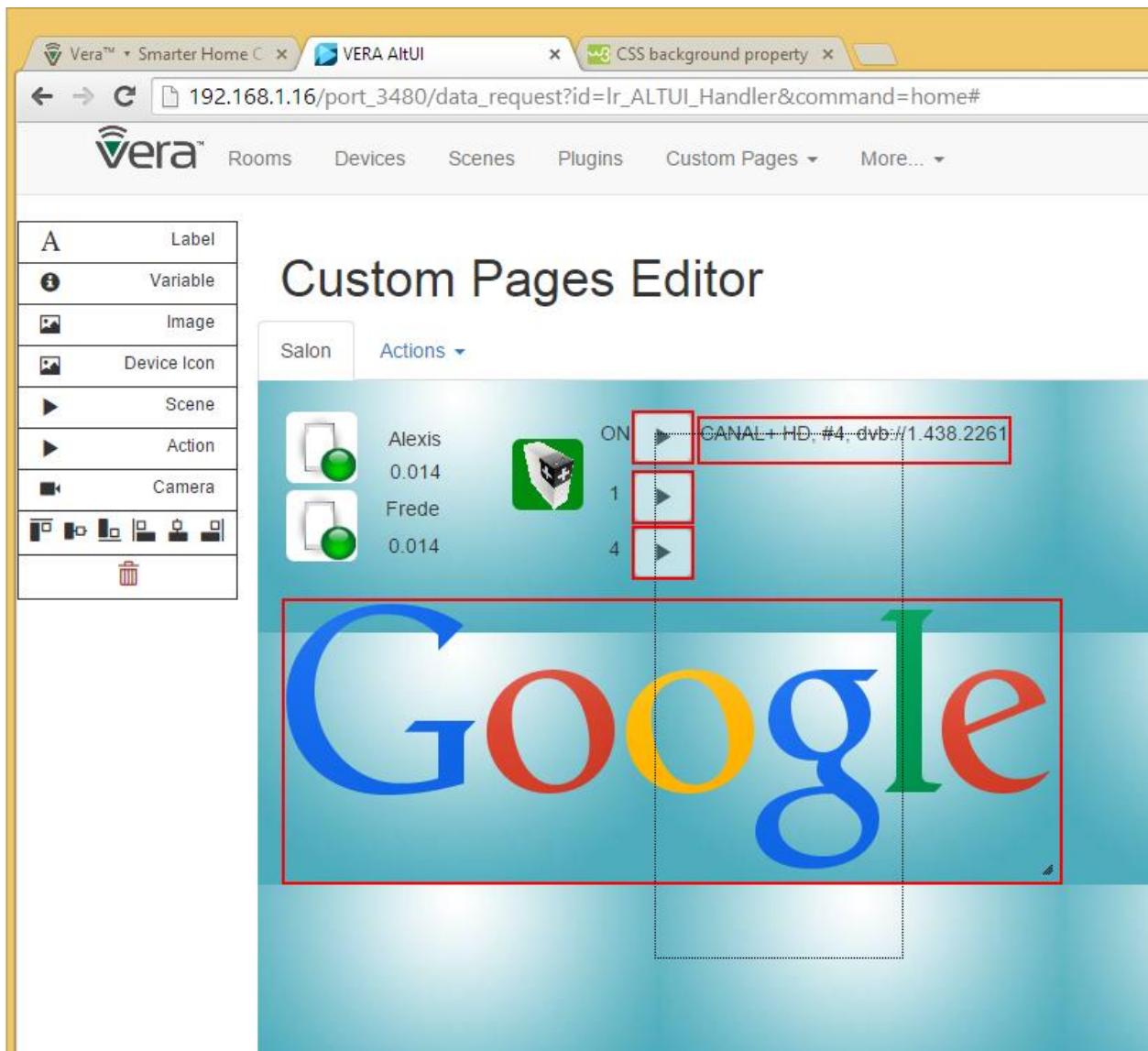
Variable	Value
CustomPages	[{"id":1,"name":"page1","children":[{"id":1,"cls":"altui-widget-label","position":{"top":10,"left":10,"width":100,"height":30}, "widget-variable":{"id":1,"name":"label1","value":"Label 1"}, "properties":{"deviceid":"5","serviceid":3,"cls":"altui-widget-variable","position":{"top":10,"left":10,"width":100,"height":30}, "properties":{"deviceid":1,"serviceid":2,"variable": "Unit"}}], {"id":2,"name":"page2","children":[]}]
Debug	0
LastUpdate	0
PluginConfig	{"urn:schemas-micasaverde-com:device:DoorSensor:1": {"DeviceDrawFunc": "AltUI_PluginDisplay_doorSensor", "ScriptFile": "DoorSensor.js", "AltUI": "DoorSensor.js", "Icon": "DoorSensor.png", "Caption": "Door Sensor", "Type": "DoorSensor", "Status": "Normal", "LastUpdate": 0, "Debug": 0}}

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

Off On

Ext 10 Piscine 8

Caves Watts 155

0 50 0 50 0 50 0 50

The screenshot shows the Vera Custom Pages Editor interface. On the left, there's a sidebar with a legend for different control types: A (Label), Variable, Image, Device Icon, Scene, Action, Multi State, Camera, and Gauge. Below this is a trash bin icon. The main area is titled "Custom Pages Editor" with a sub-instruction "Drag and Drop to add/move/delete controls. use Ctrl+Click or lasso". It displays a layout with several components: a lightbulb icon, two "Off/On" switch controls labeled "Alexis" and "Frede" with their respective distances (0.022 Km and 20.148Km) and green "On" buttons; two circular "Ext" and "Piscine" gauges with scales from 0 to 50; and a "Watts" gauge at 155 with a scale from 0 to 204. There are also "Caves" and "Rooms" tabs at the bottom.

### 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

**Buttons**

**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](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

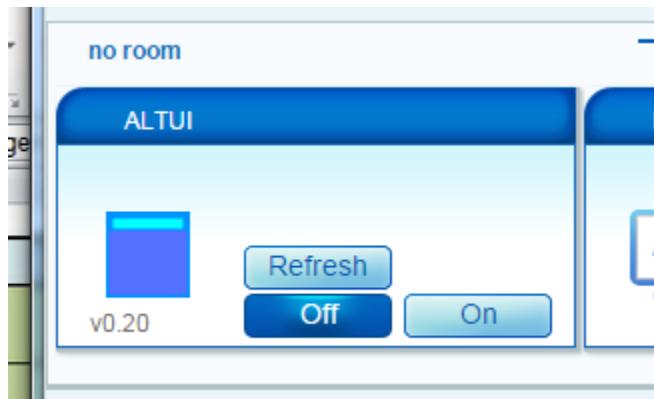
Create device

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

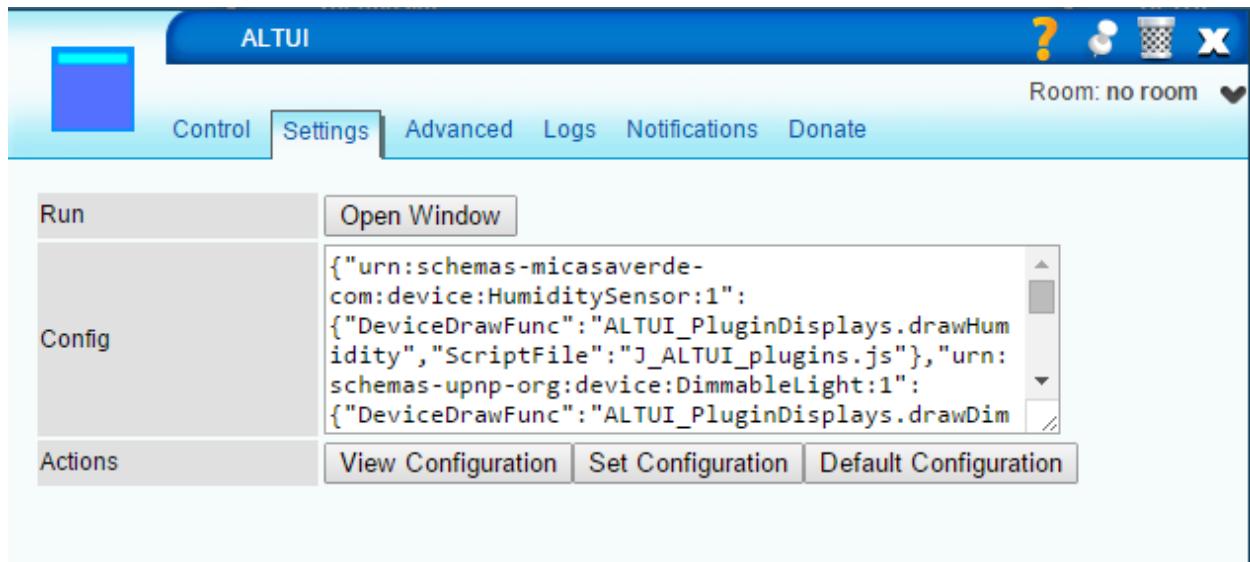
3) Reload lua



4) Find the device in UI5



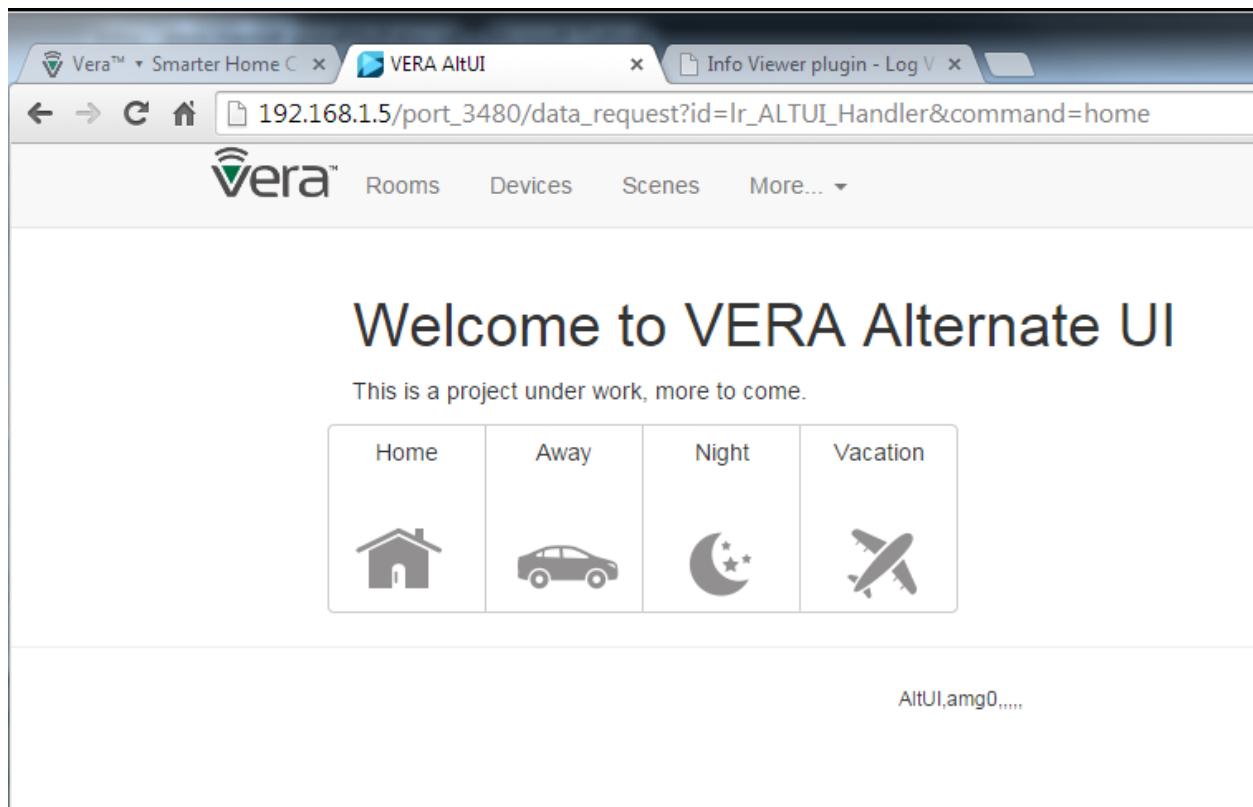
5) Open the settings tab



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

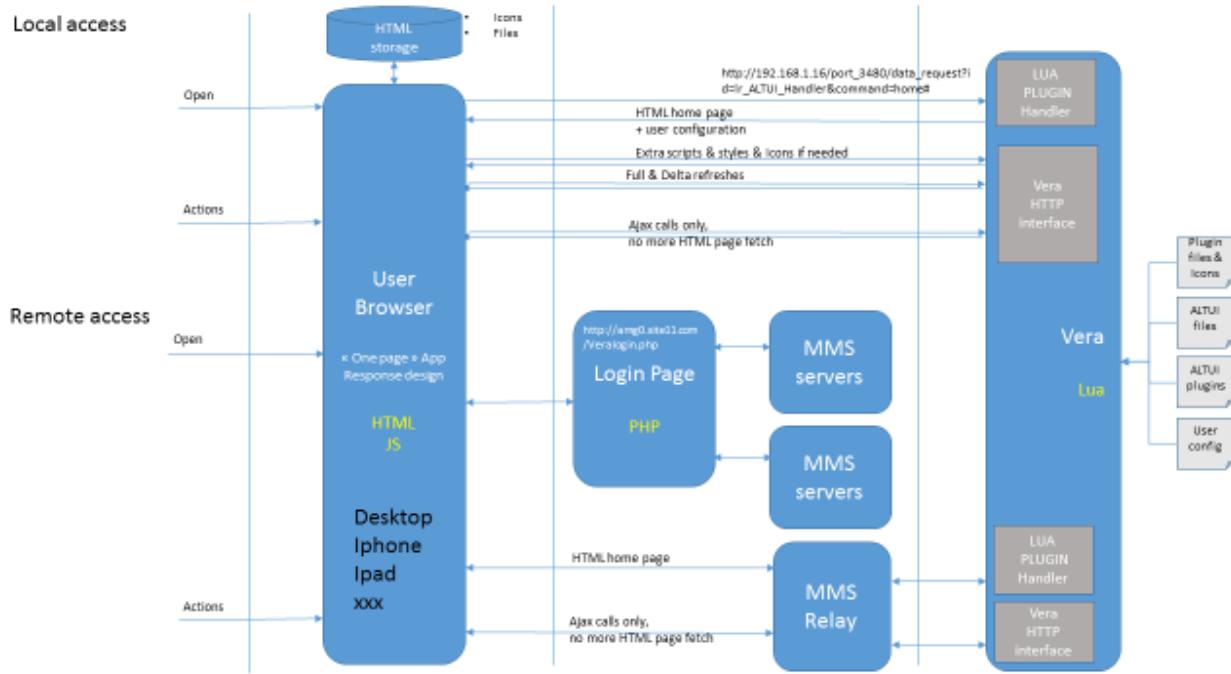
6) Click on open window

- 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

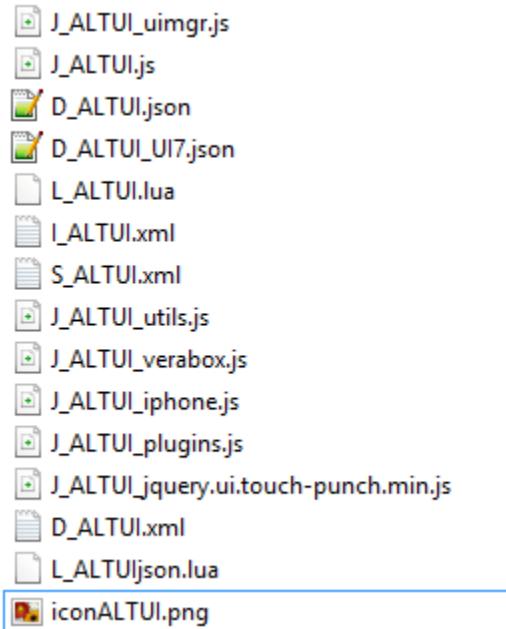
Note:

- 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](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 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()
- **J\_ALTUI\_IPhone.js**
  - The custom drawing functions for the IPPhone 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, etc )
- **J\_ALTUI\_jquery.ui.touch-punch.min.js**
  - A small jquery 3<sup>rd</sup> 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 and that's all. probably would like to add a lib for graphic widgets ( gauges etc ) also in the near future, suggestion welcome. must be easy and working with jquery as I am far from a JS guru
- 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 )