

# Chapter 15

## Displays

A display is a way to view devices, programs, and groups in arrangements that make sense to you. HCA uses the term *Display* rather than floor, room, or area because there are different types of displays that don't show areas in your home.

Displays have five main uses:

- To display icons for your devices, programs, and groups
- To display text messages
- To display power track graphs
- To display HTML
- To display tiles each of which contain one of the above 4 types.

In the first case, the display can have a background image and that image can be in the form of a drawing interchange format (DXF) file, or picture (BMP, GIF or JPEG) file..

Displays can also be organized as a series of tiles with each tile showing a different display type. For example, you could construct a display with a graph tile, an HTML tile, and two icon tiles.

Everything that appears in the Display Pane – right pane in the HCA main window - has a display object associated with it. At different times, you may see the Display Pane contain a text message, an arrangement of icons, or a HTML file. And for each of these there is a display object - one for the text display, another for the icon display, and a third for the HTML display.

Sections in this chapter include:

- Types of displays
- Creating a display
- Text displays
- HTML displays
- Icon Display
  - Icons for displays
- Power Track Displays
- Tiled Displays
- About DXF files
  - Using DXF files in HCA
  - DXF files and layers
- Picture files
- Placing icons on a display
  - With a picture or no background
  - With a DXF background
- Working with icons on a display

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## Types of Displays

In HCA there are two types of displays: Displays you create and displays automatically created for the contents of a room or folder.

Each time you create a room or folder HCA automatically creates a display for it. What you can do with that display is the same as you can do with a display you create. You can add a background to it and position icons on it as best fits you needs.

So why create you own displays in addition to the folder displays that HCA creates? The answer is simple, to create a better grouping of icons from more than one room or folder. For example, in your design each room could contain all those device, programs, and groups for that room. You could then create a display that shows all the icons on a floor and another that shows all the icons in the whole home.

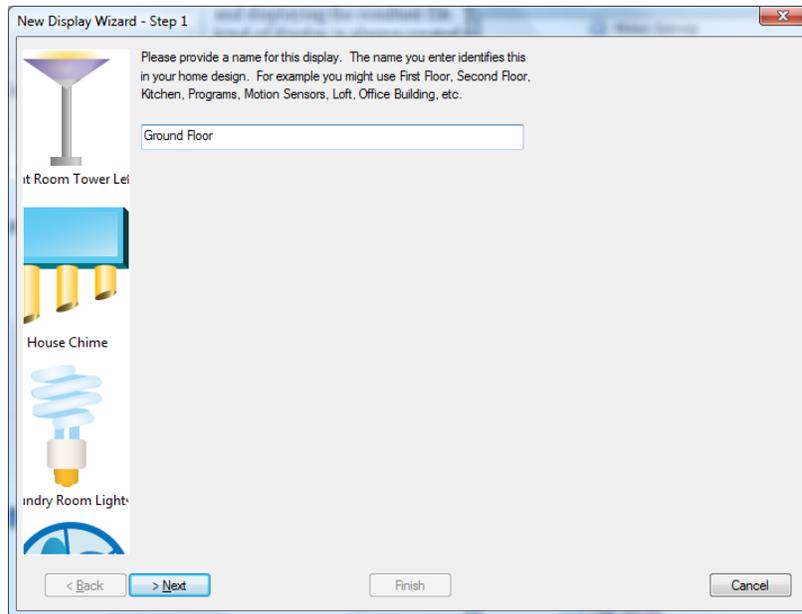
As described above, there are different types of displays in HCA and each has a different use. It is important to understand the utility and limitations of each type before you decide which kind you want.

Display type	Major features
Icon Display	Shows one or more icons for devices, programs, and groups. You can, but don't have to, use a background for the display. Backgrounds are DXF files or picture images. The display that HCA creates for a folder or room is always an Icon display.
Graph display	Shows a power track graph
Text display	Show text messages created by the Visual Programmer <i>Show-Message</i> element. No icons can be placed on this display.
HTML display	Shows a rendering of an HTML file. This file can be, but doesn't have to be, produced by HCA reading a template file, substituting data for placeholders, and displaying the resultant file
Tiled Display	Shows tiles – sub windows – each containing a different type of display. There are text tiles, icon tiles, html tiles, etc.

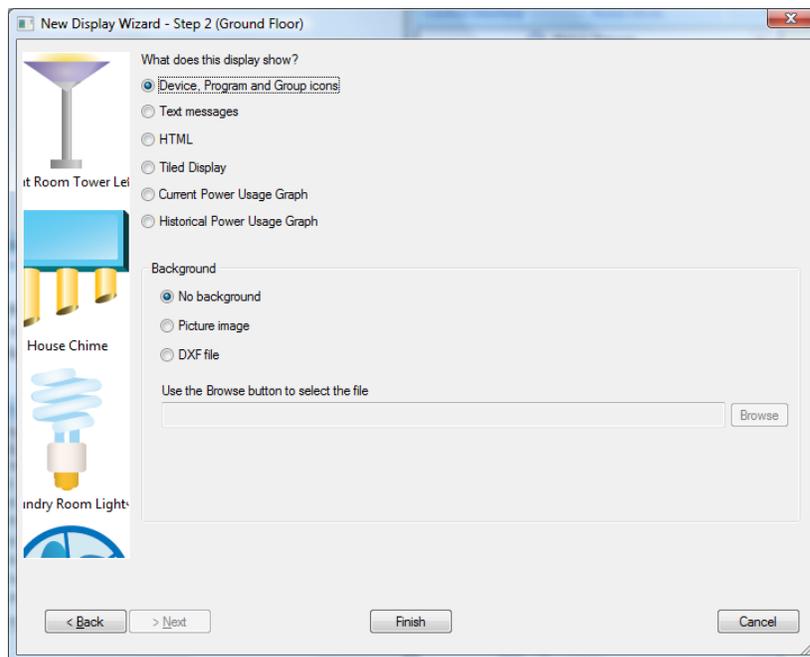
A design can contain as many displays as you need.

## Creating a Display

To create a display, the New Display Wizard is used. In the ribbon *Design* category, press the *New Display* button. This opens the New Display Wizard. Enter a name for the display. Display names must be unique within the design.



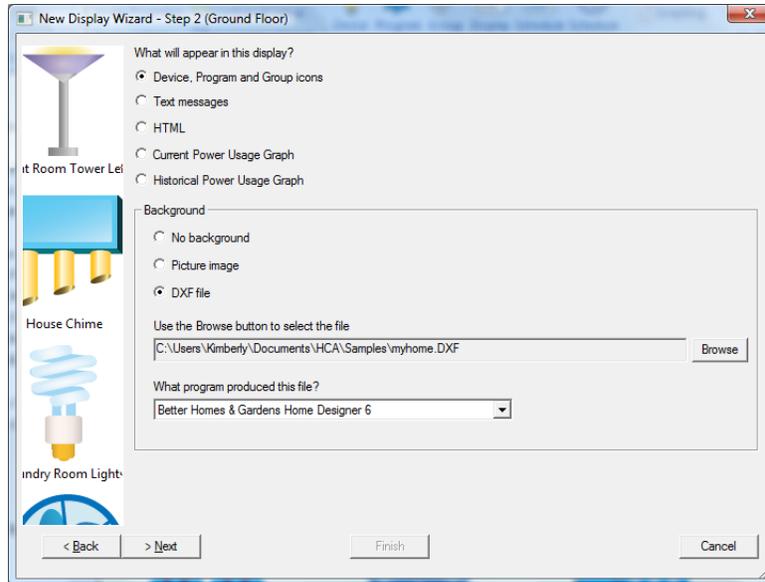
On the second step of the wizard, indicate the type of display. Each display type may have additional configuration. For example, when creating an icon display there are background options.



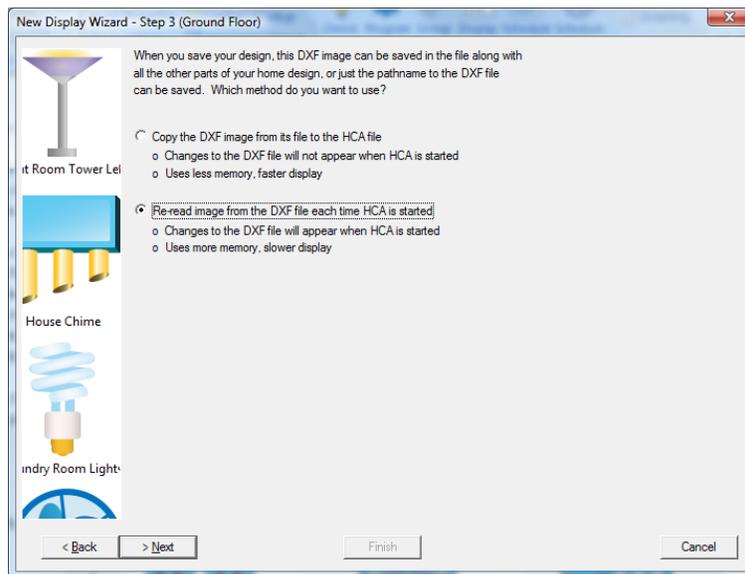
If you don't want a background for this display, simply select *No Background* and press *Finish*.

If you have a picture background, select *Picture File* and using the *browse* button locate the image file. Then press *Finish* as there are no other steps.

If you have a DXF file, browse to locate the file that you want. Select it and be sure to indicate which drawing program was used to create the file. If the program that created your DXF file is not listed, select "Other."

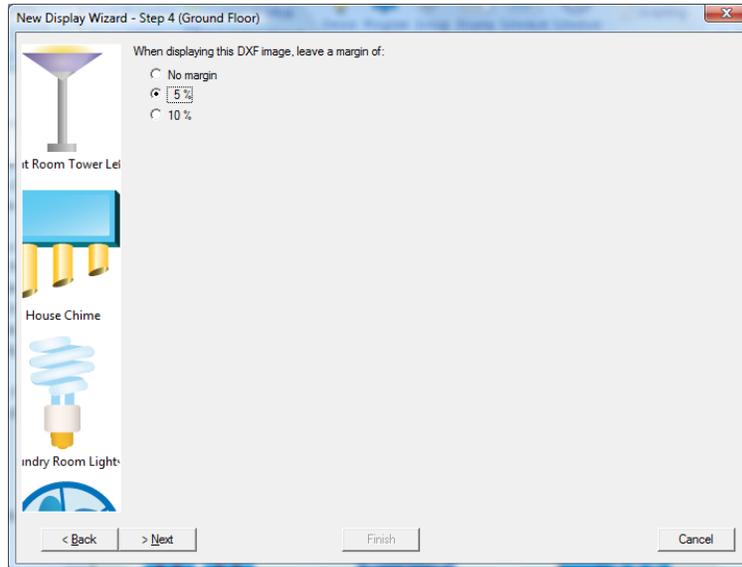


Additional steps of the New Display wizard depend upon the type of display and the options. For an Icon display with a DXF background, the next step indicates whether you want to import (copy) the floor plans from the DXF file to the HCA file, or link to the DXF file.

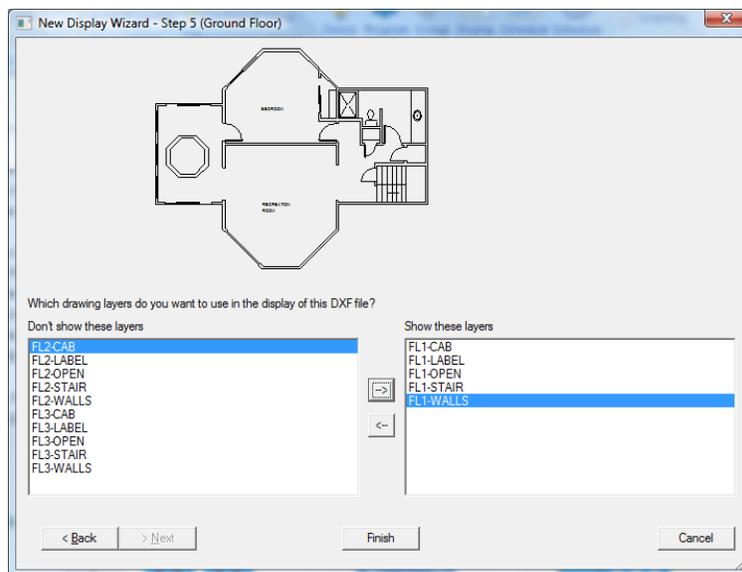


**Hint:** A good starting place is to initially link the files. When you are sure your drawings are complete and correct, you can import the floor plan (using the display properties dialog box).

When working with an icon display and you selected a DXF background, the next step is for DXF display sizing options.



Again, with an icon display with a DXF background, the final step is where the layers from the DXF file are selected.



**Note:** Not all drawing programs support layers but it should be possible to choose some sort of layer that makes the floor plan appear.

When you are done, click *Finish*. The wizard closes and your display appears in the display pane.

## Text Displays

Text displays are the simplest kind of display in HCA. The only property for a text display is the display name.

The text for a text display comes from many different places.

- Power Failure outage and restore messages (Restart chapter)
- Show Message elements (Programs chapter)

The messages need to be short because HCA shows them on only a few lines in a large font.

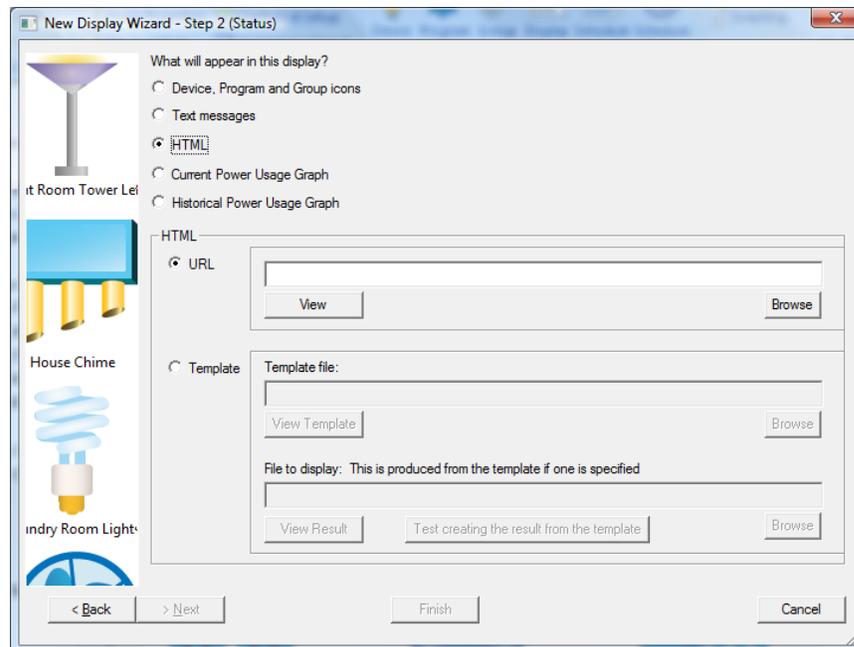
## HTML Displays

An HTML display uses the features of Windows to render a HTML file, with all its directives, into an image within the HCA display pane or within a tile on it.

This is done in one of two ways. The simplest way is to provide a path to the HTML file to display. For example, a page that displays your current weather.

The other way is more complex but can be more useful. Two paths are provided, the first to a template file and the second to a resultant file. Before this HTML display appears in the Display Pane, HCA takes the template file and copies it to the resultant file. During this copy, any placeholders in it are replaced by the result of evaluating them as HCA expressions. This is identical to the process used by the Status Export feature (see the chapter on status export).

For HTML displays, the second step of the Display Wizard appears as:



The upper *Browse* button locates the template file. There is no rule for the file type for template files but .HTX is often used. As a convenience the *View* button opens the template file using Notepad.

The lower section is similar and is where you enter the path to the file produced from the template file. The *View Result* button attempts to open the file using its file type. For example if you created an HTML file, then a browser is used to show the file.

To help you get the paths and the template file correct use the *Test* button to create the result file from the template file. Then you can use the *View Result* button to see what the result looks like.

You will need to have a browser installed on your machine in order for HCA to use its HTML display capabilities. HCA doesn't do any HTML interpretation but passes the job entirely to other software. If the rendering is not as expected, the fault doesn't lie within HCA.

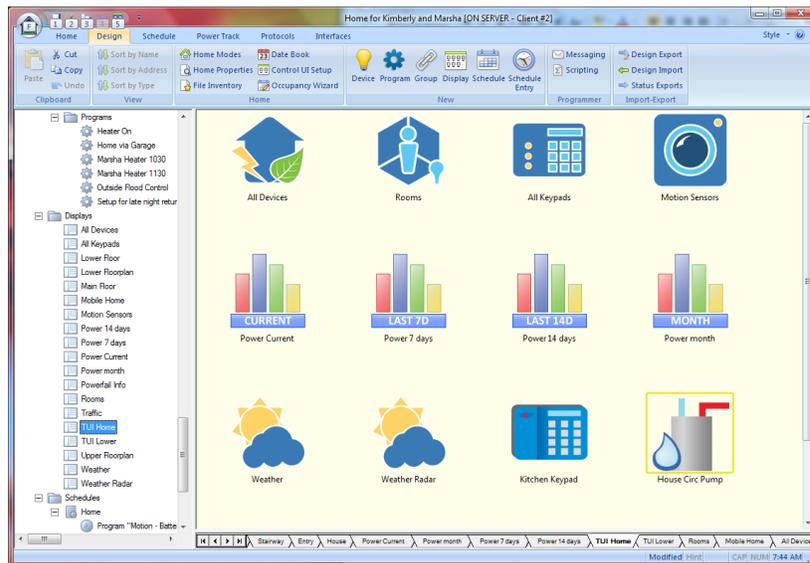
**Note:** If you are using HTML displays and Client-Server you should read the technical note titled "HTML Displays with Client-Server"

## Icon Displays

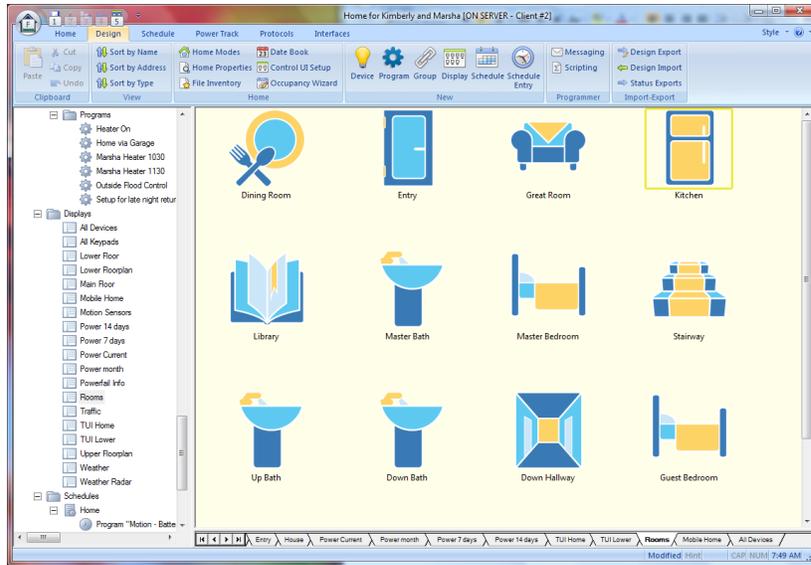
Icon displays show the icons for your devices, programs, and groups. These icons show their state by changing their image or by a colored box around the icon. If a box is used then the color shows the dim level with yellow being ON and darker shades for lower dim levels.

The major feature of icon displays is that you can arrange the icons into whatever order makes sense to you. Also you can have a background that makes the display look like your home, a floor, or room. This is done using a picture file – bitmap image – or an architectural drawing file – a DXF file. The next sections discuss DXF files and pictures files.

Displays can also contain icons for other displays. This feature lets you create your own Control User Interface pages. This display contains a mix of icons for devices, and other displays.

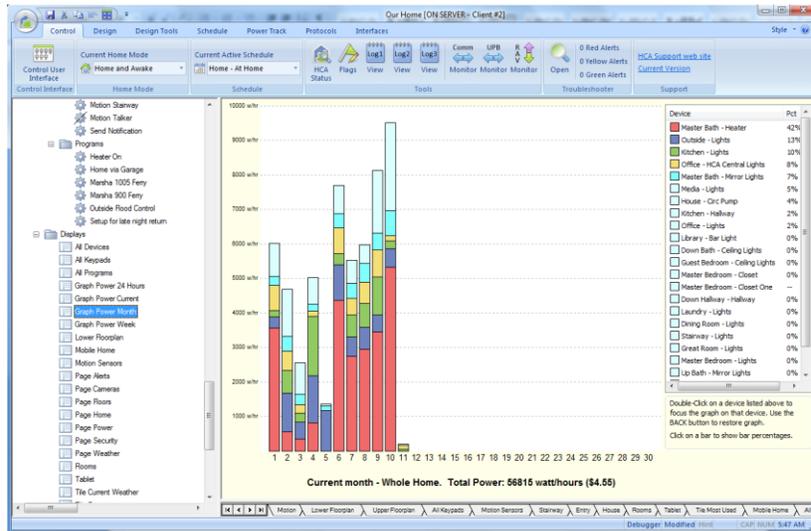


To open a display from its icon, double-click on it. A double-click on the *Rooms* icon in the above example changes the display pane to show:



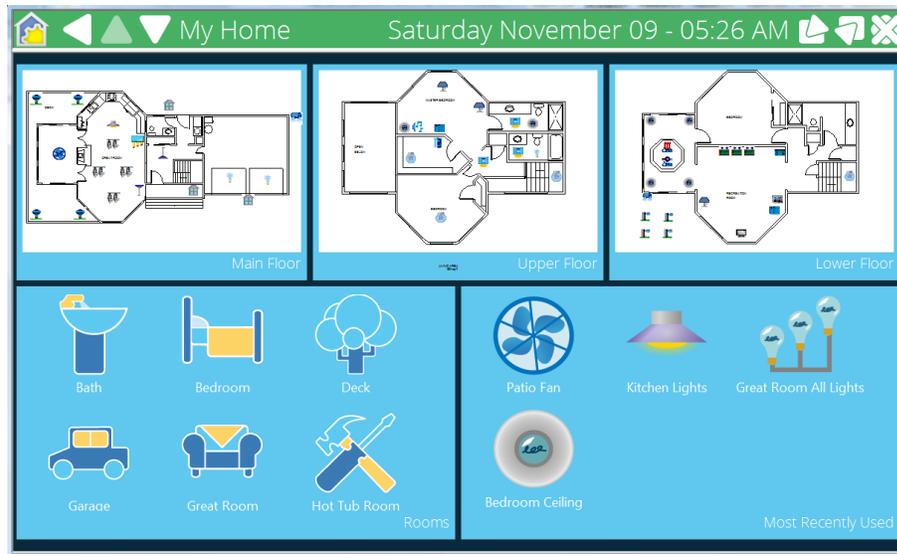
## Power Track Displays

In addition to the HTML, Text, and Icon displays described above, a display can also show a Power Track graph. This is described in the *Power Track* chapter.

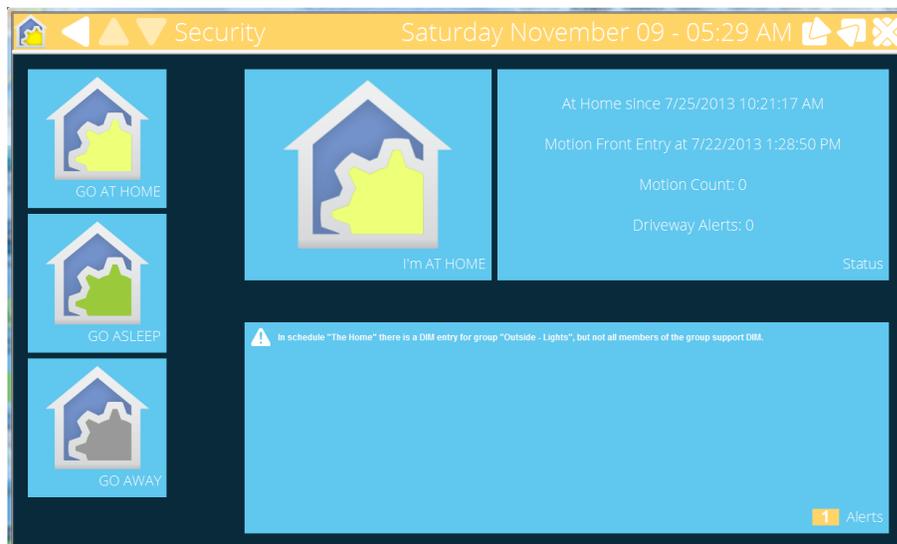


## Tiled Displays

Each of the display types described above is of a single type – the display only shows icons or only shows an HTML file. It is possible to create tiled displays to show more than one type of display each in a sub-window or *tile* of a display. For example this is a tiled display that has five tiles each showing icons. Three tiles have DXF backgrounds.



In this display, there are six tiles: Four are image tiles, one is an alert tile, and one is a text tile.



While the screen images above showing tiled displays were made when using the *Control User Interface*, tiled displays also appear in a similar manner in the *Development User Interface*.

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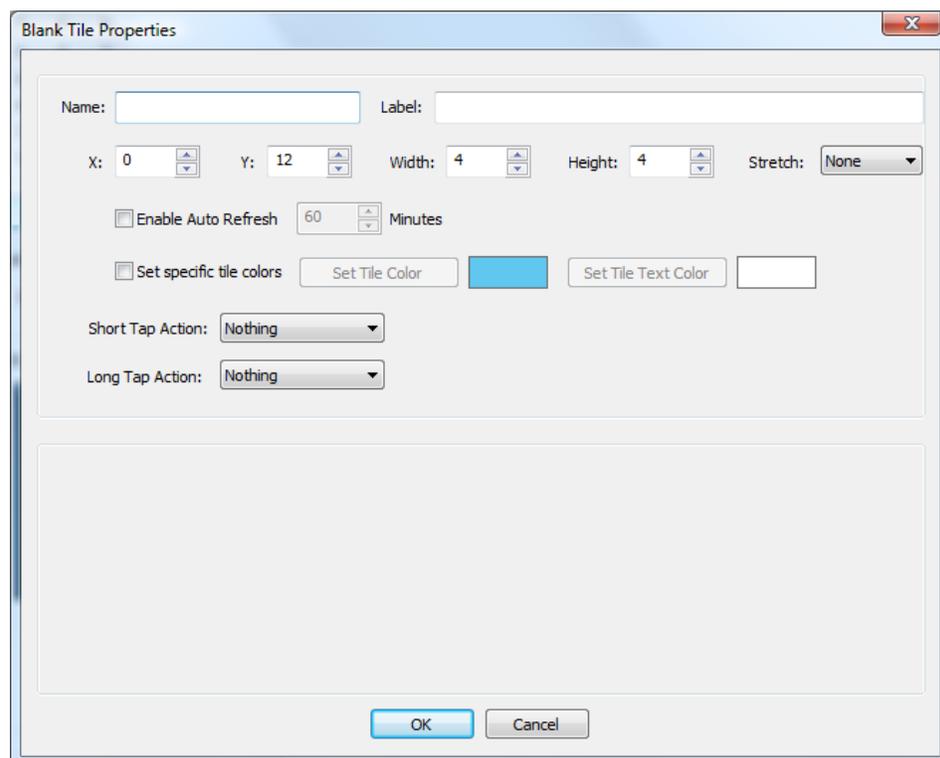
## Tile Types

In a tiled display there are nine different tile types you can use. These are:

- Alerts
- Blank
- Graph
- HTML
- Icons
- Image
- Power Meter
- Text
- HCA status

Some of these tiles types get their properties from another display and other tile types are configured separately.

All tiles, regardless of type, have a common set of properties. The common properties for a tile are configured in the tile properties dialog.



The tile properties as shown in the above image are:

### Name

Each tile has a name which is used in programs to update the tile. This is discussed later in this chapter. Tile names should be unique.

Label

A tile has a label which appears in the lower right of the tile. This label can be blank.

Position

A tile has a position – in units described later – that determine its location and size.

Refresh

A tile can be periodically refreshed after a selected time. This may be useful, for example, with an image tile where the image is generated by something external to HCA like a camera.

Color

The color of the tile background and text – if there is any text – can be specified on a tile-by-tile basis or the tile can use the color scheme set for the display.

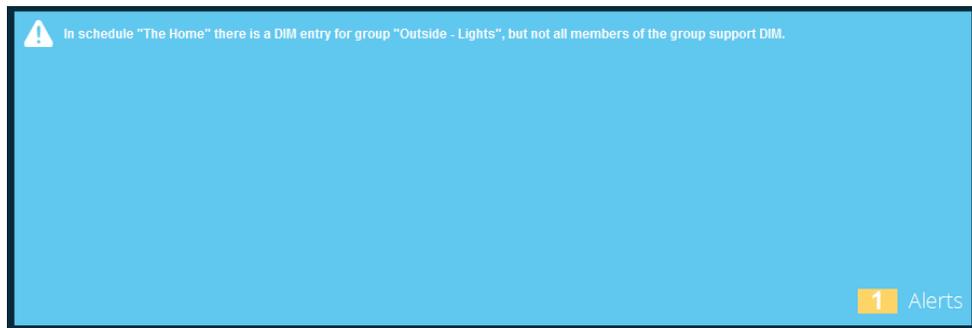
Actions

Like icons, a short tap – click – or a long tap – double click – on a tile can initiate an action. There are three possible actions: Do nothing, make a designated display the current display, or start a program.

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## Alerts Tile

The *Alerts* tile shows the messages that appear in the Troubleshooter *Alerts viewer*. Depending upon the size of the tile only the most severe and most recent alerts are shown. Regardless of the number of alerts shown in the tile, the total number of alerts you would see if you opened the troubleshooter is shown in a highlighted box at the lower right. The color of this box is the current alert level color – green, yellow, or red.



Besides the common tile properties, there are no additional properties for the Alert tile.

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## Blank Tile

The *Blank* tile displays nothing but an empty box in the color set in the tiled display properties. It can be used for filler in a display. There are no additional properties for a blank tile.

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## Status Tile

The Status tile shows the HCA status similar to what the HCA Status dialog shows. There are no configuration settings for it.

Time: Friday, March 4, 2016 2:27 PM  
 Date: 64th day of 2016 - Vernal Equinox in 15 days  
 Sun Time: 6:09 AM - 5:46 PM  
 Up Time: 0 days 0 hours 1 minute

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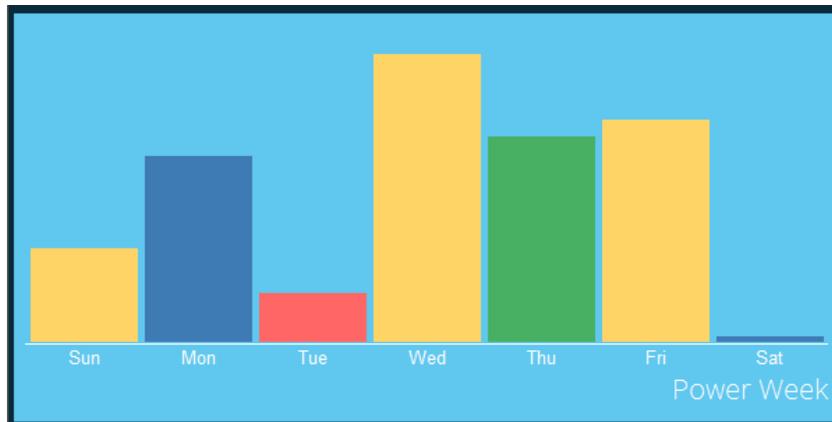
Current Schedule: The Home

	5:01 PM	On Rec Room - Picture Gallery Lights
	5:21 PM	On Outside - Lights
	5:34 PM	On Great Room - Floor Lamp
	5:40 PM	On Deck - Lights
	5:44 PM	On 65% Rec Room - Lamp
	5:46 PM	On Rec Room - Fish tank
	6:31 PM	Off Patio - Fan
	8:00 PM	Off Hot Tub Room - Hot tub maintenance
	10:31 PM	Off Rec Room - Picture Gallery Lights
	10:34 PM	Off Rec Room - Lamp
	10:56 PM	Off Great Room - Floor Lamp
	10:57 PM	Off Rec Room - Fish tank

HCA Status

## Graph Tile

A *Graph* tile displays a power track graph. Rather than specify all the graph settings in the tile properties, this tile references the graph display.



Since a graph tile is typically smaller than the graph display it is based upon, the graph tile omits details seen in a graph display – the scale and the graph metrics.

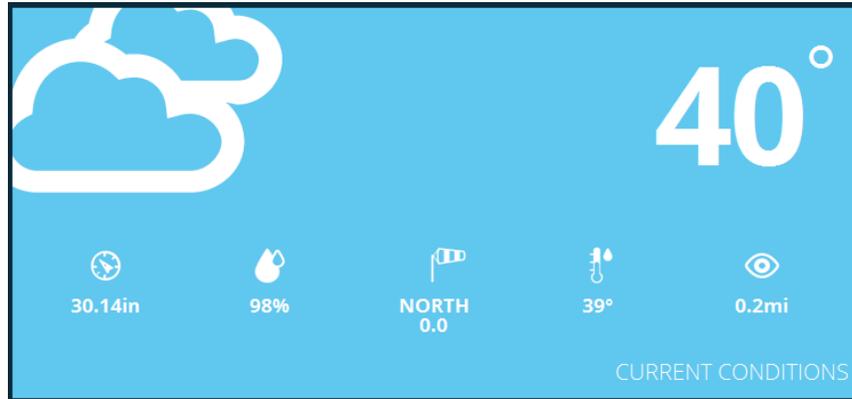
The only property in addition to the common tile properties for a graph tile is the choice of the graph display.

Graph Display:

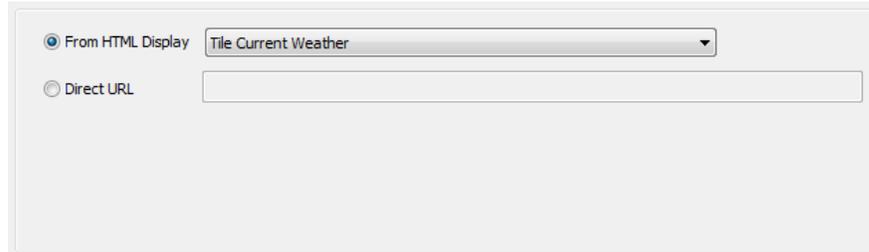
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## HTML Tile

A *HTML* tile is similar to a *HTML* display in that it uses a browser component to display *HTML* that comes either from a disk file or from some web server on the network.



The properties for a *HTML* tile, in addition to the common tile properties are:



The source of the *HTML* can come either from a direct URL – a network reference or a file reference – or from a *HTML* display. When using a *HTML* display in a tile, the *HTML* file can be produced by reading a template file and producing a resultant file. This is specified in the *HTML* display.

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## Icon Tile

The *Icon* tile is very similar to an icon display.



An icon tile can either display the icons from an icon display or automatically create a set of the most used icons in your design. This choice is made in the tile properties.

Use Theme icon spacing  
 Override Theme icon spacing  
 Icon spacing X:   
 Icon spacing Y:

Icons from: Selected display  
 Display:

Icons from: Most recently controlled from the UI  
 MRU Devices  MRU Programs  MRU Groups  
 MRU Count:

In addition to the source of the icons the icon spacing can also be modified. Again, because tiles generally have a smaller size than a display, you may want to “pack” the icons a bit tighter than in the display.

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## Image Tile

An *Image* tile displays a picture from a selected image file.



The picture can be resized to fit in the tile or displayed in its original size – and possibly cropped to the size of the tile.

The properties for an image tile are:

Path:

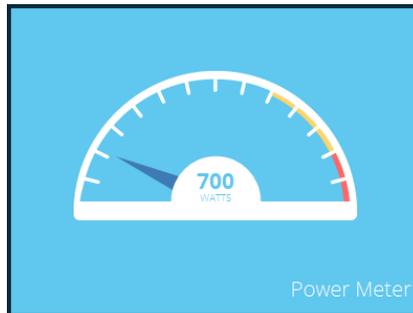
Scale image to fit tile

**Note:** If you are using client-server, the client requests the file from the server when the tile is displayed or refreshed. The path given must be one that can be located by the server. See the section on HTML displays above that discusses relative and absolute paths.

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## Power Meter Tile

The *Power Meter* tile shows an analog power meter that displays the total power usage of all devices in HCA based upon their current state.



The Power Meter tile properties are:

You can scale the meter so that its maximum value – when the needle is all the way to the right – is based upon the total wattage of all your devices or on a value you select.

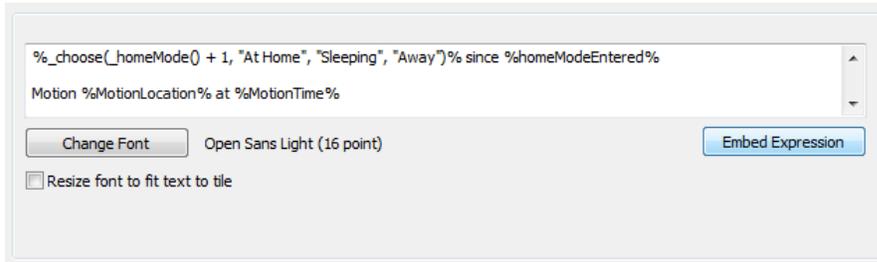
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## Text Tile

A *Text* tile displays text information.



The text shown is determined from the tile properties.



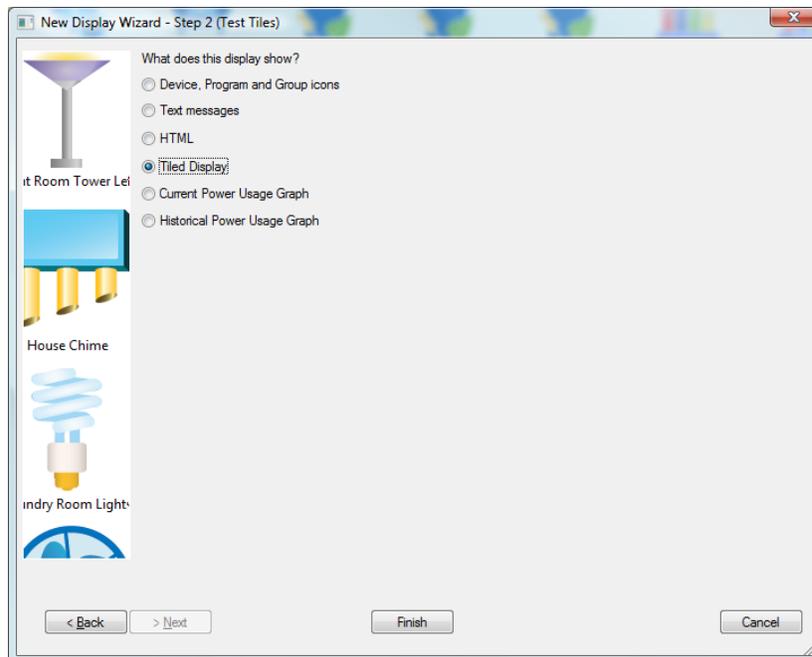
In a manner similar to several Visual Program elements – Add To Log , Show Message, etc – and in the Status Export feature, you can embed HCA expressions within the text by placing them inside of %%. These expressions are evaluated and the final text determined before it displays.

In addition to the text you can also select the font and point size used for the text.

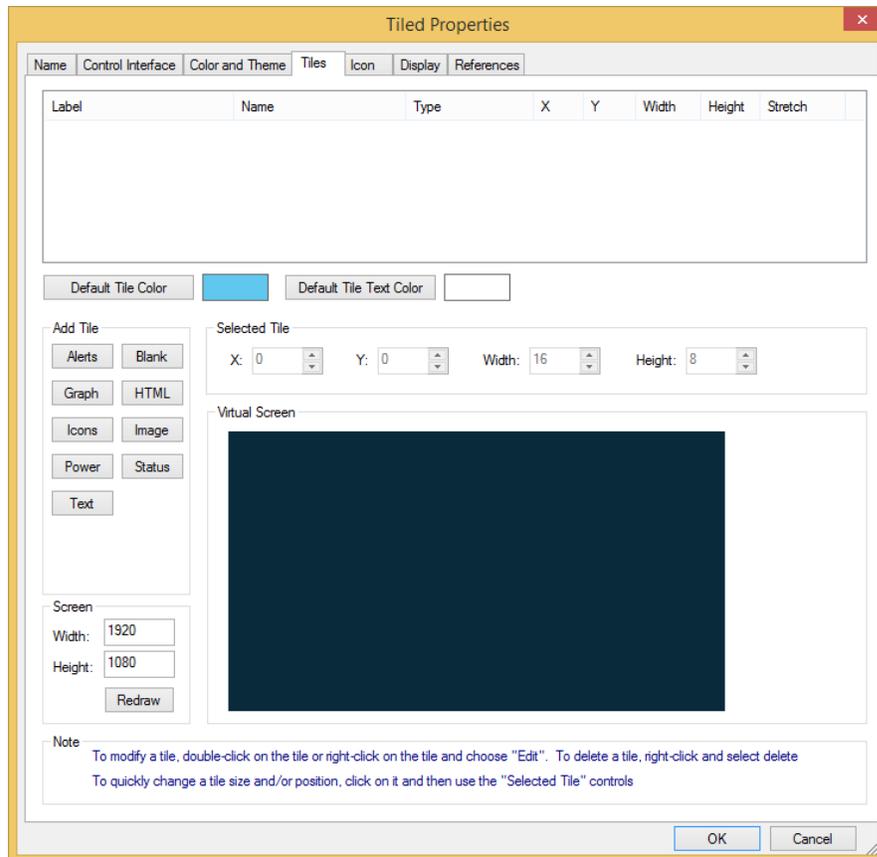
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## Creating a Tiled display

A Tiles Display is created similar to other displays. At the second step of the New Display Wizard choose the Tiled Display option.



At this point the tiles and their layout are not yet specified. When the wizard completes, the display is added to the design. Open this new display's properties as usual and choose the *Tiles* tab.



This tab can seem overwhelming but don't panic! It contains tools for adding tiles, an image of what the display looks like with all the tiles, facilities for adding and positioning tiles, and a way to set the default tile colors.

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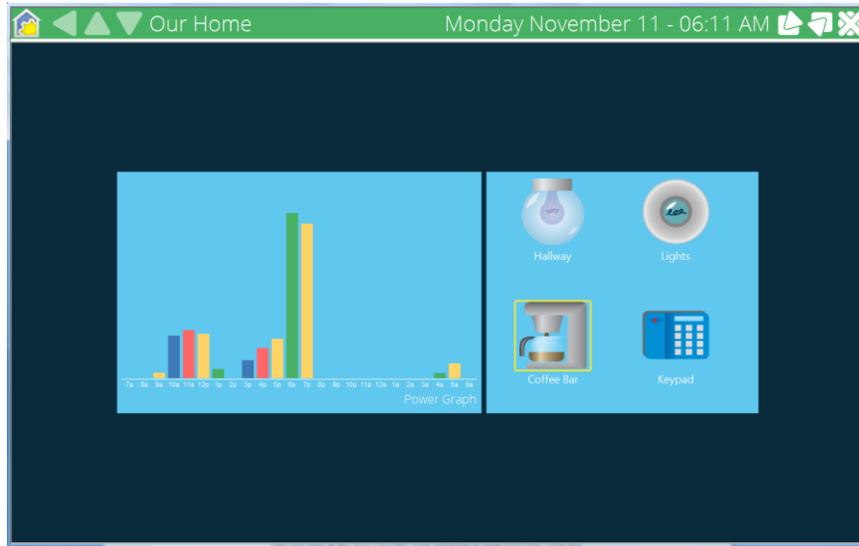
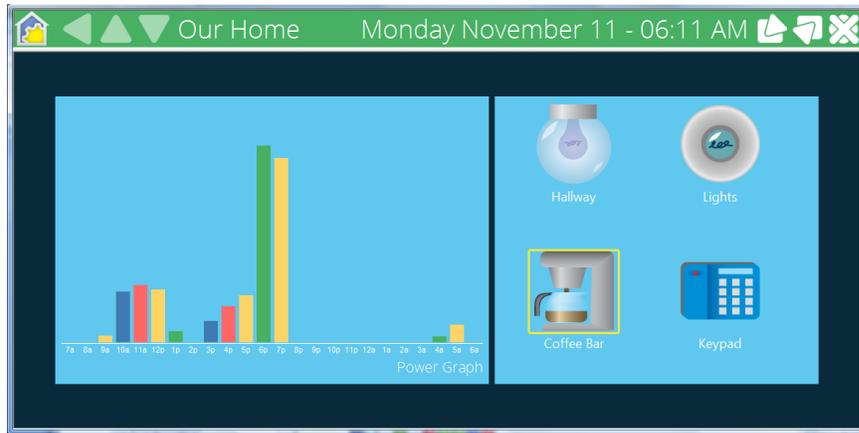
## Tile coordinates

The positions and sizes seen in the tile editor are in units determined by the spacing used for the large icon theme. As described in the user guide *Icon Themes* chapter, a theme is composed of a set of icons all of the same size spaced on a display according to the theme specification.

One tile unit – used for tile size and position - is  $\frac{1}{4}$  of the large icon theme cell spacing. For example, the default spacing for the large theme is 200 pixels by 200 pixels. In this case a tile sized as 2 by 4 is sized as 400 by 800 pixels.

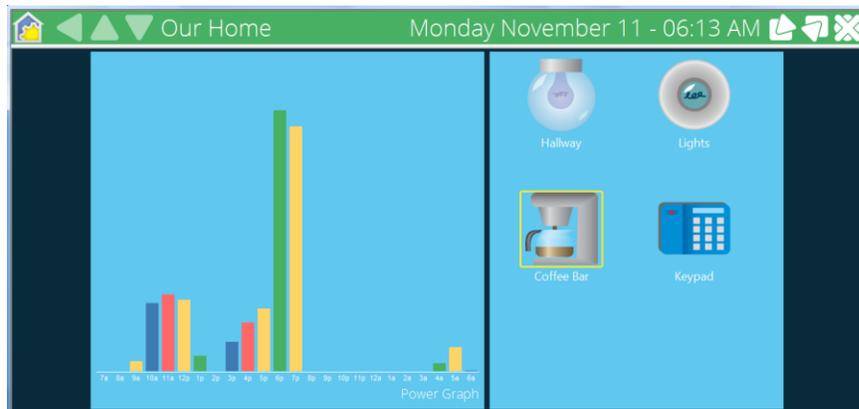
Why not use pixels? When using HCA in client-server mode a tiled display may appear on several different screen resolutions. By basing the tile size and position on the large theme you can modify the large theme settings – local to each client – to adjust how a tiled display appears.

When a Tiled Display is shown in the HCA Window right pane the tiles center themselves in the display. For example, in the two screen images below, the size and position of the tiles in the display were not changed – only the HCA application window was made larger.



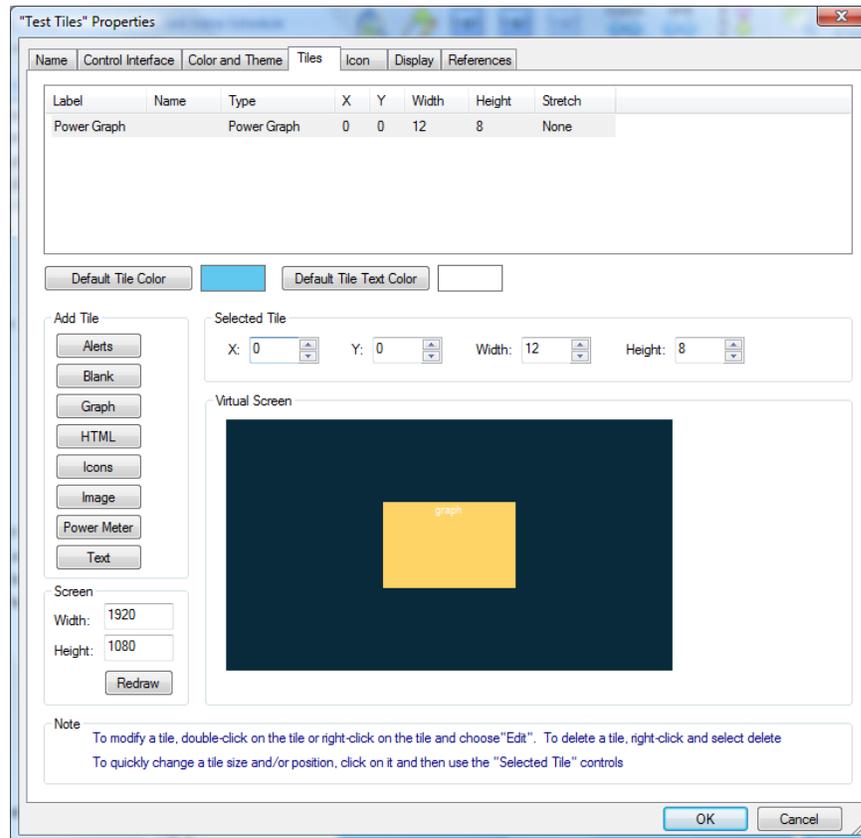
Tiles can also stretch to fill the width or height of the display. Of course this only works well when you stretch a tile horizontally if there are no tiles to the right of it and stretch vertically when there are no tiles below it. A tile can also stretch in both directions which allows a single tile to fill the whole display.

The two tiles in the above picture were modified to stretched vertically and now display as:



## Adding a tile

A tile is added by pressing one of the tile type buttons on the left side of the dialog. This opens the properties dialog for that type tile. A initial size and position is chosen so that the tile doesn't overlap an existing tile if possible. It is best not to be too concerned about the position or size at this point. Modify any tile specific properties and close the dialog with OK.



The tile is added to the list at the top of the dialog and a small representation of it displays in the virtual screen. Small text in the tile image displays the tile type. This virtual screen lets you see quickly what the display will look like and how the tiles are positioned and their sizes in relation to each other.

As described above, tiles center in the screen so even though the tile position is (0, 0), it is positioned in the center of the screen as it did in this example.

You can set the size of the virtual screen using the width and height in the screen box. The initial values are the screen resolution of the monitor attached to the computer you are using. You may want to adjust the screen size if you are designing a tiled display that will be shown on a client machine with a different screen resolution.

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## Modifying a tile

The properties of a tile can be modified by either right-clicking on the tile in the virtual screen and selecting *Edit* from the popup menu or double-clicking on the tile. If because of the tile position or due to an overlapping tile you can't see the tile you can double-click on the row for the tile in the list at the top of the dialog.

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## Repositioning a tile

There are two ways to set the size and position of a tile after it was created. You can open its properties and change the position and size or you can click on the tile in the virtual screen to select it – the selected tile shows in yellow – and then use the position and size controls – the ones labeled *X*, *Y*, *Width*, and *Height* above the virtual screen.

It's best to use the up and down arrows associated with the four edit boxes. When the size or position is changed in this way, the virtual screen updates immediately to show the change. You can quickly resize and position tiles in this way.

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## Deleting a tile

A tile can be deleted by right-clicking on the tile in the virtual screen and selecting *Delete* from the popup menu. The tile is then removed from the display.

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## Working with tiles in the Development UI

All the screen images in this chapter come from the *Control User Interface*. But when in the *Development UI* there is a shortcut to modifying a tile.

Right click on the tile and select *Edit* from the popup menu.



**Note:** When working with a HTML tile you must click on the tile label – or at least on the bottom part of the tile where the label is normally seen if the tile has no label.

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## Updating Tiles

Tiles can be updated by using the auto refresh mechanism configured in the tile's properties. It also can be updated by the *Update Tile* Visual Program element. This is described in the chapter on *Programs*.

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## DXF files as backgrounds

If you have one, you can have HCA use a DXF file as the background for a display. There are a couple of things you might want to know about DXF files before you start.

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## Linking or importing

When you get to step 2 of the New Display wizard, HCA gives you a choice of the kind of display. If you choose an Icon display you get the additional choice of the background. If you chose a DXF background, then you must select the DXF file and the program that produced it.

At step 3 of the New Display wizard you must make an important choice. You can either copy (import) the floor plan from the DXF file into your design file, or you can link the DXF file to your design file so that HCA reads in each time you open your design file.

Each option has its benefits and drawbacks, and you'll probably want to decide in advance which to use:

### Characteristics of linking:

- Changes to the DXF file show up each time you load your design file
- This uses more memory, and has a slower display.

### Characteristics of importing:

- Once you save your design file, all your information is now in one file.
- You can save the HCA file, and need move only one file to another location or PC.
- The saved file uses less memory, and provides a faster display.
- If you change your DXF file, those changes don't automatically appear when you load your design file - you will have to re-import the file.

**Note:** If you import your file, you will have fewer options when you subsequently open the display's properties dialog.

**Hint:** If you're happy with the drawing you have, and don't plan to change it, then import the DXF file to HCA.

Regardless of whether you use a linked or imported file, the icons for any devices, programs, etc, on the display are available the next time you open your file. You may also use a linked file for a while, and then decide to import it. All the changes to the display and the icon placements remain in place.

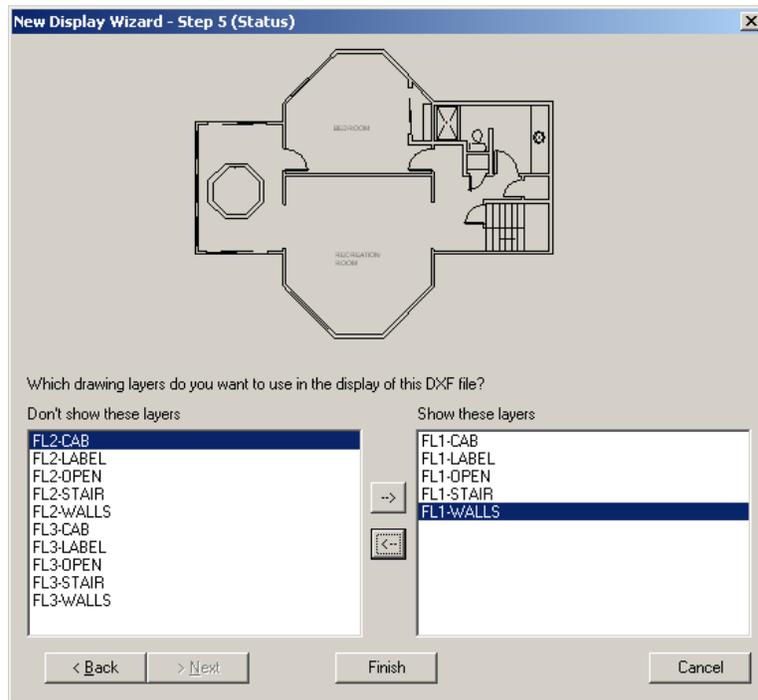
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## DXF files and layers

Standard DXF files are provided in layers, but not all programs layer the same and not all drawing programs work identically. Some drawing programs don't even support layers.

In step 5 of the New Display wizard, HCA asks you which layers you want to include in the floor plan image. There are several layers to choose from. Of course, you cannot choose to display layers that your drawing program doesn't provide. And you don't have to choose to display all the layers that are available.

One way that HCA helps you is in step 5 of the New Display Wizard. As you select layers for display the preview in the dialog updates to show you how the DXF file appears with the layers you selected. You can add and remove layers and see immediately the effect.



If the software program that you are using does not support layers in the same way as in this example there will probably be some – maybe only a single – layer choice.

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## Picture files as backgrounds

HCA supports several formats for picture files that can be used for display backgrounds. The supported formats are:

- Windows Bitmap files. These usually have a BMP file type
- Graphics Interface Format files. These usually have a GIF file type
- JPEG files. These usually have a JPG, JIF, or JPEG file type

HCA always reads these files from this disk each time HCA displays the display. Unlike DXF files, there is no method where these can be imported into your design file.

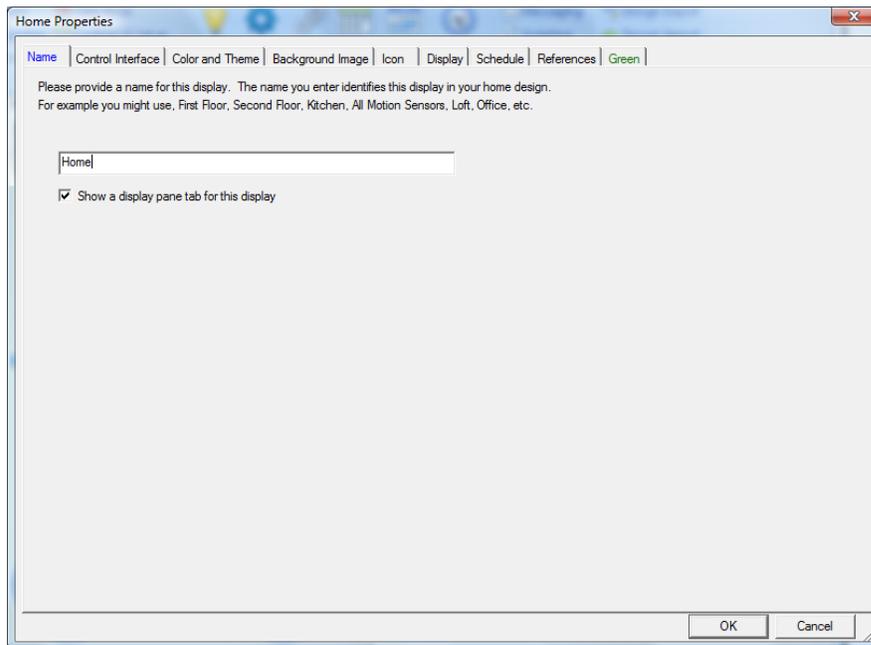
Since HCA reads them from the file for display each time, if you have some external Windows program produce them periodically, your display in HCA will change over time as long as the files are created with the same name.

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## Modifying a Display

Like other objects in HCA, you can always modify their properties after they are created. For a display select the name of the display, or the folder name if you are modifying the display created for a folder, in the display pane then right-click and select properties.

Another method is to right-click in the display pane when not on an icon and select Properties from the popup menu.

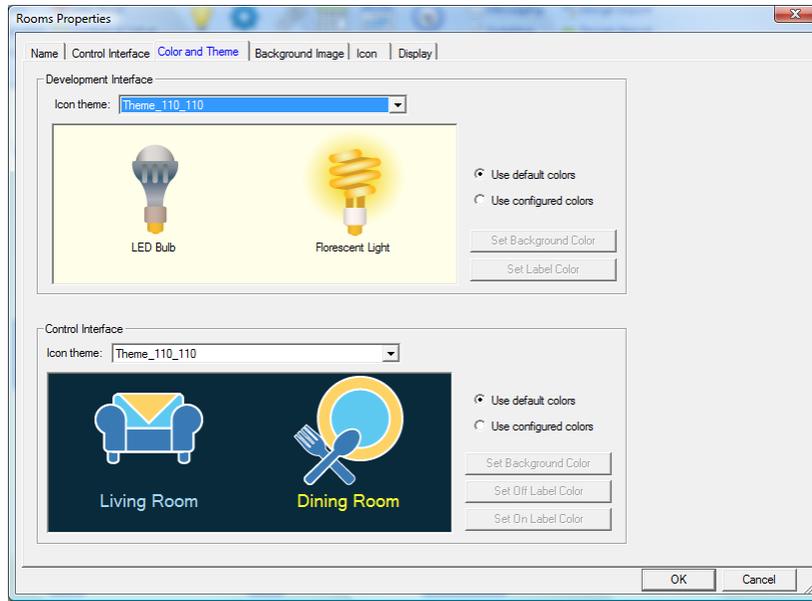


Using the properties dialog for a display you change the display name, add or remove a background, or choose options like having a tab for this display in the tab bar.

The number of tabs in the display properties may be different than shown above. The display for a *room* contains tabs for schedule, references, and Green - described in the *Rooms* chapter – but the properties for a *Text* display does not contain many of these.

An *Icon Display* shows the icons using a specific theme. There are different themes to choose from that use different icon sizes. Icon themes are more fully described in the *Icon Themes* chapter.

One tab that is common to icon displays for rooms and folders is the *Color and Theme* tab.



On this tab you select the themes and colors used for this display. Colors and themes can be specific to a display or the display can use the default color and theme as set in *HCA Options*.

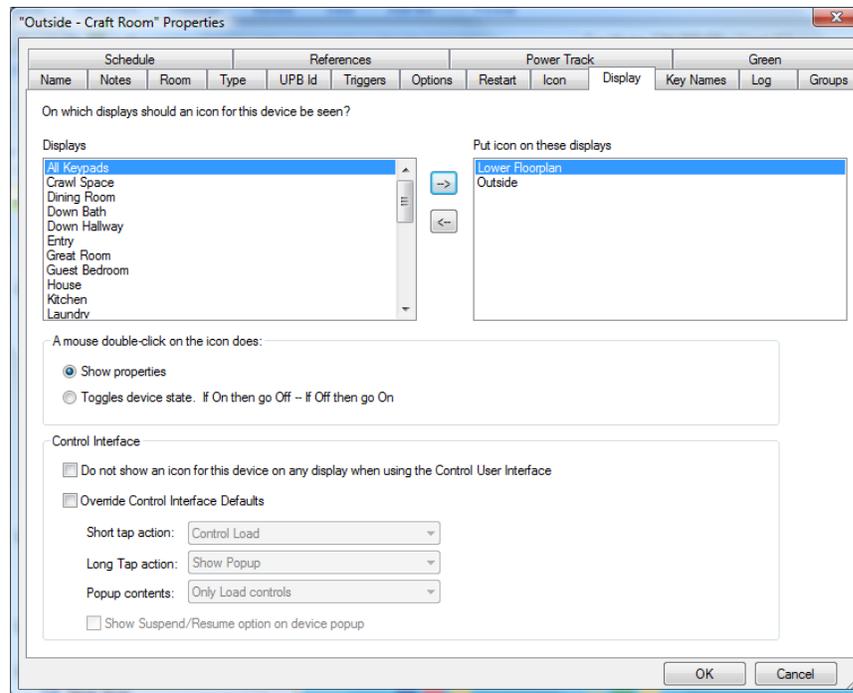
## Placing icons on the display

If you created an Icon Display, you're ready to start placing icons on your display for various devices, programs, and groups. In order to do this, you need to create them first. Refer to the device, program, and group chapters.

**Hint:** Not every device, program, or group has to have an icon on the display—decide if you want it there.

Once you have created them, just grab the name in the design pane, and drag and drop it on a display. Remember that only Icon Displays can show icons - text and HTML displays can't.

You can also open the properties of a device, program, group, room, folder, or display, and on the *Display* tab add or remove an icon to one or more displays.



## Tab Bar

Across the bottom of the display pane is a tab bar that facilitates quick access to displays.

To switch the display pane to a different display using the tab bar just click on the tab for the display. If there are more tabs that can fit, use the arrow buttons at the left end of the tab bar.

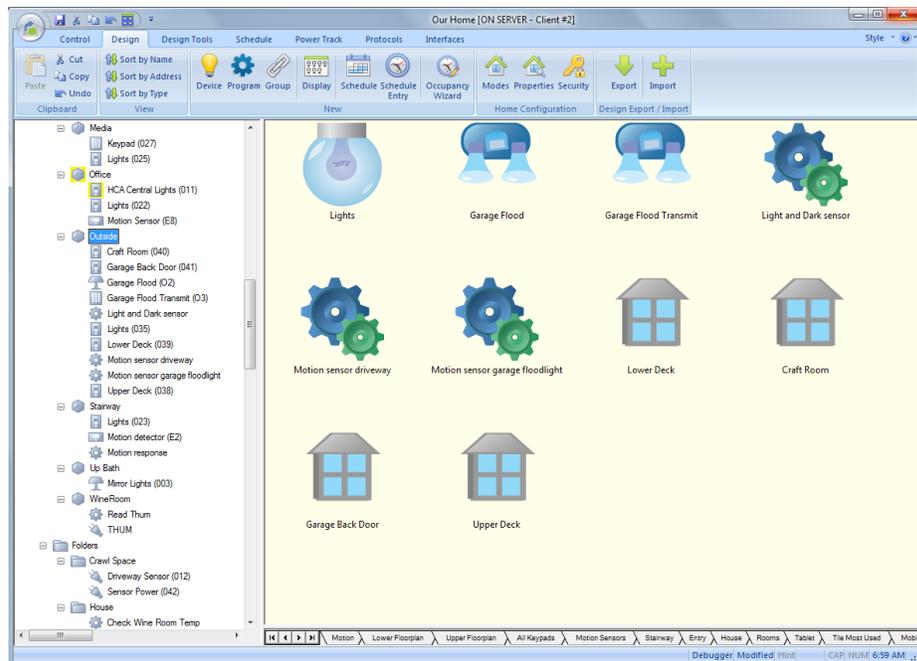
You can reorder the tabs by clicking on a tab and dragging it to a new location. The order of the tabs is saved in the design file.

Not all displays must have a tab. There is an option on the display's properties to have a tab for the display or not.

## Displays with Icons

Once an *Icon Display* is created you can show it in the display pane by clicking on the display name in the design pane or clicking on the tab for it in the tab bar.

Without a DXF background, the Display pane looks like the Windows Explorer using the Large Icon view. Each icon is shown with a label below it—the name of the device, program, or group. The icons are arranged in a grid pattern, but, as with the Windows Explorer, you can arrange the icons in various ways. On the ribbon Design category there are a number of buttons to sort the icons in various ways.



The buttons in the ribbon for this are:

**Sort by Name**—places the icons in alphabetic order.

**Sort by Address**—orders the icons by primary address.

**Sort by Type**—places the icons with similar devices next to each other.

In addition to the ribbon, if you right-click on the display background when not on an icon, then the popup menu contains additional options.

**New**—Submenu with choices for Device, Program, and Group. This starts the appropriate wizard setup to place an icon for the new object on this display.

**Line Up Icons**—use this to tidy things up after you've been dragging icons around; it lines them up to the nearest grid position.

**Auto Arrange**—this is a toggle. When checked, it is on, and when you uncheck it, you turn it off. This option is helpful when you are re-sizing the HCA window or display pane. When Auto-Arrange is enabled it eliminates, if possible, the need for any scroll bars. When Auto -Arrange is disabled, and you resize the HCA window, scroll bars may be necessary and are displayed.

**Hint:** If you disable Auto Arrange, and create your own ordering and layout by dragging icons around, HCA preserves this arrangement when you save and reload your design. If you are familiar with the Windows Explorer, HCA uses the same methods for dragging and dropping icons to create your own order. When Auto Arrange mode is off, you can create any layout you want. The icons don't have to be in a simple rectangular grid.

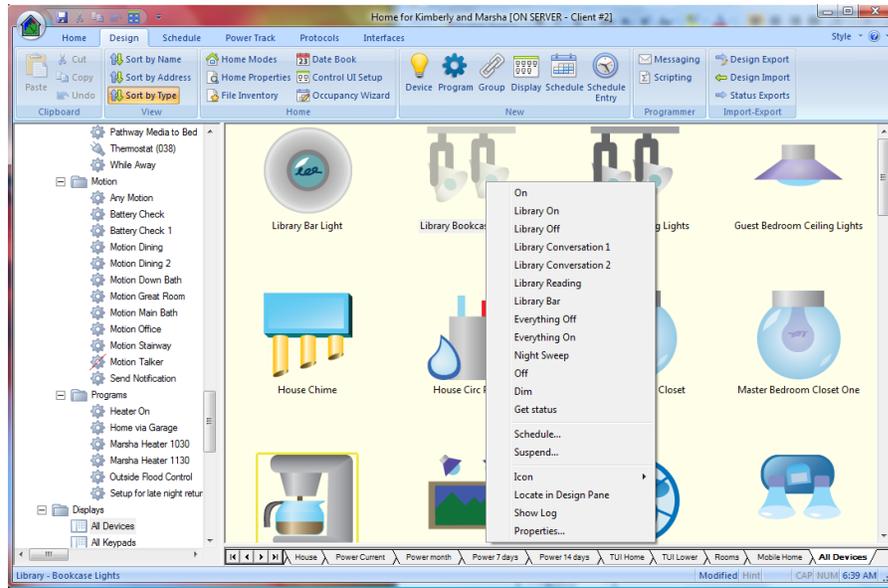
**Lock Icons**—if the display is locked then you can't move or rearrange your icons. This can be useful once you have everything the way you want and you want to prevent unintended movement of the icons.

**Note:** With a DXF background, each icon is represented as a picture scaled appropriately to the DXF image. Each icon is not labeled but can be dragged around to place it in a position you decide is appropriate. Because you are expected to place icons as appropriate when using a DXF background, the icon positioning menu choices described above are not available.

**Properties**—displays the properties dialog box for the display.

If you are working with a picture background there are additional menu choices to display labels below the icons or not to display them.

You can add as many icons as necessary to a display, and arrange or rearrange them as necessary. If you right click on an icon, a popup menu appears containing options appropriate to that type of icon. For example,



In this case the popup menu is for a device. The *On*, *Off*, *Dim*, *Delete*, and *Properties* commands are obvious. The *Suspend* command is described in the chapter on schedules.

If the device supports stored scenes, any scenes you have created for the device are listed in the popup menu between the *On* and *Off* commands. In this example there are quite a few of these.

The *Schedule* command starts the Schedule Entry Wizard for this device.

The *Icon* sub-menu is used to create, remove, and change the icons for this device. This is very useful if you want to place icons for lights on a display and in your home there are multiple lights that are controlled from one switch. In this case you create one device to control them, but you may want to see multiple icons on your display to match reality.

The *Locate in Design Pane* menu choice causes HCA to select in the design pane the device, program, or group for the icon. This can be useful when you have a large design and you don't remember what folder it is in.

*Show Log* is a quick way to check the log for any entries about the device, program, or group you selected Show Log on. The Log is described in the *Troubleshooter* chapter.

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## Icon label colors

Icons show the state of the device in different ways depending upon the theme used. There are two basic themes: a gray-scale theme where the OFF representation of the device always shows in gray tones, and in the other theme some of the devices have both an ON and OFF representation and others with only a single representation.

### Control UI

In the Control UI, and in the display shown by the Windows, Android, and iOS clients, the icon shows the state of the device and the text below the icon shows the state and possibly other information.

- Text in default color: Device is off, no additional information
- Text in yellow: Device is ON, no additional information
- Text in Green: Device is suspended by the current home mode
- Text in Red: Communication problem with the device. This is the result of the command confirmation method outlines in the previous section.

In the case of the green or red text, the state of the device can be seen in the icon itself as the gray-scale themes are always used in the clients.

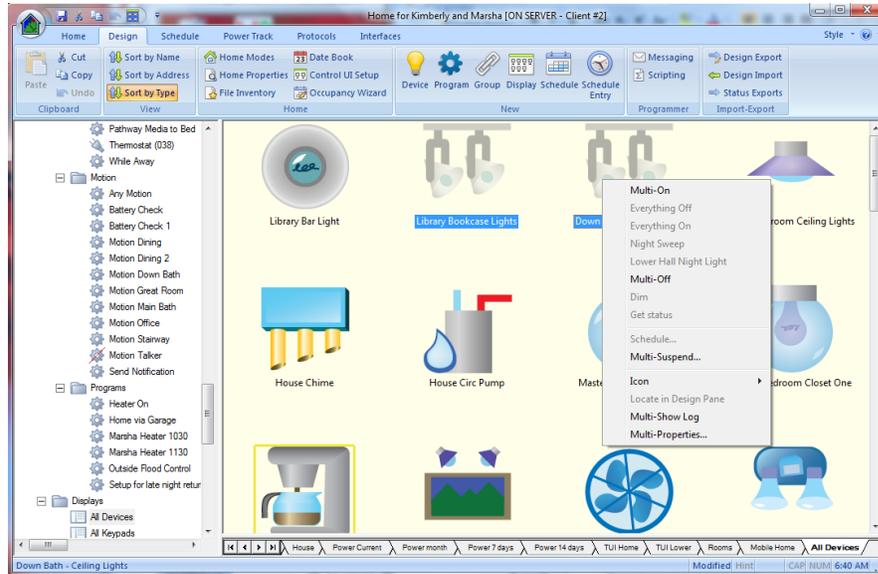
### Development UI

In the development UI the color of the text below the icon isn't used to show information as in the Control UI. Instead a box is drawn around the device icon. The color of the box shows the additional information.

- Yellow: The device is on. This isn't shown if the device icon has different representations for ON and OFF
- Shades of brown. The device is dim. This isn't shown if the device icon has different representations for ON and OFF
- Red: Communication problem with the device. This is the result of the command confirmation method outlines in the previous section
- Green: Device is suspended by the current home mode
- Black: The device is suspended or disabled.

## Multi-Select Operations

If you have more than one icon selected in the display pane, the choice in the popup menu changes.



The only options available for a multi-selection are *On*, *Off*, *Suspend*, *Show Log*, and *Properties*.

*Multi-On* and *Multi-Off* control each of the selected items On or Off. *Multi-Suspend* suspends or resumes each selected item.

*Multi-Show Log* is like *Show Log* in that the log viewer is opened and it is automatically filtered to show only log entries for any of the selected items.

*Multi-Properties* opens the property dialog for the icon you right-clicked on. The edit of this object creates a change log and applies that log to all the other members of the selection where it makes sense.

For example, suppose you are editing an Insteon device and change some options, those changes are not replicated into a UPB device that was part of the selection. But a change in the logging options on the Insteon device would be replicated to the UPB device.

It is important to remember that only those properties you change matter. *Multi-select Properties* does not make all the items exactly the same!

**Note:** Multi-select is not supported on DXF displays.

## HTML Folder Sync

This are a few additional points to consider when using HTML displays in your design.

When the Windows client encounters a dynamic HTML display – a HTML display where HCA generates a HTML file from a template file by replacing placeholders with actual data - the client requests the server to generate the HTML and send it to the client. The client stores the HTML file in a sub-folder in its “Temp” folder. The folder is named with the name of the display (possibly made into a legal filename). It then stores the HTML it receives from the server in a file named with the display name with an “html” file type.

For example, if the display was called “Current Status”, the client creates this folder.

C:\users\kimberly\HCAclient\Temp\Current Status

And the HTML it received from the server would be stored in that folder in a file named “Current Status.html”. The client then uses the Windows browser component to render the HTML in a window by passing to it the path to the HTML file.

If the HTML file references any images or a style sheet, then those auxiliary files must be in the same folder as the HTML file or in sub-folders referenced by relative paths. For example, the HTML may reference an image as “apple.jpg” or “images\apple.jpg”.

It is a good practice to configure the display to locate the HTML template file and result file in its own folder. In this way any images or style sheets specific to this HTML file will not conflict with the files for other HTML displays

In this HCA design configuring the display properties using relative paths makes this all work. For example, on the server computer is a folder named “Tile Sun Moon” that contains the template file, result file, and all the images files along with the style sheet. That folder is a sub-folder of the folder that contains the design .HCA file.

For example, if the HCA file was in c:\users\kimberly\HCA, then the folder that contains the HTML template and auxiliary files would in c:\users\kimberly\HCA\Tile Sun Moon

The HTML display is configured as:

Template and result file

Template file:  
 Tile Sun Moon\index.htx

Result file produced from the template:  
 Tile Sun Moon\index.html

*It is best practice for each dynamic HTML display to have its own folder that contains the HTML template, result, and whatever auxiliary files it needs.*

If you set things up as these guidelines specify then the client “HTML Folder Sync” operation moves to the client computer all the auxiliary files – style sheets, images file, etc. – that your HTML display uses.