

Sonic Foundry DVD Architect

XML Theme Specification

V 1.0.002

This document is intended as a general guideline to help you create your own DVD Architect™ themes. Please note that this document does not represent a commitment on the part of Sonic Foundry, Inc. The DVD Architect theme specification can change at any time without notice.

Last updated: February 13, 2003.

Introduction

Sonic Foundry DVD Architect™ includes support for themes, which are dynamic templates that customize many aspects of the appearance of a DVD menu. For instance, a theme can change a menu's background video or audio, button positions, sizes and shapes, and text fonts and formatting.

Theme File Format

Themes in Sonic Foundry DVD Architect are stored in a subfolder below the DVD Architect program folder. For instance, if DVD Architect is installed in **C:\Program Files\Sonic Foundry\ DVD Architect**, the themes would be located in **C:\Program Files\Sonic Foundry\ DVD Architect\Themes**.

All theme files have the extension .thm. Each .thm file is actually a zipped file (.zip) that has been saved with the .thm extension. The file contains a master XML file (default.xml) and all the media files (graphics, video, or audio) that make up the theme.

The default.xml file contains all information pertinent to the theme, including layout parameters (button sizes, positioning, spacing, etc.), font and text parameters, and graphics and audio information. This file must be named default.xml for DVD Architect to load the theme. The file is in a typical XML file structure, which is outlined in the next section.

The media that accompanies the theme is used for button and menu graphics or background graphics and audio. Although the media can be in any file format that DVD Architect supports, keep in mind that since some of the supported formats (such as MPEG, MP3, AC-3) aren't available when DVD Architect is run in demo mode, care should be taken when designing themes to ensure compatibility on all configurations.

The next section outlines the usage of the default.xml file.

XML Format Specification for DVD Architect Themes

The XML file format is an organized way of describing hierarchical data. DVD Architect's themes are built using XML to make use of this data organization.

Below you will find a DVD Architect theme example, followed by a complete DVD Architect Theme XML specification that lists all available options.

XML Theme Example

Figure 1 lists a typical example of an XML file for DVD Architect, along with comments on the right. This should give you a rough idea how the theme XML files work. However, not all options are listed here. A comprehensive list of supported features can be found in the [XML Theme Specifications](#) section.

Figure 1.

<code><?xml version="1.0" standalone="yes"?></code>	Required for XML Spec.
<code><DVDA-THEME version="1.0"></code>	Specifies version information.
<code><THEME-INFORMATION></code>	Theme information:
<code><NAME>My Theme</NAME></code>	• Theme name – must be unique!
<code><AUTHOR>John Doe</AUTHOR></code>	• Theme author
<code><COPYRIGHT>2003 Company Name</COPYRIGHT></code>	• Theme copyright
<code><ABOUT>This is my first custom theme</ABOUT></code>	• Additional comments
<code></THEME-INFORMATION></code>	
<code><MENU></code>	Specifies the theme information for a menu.
<code><LAYOUT></code>	Specifies the layout options.
<code><NAME>Sonic Foundry Theme Layout</NAME></code>	Give the layout a name (currently unused).
<code><GRID></code>	Use a "Grid" layout (only supported layout).
<code><TITLE>0.10, 0.10, 0.90, 0.30</TITLE></code>	Title placement (x1,y1,x2,y2) [0..1] for all.
<code><SETTINGS></code>	Specify the settings for the grid:
<code><MAX-PER-PAGE>6</MAX-PER-PAGE></code>	• Max. items per page (reserved)
<code><MARGIN>0.10, 0.35, 0.90, 0.90</MARGIN></code>	• Placement rectangle for all items
<code><ORIENTATION>horizontal</ORIENTATION></code>	• Orientation of items
<code><ITEMSPACE>0.02, 0.01</ITEMSPACE></code>	• Spacing between items (x,y)
<code><BLOCK-HALIGN>center</BLOCK-HALIGN></code>	• Alignment of all items in x direction and y direction
<code><BLOCK-VALIGN>top</BLOCK-VALIGN></code>	
<code></SETTINGS></code>	
<code><ITEM-BUTTON></code>	Options for each menu item:
<code><ITEMRECT>0.0, 0.0, 0.22, 0.30</ITEMRECT></code>	• Item rectangle (size only)
<code><IMAGE>0.0, 0.0, 1.0, 0.8</IMAGE></code>	• Image rectangle inside ITEMRECT
<code><TEXT>0.0, 0.81, 1.0, 1.0</TEXT></code>	• Text rectangle inside ITEMRECT
<code><SHOWIMAGE>>true</SHOWIMAGE></code>	• Show image flag
<code><SHOWTEXT>>true</SHOWTEXT></code>	• Show text flag
<code></ITEM-BUTTON></code>	
<code><NEXT-BUTTON></code>	Options for Next button:
<code><ITEMRECT>0.81, 0.1, 0.9, 0.19</ITEMRECT></code>	• Item rectangle (position and size)
<code><IMAGE>0.0, 0.0, 1.0, 1.0</IMAGE></code>	• Image rectangle inside ITEMRECT
<code><TEXT>0.0, 0.0, 0.0, 0.0</TEXT></code>	• Text rectangle inside ITEMRECT
<code></NEXT-BUTTON></code>	
<code><PREV-BUTTON></code>	Options for Previous button.
<code><ITEMRECT>0.1, 0.1, 0.19, 0.19</ITEMRECT></code>	
<code><IMAGE>0.0, 0.0, 1.0, 1.0</IMAGE></code>	

```
<TEXT>0.0, 0.0, 0.0, 0.0</TEXT>
</PREV-BUTTON>
<UP-BUTTON>
  <ITEMRECT>0.1, 0.8, 0.19, 0.89</ITEMRECT>
  <IMAGE>0.0, 0.0, 1.0, 1.0</IMAGE>
  <TEXT>0.0, 0.0, 0.0, 0.0</TEXT>
</UP-BUTTON>
</GRID>
</LAYOUT>
```

Options for Up (or Back) button.

```
<HIGHLIGHTING>
  <STYLE>BLOCK</STYLE>
  <COLOR>255, 255, 255, 128</COLOR>
</HIGHLIGHTING>
```

Highlighting options for preview/playback.
Highlighting style.
Color of highlight.

```
<BACKGROUND>
  <VIDEO>sfback.png</VIDEO>
  <AUDIO>BigBeat.wav</AUDIO>
  <MODE>ZoomFit</MODE>
</BACKGROUND>
```

Background:

- Specify background image/video
- Specify background audio
- Background stretch mode

```
<BUTTONS>
  <ITEM-BUTTON>
    <TEXT-INFO>
      <COLOR>240, 240, 255, 255</COLOR>
      <FONT-NAME>Tahoma</FONT-NAME>
      <FONT-SIZE>10</FONT-SIZE>
      <STYLE>Bold,Shadow</STYLE>
      <SHADOW>
        <XOFFSET>0.05</XOFFSET>
        <YOFFSET>0.06</YOFFSET>
        <BLUR>0.01</BLUR>
        <COLOR>16, 16, 16, 255</COLOR>
      </SHADOW>
    </TEXT-INFO>
  </ITEM-BUTTON>
```

"Button" information

Menu item (button) information:

- What the text looks like
 - Color
 - Font size
 - Styles
 - Shadow information
 - Shadow X offset
 - Shadow Y offset
 - Shadow blur amount
 - Shadow color

```
<NEXT-BUTTON>
  <TEXT-INFO>
    <COLOR>240, 240, 255, 255</COLOR>
    <FONT-NAME>Tahoma</FONT-NAME>
    <FONT-SIZE>10</FONT-SIZE>
    <STYLE>Bold,Shadow</STYLE>
    <SHADOW>
      <XOFFSET>0.05</XOFFSET>
      <YOFFSET>0.06</YOFFSET>
      <BLUR>0.01</BLUR>
      <COLOR>16, 16, 16, 255</COLOR>
    </SHADOW>
  </TEXT-INFO>
</NEXT-BUTTON>
```

Next button (to move to the next page).

```
<PREV-BUTTON>
  <TEXT-INFO>
    <COLOR>240, 240, 255, 255</COLOR>
    <FONT-NAME>Tahoma</FONT-NAME>
    <FONT-SIZE>10</FONT-SIZE>
    <STYLE>Bold,Shadow</STYLE>
    <SHADOW>
      <XOFFSET>0.05</XOFFSET>
      <YOFFSET>0.06</YOFFSET>
      <BLUR>0.01</BLUR>
      <COLOR>16, 16, 16, 255</COLOR>
    </SHADOW>
  </TEXT-INFO>
</PREV-BUTTON>
```

Previous button (to move to the previous page).

```

<UP-BUTTON>
  <TEXT-INFO>
    <COLOR>240, 240, 255, 255</COLOR>
    <FONT-NAME>Tahoma</FONT-NAME>
    <FONT-SIZE>10</FONT-SIZE>
    <STYLE>Bold,Shadow</STYLE>
    <SHADOW>
      <XOFFSET>0.05</XOFFSET>
      <YOFFSET>0.06</YOFFSET>
      <BLUR>0.01</BLUR>
      <COLOR>16, 16, 16, 255</COLOR>
    </SHADOW>
  </TEXT-INFO>
</UP-BUTTON>
</BUTTONS>

```

Up or Back button.

```

<TITLE>
  <TEXT-INFO>
    <COLOR>240, 240, 255, 255</COLOR>
    <FONT-NAME>Tahoma</FONT-NAME>
    <FONT-SIZE>24</FONT-SIZE>
    <STYLE>Bold,Shadow</STYLE>
    <SHADOW>
      <XOFFSET>0.03</XOFFSET>
      <YOFFSET>0.04</YOFFSET>
      <BLUR>0.03</BLUR>
      <COLOR>16, 16, 16, 255</COLOR>
    </SHADOW>
  </TEXT-INFO>
</TITLE>
</MENU>

```

Text Title information.

```

<GRAPHICS-LIST>
<GRAPHIC>
  <TYPE>Menu</TYPE>
  <NAME>Standard Button</NAME>
  <FACE>Button-Shape.png</FACE>
  <MASK>Button-Mask.png</MASK>
</GRAPHIC>
<GRAPHIC>
  <TYPE>Next</TYPE>
  <NAME>Next Page</NAME>
  <FACE>Next-Button-Shape.png</FACE>
</GRAPHIC>
<GRAPHIC>
  <TYPE>Previous</TYPE>
  <NAME>Previous Page</NAME>
  <FACE>Prev-Button-Shape.png</FACE>
</GRAPHIC>
<GRAPHIC>
  <TYPE>Back</TYPE>
  <NAME>Up one level</NAME>
  <FACE>Up-Button-Shape.png</FACE>
</GRAPHIC>

```

Graphics list for all menu item and other arrow buttons:

- Type of graphic
- Optional name
- Face image
- Mask image

```

<GRAPHIC>
  <TYPE>Menu, Global</TYPE>
  <NAME>Rectangle Button (Global)</NAME>
  <FACE>Global-Button01-Shape.png</FACE>
  <MASK>Global-Button01-Mask.png</MASK>
</GRAPHIC>
<GRAPHIC>
  <TYPE>Menu, Global</TYPE>
  <NAME>Ellipse Button (Global)</NAME>
  <FACE>Global-Button02-Shape.png</FACE>
  <MASK>Global-Button02-Mask.png</MASK>

```

Global graphics. By using the *Global* keyword in the type, graphics can be listed in the Common Graphics Collection.

```
</GRAPHIC>  
<GRAPHIC>  
  <TYPE>Menu, Global</TYPE>  
  <NAME>Star Button (Global)</NAME>  
  <FACE>Global-Button03-Shape.png</FACE>  
  <MASK>Global-Button03-Mask.png</MASK>  
</GRAPHIC>
```

```
</GRAPHICS-LIST>
```

```
</DVDA-THEME>
```

XML Theme Specifications

The following specifications outline all the options for each XML tag for a DVD Architect theme. These are listed in hierarchical order — generally in the order you’d use these tags. In most cases, parameters can be safely omitted if you would prefer to use default values.

<THEME-INFORMATION>

This tag specifies information about the theme.

Tag inside <THEME-INFORMATION>	Type	Description
<NAME>	String	Theme name. Must be unique among all themes.
<AUTHOR>	String	Theme author.
<COPYRIGHT>	String	Theme copyright information.
<ABOUT>	String	Theme additional information.

The string “Default” is reserved for the <NAME> tag string and should not be used.

<MENU>

This tag specifies all the information about a DVD menu. This includes layout information [<LAYOUT>](#), background information [<BACKGROUND>](#), highlight information [<HIGHLIGHTING>](#), button information [<BUTTONS>](#), and title information [<TITLE>](#). The options for these are listed below.

<MENU>|<LAYOUT>

The following table lists options for the <LAYOUT> tag under the <MENU> section. All of these parameters are optional and will be set to default values if unspecified.

Tag inside <MENU> <LAYOUT>	Type	Description
<NAME>	String	Layout name.
<GRID>		Theme uses a grid layout (currently the only layout type supported). A grid layout positions items in a row and column fashion. Parameters are defined below.
<TITLE> </TITLE>	Rectangle (x1,y1,x2,y2) all ranges are [0..1]	Specifies the x1,y1,x2,y2 values for where the title text of the menu should be placed. The values are in the range of [0..1], where 0 is the left or top and 1 is the right or bottom.
<SETTINGS>		Specifies the settings block for the grid.
<MAX-PER-PAGE>	Integer (1-36)	Maximum number of items per page — reserved for future use. Just set to a default (eg. 6).

	<MARGIN>	Rectangle (x1,y1,x2,y2) all ranges are [0..1]	Margin rectangle to which items will be bound (ranges [0..1]).
	<ORIENTATION>	horizontal or vertical	Horizontal — Items are arranged horizontally first Vertical — Items are arranged vertically first.
	<ITEMSPACE>	X, Y (x,y) [0..1] for both	Spaces between items in the grid with ranges [0..1].
	<BLOCK-HALIGN>	left , center or right	Specifies the horizontal alignment for all menu items in the menu.
	<BLOCK-VALIGN>	top , center or bottom	Specifies the vertical alignment for all menu items in the menu.
	</SETTINGS>		Ends the settings block.
	<ITEM-BUTTON>		Tag specifying settings for a menu-item button.
	<ITEMRECT>	Rectangle (x1,y1,x2,y2) all ranges are [0..1]	Specifies the rectangle indicating the size of the item. X1 and Y1 should be 0, and X2 and Y2 specify the size of the item. Menu items are placed according to the grid settings, so the position is not used.
	<IMAGE>	Rectangle (x1,y1,x2,y2) all ranges are [0..1]	Specifies the relative rectangle inside <ITEMRECT> that represents the image placement. The valid ranges for each parameter are [0..1] (0 is the left or top of <ITEMRECT>; 1 is the right or bottom of <ITEMRECT>).
	<TEXT>	Rectangle (x1,y1,x2,y2) all ranges are [0..1]	Specifies the relative rectangle inside <ITEMRECT> that represents the text placement.
	<SHOWIMAGE>	Bool (true , false)	Indicates whether the menu item button shows the image portion of the link.
	<SHOWTEXT>	Bool (true , false)	Indicates whether the menu item button shows the text portion of the link.
	</ITEM-BUTTON>		Ends the item button block.
	<NEXT-BUTTON> </NEXT-BUTTON>		<ul style="list-style-type: none"> • These parameters specify the properties for the next page button in a multipage menu. • All parameters in this block are the same as the <ITEM-BUTTON> with one exception: the <ITEMRECT> tag specifies the absolute position of the next button (instead of just size). Also, the <SHOWIMAGE> and <SHOWTEXT> tags are currently unsupported.
	<PREV-BUTTON> </PREV-BUTTON>		<ul style="list-style-type: none"> • These parameters specify the properties for the previous page button in a multipage menu. • All parameters in this block are the same as the <ITEM-BUTTON> with one exception: the <ITEMRECT> tag specifies the absolute position of the previous button (instead of just size). Also, the <SHOWIMAGE> and <SHOWTEXT> tags are currently unsupported.
	<UP-BUTTON> </UP-BUTTON>		<ul style="list-style-type: none"> • These parameters specify the properties for the Up (or Back) page button in a child menu. • All parameters in this block are the same as the <ITEM-BUTTON> with one exception: the <ITEMRECT> tag specifies the absolute position of the up button (instead of just size). Also, the <SHOWIMAGE> and <SHOWTEXT> tags are currently unsupported.
	</GRID>		End of grid settings block.

<MENU>|<HIGHLIGHTING>

The <HIGHLIGHTING> block allows you to control how menu items are highlighted when selected. This is only shown on the DVD or while previewing from DVD Architect (not during editing). All of these parameters are optional and will be set to default values if unspecified.

Tag inside <MENU> <HIGHLIGHTING>	Type	Description
<STYLE>	One of: Block , Mask , Block-Text , Block-Image , Mask-Text , Mask-Image , Underline	Specifies the type of highlighting: <ul style="list-style-type: none">• Block – draws a rectangular block around the combined text and image rectangle.• Mask – draws a mask around the image and text according to their shape.• Block-Text – draws a rectangular block around the text only.• Block-Image – draws a rectangular block around the image only.• Mask-Text – draws a mask around the text only.• Mask-Image – draws a mask around the image only.• Underline – draws a line under the item.
<COLOR>	RGBA color value (r,g,b,a) [0..255] for each	Specifies the color for the highlight. It is recommended to use transparency (via the A channel) so the menu items can be seen through the highlight.

<MENU>|<BACKGROUND>

The <BACKGROUND> block allows you to control the background audio, video, or still image for the menu. All of these parameters are optional and will be set to default values if unspecified.

Tag inside <MENU> <BACKGROUND>	Type	Description
<VIDEO>	Filename	Specify a file for the background video file or still image.
<AUDIO>	Filename	Specify a file for the background audio.
<MODE>	One of: Zoomfit (default), Letterbox , or Stretch	Specifies the type of stretch algorithm to fill the background: <ul style="list-style-type: none">• Zoomfit – stretches the image proportionally until all of the image can fit (simulating a “zoom” effect).• Letterbox – stretches the image to fit the largest of width or height (leaving empty space on the horizontal or vertical edges).• Stretch – stretches the image in both directions to fit the background.

<MENU>|<BUTTONS>

This section specifies information about how the buttons will look in the menu. This includes menu items and Next, Previous, and Up buttons. Note that although <MENU>|<LAYOUT> specified the size and location for the buttons, <MENU>|<BUTTONS> specifies the text information such as font, color, justification, and shadow information.

To specify information about a button, you would create an XML tag under <MENU>|<BUTTONS> to specify which button you are describing. This can be one of <ITEM-BUTTON> (for menu items), <NEXT-BUTTON> (for next buttons), <PREV-BUTTON> (for previous buttons) or <UP-BUTTON> (for the up button). Generally though, you should specify information about all buttons.

Tag	Type	Description
<TEXT-INFO>	Text info XML block	See below for <TEXT-INFO> description.

<MENU>|<TITLE>

This section specifies information about how the title text will look in the menu. The only option is currently the <TEXT-INFO> tag, as described below.

<TEXT-INFO>

This tag represents information about text. It is used in the <MENU>|<BUTTONS> tag as well as in the <MENU>|<TITLE> tag.

Tag	Type	Description
<COLOR>	RGBA color value (r,g,b,a) [0..255] for each	Specifies the text color.
<FONT-NAME>	String	Specifies the font face.
<FONT-SIZE>	Integer [0..200]	Specifies the font size; use 0 for automatic scaling.
<STYLE>	Any of: bold , italic , shadow (separated by commas)	Specifies the style options for the text: <ul style="list-style-type: none">• Bold – makes the text bold.• Italic – makes the text italics.• Shadow – adds a shadow to the text.
<HALIGN>	One of: left , center (default), right	Specifies horizontal alignment of text.
<VALIGN>	One of: top , center (default), bottom	Specifies vertical alignment of text.
<SHADOW>		
<XOFFSET>	Floating point value [0..1]	Indicates the X offset for the shadow. Units are standard between [0..1]. 0 represents the farthest left or top corner of the menu background, and 1 represents the farthest right or bottom corner of the menu.
<YOFFSET>	Floating point value [0..1]	Indicates the Y offset for the shadow. Units are standard between [0..1]. 0 represents the farthest

		left or top corner of the menu background, and 1 represents the farthest right or bottom corner of the menu.
<BLUR>	Floating point value [0..1]	Amount of blur to apply on the shadow.
<COLOR>	RGBA color value (r,g,b,a) [0..255] for each	Color of the shadow.
</SHADOW>		

<GRAPHICS-LIST>

This section specifies all the graphics used for buttons and menu items in a theme. Each graphic must be in its own <GRAPHIC> section, and you can specify the following parameters:

Tag	Type	Description
<TYPE>	One of: Menu, Next, Previous, Back Additional parameters (separated by a comma): Global	This graphic can be a menu item graphic, a Next button, a Previous button, or a Back button. The "Global" keyword allows the button to be displayed in graphic choosers that show the Common Graphics Collection. This is used for commonly used graphics (not-"theme" specific).
<NAME>	String	The graphic's textual name.
<FACE>	Filename	The image or video for the graphic.
<ALPHA>	Filename	Optional grayscale alpha channel if <FACE> graphic media type doesn't support an alpha channel.
<MASK>	Filename	Only used for Menu types. A grayscale image indicating where the inside image will be positioned and cropped (where white is the image, and black is transparent).

Theme Design Guidelines

The easiest way to design a theme is to take an existing one that closely matches a layout that you are interested in, create a copy, and modify its name and contents. Themes are installed to a subfolder below the DVD Architect program folder.

When DVD Architect runs, it unzips the themes into a `_Themes` folder. Do not manually try to add or delete files in the `_Themes` folder. Any new themes in the Themes folder will be automatically unzipped when needed. Also, DVD Architect will pick up changes you make to existing themes (by unzipping the appropriate themes again) if it detects that a theme's file size has changed. If you modify a theme file and your changes do not change the theme's file size, DVD Architect will not detect the change (for optimization reasons during loading). If you want to manually force a refresh of the themes, delete the `_Themes` folder.

Note: You must have administrator privileges on the computer to modify the Themes or `_Themes` folder.

Note: Never delete the main Themes folder!

Some guidelines should be taken into account when designing themes. For instance, if a theme will be distributed among different systems, you should ensure that only common system fonts are used for text items and that graphic files aren't too large so the theme file doesn't require a lot of disc space.

Most of these considerations are common sense. However, there are some not-so-trivial guidelines that are worth mentioning.

Guideline	Reasons
Colors should be in range [16...240]	<ul style="list-style-type: none">• The color space for TVs (as defined by the NTSC standard) is limited to the range of about 16 to 240. Therefore, you shouldn't use pure colors such as pure black (0,0,0) or pure white (255, 255, 255) as these colors will appear oversaturated on some displays.• Keep in mind that any color that is saturated in one channel (for instance, 50, 255, 50) will be oversaturated as well.• Keep all graphical elements within these ranges as well. You can use the Vegas Broadcast Colors filter or any image editor's Adjust Levels function to see and adjust the levels in the image.
Keep graphical and text items inside safe areas	<ul style="list-style-type: none">• It is not a good idea to position text items or buttons outside the title safe region on a DVD. On many TVs, pixels outside of this region may not be viewable.• Although you can customize the title and action safe regions in DVD Architect, it is recommended to have objects within 20% of the work area (0.1, 0.1, 0.9, 0.9).
Make sure you have all available button options	<ul style="list-style-type: none">• Test your theme with a page that has Next, Previous and Back buttons.• Also, enable text for all items (such as Next, Previous,

	<p>and Back buttons) by right-clicking an object and choosing <i>Link>Text and Image</i>. Make sure you've defined rectangles for all text items as well.</p>
Animation	<ul style="list-style-type: none">• You can use animations (animated GIFs) or videos (AVIs, MPGs, etc.) for menus, buttons and any alpha channel or mask. This allows for very interesting motion menus. However, keep in mind that animated masks will not have the proper highlighting effect if the "Mask Overlay" (or one of its derivatives) is used. <p>DVD masks are not animated, so only the first frame will be used.</p>