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Integrating Interactive Maps with Web Pages

1 Introduction

What is this guide about?
This guide explains how to use the interactive maps you create with MapsAlive. It covers:

• Using an interactive map as a standalone web page
• Linking to an interactive map from a web page
• Linking to an interactive map from an email
• Embedding an interactive map within a web page
• Hosting an interactive map on your own web server
• Running an interactive map on a laptop computer without an internet connection
• Using JavaScript to communicate between an interactive map and a web page

Who this guide is for
This guide is for users who want to know all the different ways to use and integrate interactive maps. Some advanced topics are most appropriate for web developers.

How to get more information or assistance
If you need more details, a better explanation, or just a little bit of hand-holding, we are here to help. Please email questions to support@mapsalive.com.

You can find other MapsAlive User Guides at http://www.mapsalive.com/LearningCenter.
2 Terminology

MapsAlive
MapsAlive is a web application that runs in your PC or Mac browser with a high-speed internet connection. There is no software to install and you are always using the latest version.

Tour Builder
The MapsAlive Tour Builder is where you create, edit, and publish interactive maps. When you login to your MapsAlive account you can use the Tour Builder to upload map images and photos, enter text, create hotspots, choose layouts, and set the appearance and behavior of your interactive maps.

Tour
A tour is one or more interactive maps and data sheets that are usually related to each other. Many tours might only have one map. Other tours, like a house tour, might have several floor plans together in one tour to let a prospective buyer explore the house. You publish your tours when you are ready for other people to use them.

Map
A map is a component of your tour that serves as a container for a single map image, the map’s hotspots and hotspot content. You upload a map image and add hotspots to the map using the Tour Builder.

Data sheet
A data sheet contains photos, text and other information related to your tour, but it has no map. A data sheet might be used to display introductory text, contact information, specifications, or similar non-interactive content.

Map Image
A map image can be any image such as a diagram, floor plan, geographic map, or even a photograph. You can think of it as a background layer beneath a layer of hotspots. You upload one map image for each map in your tour.

Hotspot
A hotspot is a location on an interactive map that shows content associated with that location when the mouse moves over it, off of it, or clicks it. The size, shape, and appearance of a hotspot are indicated by a marker.

Hotspot Content
Hotspot content is the information associated with a specific hotspot such as photos, text, and videos. When the mouse moves onto or clicks a hotspot, the content displays. A hotspot can also have an action associated with it.

Marker
A marker can be an image (like an arrow), a visible shape (like a rectangle or polygon), or an invisible shape, that marks the presence of a hotspot on a map. Each hotspot on a map has a marker associated with it. The marker can be unique to one hotspot or the marker can be used by several hotspots.

Tiled versus Popup Content
Tiled content means that your hotspot content displays alongside the map – both the content and the map display within the rectangular canvas area. Popup content is hotspot content that displays in a rectangular area that pops up on top of your map when you mouse over a hotspot on the map.

Canvas
Every tour has a canvas area that displays one map or data sheet. For maps with tiled content, the canvas area contains the map image and the hotspot content. For maps with popup content, the canvas area contains only the map image. For data sheets, the canvas area contains the photo and text for the data sheet.
3 Interactive Map URLs

Every interactive map that you create with MapsAlive has a unique URL associated with it. When you open the URL in a browser, the interactive map appears. You can also use the URL within your own web pages to seamlessly integrate your maps with your web pages. Section 9 will explain how to embed maps within web pages.

3.1 Tour URL

Each tour gets its own URL similar to this:

http://tour.mapsalive.com/1234

When you open the URL in a browser, an interactive map appears. If the tour only has one map, that map appears. If the tour has more than one map or data sheet, the map or data sheet designated to show first appears. You can choose which map or data sheet displays first by choosing Tour > Tour Manager in the Tour Builder menu. Choose the map or data sheet from the Show First dropdown list.

The number at the end of the URL is the tour number. A tour’s number is shown on the Tour Manager screen of the Tour Builder. MapsAlive assigns a tour number when you create a new tour. You cannot change this number. If you host your tour on your own server you can use any URL you want. See section 5 to learn how.

3.2 Map and Data Sheet URLs

Each map and data sheet in a tour is associated with a unique HTML file. You can refer to an individual map or data sheet in a tour by adding the HTML file name to the tour URL. For example, the URL to display the second map of a multi-map tour might look similar to this:

http://tour.mapsalive.com/1234/page2.htm

Using a map or data sheet URL is handy when you want someone to see a specific map or data sheet of your tour instead of the one designated to show first when the tour loads.

MapsAlive assigns the HTML file name when you create a new map or data sheet in the Tour Builder. You cannot change this file name even if you host your tours’ files on your own server. To learn the URL for a specific map or data sheet of a tour, choose Tour > Tour Manager in the menu. The HTML file name for each map or data sheet is shown below its thumbnail. You append the file name to the tour URL.

3.3 Hotspot URL

You can highlight a specific hotspot and show its content when a map first appears in the browser. You identify the hotspot using the hotspot Id. For example, the URL for a hotspot with an id of “MasterBedroom” would look similar to this:

http://tour.mapsalive.com/1234/page2.htm?hotspot=MasterBedroom
To specify a hotspot’s Id go to **Hotspot > Edit Hotspot Content** in the menu and set the Hotspot Id field. MapsAlive provides a default hotspot Id when you add a hotspot to a map in your tour, but you can change the Id to something more meaningful.

When you add a hotspot Id to a Map or Data Sheet URL, you force the interactive map to highlight a particular hotspot and show its content as soon as the map appears in the browser. If the map displays content in popups, the popup is displayed and pinned when the map first appears in the browser.

Using a hotspot URL is handy when you want someone to see a specific hotspot’s content before any other. For example, you could include a hotspot URL in an email to a prospective house buyer so that when they click the link, they’ll first see the master bedroom on the second floor even though the tour normally opens by displaying a map of the first floor.

*Note that in the example URL above, “hotspot“ is a query string parameter in the URL and therefore is preceded by a question mark. If it is not the first parameter, it should be preceded by an ampersand.*
4  Download Feature
The interactive maps you create with MapsAlive are automatically hosted by MapsAlive, but you can host them yourself if you like. You can download them to your computer and then either run them on your computer or upload them to your web server.

Download is an optional feature – you do not have to download your interactive maps.

What is Downloading?
Downloading simply means copying your interactive map files from MapsAlive to your computer. You can run the interactive maps you download, but you cannot change them. You make changes by logging into your MapsAlive account and using the Tour Builder. If you let your account expire, you can still use the interactive maps you downloaded, you just won't be able to change them.

Reasons to Host on Your Web Server
One reason to host your interactive maps yourself is so that you can tell people about them using your own URL. While we like the URL tour.mapsalive.com, you probably like your domain name better. Another reason is policy — some companies require that all of their web content be hosted on their server. Another reason is privacy. If you want to restrict who can see an interactive map, you'll need to host it yourself and mark it as private in the Tour Builder. Hosting is explained in section 5.2.

Running Interactive Maps on a Laptop
Interactive maps can run on a laptop or any PC or Mac for that matter. All you need is a web browser, but you don't need an internet connection. By downloading to a laptop, you can take your interactive maps on the road or into places like a conference room where an internet connection might not be available. Running interactive maps on a computer is explained in section 5.3.

How to Download a Tour
When you publish a tour, MapsAlive compiles it into a set of files that behave as interactive maps when opened in a web browser. You can download these files to your computer as a single zip file by following these steps:

1. Choose Tour > Export in the menu.
2. Click the Download Published Tour link.
3. Click OK on the dialog confirming that you want to create the zip file.
4. You will be prompted to save the file to a location on your computer.
5. Once downloading is complete, go to the location on your computer where you downloaded the zip file.
6. Extract the zip file contents into their own folder on your computer.
Tour Files
A tour is a folder of files that utilize the latest web technologies to render interactive maps in a browser. You do not need to work with the tour files or understand what they do. You should never modify any tour files because doing so may prevent your interactive maps from working properly. The files include:

- Images (maps, photos, and tour graphics)
- HTML web pages (one for each interactive map and data sheet in the tour)
- Default web pages (index.htm, default.htm)
- CSS files (one for each map and data sheet web page)
- JavaScript files (one for each map and data sheet web page and some for shared code)
- Flash movies (swf files used to make the map images interactive)
- Data files (XML, CSV, depending on tour export options)

If you are an expert web programmer, you can see that these are the very same kinds of files you would spend days or weeks developing if you attempted to manually create what MapsAlive does in seconds.
5 Hosting Options
Every web page on the internet resides at a location identified by a URL. That location “hosts” the page. The location is usually a disk drive on a computer known as a web server. When you open the URL in a browser, the browser makes a request to the host to get the web page so that it can display it.

The interactive maps you create with MapsAlive are automatically hosted for you. You don't need to read about hosting options unless you want to host your interactive maps on your own server.

5.1 Automatic Hosting By MapsAlive
When you publish a tour, MapsAlive compiles it into a folder containing all of the files that are necessary for the tour’s interactive maps to run in a web browser. These files are automatically hosted for you at

http://tour.mapsalive.com/tour-number

where tour-number is a set of digits indentifying an individual tour. The tour number of your tour is displayed at the bottom of the Tour Navigator and also on the Tour Manager screen in the Tour Builder.

Note that an interactive map that is hosted on tour.mapsalive.com can appear in a web page that is hosted on another web server. Section 9 explains how to use this simple and commonly used technique to embed interactive maps into your web pages without having to host them yourself.

5.2 Hosting On Your Own Web Server
Some companies prefer or are required to host all of their web content on their own web server. You can do this by downloading your tours and uploading them to another web server. Downloading is explained in section 4.

Hosting Requirements
There are no special server requirements for hosting interactive maps. The set of files in a tour is 100% self contained which means they don’t depend on anything that is not already in the tour. Any web server can be used to host tour files. Popular server software such as Apache, IIS, and others will be fine for hosting the interactive maps you create with MapsAlive.

The only requirement for using interactive maps (as opposed to hosting them) is that they are opened in a browser supported by MapsAlive and that the browser has Flash 8 or higher installed. Currently MapsAlive supports IE, Firefox, Safari, and Chrome on PC and Macintosh computers.

Downloading and Uploading
When you download a tour, you get a single zip file containing all the files that are needed to run the tour's interactive maps in a browser. Unzip the file into its own folder on your computer and then upload the folder to your web server using FTP or other upload mechanism (MapsAlive does not provide a way for you to upload). On the MapsAlive server, the name of the tour folder is the tour number, but you can give the folder a new name on your server in order to create a URL that you like.
URLs on Your Web Server
Once your tour’s files are on your web server, you can use URLs in the ways described in section 2. Examples are shown below.

Tour URL:

http://www.mydomain.com/mymaps/mytour

Note that when the last component of the URL is a folder name, most web servers will automatically send either the index.htm file or the default.htm file to the browser. If this is not the case for your server, you will need to include index.htm in the URL like this:

http://www.mydomain.com/mymaps/mytour/index.htm

The index.htm file is contained in the tour folder. When loaded into a browser it automatically loads the tour’s first map as explained in section 3.1.

Map or Data Sheet URL:

http://www.mydomain.com/mymaps/mytour/page2.htm

Hotspot URL:

http://www.mydomain.com/mymaps/mytour/page2.htm?hotspot=MasterBedroom

5.3 Hosting on a Laptop Computer
The interactive maps you create with MapsAlive can be run on a computer without a web server and without an internet connection. This can be very useful if you are on the road with a laptop or in a location such as a courtroom where you don’t want to rely on an internet connection being available.

Interactive maps that run on a computer do not require an internet connection because the tour is 100% self contained and only a browser is required to run the interactive maps. However, if any hotspots in the tour link to other web pages on the internet, or if any hotspots use the Live Data feature, an internet connection will be needed in order for those hotspots to function properly. To learn about Live Data, see the MapsAlive User Guide for Live Data.

To host on a computer, unzip the downloaded tour into its own folder on the computer’s disk drive. You can also put the folder on a CD, DVD, Flash drive, or other media that is accessible from the computer. Navigate to the folder and then double click the file named index.htm. You can also double click one of the page files e.g. page1.htm to open a specific map or data sheet. When you double click a .htm file, your computer’s default browser should open and display the interactive map or data sheet.
If your tour is running in a browser that supports Flash, you may see a dialog saying that Flash has stopped a potentially unsafe operation. This is nothing to be concerned about, but you will need to modify your computer’s Flash security settings as explained in Appendix A in order for your tour to run. Alternatively, you can choose to always display the map using HTML5 which will avoid any Flash security issues. To do this go to Tour > Tour Manager and choose “Default to HTML5 for Desktop Browser”.

Playing Video Without an Internet Connection

An interactive map can play video on a computer that does not have an internet connection provided that the video files reside on that same computer. To make this work, you need to edit the video HTML for each hotspot that plays video. To do this:

1. Go to the Hotspot Content screen for a hotspot that plays video.
2. In the Multimedia area, change the two video locations from URLs to file paths. One location is the value attribute of the movie param tag. The other is the src attribute of the embed tag.

The example below shows the changes made in code to play a Flash movie (swf file). You make similar changes in the code to play other video formats.

```html
<object classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000" width="512" height="296">
  <param name="movie" value="C:\Videos\MyVideo.swf" />
  <param name="allowFullScreen" value="true" />
  <embed src="C:\Videos\MyVideo.swf" type="application/x-shockwave-flash" . . . /></object>
```

You must use two back slashes (\") in the file’s path because a single \ is an escape character in HTML. Typing two back slashes tells the HTML parser that you actually want a single back slash.

Note that when you use a file path for the video location, you won’t be able to play the video while in Tour Preview or when running the tour on the internet – the video will only play when running on the computer where the video files are located.

5.4 Hosting Sensitive Data

If information in your interactive map should not be seen by the general public, you must host your tours yourself as described in sections 5.2 and 5.3. You must also select the Private option in the Tour Builder. The Private option is a checkbox in the Advanced Options section of the Tour Options screen.

When the Private option is checked, that tour’s files can be downloaded, but they won’t be published to tour.mapsalive.com and thus no one can access them at that URL. If you had previously published the tour and then choose the Private option, MapsAlive will delete the tour files from tour.mapsalive.com.
With the Private option selected, you can still use all Tour Builder features, including Tour Preview, but the only way for someone to use your interactive maps is for you to host the tour files on your own web server as described in section 5.2 or on a computer as described in section 5.3.
6 Code Snippets

Later sections in this document explain how to integrate interactive maps with your web pages using a small amount of HTML. Before we get to those explanations, we want to point out that MapsAlive provides the exact HTML you’ll need – just copy/paste it into your web page code. To see the HTML, just click the Show Code Snippets button at the top of the Tour Preview screen.

![Code Snippets](image)

The code snippets are specific to the tour you are currently working on. To see HTML for a different tour, choose that tour in the Tour Builder, click Tour Preview and then click Show Code Snippets for that tour.

The code snippets are divided into five parts. Each part provides the HTML for a specific way of integrating interactive maps.

The iframe code in part 4 contains width and height values that match the tour’s current size. If you change the tour’s size, be sure to get the updated HTML from the code snippets. Embedding a tour using an iframe is explained in section 9.2

Part 5 contains code for directly embedding a tour into a web page as explained in section 9.3. The code you see will be for the map or data sheet that is showing in the preview which appears below the code snippets (not shown in Figure 1 above). To see the snippets for a different map or data sheet, click it in the menu in the tour preview and the code snippets will update automatically for that map or data.
Note that the kind and number of tags in Part 5 will vary depending on how many maps and data sheets a tour has and what features it uses.

7 Using an Interactive Map as a Standalone Web Page

The tours you create with MapsAlive can be simple or elaborate. The simplest tour displays a single map image with hotspots and no other visible elements. While a tour like that can be used as a standalone web page, it works best when embedded in another web page as explained in section 9.

A more elaborate tour can display several maps with hotspots, plus a banner, title bar, footer, and navigation. This type of tour works well as a standalone web page.

A good example is a real estate listing for a house. The web page shown in the screenshot in Figure 2 was created entirely with MapsAlive. What you are seeing is a tour with six maps, a menu (just above the floor plan), a title bar to identify the listing, a banner to promote the realtor, and a footer to provide a link back to the realtor's web site.

To use a tour as a standalone web page, you simply make the tour’s URL available to people. You can do that by including it as a link in another web page or an email (see section 8), or printing it in an advertisement. To learn about tour URLs, see section 2.

Because tours are automatically hosted by MapsAlive, you don’t need your own web site in order to use a tour as a standalone web page. You simply create the tour, publish it, and tell people the URL. There is no easier or faster way to create interactive map web pages and make them available on the internet. If you have your own web server and would like to host your standalone tours there, you can learn how in section 5.2.

To learn more about tour size and layout, see the MapsAlive User Guide for Tour Layout.
Linking to an Interactive Map from a Web Page or Email

Linking is the simplest way to make interactive maps accessible from your web site. A user sees the link, clicks on it, and the interactive map appears either in the current browser window or a new window. To learn how to make an interactive map appear within a web page, see section 9.

A link is simply an HTML anchor tag that looks like underlined text in a web page or email:

Click here to see my map

Link to an interactive map that opens in a new browser window
If you want people to see your interactive map, but not leave your web site, code the link so that the web page containing the interactive map opens in a new browser window (or new tab if the browser opens links in a tab instead of a window). You do this by adding a “target” attribute with a value of “_blank” to the anchor tag like this:

<a href="http://tour.mapsalive.com/1234" target="_blank">Click here to see my map</a>

You can get the exact code to link to a tour this way from part 2 of Code Snippets.

Link to an interactive map that replaces the current browser window
If you want the interactive map to replace the contents of the browser window (or tab) that contains the link, simply omit the target attribute like in this example:

<a href="http://tour.mapsalive.com/1234">Click here to see my map</a>

You can get the exact code to link to a tour this way from part 3 of Code Snippets.

Link to an interactive map from an email
Linking to an interactive map from an email message is easy with most email editors. In the body of the email message, simply type the URL for the tour and the editor will automatically turn it into a link for you (type only the URL starting with “http:” – don’t type the HTML for the anchor tag shown in the examples above). If your email editor does not have this feature, you’ll need to read the documentation to see how to insert links in mail messages.

Linking to a tour, map, or hotspot
All of the examples above link to the first interactive map in tour 1234. You can, however, link to a specific interactive map in a tour, or to a specific map and hotspot by using the right URL. To learn about URLs, see section 2 and section 5.2. The URL information in those sections applies to both web page links and email links.
9 Embedding an Interactive Map in a Web Page

The most seamless way to present interactive maps is to have them appear embedded within your own web pages. That way a user sees your web page content and the interactive map together. A good example of this is the MapsAlive home page (www.mapsalive.com) which shows a working interactive map sample along with the site’s navigation, banner, and other marketing information.

Embedding works best with small to moderate sized maps that leave enough room for surrounding web page content. Large interactive maps, and those intended for use as a standalone web page, are better accessed by linking to them as described in section 8.

9.1 Embedded Map Concepts

Before reading how to embed interactive maps inside web pages, it is helpful to understand some important concepts.

Tour Size

The interactive maps you create with MapsAlive are contained inside a tour. A tour has a rectangle shape having a width and height in pixels. The tour size determines how much area your interactive map will occupy within the web page that embeds it. You can find your tour’s size by choosing Layout > Tour Size and Options in the menu in the Tour Builder. To learn how to control the size of a tour, see the MapsAlive User Guide on Tour Layout.

Embedding Interactive Maps that are Hosted by MapsAlive

You can embed an interactive map that is hosted by MapsAlive into a web page that is hosted by your web server. A browser gets your web page content from your server and the interactive map from the MapsAlive server. This is the easiest and most common way to embed interactive maps. The other way is for you to host your interactive maps on your own server as explained in section 5.2.

Choosing which way to embed

The following sections explain the two ways to embed an interactive map into a web page: with an iframe and without an iframe (direct). Using an iframe is undoubtedly the simplest and quickest method and works especially well for tours that use a tiled layout.

If your tour uses popups, they won’t be able to pop up outside of the iframe and therefore may cover up more of the map than desired especially if the map is small and the popup content is large. Popup content that is larger than the iframe area will be cropped. In these cases, direct embedding will provide a better user experience.

If your interactive map and web page need to communicate via JavaScript, using an iframe is not an option. If you need to embed more than one interactive tour in the same web page, you’ll need to use the iframe method since only one tour can be embedded using the direct method per web page (you could embed one tour directly and the others using iframes).
Our suggestion is to try an iframe first because it’s so easy. Then switch to the direct embedding method if you need to.

**Updating an Embedded Interactive Map**
You can make changes to an interactive map and publish its tour again without having to touch the web page that embeds the tour. This is true for both the iframe and direct embedding methods. The next person to visit the containing web page will see the map updates.

*Example:* A real estate web site has a web page for each house for sale and each web page contains an embedded house tour. You want to add an additional hotspot to a floor plan for one of the houses. You make the change in the Tour Builder and publish the tour again. The next person to visit the web page for that house will see the new photo. This assumes that your tours are hosted by MapsAlive. If you host them yourself, you would also download the updated tour and upload it to your web server.

### 9.2 Iframe Embedding Method

The easiest way to embed a tour inside another web page is by using an `<iframe>` tag. An iframe is a special HTML tag that essentially gives you a browser within a browser. Embedding a tour using an iframe requires only one line of HTML as shown in this example (split onto two lines to make it fit):

```html
<iframe src="http://tour.mapsalive.com/1234" width="600" height="702"
frameBorder="0" scrolling="no"></iframe>
```

You can get the exact code to embed a tour in an iframe from part 4 of Code Snippets.

In the example above, the value of the `src` attribute is the tour URL as explained in section 3.1. The width and height values are the tour width and height in pixels. The other attributes prevent the iframe from displaying a border or scroll bars.

### 9.3 Direct Embedding Method

You can embed a tour directly into a web page by inserting a small number of `<link>` and `<script>` tags into your page’s HTML. When the web page loads, the browser expands these lines of code into the HTML, CSS, and JavaScript that are necessary to render your interactive map.

You can get the exact code to directly embed a tour from part 5 of Code Snippets. Note that the snippets you see are for the map or data sheet that you are currently working on in the Tour Builder. If your tour has more than one map or data sheet, the code will be different for each one.

**Embedding a Single Interactive Map**

Direct embedding a tour that contains only one interactive map is straightforward. Copy the link and script tags from section 5 of the Code Snippets and paste them into the HTML for your web page at the location where you want the map to appear. You’ll paste four lines similar to these:
The first tag is a link for the tour's CSS file. Technically the link tag should go in the head section of your web page, but it works correctly if you include it with the other tags in the body section. You can place the script tags anywhere within the body section of your web page; however, they must appear together in the order shown. You can put them inside another tag such as a <div> or <td> – anywhere you want the interactive map to appear.

If you are hosting the tour on your own server, be sure to change the tour URL to the URL on your server. For example, if you are hosting tour 1234 on http://www.mydomain.com/mymap, your code would look like this:

<link rel="stylesheet" type="text/css" href="http://www.mydomain.com/mymap/page1.css" />
<script type="text/javascript" src="http://www.mydomain.com/mymap/mapsalive.js"></script>
<script type="text/javascript">maClient.path="http://www.mydomain.com/mymap/";</script>
<script type="text/javascript" src="http://www.mydomain.com/mymap/page1.js"></script>

If your tour has more than one map or data sheet, read the next section.

**Embedding a Multi-Map Tour Using Server-Side Scripts**

If your tour has more than one map or data sheet and has a menu or directory to let a user navigate from one map or data sheet in the tour to another, you'll need to take some extra steps to make the navigation work. This is because the link and script tags you copy into your HTML are for only one map or data sheet in the tour. For example, in a shopping mall tour, the tags for the first level floor plan (page1) are different than for the second level floor plan (page2). The only difference is the page number, but it's a very important difference. When the user clicks navigation to switch from level 1 to level 2, the navigation needs to tell the browser to reload the containing web page in such a way that it will render the tags for the level 2 floor plan.

MapsAlive provides a way for you to tell the navigation how to load the containing web page so that it uses the right page number in the link and script tags. It's done with this additional script tag:

<script type="text/javascript">maClient.hostPageUrl="containing-web-page-URL";</script>

The `hostPageUrl` variable lets you provide a URL for the web page that contains the embedded tour's link and script tags. The URL must contain # as a placeholder to indicate which page the URL is for. An example follows:

maClient.hostPageUrl="mall.php?level=#"

When a user clicks a menu or directory item in your tour, the navigation automatically replaces the # with the page number of the clicked map or data sheet and then tells the browser to load the modified
URL. For example, when the user navigates to the second floor of the shopping mall tour, the navigation tells the browser to load the URL below. Notice how # has been replaced with 2.

`mall.php?level=2`

For this mechanism to work, the containing web page must have code that reads the URL to determine which link and script tags to use. The mall example examines the URL’s query string and uses the value of the “level” argument to determine which page number to use in the link and script tags. This kind of code usually requires that the containing web page be implemented in a server-side scripting language like PHP, ASPX, or Java. An example in PHP is shown in Appendix B.

**Embedding a Multi-Map Tour Using HTML Pages**

As an alternative to using server-side scripting, you can use a separate HTML page for each page in the tour. For example, you could set `hostPageUrl="page#.htm"` and then use page1.htm and page2.htm to host the shopping mall tour.

The file for page1.htm would look like this:

```html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html>
<head><meta http-equiv="Content-Type" content="text/html;charset=utf-8" /></head>
<body>
<link rel="stylesheet" type="text/css" href="http://tour.mapsalive.com/1234/page1.css" />
<script type="text/javascript" src="http://tour.mapsalive.com/1234/mapsalive.js"></script>
<script type="text/javascript">maClient.path="http://tour.mapsalive.com/1234/";</script>
<script type="text/javascript">maClient.hostPageUrl="page#.htm";</script>
<script type="text/javascript" src="http://tour.mapsalive.com/1234/page1.js"></script>
</body>
</html>
```

The file for page2.htm would look nearly identical, except for the page number, like this:

```html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html>
<head><meta http-equiv="Content-Type" content="text/html;charset=utf-8" /></head>
<body>
<link rel="stylesheet" type="text/css" href="http://tour.mapsalive.com/1234/page2.css" />
<script type="text/javascript" src="http://tour.mapsalive.com/1234/mapsalive.js"></script>
<script type="text/javascript">maClient.path="http://tour.mapsalive.com/1234/";</script>
<script type="text/javascript">maClient.hostPageUrl="page#.htm";</script>
<script type="text/javascript" src="http://tour.mapsalive.com/1234/page2.js"></script>
</body>
</html>
```

When a user clicks a menu or directory item in the tour, the navigation automatically replaces the # in `hostPageUrl="page#.htm"` with the number of the clicked page and tells the browser to load the correct page, either page1.htm or page2.htm. Note that the code above was copied from the Code Snippets section of the Tour Preview screen in the Tour Builder and then edited.
10 Communicating with an Interactive Map Using JavaScript

10.1 Overview
A web page that contains an interactive map can communicate with the map using JavaScript. The containing web page must contain a <script> section for JavaScript. The web page’s JavaScript can make calls to the map using the MapsAlive API functions which are described in the MapsAlive User Guide for JavaScript API. The map can also make calls to JavaScript functions in the web page.

A web page can call a map to change the appearance or visibility of hotspots and routes. A map can call its web page to tell it that the mouse has moved over, out of, or clicked a hotspot. A map can also call the API functions to perform actions in response to mouse events.

10.2 Playing Sound files
MapsAlive can include the Sound Manager 2 library when you publish your tour, allowing you to play mp3 sound files. To include the library choose Tour > Tour Options in the menu and check “Enable SoundManager” at the bottom of the screen. Now you can call the built-in API functions to play the sound file (see MapsAlive User Guide for JavaScript API for details on the functions).

Because MapsAlive does not support uploading mp3 files, you must host the mp3 files on your own server or reference them by url on another server.

You can play a sound file when the user clicks a marker, mouses over a marker or mouses off a marker. To use one of these methods, choose Hotspot > Hotspot Actions in the menu and choose JavaScript from the Click Action, Mouseover Action or Mouseout Action dropdown lists. In the JavaScript box that appears enter the call to the playSound function. Here is an example:

```
mapsalive.playSound('Mexico', 'http://www.mapsalive.com/samples/audio/world/MX.mp3');
```

Alternatively, you can add a link or button to a hotspot’s content that can call the API function. This method requires adding the HTML code to add the link or button image and setting the onclick handler to call the playSound function. This might look like:

```
<a onclick="javascript:mapsalive.playSound('Canada', 'http://www.mapsalive.com/samples/audio/world/CA.mp3');return false;" href="#">Click to play the national anthem</a>
```
11 Using Interactive Maps on a Touch Screen

An interactive map on a touch screen provides a very friendly user interface for certain types of applications such as kiosks. This chapter provides information that will help you understand how to create the best possible touch screen experience for your users.

11.1 Hardware Requirements

You can use your interactive maps as-is on touch screen monitors. The only hardware requirement is that the computer can run one of the standard browsers – IE, Firefox, Safari, or Chrome – and that the computer supports Flash. PC and Mac computers support Flash, as does the HP Slate; however, the Apple iPad does not.

We have used MapsAlive on the HP TouchSmart with Windows 7 and on the Apple Mac with OS X and an Apple Cinema monitor using a touch sensitive overly from Troll Touch. We plan to test with more touch screens in the future.

11.2 Touch Screen versus Mouse

Working with a touch screen is not difficult, but be aware that there are some important differences between a touch screen computer and one that uses a mouse. With a traditional computer you can click the mouse buttons, click and drag with the mouse, and you can hover over sections of the screen by moving the mouse on top of the area of interest. On a touch screen you can press and lift your finger, drag or flick your finger, and also perform gestures such as pinching or spreading two fingers.

In order for a touch screen to work with existing software that was designed for use with a mouse, the touch screen hardware actually sends mouse movements and clicks to the computer when you touch with your finger. Most software, unless it was written specifically with touch in mind, doesn’t even know that it is running on a touch screen computer. Unfortunately, there is not a 100% direct translation between touching and mousing and the subtle differences can have a big effect on the user experience.

The most notable difference is that the hover or mouse-over action that so many web pages take advantage of is not supported by most touch screens. Mouse-over is especially important with a MapsAlive interactive map because you normally move your mouse over a hotspot to see its content, that is, the photo or text associated with it.

Some touch actions translate into unexpected or undesirable mouse actions. In particular, on Windows 7, pressing and holding your finger without lifting it is the same as right-clicking with a mouse. In a browser, a right-click causes a content menu to appear, something you won’t want people to see or use on a kiosk. Other touch actions such as the pinch gesture can cause a web page to shrink, another undesirable behavior on a kiosk.

Fortunately there are ways to address these issues and we’ll tell you how in the sections that follow.
11.3 Restricting and Altering Touch Screen Behavior for Interactive Maps

This section explains how to get around the issues mentioned in the previous section.

Disabling Gestures

On a touch screen used with Windows 7, the contents of a browser window like IE or Firefox will grow if you move two fingers apart, or shrink if you pinch them together. If the page contains Flash content, as does a MapsAlive interactive map, only some of the content may grow or shrink and some may stay its normal size. This behavior would be unacceptable on a kiosk. To prevent it, you can uncheck the **Enable multi-touch gestures and inking** option on the **Pen and Touch** dialog as shown in the figure below. To get to this dialog, go to **Start**, choose **Control Panel > Hardware and Sound > Pen and Touch** and then click the **Touch** tab.

![Figure 3 - Windows 7 dialog used to disable multi-touch gestures](image)

Click versus Mouse-Over (Tap versus Touch)

Many touch screens treat a tap as a mouse left-click. You tap by touching and removing your finger. When you tap a hotspot on an interactive map, you won’t see the hotspot’s content until you lift your finger. This behavior is perfectly acceptable and is what many people are used to because popular mobile devices like the iPhone behave the same way.

If you want to see hotspot content on touch without lifting your finger, the touch screen needs to translate a touch into either a mouse-over or mouse-click action. On the Troll Touch you do this by
running in Click on Touch mode. On Windows 7 you can uncheck the **Enable press and hold for right-clicking** option on the **Press and Hold Settings** dialog as shown in the figure below. To get to this dialog, first go to the **Pen and Touch** dialog as explained in the previous section and click **Press and hold** in the **Touch actions** section, and then click the **Settings** button.

![Press and Hold Settings](image)

**Figure 4 - Windows 7 dialog used to disable right-clicking**

**Disable Accelerators in IE 8**

IE 8 displays an accelerator icon (a blue arrow in a blue box) when you select text on a web page by dragging across it with our finger. You can click the icon to display a menu of accelerators that perform an action on the selected text, for example, to look it up in a search engine. This is another feature that is undesirable on a kiosk. To disable it, click the **Tools** button in IE 8 and then click the **Advanced** tab. In the **Browsing** section, uncheck the box labeled **Display accelerator button on selection**.

**Running a Browser in Kiosk Mode**

Most browsers have an option, or have a 3rd party plugin available, to make the browser run in kiosk mode. In this mode, the browser occupies 100% of the screen and prevents access to any of the browser’s menus. Kiosk mode is necessary when you want someone to be able to use your browser-based touch screen application, but not be able to change any of the browser settings or navigate to another page. You can run IE in browser mode from the Windows start menu by typing `iexplore -k` followed by a URL. A very nice kiosk mode option for Safari on the Mac is called Saft. It is available at [http://haoli.dnsalias.com/Saft](http://haoli.dnsalias.com/Saft).
11.4 MapsAlive Considerations for Touch Screens
When creating an interactive map for a touch screen, the most important consideration is to use hotspot markers that are large enough to be easily touchable. Microsoft recommends a minimum size of 40 x 40 pixels.

Directory
The dropdown directory that MapsAlive automatically creates works as-is on a touch screen, but by default the entries are too close together to be easily touchable. You can increase the size and spacing of the entries using a small amount of CSS. We’ll provide an example and instructions for using it in an update to this document. If you need that information now, please contact support@mapsalive.com.

Pan and Zoom Controls
The pan/zoom controls that appear in the upper left corner of the map when you have Map Zoom turned on are too small to be used comfortably on a touch screen. Also, because they were designed so that you can press and hold down the mouse button to perform continuous zooming and panning, they don’t respond well on a touch screen. In a future release of MapsAlive we expect to provide JavaScript API functions that you can use along with your own custom pan and/or zoom controls. Note that you can pan the map on a touch screen by simply dragging your finger.

11.5 Further Reading
An excellent article on Touch can be found at http://msdn.microsoft.com/en-us/library/cc872774.aspx.
Appendix A – Flash Security Settings

If you are running a local tour in a browser that supports Flash, the Flash Player alert shown in Figure 5 below may appear when you run a MapsAlive tour that you have downloaded to your computer. It is nothing to be concerned about, but you must follow the steps in this appendix to prevent the alert so that your interactive maps will work properly on your computer.

Alternatively, you can choose to always display the map using HTML5 which will avoid any Flash security issues. To do this go to Tour > Tour Manager and choose “Default to HTML5 for Desktop Browser”.

Adobe Flash Player has stopped a potentially unsafe operation.
The following local application on your computer or network:
C:\Tours\3119\0001_02_0005.swf
is trying to communicate with this Internet-enabled location:
C:\Tours\3119\page1.htm
To let this application communicate with the Internet, click Settings.
You must restart the application after changing your settings.

Figure 5 – Flash Security Warning

If you do not see the dialog above, but your hotspot content does not display when you mouse over the markers on your map you must follow the steps in the Accessing Flash Security Settings below in order to display the Adobe Settings Manager shown in Figure 6.

When the Alert Appears
The alert appears when you run a tour’s web page directly from your hard drive using a file name that starts with a drive letter like C: or file:///C:. This will be the case when you download a tour, unzip the files into a folder on your hard drive, and then double-click one of the web page files like index.htm or page1.htm.

The warning will not appear if the tour’s web pages are hosted on a web server and opened in a browser using a URL that begins with http://. This is true even if the web server is running on the same computer where you downloaded the tour files.

Why the Alert Appears
The warning is there to protect you from inadvertently running a malicious Flash application that runs on your local computer. Such an application could read your files and send their contents back to a location on the internet without your knowledge.
A MapsAlive interactive map that runs on your computer does not communicate any information back to the internet, but it does read the tour files you downloaded and it does communicate with a web page running in your browser. Even though the map’s web page does not access the internet, Flash displays the alert. The alert does not appear when your interactive maps are hosted using a web server because a web-hosted Flash application cannot access files on your computer.

To prevent the alert and allow your interactive maps to work properly, you need to tell Flash that you trust the MapsAlive tour.

**Accessing Flash Security Settings**

This section explains how to get to an Adobe web page that will allow you to change the Flash security settings on your computer.

Your computer must have internet access in order to change your security settings because the changes are made on the Adobe Flash Player web site and then recorded on your computer. After you have made the changes, you will be able to run the interactive map with or without internet access. For instance, if you are planning to take your laptop on the road and use the interactive map in presentations where you don’t have internet access, be sure to change your security settings *before* you leave your office where you do have internet access. Once you have changed the settings, the interactive map will work just fine while you are on your trip without the internet.

To change your security settings, click the Settings button on the security dialog shown in Figure 5 above. A new browser window should open that displays the Adobe Settings Manager as shown in Figure 6 below.
If nothing happens when you click the Settings button, follow the steps below, otherwise, skip ahead to the next section, *Changing Flash Security Settings*.

1. Right click on your map image to bring up the Flash Player menu.
2. If the Settings menu item is enabled:
   a. Click Settings... and a small dialog appears
   b. Choose Privacy settings by clicking icon that shows as eye on a computer monitor.
   c. Click the Advanced... button.
   d. The Flash Player Help web site opens in a new browser window.
3. If the Settings menu item is disabled:
   a. Open a new browser window.
   b. Go to the Flash Player Help web site using this URL:
4. Click Global Security Settings Panel from the table of contents on the left.
5. You should now see the Adobe Settings Manager as shown in Figure 6 above.

*Changing Flash Security Settings*

This section explains how to tell Flash to trust your MapsAlive tour. You must be looking at the Flash Player Settings Manager panel shown in Figure 6 above. If not, please read the previous section.

1. Click the dropdown list that says Edit locations...
2. Choose Add location...
3. Click Browse for folder...
4. Select the folder that you unzipped your downloaded tour files into.
5. The folder you selected appears in the list of trusted locations.
6. Close the browser window for the Flash Player Help page.
7. Refresh the browser window that contains your interactive map.
8. Your interactive map should now work without the Flash alert.

**Tip:** Put your downloaded tour folders into the same parent folder and select that folder in the Flash Settings Manager (step 4 above). All the tours in that folder, and new tours you add to it, will be trusted. An example is shown in Figure 7 below.
Figure 7 – A folder containing trusted tours
Appendix B – Using Server Side Scripting to Embed a Multi-Map Tour

This appendix supports section 9.3 Direct Embedding Method. It demonstrates the use of a server side scripting language to dynamically emit the correct link and script tags in a multi-map tour.

Below is a PHP web page that contains an embedded interactive map of a two level shopping mall. It displays the map for level 1 or level 2 based on a query string parameter. When the page loads, variable $level is set to the value of the query string parameter called level, or to 1 if no parameter is provided. It then uses the value of $level to form either “page1” or “page2” within the link and script tags.

```php
<?php $level = (isset($_GET['level'])) ? $_GET['level'] : 1; ?>
```

A user looking at the mall map can view either level by clicking on the menu or by using the map’s directory. The MapsAlive navigation logic then reads the value of the JavaScript variable hostPageUrl and replaces, the # with the value of $level, and then tells the browser to load the URL. For example, if the web page is displaying level 1 and the user clicks on level 2 in the menu, the browser loads:

```
mall.php?level=2
```

You can try this example yourself by opening this URL in your browser:

```
http://www.avantlogic.com/demo/mall.php
```

To get a better feel for what is happening, view the source when level 1 is showing, then select level 2 from the menu or directory and view the source again. You’ll see that they are nearly identical except that one shows “page1” and the other shows “page2”.

If this were a real web page, the “Welcome” and “Happy Shopping” text would be the page content surrounding the interactive map.