

# topicFive

HTML Hyperlinks

# Learning Objectives

- At the end of this chapter the students should be able to:
  - Creating different kinds of links.
  - Use image to link to another page.
  - Use image mapping and other types of links
  - Differentiate between relative and absolute links

# Introduction

- Links are the most fundamental part of the World Wide Web.
- It is the links that tie it all together.
- There are three different kinds of links you can have on your website:

*Internal* - Links to anchors on the current page

```
<a href ="#home">Click Here</a>
```

*Local* - Links to other pages within the current website

```
<a href ="home.html">Click Here</a>
```

*Global* - Links to pages outside the current website

```
<a href ="http://rahimi.uitm.edu.my">My Website</a>
```

# Introduction

- It is possible to make texts and images work as links.
- With a little creativity other objects, such as pushbuttons or even drop-down menus can work as links as well.

# Introduction

- The *<a>* tag is used to create an anchor to link from, the *href* attribute is used to address the document to link to, and the words between the open and close of the anchor tag will be displayed as a hyperlink.

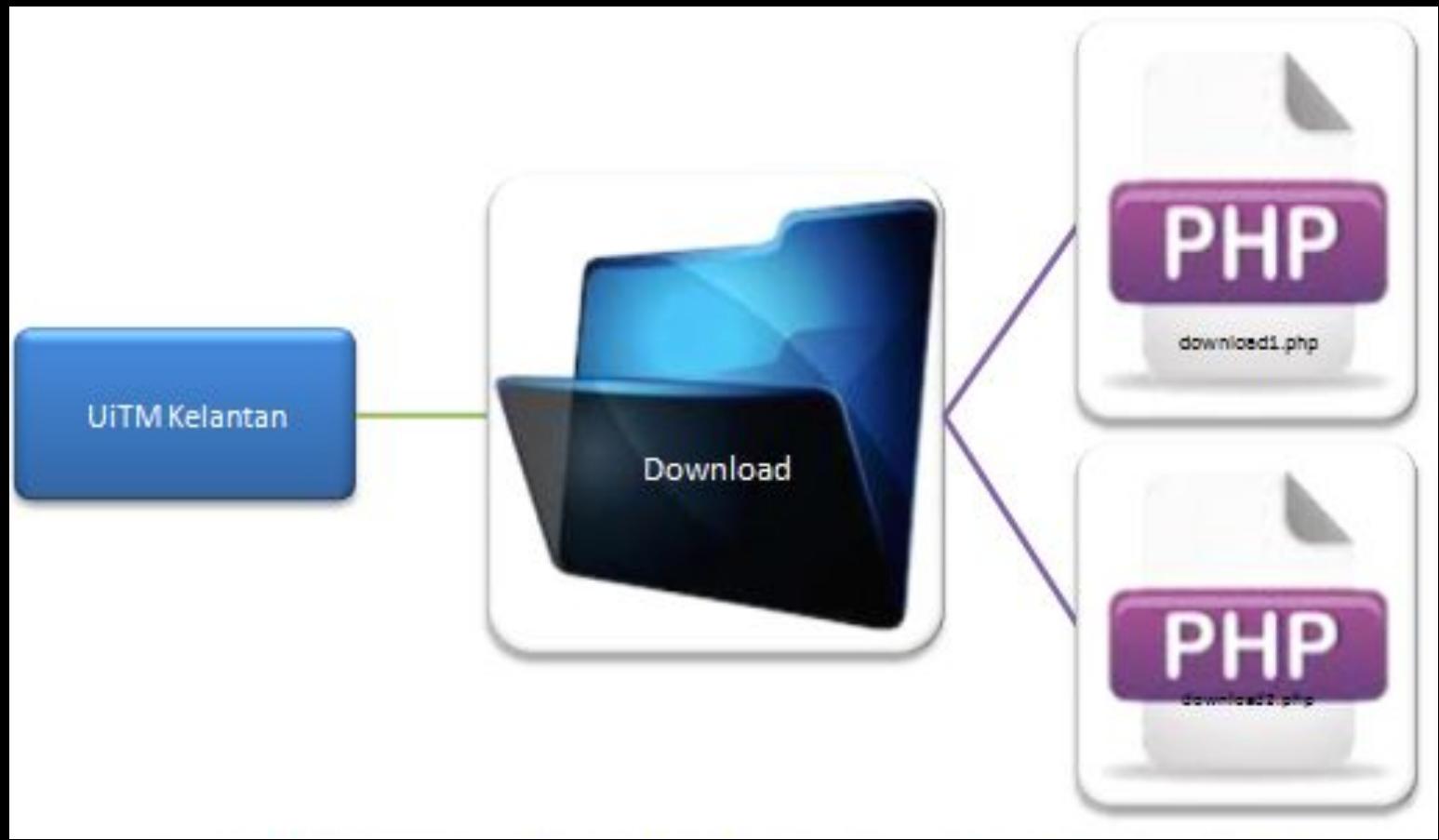
# Relative and Absolute link

- When creating links, we need to reference the files with each file's location, known as file's path.
- HTML supports two kinds of file paths: relative and absolute.
- A relative path refers to a file's location that is relative to the folder in which the file is in.
- A relative link is the easiest kind of link to create since you only need to reference the file name because the file is in the same directory

# Relative and Absolute link

- Let say on <http://kelantan.uitm.edu.my> website there is folder called download and it has two web page files saved as: download1.php and download2.php.
- To create a link in download1.php to the download2.php file, we will use just the filename.
- Specifically, link tag will look something like:

```
<a href="download2.php ">Go to Download Page 2</a>
```

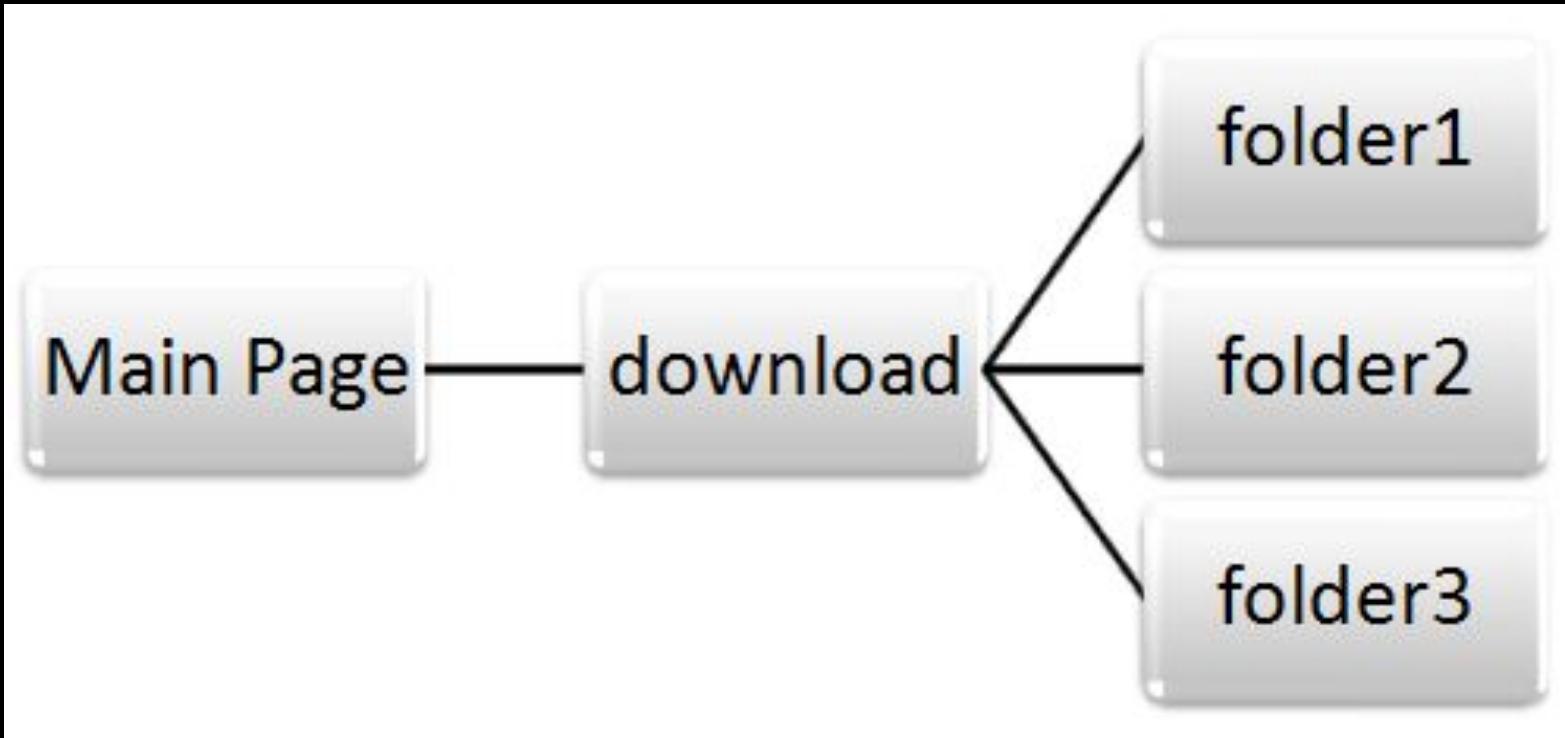


# Example 1

# Relative and Absolute link

- An absolute link shows the entire destination address in the link tag.
- This exact destination address is referred to as an absolute path.
- You might be thinking why cannot we use just the file name or just the relative path?
- Well, the relative is only good for linking to files that are in the current folder.
- To link to files which are outside of the current folder, an absolute path needs to be used.

```
<a href="http://www.starz.com/data.png">View Data</a>
```



## Example 2

## Example 2

- Let's say you have an HTML file in folder1: view.html.
- The file contains a link to a download folder: get.html; which one level higher compare to folder1.
- To link the file together:

```
<a href="../../get.html">Get Data</a>
```

# Creating Links To Another Web Page and Anchor

- The tags used to produce links are the `<a>` and `</a>`.
- The `<a>` tells where the link should start and the `</a>` indicates where the link ends.
- Everything between these two will work as a link.
- The target of the link is added to the `<a>` tag using the **`href="index.html"`** setting.
- The example below shows how to make the word here work as a link to yahoo.

Click `<a href="http://www.yahoo.com">here</a>` to go to yahoo

Syntax	HTML	Text
<code>&lt;a href =""&gt; .....</code>	<code>&lt;a href="biodata.html"&gt;Biodata</code>	<u>Biodata</u> Saya
<code>&lt;/a&gt;</code>	<code>&lt;/a&gt; Saya</code>	

# WEB DESIGN

MOHAMAD RAHIMI MOHAMAD ROSMAN | <http://rahimi.uitm.edu.my>

IMD208 – Introduction to Web Content Management & Design



## Example of HTML Links

Click <a href="http://www.yahoo.com">here</a> to go to yahoo	
A	Stands for Anchor. It starts the link to another page.
href	Stands for Hypertext REFerence. That's a nice, short way of saying to the browser, "This is where the link is going to go."
<a href="http://www.yahoo.com">http://www.yahoo.com</a>	The URL of the link.
Here	Where you write the text that you want to appear on the page. The text in that space will appear on the page for the viewer to click. So write something that denotes the link
</a>	Ends the entire link command.

# Define Colors for links

- There are a few settings that can be useful for controlling the colors of text links:
  - Define colors for all links on the page.
  - Define colors for individual links on the page.

# Define colors for all links on the page

- The general color of text links is specified in the <body> tag, like in the example below:
  - ***link*** - standard link - to a page the visitor hasn't been to yet. (standard color is blue - #0000FF).
  - ***vlink*** - visited link - to a page the visitor has been to before. (standard color is purple - #800080).
  - ***alink*** - active link - the color of the link when the mouse is on it. (standard color is red - #FF0000).

For example:

```
<body link="#C0C0C0" vlink="#808080" alink="#FF0000">
```

Syntax	HTML
<body link ="">	<body link = "red">
<body vlink ="">	<body vlink = "white">
<body alink ="">	<body alink = "blue">
	<body link="red" vlink="white" alink="blue">

# Define colors for individual links on the page

- The method described above is for setting overall link colors for the page.
- However, you might want one or more links to have different colors than the rest of the page.
- There are two techniques for doing this:
  - Placing ***font tags*** between the `<a href>` and the `</a>` tag. This method will work on all browsers except MSIE 3.
  - Using a ***style setting*** in the `<a>` tag. This method works on MSIE3 and newer browsers.

Click [here](http://www.yahoo.com) to go to yahoo

Click [here](http://www.yahoo.com) to go to yahoo

# Target

- By default, links will open in the current window or frame.
- You need to add a target if you want the link to open in another window or frame than the link itself is placed in.
- To do this you simply add a ***target=""*** attribute to the **<a href>** tag.
- This example will open yahoo website in a new window

```
<a href="http://www.yahoo.com" target="_blank">
```

There are several categories of predefined targets:

Target	Function
<b>_blank</b>	Loads the page into a new browser window.
<b>_self</b>	Loads the page into the current window.
<b>_parent</b>	loads the page into the frame that is superior to the frame the hyperlink is in.
<b>_top</b>	Cancels all frames, and loads in full browser window.

# Target

- In addition to these, you can also enter the name of a frame window if your page is within a frameset.
- With the target attribute, you can define where the linked document will be opened.

Syntax	HTML	Text
<a href ="" target ="">.....</a>	Click <a href = "education.html" <b>target = "<u>_blank</u>"<td>Click <u>Here</u> to view my education history</td></b>	Click <u>Here</u> to view my education history
	Click&lta href = "education.html" <b>target = "<u>mainFrame</u>"<td>Click <u>Here</u> to view my education history</td></b>	Click <u>Here</u> to view my education history
	Click&lta href = "education.html" <b>target = "<u>_parent</u>"<td>Click <u>Here</u> to view my education history</td></b>	Click <u>Here</u> to view my education history

# No Underline

- Each HTML links will have an underline to indicate that the text/images are hyperlinks.
- For some reason we might want to remove those underline.
- This can be done using cascading style sheet.

```
<html>

<head>
<title>This is my page</title>
<style type="text/css">
<!--
a{text-decoration:none}
-->
</style>
</head>

<body>
Welcome to my world!<br>
<a href="http://www.yahoo.com">This Link To Yahoo has no underline</a>
</body>
</html>
```

# No Underline

- Instead of just turning off the underline on all links you could be more specific in defining the way you want your links to work.
- In the example below underlining is turned off for all links.
- The a:hover tells the browser that when the mouse is over a link the underline should appear.

```
<html>

<head>
<title>This is my page</title>
<style type="text/css">
a:link {text-decoration: none}
a:visited {text-decoration: none}
a:active {text-decoration: none}
a:hover {text-decoration: underline overline; color: green}
</style>
</head>
<body>
Welcome to my world!<br>
<a href="http://www.yahoo.com">This Link To Yahoo has no underline</a>
</body></html>
```

## No Underline

- If you want to turn off the effect for just a single link, add a style property to the `<a href>` tag

```
<a href="http://www.yahoo.com" style="text-decoration: none">Go to  
Yahoo</a>
```

# Image Links

- If you want to make an image work as a link, the method is exactly the same as with texts.
- You simply place the `<a href>` and the `</a>` tags on each side of the image.

Syntax	HTML	Text
<pre>&lt;a href =""&gt; &lt;img src =""&gt; &lt;/a&gt;</pre>	<pre>&lt;a href =" http://www.facebook.com/" &gt;&lt;img src="facebook.png"&gt;&lt;/a&gt;</pre>	

# Link Within a Page (Anchor link)

- Linking to anchors is very similar to normal links.
- Normal links always point to the top of a page while anchors point to a place ***within a page***.
- A # in front of a link location specifies that the link is pointing to an anchor on a page.
- Anchor is a specific place in the middle of your page

# Link Within a Page (Anchor link)

- Simply put, an anchor is a hyperlink that sends your reader to another section of the same web page as itself.
- Although links normally go to other sections of your web "site" or even to another site all together, links can also be used to create *special shortcuts* within your web pages.

# Link Within a Page (Anchor link)

- Furthermore, you can use anchors as a "jump" ahead on your page for readers who are in a hurry, and wish to sign up for your offer or purchase your products.
- For example, you may have a lengthy presentation that sales really well on your site, but there are always those readers who wish to get right to the price and buy.
- For these types of readers, you can create an anchor that jumps to the product options on your web page and skips the lengthy presentation

# Link Within a Page (Anchor link)

- Anchors can be used as a guide to your menu bar.
- You may wish to lead your readers back to the menu bar of your page so they can visit other sections of your site.
- You can use an anchor to link to your menu bar from anywhere on your web page.
- Moreover, you can use an anchor to lead your visitors back to the top of your page.
- We just need to create a hyperlink at various places in the page.
- If you have a lengthy web page, this saves readers the time of scrolling all the way back to the top of your page

# Link Within a Page (Anchor link)

- To link to an anchor you need to:
  - Create a link pointing to the anchor.
  - Create the anchor itself

# Link Within a Page (Anchor link)

- The name attribute is used to create a named anchor.
- When using named anchors we can create links that can jump directly into a specific section on a page, instead of letting the user scroll around to find what he/she is looking for.
- Anchor is usually used for FAQ.

## Creating Anchor

```
<a name="hobby">My Hobby</a>
```

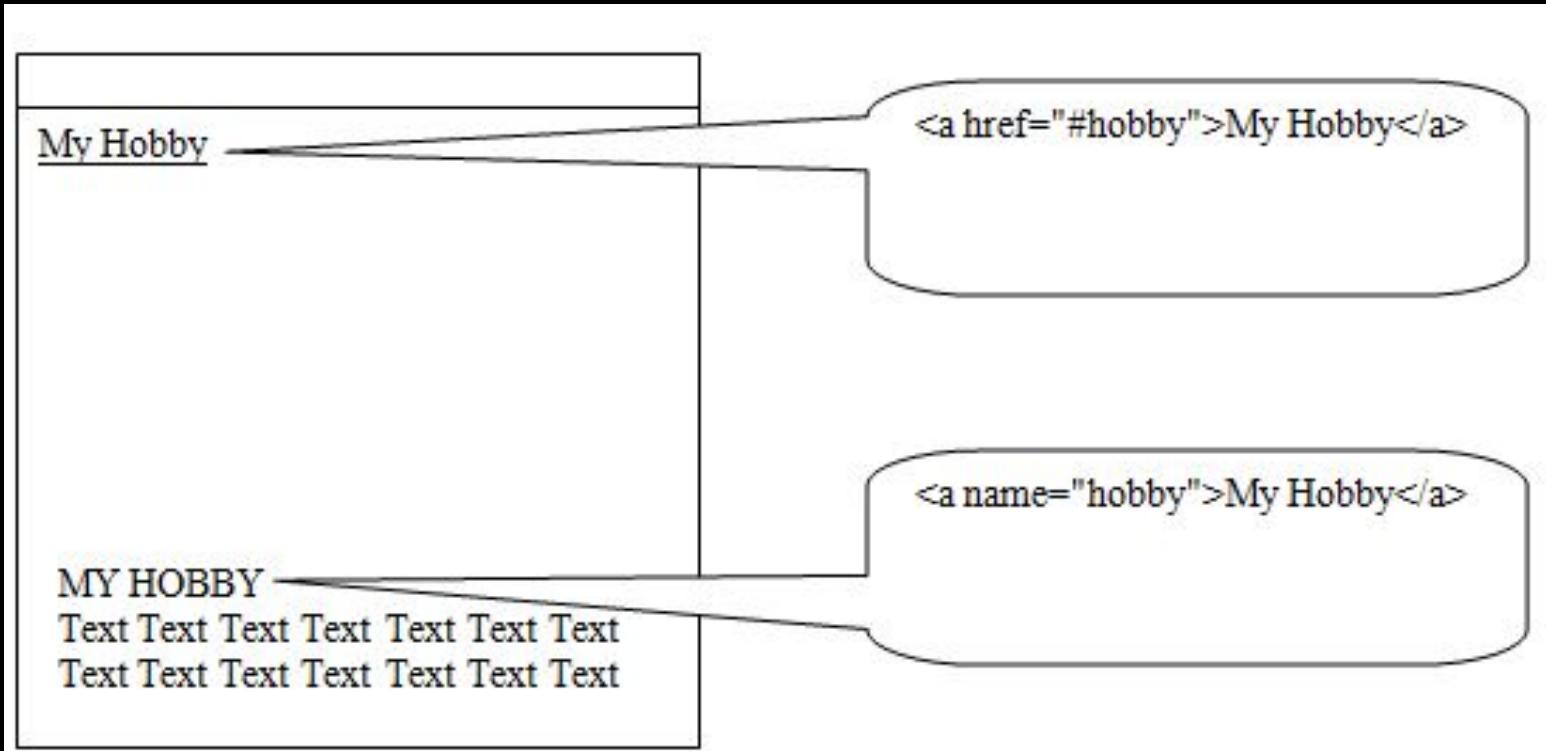
You should notice that a named anchor is not displayed in a special way, unlike regular links that always represent by an underline below the text. To link directly to the anchor section from another website, add a # sign and the name of the anchor to the end of a URL:

```
<a href="http://rahimi.uitm.edu.my/profile.html#hobby">Jump to my hobby</a>
```

# Link Within a Page (Anchor link)

- A hyperlink to the My Hobby Section from WITHIN the same file will look like this:

```
<a href="#hobby">Jump to My Hobby Section</a>
```



# Creating Other Kinds of Links and Keyboard Shortcuts for Links

- Links are important so that visitors know what information they are retrieving.
- There are a couple different schools of thought on this.
- One suggests that what you write for links should be quite blatant.
- This includes text like "Click here for this" or "Here's a link to".

# Creating Other Kinds of Links and Keyboard Shortcuts for Links

- The other states that since the hypertext links will be blue the links should be just another word in the text set up as a link.
- In reality it depends what you're doing.
- If you're building a menu bar down the side of your page then the last thing you want is for every single link to say "Click here for HTML Introduction Page", simply because your menu would be as wide as your page.

# Creating Other Kinds of Links and Keyboard Shortcuts for Links

- For accessibility reasons you should try to make sure your links make sense out of context, such as “Home”, “Biodata”, “Family” and so on

# Email Link

- Having a link that allows visitors to send email from your website can be a great addition to your site, making it easy for your visitors to send questions or comments.
- This function is essential for the future development and enhancement of the website.
- The ***mailto:*** command is added into href attribute.
- It follows the same coding scheme as the hypertext link above.
- This format place a blue wording on the screen that people can click to send you an email.

```
<a href="mailto:rahimimr@kelantan.uitm.edu.my">Mail me</a>
```

## Email Link

- Notice that it's the same format as a link except in this link you write "mailto:" in place of the http:// and you place your e-mail address in place of the page URL.
- Please notice there is NO SPACE between the colon and the e-mail address.

# Email Link

- However, please be very careful when using this option, for two reasons:
  - If the person only has a web-based email account, and hasn't configured an email program on their computer then it will open their email program for the first time and try to walk them through setting it up. This isn't a good idea if they're new to computers.
  - There are now little programs called 'bots' which wander round the internet looking for email addresses to send spam to. If you don't want to receive them, then one part of the solution is not publishing your email address on the internet. So think long and hard before you use a mailto. A web-based form that they can fill out is more secure and works just as well.

## Email only

Use this example to send email only:

```
<html>
<head><title>Email Me 1</title></head>

<body bgcolor="black" text="white" alink="gold" vlink="red" link="cyan">
<p>If you have any problem, please <a href="mailto:your_email">mail  
me</a></p>

</body>
</html>
```

## Email with subject

Use this example to send email with preloaded subject:

```
<html>  
<head><title>Email Me 2</title></head>  
  
<body bgcolor="black" text="white" alink="gold" vlink="red" link="cyan">  
<p>If you have any problem, please <a href="mailto:your_email?subject=Problem Statement">mail me</a></p>  
  
</body>  
</html>
```

## Email to multiple recipients

Use this example to send email to more than one recipient:

```
<html>  
<head><title>Email Me 3</title></head>  
  
<body bgcolor="black" text="white" alink="gold" vlink="red" link="cyan">  
<p>If you have any problem, please  
<a href="mailto:email1, email2, email3?subject=Problem Statement">mail me</a>  
</p>  
  
</body>  
</html>
```

## Email with subject and body message

Use this example to send email with preloaded message:

```
<html>
<head><title>Email Me 2</title></head>

<body bgcolor="black" text="white" alink="gold" vlink="red" link="cyan">
<p>If you have any problem, please <a href="mailto:email@echoecho.com?body=
Please send me a copy of your new program!">email me</a>
</p>

</body>
</html>
```

# Adding keyboard shortcuts to links (*accesskey*)

- With the *accesskey* attribute, you can assign keyboard shortcuts to links.
- The idea behind creating keyboard shortcuts is to simply allow the user to quickly visit a page by using the access keys value corresponding to the link.
- In Windows, use ALT-X where X represents a numerical value assigned with *accesskey* attribute keys from the keyboard to open the desired link

- When defining keyboard shortcuts for links, make sure you include the keyboard shortcuts next to each link.
- If, however, you do not display the keyboard shortcuts, user won't know you have defined keyboard shortcuts.
- Thus users cannot use those shortcuts for links.
- The following shows how to use the accesskey to define keyboard shortcuts to links:

```
<html>
<head>
<title>Accesskey</title>
</head>
<body>

<a href="http://www.yahoo.com" accesskey="1">Yahoo</a> (ALT 1) <br>
<a href="http://www.google.com" accesskey="2">Google</a> (ALT 2) <br>
<a href="http://www.bing.com" accesskey="3">Bing</a> (ALT 3) <br>
</body>
</html>
```

# Setting tab order of links

- To help users who cannot use mouse, the ***tabindex*** attribute can be added to the anchor tag to use specific tab order of links.
- When you customize the order of links, browsers generally highlight each link, from top to bottom of the web page, each time the tab key is pressed.
- Once a link is selected and highlighted, the user can press ENTER or RETURN key to visit the selected page.
- The following shows a link selected with a TAB key:

1. relative — linking local pages using relative file names
2. absolute — linking to local or external pages using absolute
3. reference — linking to specific locations or sections of a page
4. email — linking to an email address



Rectangle indicating the link selected using the TAB key

The following code shows how to customize the tab order with tabindex:

The tabindex attribute defines the tab order

```
<ul>
<li><a href="http://www.google.com" tabindex="2">Google</a></li>
<li><a href="http://www.yahoo.com" tabindex="1">Yahoo!</a></li>
<li><a href="http://www.msn.com" tabindex="-1">MSN.com</a></li>
</ul>
```

The value of the tabindex attribute defines the order of links.

In the top example, we set tab order for our three links as follows:

- First, Yahoo! because it has the tabindex value set to 1
- Second, Google because it has the tabindex value set to 2
- By assigning a negative value to tabindex, we are excluding MSN link from the tab order

# Dividing an Image into Clickable Regions/ Image Maps

- If you want to add some interactivity to your images, you may consider using image maps.
- With image maps, you can define multiple clickable regions on a single graphic.
- To define clickable regions on a single image, set up hotspots within a single image

# Dividing an Image into Clickable Regions/ Image Maps

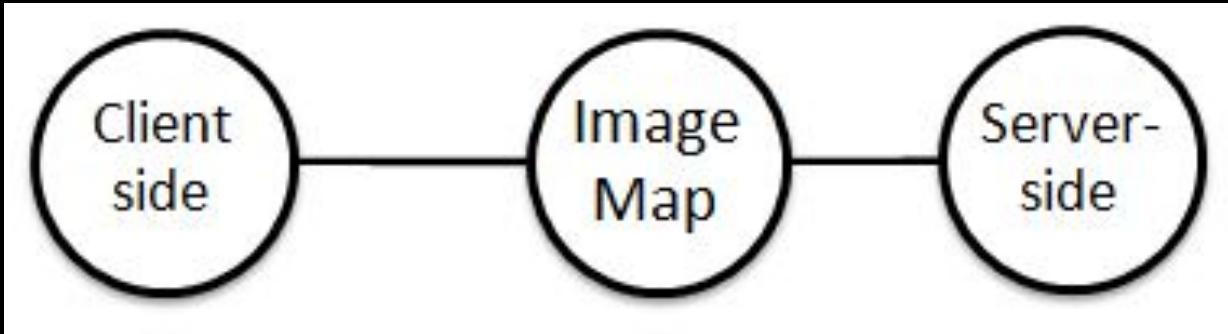
- A **hotspot** is a defined area on an image that acts as a hypertext link.
- The hotspots are defined through the use of image maps.
- **Image maps** list the coordinates that define the boundaries of the hotspots or the regions that act as hypertext links on an image

# Dividing an Image into Clickable Regions/ Image Maps

- The whole idea behind using image maps is to link one image to multiple destinations.
- Previously we discuss how to link one image to just one destination.
- On this page, you will learn how to create image maps or multiple hyperlinks on a single image.

# Dividing an Image into Clickable Regions/ Image Maps

- There are two types of image maps:



# Server-side image maps

- In a server-side image map, the server controls the image map.
- A server is a computer that store web pages and serves those pages when a client requests a page.
- When we use a server-side image map, we define the coordinates of the hotspots in a server-side script.
- Whenever a user clicks on a hotspot on an inline image, the appropriate coordinates are sent back to the server to activate the appropriate hyperlink

# Server-side image maps

- One of the main drawbacks of using server-side image map is that server-side image maps can be slow to operate.
- This is so because every time a user clicks on an inline image map, that information has to be sent to the server and then the server has to process that request

# Client-side image maps

- In a client-side image map, the image map is defined in an HTML file and that is processed by the browser locally.
- Because client-side image maps are processed locally, they tend to be more responsive than server-side image maps.
- Thus client-side image maps can be tested using a local computer; whereas, to test the server-side image maps, we need a server

# Dividing an Image into Clickable Regions/ Image Maps

- There are two easy steps to create an image map:
  - define image map hotspots
  - use the image map

# Defining image map hotspots

- To create an image map, you need coordinates of the points corresponding to the hotspot boundaries.
- In other words, you will define an area, by using coordinates, for each hyperlink that you want on an inline image.

# Defining image map hotspots

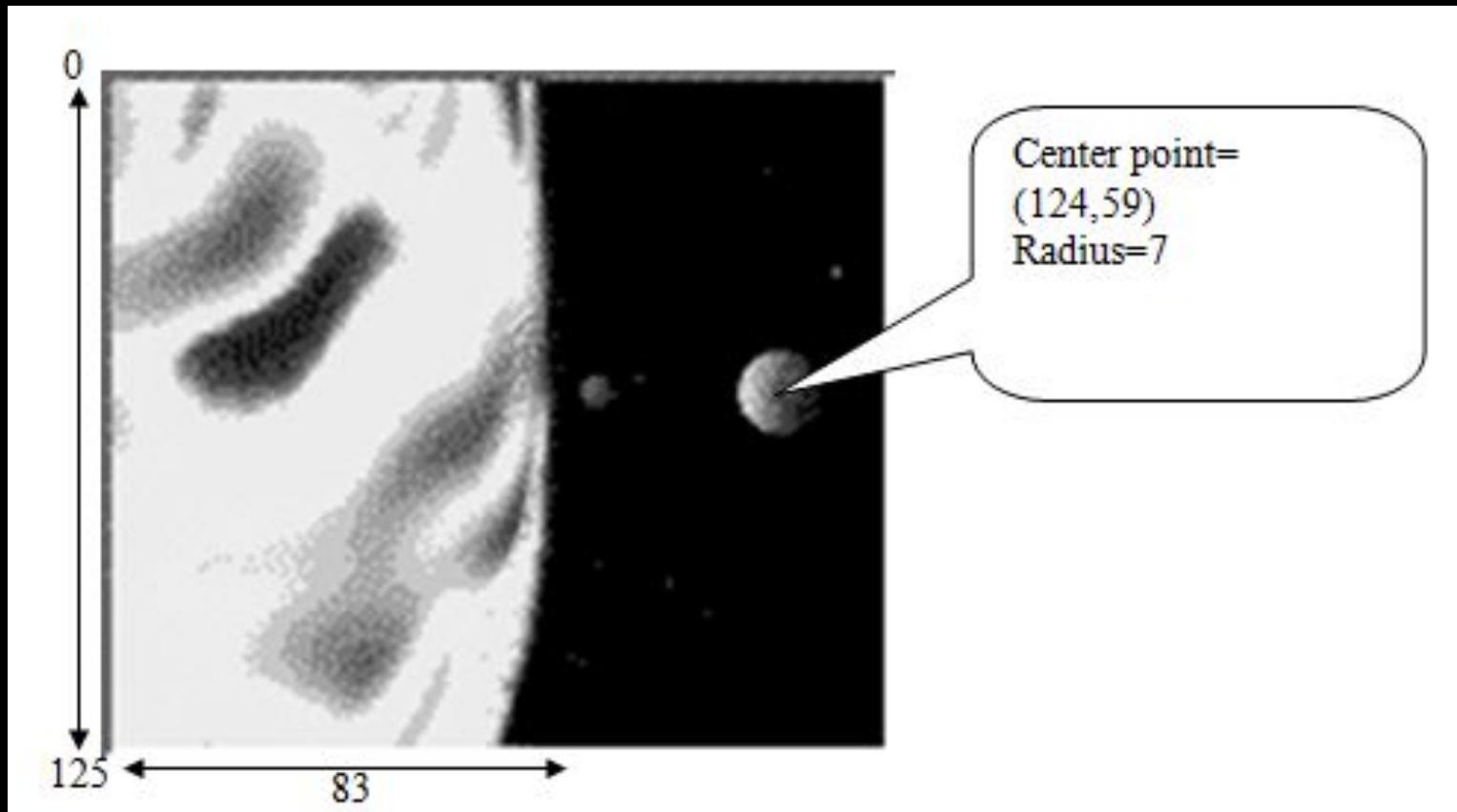
- To find coordinates for a specific area for an image, you will need a special program that shows you coordinate.
- As an example, Macromedia's Dreamweaver 2004 allows you to create image maps by letting you draw the areas on an image.
- For each area you draw, the program will write the appropriate coordinates in your web page code file.
- The general syntax for an image map tag is:

```
<map name="mapName">  
  <area shape="areaShape" coords="coordinates" href="URL">  
</map>
```

- So an image map is defined with the `<map>` tag.
- The *name* attribute inside the `<map>` tag gives a name to the image map.
- To be able to use an image map, we must assign a name to an image map.
- Within the `<map>` tag, we use the `<area>` tag to specify the areas of the image that will act as hotspots.
- We can include as many `<area>` tags within the `<map>` tag we choose.
- Each of the `<area>` tag will act as a separate hyperlink.

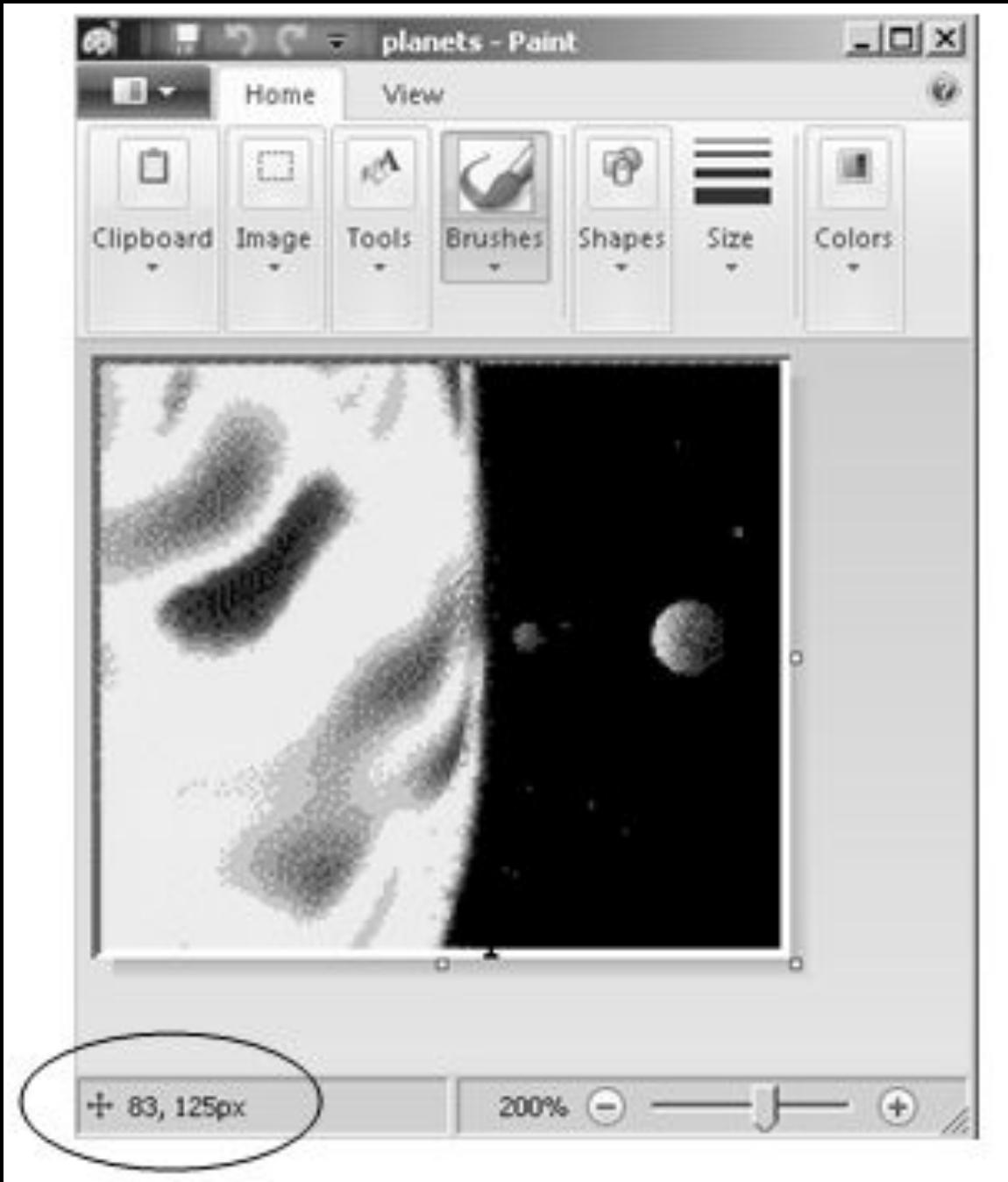
The <area> tag has three attributes:

<i>shape</i>	Refers to the type of shape you want for the hotspot. You have three choices for the shape: <b>rect</b> , <b>circle</b> , and <b>poly</b> .
<i>coords</i>	Refers to the coordinates for the location of a hotspot. The value for this attribute depends on the type of shape you want. The coordinates are expressed as a point's distance in pixels from the left and the top edges of an inline image. The coordinates (0,0) refers to a point where the image starts to get displayed. For instance, the coordinates (31,9) refer to a point that is 31 pixels from the left edge and 9 pixels down from the top on an inline image
<i>href</i>	Refers to the URL of the hypertext link that the hotspot points to.



# Creating a rectangular hotspot

- To define a rectangular hotspot, you have to define two points: the upper-left corner and the lower-right corner.
- For example, if we want to create a map for the suns, the coordinate for the upper-left corner coordinates are (0, 0) and the lower-right corner coordinates are (83, 125).
- The easiest way to get the coordinate is by using the Paint software:



# WEB DESIGN

The following shows the HTML code to create the rectangular hotspot:

```
<map name="imgMap">  
<area shape="rect" coords="0,0,83,125" href="sun.html" alt="The Sun">  
</map>
```

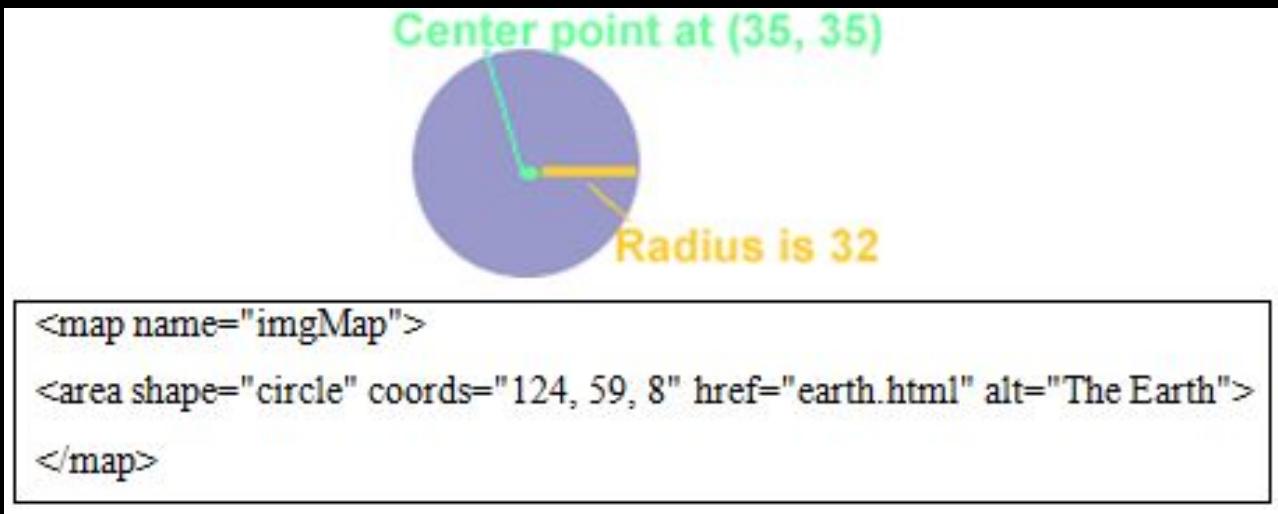
Finally, to add the image map to our web page, we need to use the *imgMap* image map we defined above. To use an image map, simply add the *usemap* attribute to the image map graphic. For instance:

```

```

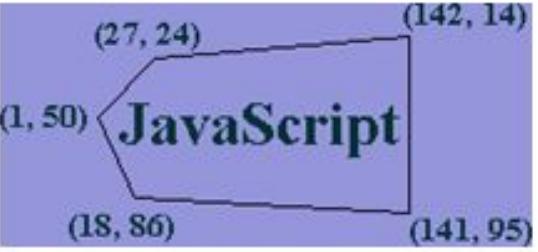
# Creating a circular hotspot

- The coordinates required for creating a circular hotspot differ from those of a rectangular hotspot.
- A **circular hotspot** is defined by the locations of its center and its radius



# Creating a polygonal hotspot

- For irregular shaped images, you can use the polygon hotspot.
- To create a polygon hotspot, use the *poly* value for the **shape** attribute.
- Just like we did with the rectangular and circular hotspots, we supply the coordinate values for the desired place of hotspot on an image



The image shows a purple polygonal shape with the word "JavaScript" written inside it. The vertices of the polygon are labeled with their coordinates: top-left is (27, 24), top-right is (142, 14), bottom-right is (141, 95), bottom-left is (18, 86), and the left vertex pointing towards the text is (1, 50).

```
<map name="polyTest">
<area shape="poly" coords="18,86,141,95,142,14,27,24,1,50" href="javascript.html">
</map>
```