

"Ss. Cyril and Methodius" University in Skopje
FACULTY OF COMPUTER
SCIENCE AND ENGINEERING

INTRODUCTION TO WEB DESIGN

INTRODUCTION TO HTML

LINKS, IMAGES & MULTIMEDIA

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LECTURE OVERVIEW

Get familiar with links (web surfing)

- Creating links between pages
- Linking to other sites
- Email links

Work with images and other media

- How to add images to pages
- Choosing the right format
- Optimizing images for the web
- How to add audio and video content into web pages



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WORKING WITH LINKS

Links are the defining feature of the web because they allow you to move from one web page to another - enabling the very idea of **browsing** or **surfing**.

You will commonly come across the following types of links:

- Links from one website to another
- Links from one page to another on the same website
- Links from one part of a web page to another part of the same page
- Links that open in a new browser window
- Links that start up your email program and address a new email to someone



WRITING LINKS

Links are created by using the **<a>** element.

- Users can click on anything between the opening **<a>** tag and the closing **** tag.
- You specify which page you want to link to using the **href** attribute.



LINKING TO OTHER SITES

Links are created using the **<a>** element which has an attribute called **href**.

- The value of the **href** attribute is the URL of a page that you want to visit when you click on a link.

When you link to a different website, the value of the **href** attribute will be the full web address for the site, which is known as an **absolute** URL.

An ABSOLUTE URL starts with the domain name for that site, and can be followed by the path to a specific* page.

*If no page is specified, the site will display the homepage.



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LINKING TO OTHER SITES

```
<p>Movie Reviews:
<ul>
<li><a href="http://www.empireonline.com">
  Empire</a></li>
<li><a href="http://www.metacritic.com">
  Metacritic</a></li>
<li><a
  href="http://www.rottentomatoes.com">
  Rotten Tomatoes</a></li>
<li><a href="http://www.variety.com">
  Variety</a></li>
</ul>
</p>
```

HTML

Movie Reviews:

- [Empire](http://www.empireonline.com)
- [Metacritic](http://www.metacritic.com)
- [Rotten Tomatoes](http://www.rottentomatoes.com)
- [Variety](http://www.variety.com)

RESULT



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LINKING TO OTHER PAGES ON THE SAME SITE

When you are linking to other pages within the same site, you can use shorthand known as a **relative** URL.

- If all the pages of the site are in the same folder, then the value of the **href** attribute is just the name of the file.
- If you have different pages of a site in different folders, then you can use a slightly more complex syntax to indicate the relation of a page with the current page.

RELATIVE URLs help when building a site on your computer because you can create links between pages without having to set up your domain name or hosting.



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LINKING TO OTHER PAGES ON THE SAME SITE

```
<p>
  <ul>
    <li><a href="index.html">Home</a></li>
    <li><a href="about-us.html">About</a></li>
    <li><a href="movies.html">Movies</a></li>
    <li><a href="contact.html">Contact</a></li>
  </ul>
</p>
```

HTML

- [Home](#)
- [About](#)
- [Movies](#)
- [Contact](#)

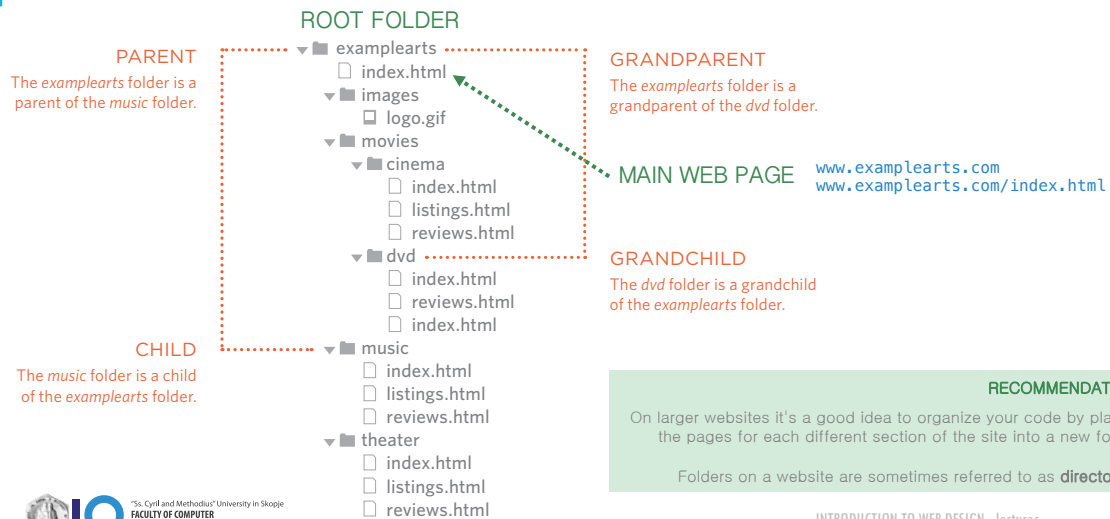
RESULT



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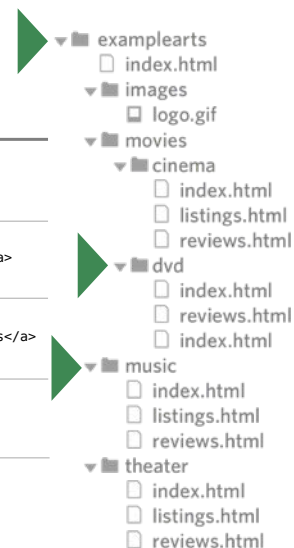
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DIRECTORY STRUCTURE



DIRECTORY STRUCTURE

RELATIVE LINK TYPE	EXAMPLE
SAME FOLDER To link to a file in the same folder, just use its file name.	<code>Reviews</code>
CHILD FOLDER Name of the child folder, followed by a forward slash, then the file name.	<code>Listings</code>
GRANDCHILD FOLDER Name of the child folder + / + name of the grandchild folder + / + the file name.	<code>Reviews</code>
PARENT FOLDER Use the <code>../</code> to indicate the folder above the current one, following the file name.	<code>Home</code>
GRANDPARENT FOLDER Use the <code>../../</code> to indicate the two levels above the current folder, following the file name.	<code>Home</code>



EMAIL LINKS

To create a link that starts up the user's email program and addresses an email to a specified email address, you use the `<a>` element.

However, this time the value of the `href` attribute starts with `mailto:` and is followed by the email address you want the email to be sent to.

```
<a href="mailto:jon@example.org">Email Jon</a>
```

mailto:

OPENING LINKS INTO NEW WINDOW

If you want a link to open in a new window, you can use the `target` attribute on the opening `<a>` tag.

The value of this attribute should be `_blank`.

```
<a href="http://www.imdb.com" target="_blank">  
Internet Movie Database</a> (opens in new window)
```

target

LINKING TO A SPECIFIC PART OF A SAME PAGE

At the top of a long page you might want to add a list of contents that links to the corresponding sections lower down.

Or you might want to add a link from part way down the page back to the top of it to save users from having to scroll back to the top.

Procedure for linking to a specific part of a same page:

- Before you can link to a specific part of a page, you need to **identify the points in the page** that the link will go to.
- You do this using the **id** attribute (which can be used on every HTML element)
- To link to an element that uses an id attribute you use the **<a>** element again, but the value of the **href** attribute starts with the **#** symbol, followed by the value of the **id** attribute of the element you want to link to.



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LINKING TO A SPECIFIC PART OF A SAME PAGE

```
<h1 id="top">Film-Making Terms</h1>
<a href="#arc_shot">Arc Shot</a><br/>
<a href="#interlude">Interlude</a><br/>
<a href="#prologue">Prologue</a><br/><br/>
<h2 id="arc_shot">Arc Shot</h2>
<p>A shot in which the subject is
photographed by an encircling or moving
camera</p>
<h2 id="interlude">Interlude</h2>
<p>A brief, intervening film scene or
sequence, not specifically tied to the
plot, that appears within a film</p>
<h2 id="prologue">Prologue</h2>
<p>A speech, preface, introduction, or
brief scene preceding the the main
action or plot of a film; contrast to
epilogue</p>
<p><a href="#top">Top</a></p>
```

HTML

Film-Making Terms

RESULT

[Arc Shot](#)
[Interlude](#)
[Prologue](#)

Arc Shot

A shot in which the subject is photographed by an encircling or moving camera

Interlude

A brief, intervening film scene or sequence, not specifically tied to the plot, that appears within a film

Prologue

A speech, preface, introduction, or brief scene preceding the the main action or plot of a film; contrast to epilogue

[Top](#)



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LINKING TO A SPECIFIC PART OF A DIFFERENT PAGE

As long as the page you are linking to has **id** attributes that identify specific parts of the page, you can simply add the same syntax to the end of the link for that page.

The **href** attribute will contain the address for the page (either an absolute URL or a relative URL), followed by the **#** symbol, followed by the value of the **id** attribute that is used on the element you are linking to.

```
<a href="http://www.htmlandcssbook.com/#bottom">
```

ADDING IMAGES TO THE WEB PAGES

Sometimes you might want to include a **logo**, **photograph**, **illustration**, **diagram**, or **chart** to your web page.

One picture can say a thousand words.

Great images can help make the difference between an average-looking site and a really engaging one.

If you are building a site from scratch, it is good practice to create a folder for all of the images the site uses.

ADDING IMAGES

To add an image into the page you need to use an `` element. It must carry the following two attributes:

src

- This tells the browser where it can find the image file.
- This will usually be a relative URL pointing to an image on your own site.

alt

- This provides a textual description of the image which describes the image (it is usually displayed on a page when browser can not load the image).
- The alt attribute value is picked up by search engines and assistive technologies to help convey the purpose of an image.

You can also use the `title` attribute to provide additional information about the image. Most browsers will display the content of this attribute in a tooltip when the user hovers over the image.

``



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ADDING IMAGES

```

```



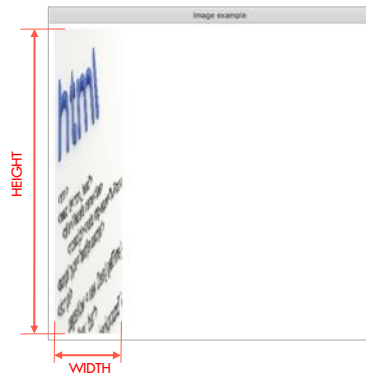
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HEIGHT & WIDTH OF IMAGES

```

```



SUPPORTED IMAGE FORMATS

Images come in a variety of different file formats, and each browser may support (or not support) different formats.

The most commonly supported formats are **gif**, **jpg**, and **png** images.

SUPPORTED IMAGE FORMATS

The **JPG format** provides quality images with high color counts while maintaining a decent file size, ideal for faster load times.

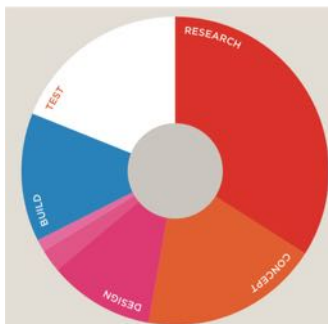


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SUPPORTED IMAGE FORMATS

The **GIF and PNG format** is great for images with transparencies or low color counts.



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THREE RULES FOR CREATING IMAGES

There are three rules to remember when you are creating images for your website:

1. SAVE IMAGES IN THE RIGHT FORMAT.

If you choose the wrong format, the image might not look as sharp as it should and can make the web page slower to load.

2. SAVE IMAGES AT THE RIGHT SIZE.

You should save the image at the same width and height it will appear on the website.

3. USE THE CORRECT RESOLUTION.

Most computer screens only show web pages at 72 pixels per inch, so saving images at a higher resolution results in images that are larger than necessary and take longer to download.

POSITIONING IMAGES

Where an image is placed in the code will affect how it is displayed.

The `` element is by default an **inline-level** element.

- Adding an image without any styles to a page will position that image within the same line as the content that surrounds it.
- Additionally, the height of the line in which an image appears will be changed to match the height of the image, which can create large vertical gaps within that line.

Adding an image before the paragraph will lead to **block-level** displaying of the image.

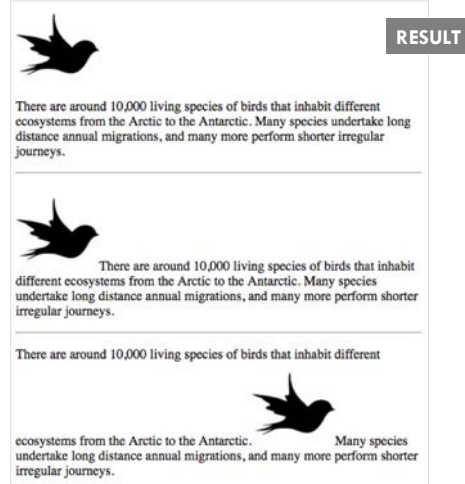
- This makes the image appear on its own line, allowing the surrounding content to be positioned above and below the image.

POSITIONING IMAGES

```

<p>There are around 10,000 living species of birds
that inhabit different ecosystems from the
Arctic to the Antarctic. Many species undertake
long distance annual migrations, and many more
perform shorter irregular journeys.</p>
<hr/>
<p>There are around
10,000 living species of birds that inhabit
different ecosystems from the Arctic to the
Antarctic. Many species undertake long distance
annual migrations, and many more perform
shorter irregular journeys.</p>
<hr/>
<p>There are around 10,000 living species of birds
that inhabit different ecosystems from the
Arctic to the Antarctic.Many species undertake long
distance annual migrations, and many more
perform shorter irregular journeys.</p>
```

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POSITIONING IMAGES

The **align** attribute was commonly used to indicate how the other parts of a page should flow around an image.

It has been removed from HTML5 and new websites should use CSS to control the alignment of images.

Two ways of aligning the content to the image:

- horizontal alignment
 - left
 - right
- vertical alignment
 - top
 - middle
 - bottom

align



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HTML5: FIGURE & CAPTION

Images often come with captions.

HTML5 has introduced a new `<figure>` element to contain images and their caption so that the two are associated.

You can have more than one image inside the `<figure>` element as long as they all share the same caption.

The `<figcaption>` element has been added to HTML5 in order to allow web page authors to add a caption to an image.

`<figure>...</figure>` `<figcaption>...</figcaption>`



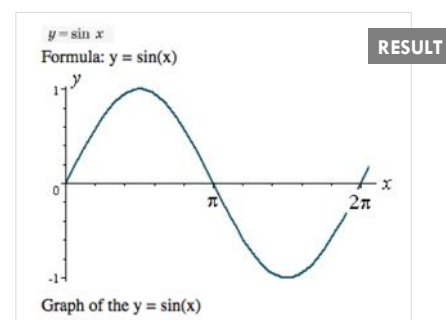
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HTML5: FIGURE & CAPTION

```
<figure>
  
  <br/>
  <figcaption>Formula: y = sin(x)</figcaption>
  
  <br/>
  <figcaption>Graph of the y = sin(x)</figcaption>
</figure>
```

HTML



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ADDING AUDIO

Audio files can be placed into the webpage by using the **<audio>** element.

```
<audio src="jazz.ogg"></audio>
```

The most popular attributes of the <audio> element are:

- autoplay,
- controls,
- loop, and
- preload

Supported audio formats:
mp3 wav ogg



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ADDING VIDEO

Video files can be placed into the webpage by using the **<video>** element.

```
<video src="earth.ogv"></video>
```

The most popular attributes of the <video> element are:

- autoplay,
- controls,
- loop,
- preload, and
- poster

Supported audio formats:
mp4 ogv



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HANDS-ON EXAMPLE

Visit www.allrecipes.com and collect the necessary data for the following recipes:

- Eggs Benedict Casserole
- Creamy Chocolate Mousse Pie
- Cauliflower-Cheese Soup

Design a web pages for the recipes as shown on the right.

At the bottom of the page place a links for other recipes.

Cauliflower-Cheese Soup

A soothing cheesy soup. Serve with a roll and a salad.



Ingredients:

- 3/4 cup water
- 1 cup cauliflower, chopped
- 1 cup cubed potatoes
- 1/2 cup finely chopped celery
- 1/2 cup diced carrots
- 1/4 cup chopped onion
- 1/4 cup butter
- 1/4 cup all-purpose flour
- 3 cups milk
- salt and pepper to taste
- 4 ounces shredded Cheddar cheese

Directions

1. In a large saucepan, combine water, cauliflower, potatoes, celery, carrots, and onion. Boil for 5 to 10 minutes, or until tender. Set aside.
2. Melt butter in separate saucepan over medium heat. Stir in flour, and cook for 2 minutes. Remove from heat and gradually stir in milk.

LESSON SUMMARY

Links are created using the `<a>` element.

The `<a>` element uses the `href` attribute to indicate the page you are linking to.

The `` element is used to add images to a web page.

You must always specify a `src` attribute to indicate the source of an image and an `alt` attribute to describe the content of an image.