

# Web Design and HTML

Lecture 14 - COMPSCI111/111G SS 2018





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# Web Page vs Web Site

- ▶ A web page is a single page viewable using web browser
  - ▶ Should be visually appealing, informative
- ▶ A web site is a set of web pages
  - ▶ Same theme
  - ▶ Consistent design

# Navigation

- ▶ Users have trouble navigating in many web sites
  - ▶ Navigation should be easy - three click-rule
  - ▶ Navigation bar on the left is common
  - ▶ Navigation bar on the right is more ergonomic
- ▶ Each page should
  - ▶ Tell the user what the page is about
  - ▶ Clearly identify how to get to other pages (Obvious links)
- ▶ Familiarity
  - Use layout and design that people are familiar with

# Links

- ▶ Don't make the user guess where the links are
  - ▶ All links should be clearly identified
- ▶ Underlining
  - ▶ Do not underline any normal text.
- ▶ Remember that links are different colour to normal text
  - ▶ Check the appearance of links on your background
- ▶ Name of the link should indicate where it links to
  - ▶ Don't use "Click here"

# Text

- ▶ Make the text easy to read
  - ▶ Keep text short - reading on screen is 15% slower than paper
  - ▶ Bullet points, headings, empty space
  - ▶ Use a word processor to prepare the text (spelling)
- ▶ Use good titles for page
  - ▶ Sensible headings
- ▶ Make the text legible
  - ▶ Font size (not too small to read, not too large)
  - ▶ Aligned to the left. Centre only used for headings
  - ▶ Colours / contrast
  - ▶ Not all uppercase / italic / bold

# Bad use of colour

## ▶ Colour

- ▶ Use sparingly to **reinforce** other information
- ▶ Colour blindness (Red / Green, Blue / Yellow)
- ▶ Poor use of **contrast**
- ▶ Don't over use colour over just because "it is there"

# Images and Backgrounds

- ▶ Design for low bandwidth
  - ▶ Use images that have small file sizes
- ▶ File Formats
  - ▶ JPEG for photos
  - ▶ GIF / PNG for graphics
- ▶ Backgrounds
  - ▶ Simple
  - ▶ Consistent across the entire site
  - ▶ Should not interfere with content

# Things to avoid

- ▶ Keep the design simple
  - ▶ Avoid making the page cluttered
- ▶ Avoid using Frames
  - ▶ Make navigation more difficult
- ▶ Avoid using Flash animations
  - ▶ Not all browsers support flash
  - ▶ Takes too long to download
  - ▶ Cannot be indexed / searched

# HTML

- ▶ Hypertext Markup Language (HTML)
  - ▶ Used to format web pages
  - ▶ Contains hypertext information (links)
  - ▶ Written in ASCII / Unicode
  - ▶ Embedded format codes (tags)

# Browser Wars

- ▶ HTML 1.0
  - ▶ Tim Berners Lee (1993)
- ▶ Browsers added extra features
  - ▶ Internet Explorer had unique tags
  - ▶ Netscape Navigator had unique tags
- ▶ Major problem
  - ▶ What tags should a publisher use?
  - ▶ How can this problem be resolved?

[http://en.wikipedia.org/wiki/Browser\\_wars](http://en.wikipedia.org/wiki/Browser_wars)

# Development of HTML

- ▶ HTML 2.0
  - ▶ Internet Engineering Task Force standard (1995)
- ▶ HTML 3.2 / HTML 4.0
  - ▶ W3 Consortium recommendation (1997)
- ▶ HTML 4.01
  - ▶ W3C recommendation (1999)
- ▶ XHTML 1.0
  - ▶ W3C recommendation (2000)
- ▶ HTML5
  - ▶ Fifth revision of HTML standard. Standardized October 2014.

<http://en.wikipedia.org/wiki/Html>

# Document Type Definition

- ▶ Defines which standard is being used for the page
  - ▶ We use HTML5
- ▶ Should appear at the top of the file

```
<!DOCTYPE html>
```

# Encoding methods

- ▶ Different character sets used to encode the page
  - ▶ ASCII
  - ▶ UTF-8
  - ▶ Unicode
- ▶ Need to tell the browser which encoding is used
  - ▶ Located in the *head* of the document.

```
<meta charset="UTF-8">
```

# Use at the start of every file

- ▶ Copy and paste the code exactly as it appears
  - ▶ Will be provided in tests and exams

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
<meta charset="UTF-8">  
</head>
```

# HTML Source Code

- ▶ Code used by the browser to display the page
  - ▶ White space is ignored
- ▶ Comments
  - ▶ Ignored by the browser
  - ▶ Allow you to document your code
  - ▶ `<!-- Put your comment here -->`
- ▶ Layout
  - ▶ Use tidy layout where possible
  - ▶ Make code easy to understand
  - ▶ Make code easy to maintain/ modify
  - ▶ Use whitespace and comments to help

# Overview of tags

- ▶ Markup achieved with “tags”
  - ▶ Enclosed with angle brackets < ... >
  - ▶ Use lower case
  - ▶ Most come in pairs <tag> ... </tag>
- ▶ Tag usually applies to text between start and end tag

This word is in `<span>italics</span>`

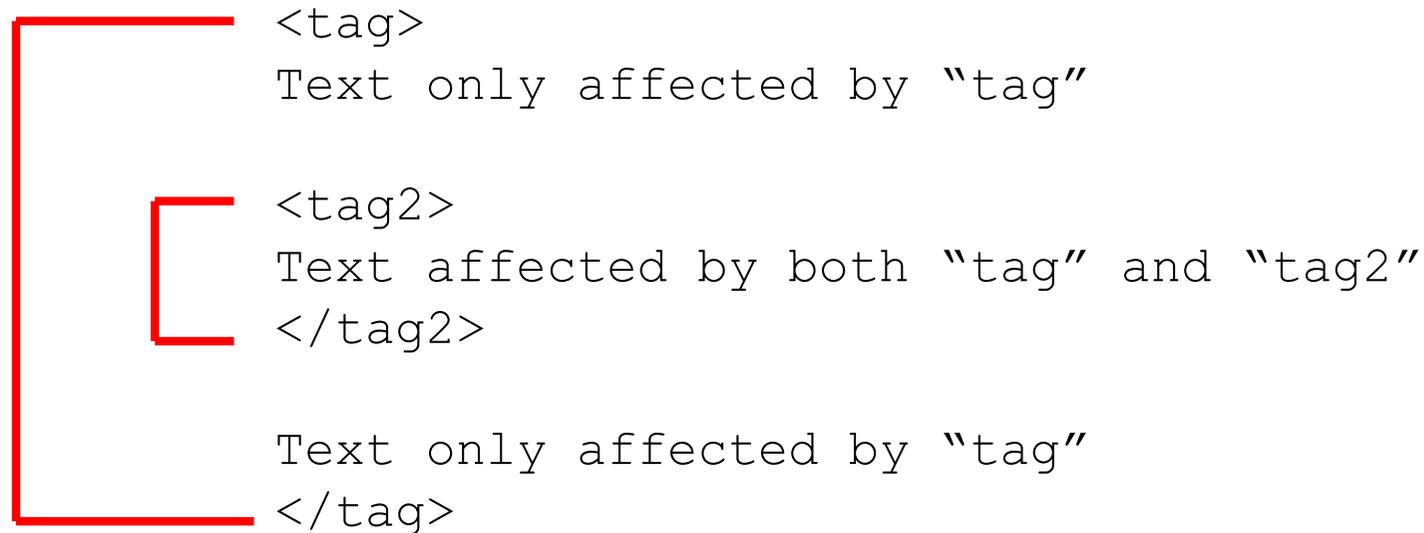


# Attributes

- ▶ Some tags require additional information
  - ▶ Properties or attributes of the tag
  - ▶ `<tag property="value"> </tag>`

# Nested Tags

- ▶ Tags must be correctly nested
  - ▶ Cannot close an open tag until all the open tags that it affects are also closed



# Essential tags

```
<html lang="en">
```

- ▶ Encloses the entire document
- ▶ Specifies that the document uses html
- ▶ lang attribute is used to specify the primary language of a webpage - en is the code for English

```
<html lang="en">  
.  
.  
.  
.  
.  
.  
.  
.  
.  
.</html>
```

# Essential tags

<head>

- ▶ Contains information for the browser
  - ▶ E.g. character encoding used
- ▶ Does not contain any content to be displayed on the page

```
<html lang="en">  
  <head>  
    <meta charset="UTF-8">  
  </head>  
  .  
  .  
  .  
  .  
  .  
</html>
```

# Essential tags

`<body>`

- ▶ Contains all the content that will appear on the page

```
<html lang="en">  
  <head>  
    <meta charset="UTF-8">  
  </head>  
  <body>  
    .  
    .  
    .  
  </body>  
</html>
```

# Essential tags

`<title>`

- ▶ Part of the head
- ▶ Specifies the title to be used by the browser
- ▶ Name of the window
- ▶ Used in navigation (bookmarks, history, etc.)

```
<html lang="en">  
  <head>  
    <meta charset="UTF-8">  
    <title>Introduction to tags</title>  
  </head>  
  <body>  
    .  
    .  
    .  
  </body>  
</html>
```

# HTML5 Exercise

***Exercise 1: What does HTML stand for?***

- ***Hypertext Markup Language***

***Exercise 2: What is a document type definition used for?***

- ***Defines which standard is being used for the webpage***

***Exercise 3: What is “white space”?***

- ***Characters or series of white space characters that define horizontal or vertical spaces***