ФАКУЛТЕТ ЗА ИНФОРМАТИЧКИ НАУКИ И КОМПЈУТЕРСКО ИНЖЕНЕРСТВО

Introduction to HTML

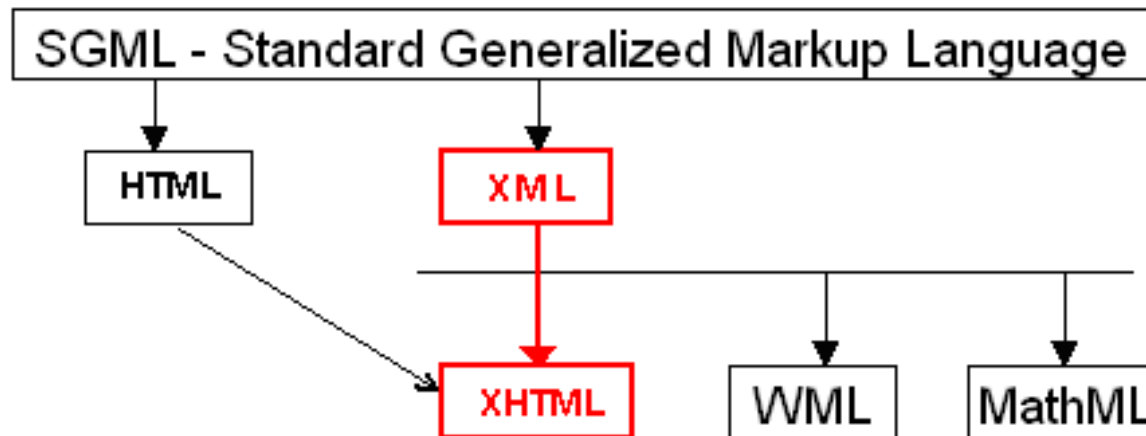## Basics of Web design

ФИНКИ 2013

Web pages are made of HTML

- ## HTML - Hyper Text Markup Language
  - Invented and promoted by Tim Berners-Lee.
- ## Basis for HTML was SGML (Standard Generalized Markup Language) – international standard for markup languages

```
┌────────────────────────────────────────────────┐
│ SGML - Standard Generalized Markup Language    │
└────────────────────────────────────────────────┘
        │                    │
        ▼                    ▼
   ┌─────────┐          ┌─────────┐
   │  HTML   │          │  XML    │
   └─────────┘          └─────────┘
        \                    │
         \      ────────────────────────────────────
          \         │             │            │
           ▼        ▼             ▼            ▼
        ┌─────────┐         ┌─────────┐   ┌─────────┐
        │ XHTML   │         │  WML    │   │ MathML  │
        └─────────┘         └─────────┘   └─────────┘
```

HTML versions

- The needs of WWW influenced HTML to evolve into versions 1.0, 2.0, 3.2, и 4.1

- HTML 4.01 is the last version of HTML, after which HTML 5.0 is named XHTML

  □ XHTML 1.0 is similar to HTML 4.01

- In XHTML 1.1, the entire design of the web page depends on CSS

- XHTML 2.0 emerged in 200, disconected itself from HTML 2006 and stopped in 2009

- In 2004, Apple, Mozilla, Google and Opera formed WHATWG (Web Hypertext Application Technology Working Group) and started HTML 5.0

- The consortium W3C in 2006 joined HTML 5.0 and in 2008 the first draft for HTML5 is promoted

- HTML 5.0 is compatible with HTML 4.01 and XHTML 1.1

- HTML 5.0 is still under development

Version	Year
HTML	1991
HTML+	1993
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML5	2012

HTML files

- HTML documents are text files with the extension html or htm.

- Consists of HTML elements called tags or markers.

- Tags instruct browsers on how to render the web page.

The basic structure of an HTML document
- divided to two parts: head and body.

```
<html>


<head>
<title>Title of the document</title>
</head>


<body>
Content of the document
</body>


</html>
```

Doctype

- **Starting from HTML 4.01, the first line in HTML documents must be a DOCTYPE**
  - ☐ In HTML 4.01 it is recommended and looks complicated:

<!DOCTYPE HTML PUBLIC "-//W3C/DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">

  - ☐ It is mandatory in XHTML

<!DOCTYPE HTML PUBLIC "-//W3C/DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

  - ☐ in HTML 5.0 :

<!DOCTYPE html>

  - ☐ DOCTYPE is a promise that the code tha follows will be based in standards

Doctype analysis

- Based on the results from the project MAMA where 3,509,180 URL were analysed, 1,788,294 URLs had Doctype statements (little over 50%)

- Only 145 009 web sites passed the validation test (4.13 %)

Parsing an HTML document

```
<html>
<head>
<title>основен HTML документ</title>
</head>
<body>
<h1>HTML</h1>
<h3>Вовед</h3>
<p><strong>HTML</strong>
е скриптирачки
јазик</p>
</body>
</html>
```
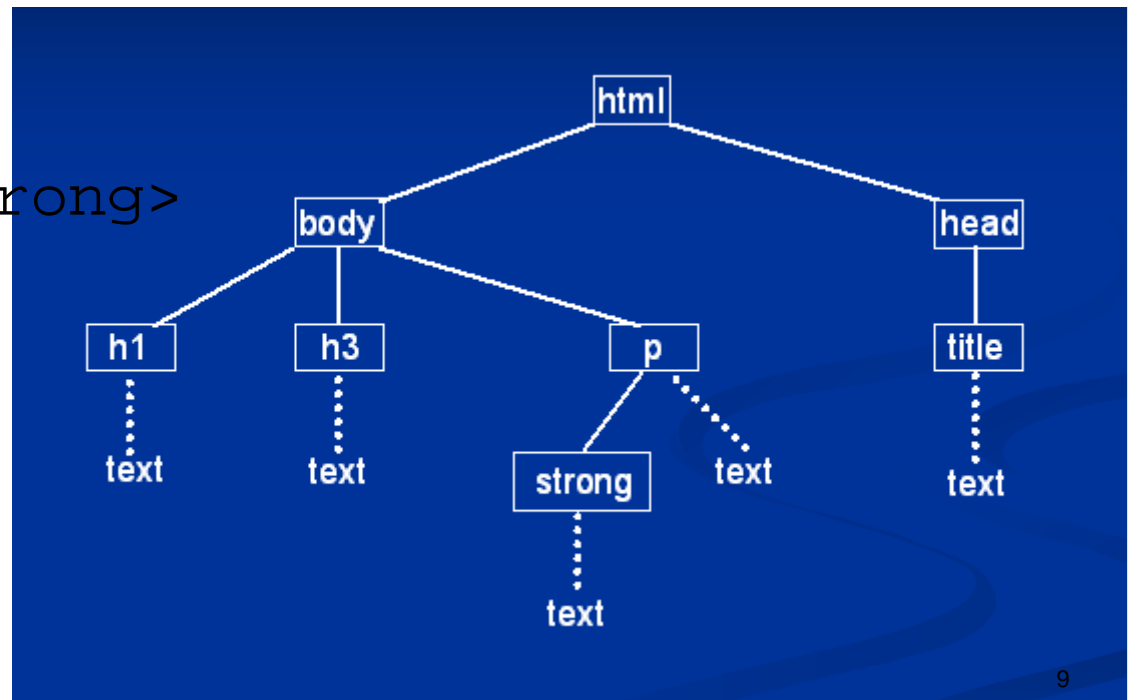
Basic tag structure

```
<tag attribute = "value">
```

- Every HTML tag has 4 parts
    1. Start – the symbol " < " telling the browser that the tag starts
    2. Name of the tag
    3. One or more attributes to set the changing attributes of the tag
    4. End – the symbol " > " telling the browser that the tag ends.

- Tags form HTML elements.

```
<tag attribute = "value">... content
...</tag>
```

HTML elements can be

- **Containers (contain open and closing tag)**
  - ☐ <p> Paragraph contents </p>
- **Standalone (only one tag)**
  - ☐
,

If we need bold letters in HTML

```
<b> Text with bold letters </b>
```

- The browser will render it as:

Текстот со задебелени букви

- where

  □   is an opening tag,

  □ ' b '   name of the tag,

  □ „ Текстот со задебелени букви" is the content of the HTML element

  □   is the closing tag.

Tags can be in lowercase or uppercase

- The W3C consortium recommends lowercase for the HTML 4.0 standard

- The XHTML standard insists on lowercase.

- The tag attributes follow after the opening tag

  ```
  nameOfAttribute =  "value"
  ```

- for example

  ```
  <table border = "0">
  ```

- opens a table without borders between cells

Tags can be nested

- Must NOT OVERLAP

```
<a> <b> <c> </c> </b> </a>
```

- or

```
<a>
    <b>
                <c>
                </c>
        </b>
    </a>
```

Incorrect because of overlap

`<a><b></a><c></b></c>`

- or

```
<a>

        <b>

</a>

            <c>

    </b>

        </c>
```

Simple HTML template

```
<html>

        <head>

                <title> </title>

        </head>

        <body>


        </body>

</html>
```

XHTML template

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-
transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
        <head>
                <title>     </title>
        </head>
        <body>


        </body>
</html>
```

HTML5 template

```
<!DOCTYPE html>
<html>
      <head>
      <meta charset="UTF-8">
<title>Hello world! in HTML5</title>
      </head>
            <body>
                  <p>Hello world!</p>
            </body>
</html>
```

Basic HTML tags

- Basic HTML tags enable elementary changes in the presentation of text on the webpage.

- With the use of CSS, the use of these tags is reduced, and presentation tags are almost eliminated

Tag	Description
<html>	Defines the start and end of the document
<head>	General information (meta information)
<body>	Defines the body of the document
<h1> to <h6>	Defines headings in the document – size 1 through 6
<p>	Defines a paragraph
 	New line
<hr>	Horizontal line
<!-->	Comment

The contents of the HEAD tag are not shown in the browser

Tag	Description
<title>	Title of the document, up to 64 symbols
<base>	Defines the base URL
<link>	References links to other resources
<meta>	Defines meta data

```
<meta name="description" content="Free Web tutorials">
<meta name="keywords" content="HTML,CSS,XML,JavaScript">
<meta name="author" content="Hege Refsnes">
<meta charset="UTF-8">
```

- The <meta> tag provides metadata about the HTML document. Metadata will not be displayed on the page, but will be machine parsable.

- Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata.

- The metadata can be used by browsers (how to display content or reload page), search engines (keywords), or other web services.

Body tag attributes

■ CSS is used instead of these

Attribute	Value	Description
alink	*color*	Not supported in HTML5. Specifies the color of an active link in a document
background	*URL*	Not supported in HTML5. Specifies a background image for a document
bgcolor	*color*	Not supported in HTML5. Specifies the background color of a document
link	*color*	Not supported in HTML5. Specifies the color of unvisited links in a document
text	*color*	Not supported in HTML5. Specifies the color of the text in a document
vlink	*color*	Not supported in HTML5. Specifies the color of visited links in a document

New lines and blanks are ignored in HTML paragraphs

```
<html>
        <head>
                <title> Менка </title>
        </head>
        <body>
        <p>
                        Откако Ленка остави
                        кошула тенка ленена
                        недовезена на разбој
                        и на наломи отиде
                        тутун да реди в монопол
        </p>
        </body>
</html>
```

The new line tag -

```
<html>
        <head>
                            <title> </title>
        </head>
        <body>
<p>
За премин  <br>   во нов ред  <br>  во рамки на  <br>  параграфот
<br>   се користи тагот br
</p>
        </body>
</html>
```

- Will be rendered as

За премин
во нов ред
во рамки на
параграфот
се користи тагот br

Comment tag - <!-- -->

```
<html>
        <head>
                        <title> </title>
        </head>
        <body>
<!-- Ова е коментар и нема да биде прикажано -->
        <p>
        Ова е параграф и ќе биде прикажан
        </p>
        </body>
</html>
```

Headings

```
<html>
        <head>
                    <title> </title>
        </head>
        <body>
                <h1>Големина на букви h1 </h1>
                <h2>Големина на букви h2 </h2>
                <h3>Големина на букви h3 </h3>
        </body>
    </html>
```

- Rendered

Големина на букви h1

Големина на букви h2

Големина на букви h3

Heading 1 <h1>

Heading 2 <h2>

Heading 3 <h3>

Heading 4 <h4>

Heading 5 <h5>

Heading 6 <h6>

Horizontal line <hr />

- <hr width=XX% size=XX noshade>

Attribute	Value	Description
align	left center right	Not supported in HTML5. Specifies the alignment of a <hr> element
noshade	noshade	Not supported in HTML5. Specifies that a <hr> element should render in one solid color (noshaded), instead of a shaded color
size	*pixels*	Not supported in HTML5. Specifies the height of a <hr> element
width	*pixels* %	Not supported in HTML5. Specifies the width of a <hr> element

Formatting text tags

- Replaced with CSS
- Deprecated

Tag	Description
<b>	Bold
<big>	Increased in size
<em>	Italic
<i>	Italic
<small>	Decreased
<strong>	strong – Bold
<sub>	Subscript
<sup>	Superscript
<ins>	Insert
<del>	Deleted
<pre>	Preformatted text

The HTML <a> tag defines a hyperlink.

- A hyperlink (or link) is a word, group of words, or image that you can click on to jump to another document.

- The most important attribute of the <a> element is the href attribute, which indicates the link's destination.
  - By default, links will appear as follows in all browsers:
    - An unvisited link is underlined and blue
    - A visited link is underlined and purple
    - An active link is underlined and red

HTML Link Syntax

- The HTML code for a link is simple. It looks like this:

- *Link text*

- The href attribute specifies the destination of a link.

Link attributes

- The target attribute specifies where to open the linked document.

  - The example will open the link in a new browser window or a new tab:

  - Visit FINKI!

- HTML Links - The id Attribute

  - The id attribute can be used to create a bookmark inside an HTML document.

  - Bookmarks are not displayed in any special way. They are invisible.

- An anchor with an id inside an HTML document:

- Useful Tips Section

- Create a link to the "Useful Tips Section" inside the same document:

- Visit the Useful Tips Section

- # DIV
  - Container, block type
- # SPAN
  - Container, inline