Statistical Information Management Module II

2. The HTML language (1)

What is HTML

- HTML is a computer language devised to allow website creation.

- It is relatively **easy to learn**, with the basics being accessible to most people in one sitting;

- It is quite **powerful** in what it allows you to create

- It is constantly undergoing revision and evolution to meet the demands and requirements of the growing Internet audience under the direction of the **» W3C**

General characteristics

■ HTML: HyperText Markup Language

    □ Based on "tags" like latex or markdown

    □ Relates to: tags-based text processing (TeX, IBM-script, Wordstar).

    □ Combines power & simplicity

        ■ Hypertext and Hypermedia

        ■ HTML documentos are text (ASCII) files.

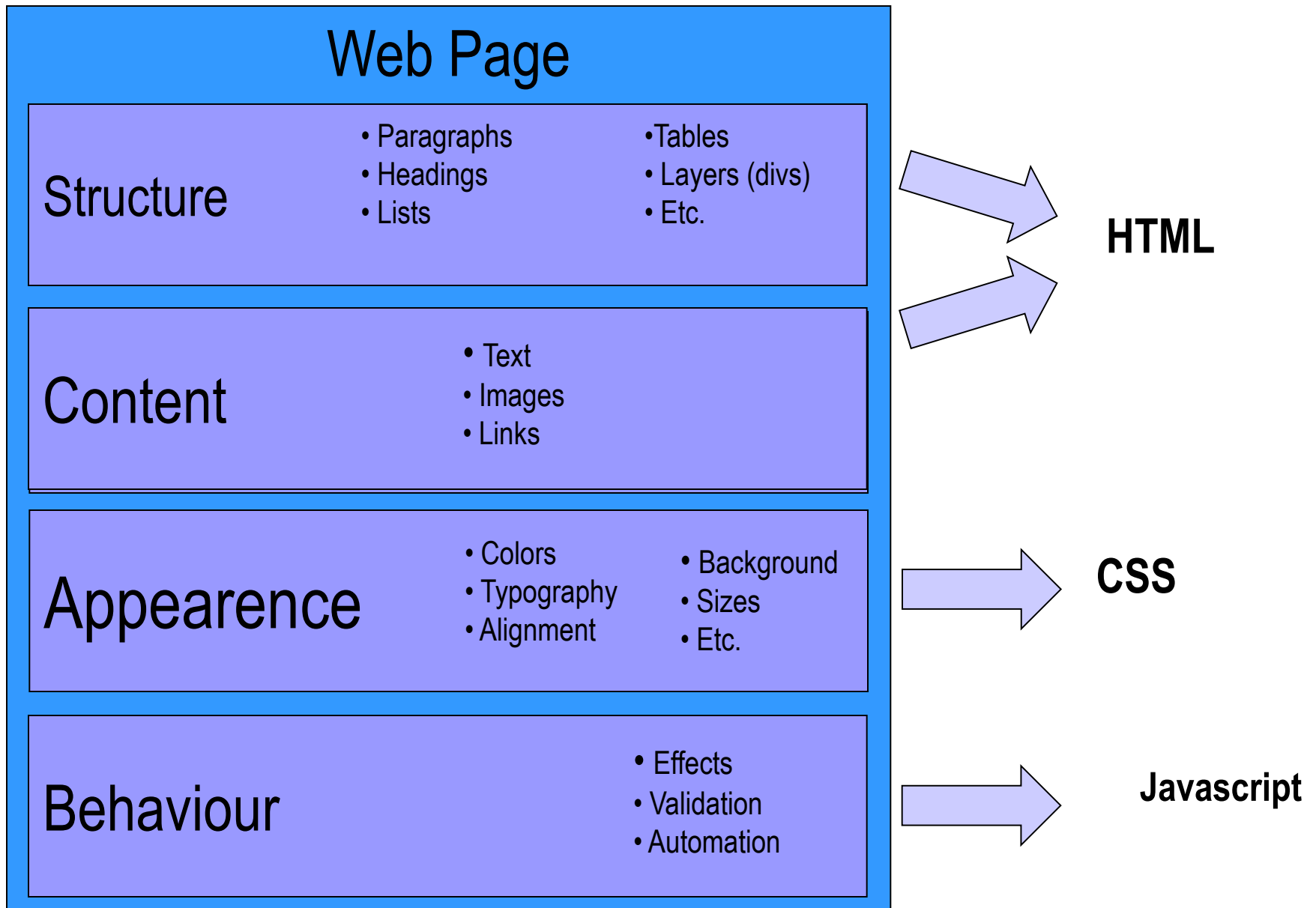   ■ HTML is (intended to be) "portable".

HTML editors

- General purpose editors
  - Emacs, Textpad, Notepad++
- Browser-related editors
  - Kompozer,
- Specific editors
  - HoTMetaL, Quanta, Front Page
- Word processors ☹

Reference guides

- *W3school.com*
- WebEstilo: http://www.webestilo.com/
- google

HTML – CSS – Javascript

Web Page

Structure	• Paragraphs • Headings • Lists	•Tables • Layers (divs) • Etc.

HTML

Content	• Text • Images • Links

Appearence	• Colors • Typography • Alignment	• Background • Sizes • Etc.

CSS

Behaviour	• Effects • Validation • Automation

Javascript

HTML tags
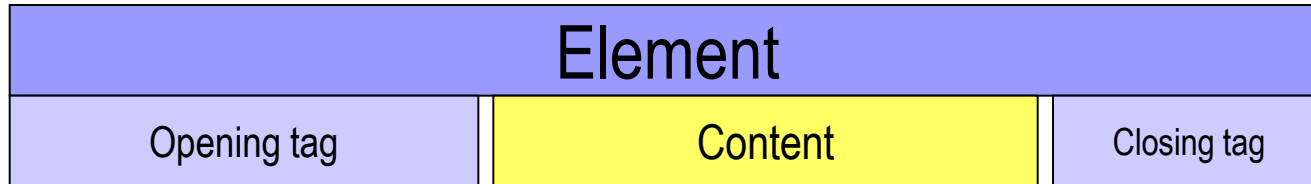
- Tags have a general structure:
  - <onetag>content</onetag>
- Comments are allowed:
  - <! This is an (unseen) comment>
- Some labels must always be present
  - <HTML></HTML>
  - <HEAD></HEAD>
  - <BODY></BODY>

Example 1
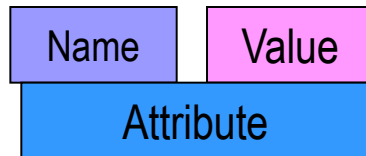
```
<HTML>
<HEAD>
<TITLE>
This is the text in the title bar
</TITLE>
</HEAD>
<BODY>
<H2>Title that will be shown in text</H2>
<HR>
This is my first page using HTML tags<BR>
<HR>
</BODY>
</HTML>
```

Attributes and contents

Basic text formatting

- Headings
  - <H1></H1>..........<H6></H6>
- Paragraph breaks
  - <P></P>
- Centering
  - <CENTER></CENTER>
- Bold and Italic
  - <B></B>   <I></I>

Example 2

```
<HTML>
<HEAD>
<TITLE>
Example on how to change font size
</HEAD>
<BODY>
<BASEFONT SIZE=3>
<FONT SIZE=6>
Example on how to change font size
</FONT SIZE>
<HR>
Font size for this text is defined in BASEFONT SIZE.
<FONT SIZE=+1>
Compare with this one that has been increased one ponit.
</FONT SIZE>
<FONT SIZE=-2>
It is hard to read because it has been decreased two pints from base
size.
</FONT SIZE>
</BODY>
</HTML>
```

Example 2b: Paragraph breaks

Text found between tags <PRE> and </PRE> appears as it is written in the original text: respecting spaces, line breaks, tabs and monospaced fonts.

Text found between tags <P> and </P> is presented in a separate paragraph.

Tag <BR> forces line breaks wherever it is written

Tag attributes

- **Paragraph alignment**
  - Left: ALIGN=left (default)
  - Right: ALIGN=right
  - Centered: ALIGN=center
- **Use**
  - <p ALIGN=option>

Lists

- Unordered Lists
  - <UL>
  - <LI>
  - </UL>
- Ordered Lists
  - <OL>
  - <LI>
  - </OL>

Example 3

```
<OL>
    <LI>First
    <LI>Second
    <LI>Third
</OL>


<UL>
    <LI>Natural Sciences
    <UL>
     <LI>Biology
     <LI>Zoology
    </UL>
    <LI>Social Sciences
    <UL>
     <LI>Geography
     <LI>History
    </UL>
</UL>
```

Add bullets to lists

- General syntax
  - □ <UL TYPE=attribute>
  - □ <OL TYPE=attribute>
- Attributes for unordered lists
  - □ DISC, CIRCLE, SQUARE
- Attributes for ordered lists
  - □ 1, A, I

Other lists properties

- Description lists
  - <DL>
  - <DT>
  - <DD>
  - </DL>
- Nested lists(Example 3)
  - <UL>
  - <LI>
    - <UL>
    - <LI>

Other tags

- Horizontal line <HR>
- <HR> attributes
  - <HR NOSHADE SIZE=value WIDTH="percentge" ALIGN=value>
- <BLINK> tag (Example 4)
  - <BLINK> ¡Hello John! </BLINK>
- <META> tag
  - <META HTTP-EQUIV= "refresh" CONTENT= "5; url=http://www.uam.es" >

Tables

- Tables are used for
    - Storing tabular information
    - Create/organize the page layout.
- Tags used for managing tables are:
    - **<TABLE> </TABLE>** Begin and End of the table
    <TR> </TR> Define table rows
    <TD> </TD> Define table columns
- Table structure is very flexible.
- Table tags are **hierarechichal**: a table has **one or more** rows **each of which** is divided in one or more columns

Table examples

See also this **_html tables generator!_**:
http://www.tablesgenerator.com/html_tables

Images

- Inserted using a graphical file (GIF, JPEG, PNG, BMP, ...)
- Sintax:
  - <IMG SRC= "image.gif" >
- Attributes
  - <IMG SRC= "image.gif" HEIGHT= value WIDTH= value>
- Alineación
  - <IMG SRC= "image.gif" ALIGN= top>

Example 5

```
<P> <IMG SRC="1.gif" ALIGN=TOP>
<B>&lt;IMG SRC="1.gif" ALIGN= TOP&gt;</B> </P>
<P> <IMG SRC="2.gif" ALIGN=MIDDLE>
<B>&lt;IMG SRC="2.gif" ALIGN= MIDDLE&gt;</B></P>
<P> <IMG SRC="3.gif" ALIGN=BOTTOM>
<B>&lt;IMG SRC="3.gif" ALIGN= BOTTOM&gt;</B></P>
<P> <IMG SRC="4.gif" ALIGN=LEFT>
<B>&lt;IMG SRC="4.gif" ALIGN= LEFT&gt;</B></P> <P><IMG
SRC="5.gif" ALIGN=RIGHT>
<B>&lt;IMG SRC="5.gif" ALIGN= RIGHT&gt;</B></P>
```

Backgrounds

- Maybe: Textures, Images or Colors
- Sintax:
  - `<BODY BACKGROUND= "fondo.gif" >`
  - `<BODY BGCOLOR= "color" >`

Hyperlinks

- They allow to link any two pages independently of their physical location

- Examples:

  - \<A HREF= "http://www.elpais.es" \> Diario El País \</A>

  - \<A HREF= "pagina.html" \> Página1 \</A>

  - \<A HREF= "http://www.uam.es" \>\<IMG SRC= "imagen.gif" \>\</A>

Hyperelinks to different sections of HTML pages

- Link from a page (e.g: an author index authors.html) to a specific section in another documento (autores.html). (hiperenlace 2)
  - First create the reference in th first document:
    - **<A HREF= "authors.html#A1" > Autor1 </A>**
  - Next create the anchor in the second document:
    - **<A NAME= "A1" > Autor1 </A>**

Hyperlinks between sections of same HTML page

- Links from one page (authors.html) to a section in the same document
- First create the reference:
  - <A HREF= "#A1" > Autor1 </A>
- Next create anchor in the same document:
  - <A NAME= "A1" > Autor1 </A>

Synthesis exercise

- Select a topic you feel comfortable with.
- Write or get a text that is organized in, at least two or three sections.
- Allow the code to have all the elements we have learnt about: text, tables, images, hyperlinks...

- Organize it in sections

  - Start with a table of contents

  - Formatted by an ordered list

  - Each element must link to each section's title.

  - Continue with sections

  - Títle: Headings of same type

  - End each section with a link to the table of contents followed by a horizontal bar.