*:96 Overheads

Part 6a:
Hypertext Markup Language (HTML)

More about this course about Internet application protocols can be found at URL:

http://www.dsv.su.se/jpalme/internet-course/Int-app-prot-kurs.html

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Some common web page formatting standards

HTML	Hypertext Markup Language	Mostly used. Does not give an exact precise specification of how a page will look on the screen. Actual page view depens on the size of the browser window, browser settings, etc.
XHTML	XML HTML	XML compliant variant of HTML.
Javascript, ECMAscript, DOM	DOM = Document Object Model	Programmable interface to web page, usually embedded in HTML code.
GIF	Graphics Interchange Format	Max 256 colors, but colors can be chosen to a set suitable for each picture. Patent and copyright problems.
JPEG	Joint Photographic Experts Group	Kraftig komprimering av fotografier och målningar. Förstörande komprimering.
Java, Flash		Advanced formats, do not work for all users.
PDF	Portable Document Format	Exact rendition of documents for printing.

Do you need to learn HTML?

No, you can use

- HTML editors, which produce HTML automatically. Some HTML editors hide almost all HTML from the user. Example: Adobe Pagemill. Other editors are ordinary text editors with enhanced functions to aid writing of HTML. Example: Pagespinner (developed by a student at DSV) and BBEDIT.

- Converters between word processing formats and HTML. Examples: RtfToHTML, converters from DataViz, converters provided by the developers of word processors like Microsoft Word and Word Perfect as included or additional functionality.

HTML tools (editors, converters, etc.) often do not support full HTML. And if you use HTML editors to edit old HTML documents, they may even remove or munge HTML codes they do not understand! My experience is that existing tools are useful, but you still have to go into the HTML source now and them.

You may need to learn HTML for:

- To understand how it works behind the scenes.
- To use HTML functions or perform formatting not supported by the HTML editor or converter you are using.
- To able to write programs which generate HTML, for example for servers which produce HTML on-the-fly based on user requests.

Software tools for Web page creation

Software tools for HTML creation can roughly be categorized as follows:

Category	Examples
Text editor with special HTML support	BBEDIT, Pagespinner
Microsoft particular editor (not good for producing documents to be viewed with other browsers than Microsoft Explorer)	Frontpage
Advanced WYSWYG HTML editor may include features like page layout or automatic java creation	NetObjects Fusion, Dreamweaver, Golive
Conversion tools from other formats	RTFtoHTML, built into many other programs
Tools to create web graphics	Photoshop, Fireworks, ImageReady

HTML versus Postscript and PDF

Postscript and PDF (Adobe Portable Document Format, used by Adobe Acrobat) are formats that exactly specify how a page will look like, fonts, sizes, distances, etc.

This is not done by HTML. HTML specifies that a certain part of a document is for example:

- A header
- subheader at level 2, 3, etc.
- Emphasized text (often italic text)
- Strongly empathized text (often bold text)
- A hyperlink
- A list of numbered or bulleted items

Which font is to be used for the different heading levels, for ordinary text, etc. is specified by so-called “Style sheets”, which are often set by the developer of the web browser or by its users. Example from Netscape:

Differences between web browsers

The same HTML document may look different when displayed with different web browsers for many reasons:

- Different style sheets (font and size for different kinds of elements)
- Different interpretation of unclear parts of the HTML standard
- Different sets of HTML elements supported. Many web browsers, especially Mozilla and Microsoft Explorer, have their own non-standard additions to HTML. Also, all web browsers do not support all standardized functions.

Examples of features not supported by all web browsers:

- Blinking text: Non-standard and much disliked Netscape addition to HTML.
- Tables and frames.
- Graphics. There are text-only browsers (Lynx), special browsers for disabled people and users can often configure their browsers to not download graphics automatically.

Most web browsers will handle HTML elements it does not recognize by simply ignoring it. Most web browsers are highly capable of accepting erroneous and non-standard HTML text, but what they do with such text varies from browsers to browser.

Format of HTML text

HTML documents are plain text documents containing a combination of text and special HTML commands, called HTML elements.

Example of a command which has a start and an end tag:

```
<STRONG>Text to display strongly</STRONG>
```

Example of a command which has only a start tag:

```
<BR>This is the beginning of a new paragraph.
```

HTML commands are case-insensitive (but not XHTML!):

"**<STRONG>**", "****" and "**<StroNg>**" are identical commands.

Structure of HTML documents

This line should always start a document and indicate which HTML style sheet the document uses.

Indicate which version of HTML you are using, for example:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2//EN">
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN"
"http://www.w3.org/TR/REC-html40/strict.dtd">
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN"
"http://www.w3.org/TR/REC-html40/loose.dtd">
<!DOCTYPE HTML PUBLIC "-//WebTechs//DTD Mozilla HTML//EN">
```

Start of HTML.

```
<HTML>
```

Head contains information general for the whole document.

```
<HEAD>
<TITLE>This is the title of this document</TITLE>
</HEAD>
```

Body contains the text.

```
<BODY>
<H1>This is the main heading</H1>
This is the text of the first paragraph.
</BODY>
```

End of HTML.

```
</HTML>
```

Why some characters need special encoding

HTML markup:

```
<TT>If x &gt; 3 then exit.</TT>
<P>
<TT>The word
&lt;strong&gt;<strong>strong</strong>&lt;/strong&gt;
is rendered in a strong way.</TT>
```

Shows on the screen as:

```
If x > 3 then exit

The word <strong>strong</strong> is rendered in a
strong way.
```

Characters which need special encoding

Glyph	Symbolic coding	Numeric coding
<	<	<
>	>	>
&	&	&
"	"	"

Examples of encoding of 8-bit characters (not absolutely necessary for ISO-8859-1) Note: Case-sensitive!

Glyph	Symbolic coding	Numeric coding
<non-breaking-space>		
å	å	å
ä	ä	ä
ö	ö	ö
Å	Å	Å
Ä	Ä	Ä
Ö	Ö	Ö
©	©	©
®	®	®

Important elements in the head of a HTML document

Start of head	`<HEAD>`
Title, shown by many browsers at the top of the window. Important for search engines.	`<TITLE>This is the title of this document</TITLE>`
Agreed but not very much used way of indicating author of the document.	`<LINK REV=MADE HREF= "mailto:jpalme@dsv.su.se">`
Description to be shown by web indexers instead of the first lines of the document	`<META name="description" content="This is the home page for Jacob Palme.">`
Words not in the document but which should be indexed by web indexers and important index words for this document.	`<META name="keywords" content="Sweden Stockholm Computer Science">`
End of head.	`</HEAD>`

next page: Robots exclusion

WWW Robots Exclusion

The Robots Exclusion Protocol

A Web site administrator can indicate which parts of the site should not be visited by a robot, by providing a specially formatted file on their site, in http://.../robots.txt.

The Robots META tag

A Web author can indicate if a page may or may not be indexed, or analysed for links, through the use of a special HTML META tag. The remainder of this pages provides full details on these facilities.

Example of the Robots Meta tag:

```
<META NAME="ROBOTS" CONTENT="NOINDEX, NOFOLLOW">
```

For more information, see URL:

http://info.webcrawler.com/mak/projects/robots/exclusion.html

Next page: New line markup

New line in HTML markup and in displayed text

HTML markup	Displayed text
Jack and Jill¶ went up a hill.¶ Jack fell down,¶ and Jill came tumbling after.	Jack and Jill went up a hill. Jack fell down, and Jill came tumbling after.
Jack and Jill went up a hill. <P> Jack fell down, and Jill came tumbling after.	Jack and Jill went up a hill. Jack fell down, and Jill came tumbling after.
Jack and Jill went up a hill. Jack fell down, and Jill came tumbling after.	Jack and Jill went up a hill. Jack fell down, and Jill came tumbling after.
<PRE>Jack and Jill¶ went up a hill.¶ Jack fell down,¶ and Jill came tumbling after. </PRE>	Jack and Jill went up a hill. Jack fell down, and Jill came tumbling after.

Note: New line is significant, in <PRE>, and elsewhere too, it becomes a space!!

HTML headings

`<H1>Top level heading</H1>`	**Top level heading**
`<H2>Level 2 heading</H2>`	**Level 2 heading**
etc. until	
`<H6>Level 6 heading</H6>`	**Level 6 heading**

Different browsers might display the same heading in different formats, for example use italics, bold face, indentation and space before and after the heading in different ways than other browsers.

Good practice rules says that headings must be put in natural order, for example H1, H2, H3, H3, H2; H3 but not H2, H1, H3, H1. This is of special value for sight-impaired people reading the web. If you do not like the size of these headers, use CSS to specify the size you want, instead of using the wrong header.

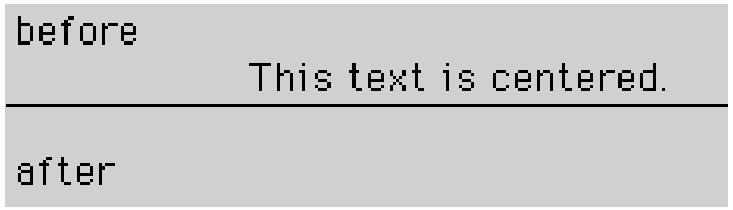
Paragraph separation

HTML element	Description
<P> (.. </P>)	Paragraph break, also used to associate attributes to a paragraph.
<DIV> .. </DIV>	Like a paragraph, but less distance between lines. Used to associate attributes with a section of code.
 	Line break, less distance between lines.
<HR>	Horizontal rule (line).

Paragraph alignments

`<P ALIGN=LEFT>Left alignment`	Left alignment
`<P ALIGN=CENTER>Centered text`	Centered text
`<P ALIGN=RIGHT>Right alignment`	Right alignment
`<P ALIGN=JUSTIFY>Text with both right and left alignment`	Text with both right and left alignment

Comparison of different ways of centering text

before <P ALIGN=CENTER>This text is centered.</P> after	
before <BR ALIGN=CENTER>This text is not centered. after	
~~before~~ ~~ <CENTER>This text is centered.</CENTER> ~~ ~~after~~	
~~before~~ ~~<CENTER>This text is centered<CENTER>~~ ~~after~~	Different rendering with Netscape and Explorer
before <DIV ALIGN=CENTER>This text is centered.</DIV> after	

Emphasis within a sentence

`It is very <EM>important</EM> to look down first.`	It is very *important* to look down first.
`It is very <I>important</I> to look down first.`	It is very *important* to look down first.
`It is very <STRONG>important</STRONG> to look down first.`	It is very **important** to look down first.
`It is very <B>important</B> to look down first.`	It is very **important** to look down first.

EM and STRONG is regarded as more good practice than I and B.

Do not combine two kinds of emphasis.

```
It is very <EM><B>important</EM></B> to look down first
```

may not turn out the intended way.

Other special word renderings

The best book I have ever read is <CITE>Passage of arms</CITE> by Eric Ambler.	The best book I have ever read is *Passage of arms* by Eric Ambler.
The command<KBD> RM * </KBD>will delete all your files.	The command `RM *` will delete all your files.
The command<TT> RM * </TT>will delete all your files.	The command `RM *` will delete all your files.
Einstein found that<CODE> e=mc**2 </CODE>in his theory of special relativity.	Einstein found that `e=mc**2` in his theory of special relativity.
The only English word containing the sequence <SAMP>mt</SAMP> is <CITE>dreamt</CITE>.	The only English word containing the sequence `mt` is *dreamt*.
Type <SAMP>html-check <VAR>file</VAR> | more</SAMP to check <VAR>file</VAR> for markup errors.	Type `html-check` *`file`* `| more` to check *file* for markup errors.

Address

```
<ADDRESS>
Newsletter editor<BR>
J.R. Brown<BR>
JimquickPost News,
Jimquick, CT 01234<BR>
Tel (123) 456 7890
</ADDRESS>
```

Newsletter editor
J.R. Brown
JimquickPost News, Jimquick, CT 01234
Tel (123) 456 7890

Blockquote

```
I believe that it was
Churchill who said:
<BLOCKQUOTE>Never have
so few men done so much
for so many
</BLOCKQUOTE>commeting
on the British Air Force
during the second world
war.
```

I believe that it was Churchill who said:

> Never have so few men done so much for so many

commenting on the British Air Force during the second world war.

Unordered list

```
<UL>
<LI>First item
<LI>Second item<P>
second paragraph of
second item<LI>Third
item</UL>
```

- First item
- Second item

  second paragraph of second item
- Third item

Ordered list (note that nesting is allowed)

```
<OL>
<LI>Click the Web button to open URI window.
<LI>Enter the URI number in the text field of the Open URI
window. The Web document you specified is displayed.
  <OL>
   <LI>substep 1
   <LI>substep 2
  </OL>
<LI>Click highlighted text to move from one link to another.
</OL>
```

might be rendered as

(1) Click the Web button to open URI window.

(2) Enter the URI number in the text field of the Open URI window. The Web document you specified is displayed.

   (a) substep 1

   (b) substep 2

(3) Click highlighted text to move from one link to another.

Definition list

```
Now follows a definition list, a list of terms with their
definition:
<DL>
  <DT>STAT<DD>Get number of messages and size of mailbox
  <DT>LIST N<DD>Return size of message N
  <DT>RETR N<DD>Retrieve a full message
  <DT>TOP N M<DD>Retrieve only headers and the first N lines
</DL>
This is after the end of the list
```

Now follows a definition list, a list of terms with their definition:

LIST N

: Return size of message N

RETR N

: Retrieve a full message

TOP N M

: Retrieve only headers and the first N lines

This is after the end of the list

Anchor (Hyperlink)

(1) relative links within the same document

```
<H2>Table of contents</H2>

<A HREF="#anchor1">Heading of chapter 1</A><BR>
<A HREF="#anchor2"> Heading of chapter 2</A><BR>
<A HREF="#anchor3"> Heading of chapter 3</A><BR>

<H2><A NAME="anchor1"> Heading of chapter 1 </A></H2>
Text of chapter 1

<H2><A NAME="anchor2"> Heading of chapter 2 </A></H2>
Text of chapter 2

<H2><A NAME="anchor3"> Heading of chapter 3 </A></H2>
Text of chapter 3
```

Table of contents

Heading of chapter 1
Heading of chapter 2
Heading of chapter 3

Heading of chapter 1

Text of chapter 1

Heading of chapter 2

Text of chapter 2

Heading of chapter 3

Text of chapter 3

Anchors – (2) links between documents

```
Further discussion on this memo should be done through the mailing
list
<A HREF="mailto:MHTML@SEGATE.SUNET.SE">MHTML@SEGATE.SUNET.SE</A>.
To subscribe to this list, send a message to
<A HREF="mailto:LISTSERV@SEGATE.SUNET.SE">LISTSERV@SEGATE.SUNET.SE</A>
which contains the text<BR>
<TT>SUB MHTML &lt;your name (not your e-mail address)&gt;</TT><P>

Archives of this list are available by anonymous ftp from
<A HREF="ftp://SEGATE.SUNET.SE/">FTP://SEGATE.SUNET.SE</A>
in the directory
<A HREF="ftp://SEGATE.SUNET.SE/lists/mhtml/">/lists/mhtml</A>.
The archives are also available by e-mail. Send a message to
<A HREF="mailto:LISTSERV@SEGATE.SUNET.SE">LISTSERV@SEGATE.SUNET.SE</A>
with the text <TT>INDEX MHTML</TT> to get a list of the archive
files, and then a new message <TT>GET &lt;file name&gt;</TT> to
retrieve the archive files.<P>

You can also browse the archives by http from
<A HREF="HTTP://segate.sunet.se/archives/mhtml.html">
HTTP://segate.sunet.se/archives/mhtml.html</A>.
```

Rendering of the text on the previous slide

Further discussion on this memo should be done through the mailing list MHTML@SEGATE.SUNET.SE. To subscribe to this list, send a message to LISTSERV@SEGATE.SUNET.SE which contains the text
`SUB MHTML <your name (not your e-mail address)>`

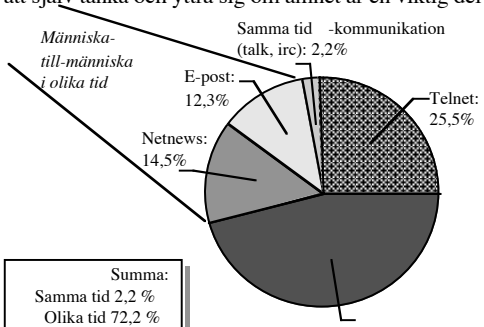
Archives of this list are available by anonymous ftp from FTP://SEGATE.SUNET.SE in the directory /lists/mhtml. The archives are also available by e-mail. Send a message to LISTSERV@SEGATE.SUNET.SE with the text `INDEX MHTML` to get a list of the archive files, and then a new message `GET <file name>` to retrieve the archive files.

You can also browse the archives by http from HTTP://segate.sunet.se/archives/mhtml.html.

HTML links to graphics, applets, frames, etc.

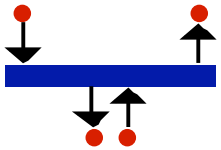
A web page with embedded graphics

En annan viktig egenskap hos ”olika tid” är att vid sådan undervisning där eleven själv skall vara aktiv och producera något, så får varje elev mera tid att ge information. Skall alla elever i en klass med 25 elever öva sig att hålla föredrag, får varje eleven bara tala i 4 % av tiden. Skall alla elever skriva, men bara läraren läsa, kan eleven skriva hela 100 % av tiden. Skall ala elever skriva något, som alla andra elever skall läsa, får varje elev skriva 25 % av tiden (detta eftersom det tar ca 8 ggr så lång tid att skriva något som att läsa det). Detta innebär att ”olika tid” är speciellt fördelaktigt vid undervisning där träning i att själv tänka och yttra sig om ämnet är en viktig del av kursens mål.

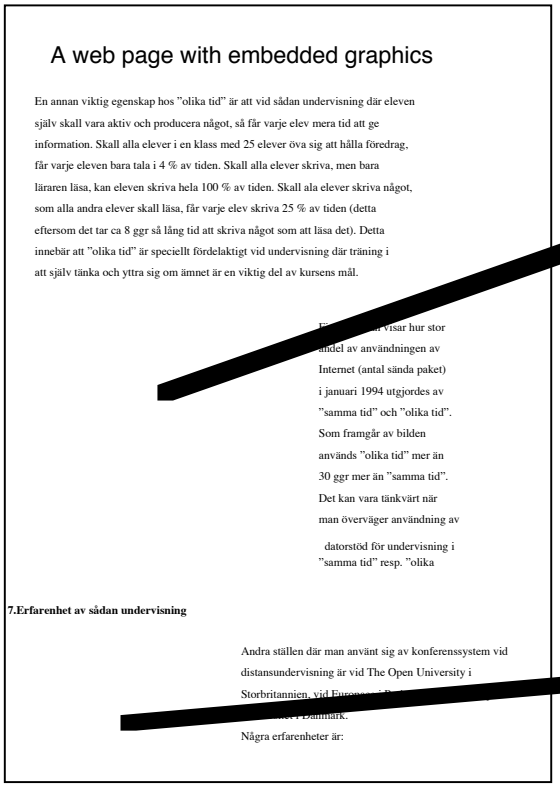


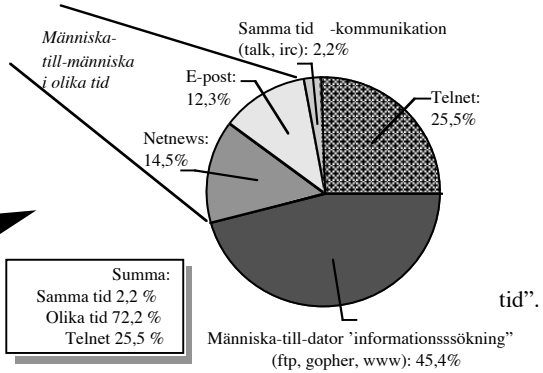
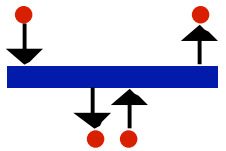
Figuren ovan visar hur stor andel av användningen av Internet (antal sända paket) i januari 1994 utgjordes av ”samma tid” och ”olika tid”. Som framgår av bilden används ”olika tid” mer än 30 ggr mer än ”samma tid”. Det kan vara tänkvärt när man överväger användning av ,datorstöd för undervisning i ”samma tid” resp. ”olika tid”.

7.Erfarenhet av sådan undervisning



Andra ställen där man använt sig av konferenssystem vid distansundervisning är vid The Open University i Storbritannien, vid Europace i Paris och vid Jydsk Åpen Universitet i Danmark.
Några erfarenheter är:





tid”.