

# HTML

ONE LOVE. ONE FUTURE.

# Objectives

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- Describe hypertext and HTML standards
- Understand HTML elements and markup tags
- Create the basic structure of an HTML file
- Learn HTML5 tags

# Outline

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## 1. Basic HTML

- hypertext
- tags & elements
- text formatting
- lists, hyperlinks, images
- tables

## 2. HTML5

# Hypertext & HTML

- HyperText Markup Language (HTML) is the language for specifying the *static* content of Web pages (based on SGML, the Standard Generalized Markup Language)
- *hypertext*
  - refers to the fact that Web pages are more than just text
  - can contain multimedia, provide links for jumping within the same document & to other documents
- *markup* refers to the fact that it works by augmenting text with special symbols (tags) that identify the document structure and content type

# Hypertext & HTML (cont.)

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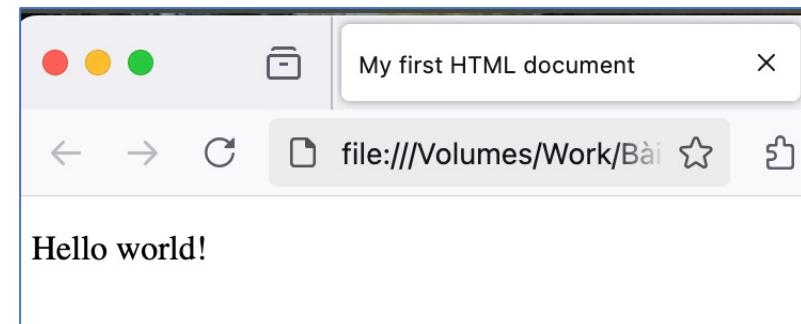
- HTML 1 (Berners-Lee, 1989): very basic, limited integration of multimedia in 1993, Mosaic added many new features (e.g., integrated images)
- HTML 2.0 (IETF, 1995): tried to standardize these & other features, but late in 1994-96, Netscape & IE added many new, divergent features
- HTML 3.2 (W3C, 1997): attempted to unify into a single standard but didn't address newer technologies like Java applets & streaming video
- HTML 4.0 (W3C, 1997): attempted to map out future directions for HTML, not just react to vendors
- HTML 5 (W3C, 2014): adds new tags and attributes

# HTML Document Structure

An HTML document has two main structural elements

- **HEAD** contains setup information for the browser & the Web page
- **BODY** contains the actual content to be displayed in the Web page

```
<!DOCTYPE html>  
  
<html>  
  
<head>  
  
  <title>  
    My first HTML document  
  </title>  
  
</head>  
  
<body>  
  <p>Hello world!</p>  
  
</body>  
  
</html>
```



Try and view page at: [W3School](https://www.w3schools.com/html/html_intro.asp)

# <head> and <body> elements

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- <head> element
  - Title
  - Cascading Style sheet information
  - Metadata, such as who authored the page, keywords
  - JavaScript code
- The <body> element
  - Paragraphs
  - Tables and lists
  - Images
  - JavaScript code
  - PHP code

# Tags and Elements

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- HTML specifies a set of **tags** that identify structure of the document and the content type
  - tags are enclosed in `< >`
    - `` specifies an image
    - most tags come in pairs, marking a beginning and ending
      - `<title>` and `</title>` enclose the title of a page
- An HTML **element** is an object enclosed by a pair (in most cases) of tags: `<tagname>Content</tagname>`
  - `<title>My Home Page</title>` is a TITLE element
  - `<b>This text appears bold</b>` is a BOLD element
  - `<p>Part of this text is <b>bold</b></p>` is a PARAGRAPH element that contains a BOLD element

# Text Layout

```
<!DOCTYPE html>
<html>
<body>
<p>
This paragraph
contains a lot of lines
but the browser
ignores it.
</p>
<p>
This paragraph
contains a lot of spaces
in the source code,
but the browser
ignores it.
</p>
</body>
</html>
```

This paragraph contains a lot of lines but the browser ignores it.

This paragraph contains a lot of spaces in the source code, but the browser ignores it.

**<p>**: defines a paragraph.  
A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

# Text Layout

Tag	Description
<p>	Defines a paragraph
<hr>	Defines a thematic change in the content
 	Inserts a single line break
<pre>	Defines pre-formatted text

# Text Layout

- **<h1>...</h1>**: a large, bold heading
- **<h2>...</h2>**: a slightly smaller heading
- ...
- **<h6>...</h6>**: a tiny heading

```
<!DOCTYPE html>
<html>
<body>

<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>

</body>
</html>
```

**Heading 1**

**Heading 2**

**Heading 3**

**Heading 4**

**Heading 5**

**Heading 6**

# The Basic Web page - A Worked Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>SOICT</title>
  </head>
  <body>
    <h1>SOICT</h1>
    <h2>Introduction</h2>
    <p>The educational philosophy is "Towards excellence in
digital age."
    </p>
    <hr/>
    <h2> Organizational structure</h2>
    <p> 02 Departments;
        04 Research Center;
        02 Support Training, Scientific Research and
Technology Transfer Center;
        01 Administration - office - Academic Affairs </p>
    <hr/>
  </body>
</html>
```

## SOICT

### Introduction

The educational philosophy is “Towards excellence in digital age.”

---

### Organizational structure

02 Departments; 04 Research Center; 02 Support Training, Scientific Research and Technology Transfer Center; 01 Administration – office – Academic Affairs

---

# Text Appearance

```
<!DOCTYPE html>
<html>
<body>

<p><b>This text is bold</b></p>
<p><i>This text is italic</i></p>

<p>This is<sub> subscript</sub>
and <sup>superscript</sup></p>

<p><em>This text is italic
too</em></p>

</body>
</html>
```

**This text is bold**

*This text is italic*

This is <sub>subscript</sub> and <sup>superscript</sup>

*This text is italic too*

- <b>... </b> specify bold
- <i>... </i> specify italics
- <big>... </big> increase size
- <small>... </small> decrease size
- <em>...</em> put emphasis
- <strong>...</strong> put emphasis
- <sub>... </sub> a subscript
- <sup>... </sup> a superscript

# Lists

```
<!DOCTYPE html>
<html>
<body>
<h2>An Unordered HTML List</h2>
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

<h2>An Ordered HTML List</h2>
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

## An Unordered HTML List

- Coffee
- Tea
- Milk

## An Ordered HTML List

1. Coffee
2. Tea
3. Milk

- There are 3 different types:
- **<ol>...</ol>**: an ordered list
  - **<li>** identifies each list item
- **<ul>...</ul>** unordered list
  - **<li>** identifies each list item
- **<dl>...</dl>** a definition list
  - **<dt>** identifies each term
  - **<dd>** identifies its definition

# Hyperlinks

```
<!DOCTYPE html>
<html>
<body>

<h2>Absolute URLs</h2>
<a href="https://www.w3.org/">W3C</a>
<br>
<a
href="https://www.google.com/">Google</a>

<h2>Relative URLs</h2>
<a href="html_images.asp">HTML Images</a>
<br>
<a href="/css/default.asp">CSS
Tutorial</a>

</body>
</html>
```

## Absolute URLs

[W3C](https://www.w3.org/)  
[Google](https://www.google.com/)

## Relative URLs

[HTML Images](html_images.asp)  
[CSS Tutorial](/css/default.asp)

- [<a href="URL">...</a>](URL)

# Images

```

```

```
<!DOCTYPE html>
<html>
<body>

<h2>Image Size</h2>



</body>
</html>
```

## Image Size



# Images (cont.)

---

- `src` - specifies the file name (and can include a URL)
- `width` and/or `height` - dimensions in pixel
- `title` - displayed when the mouse is “hovered” over the picture
- `alt` - text that is displayed when the image is missing, can't be loaded

# Tables

```
<!DOCTYPE html>
<html>
<body>

<table>
  <tr>
    <th>MSSV</th>
    <th>Lớp</th>
  </tr>
  <tr>
    <td>20202020</td>
    <td>KHMT 01</td>
  </tr>
  <tr>
    <td>20212021</td>
    <td>Việt Nhật 02</td>
  </tr>
</table>

</body>
</html>
```

MSSV	Lớp
20202020	KHMT 01
20212021	Việt Nhật 02

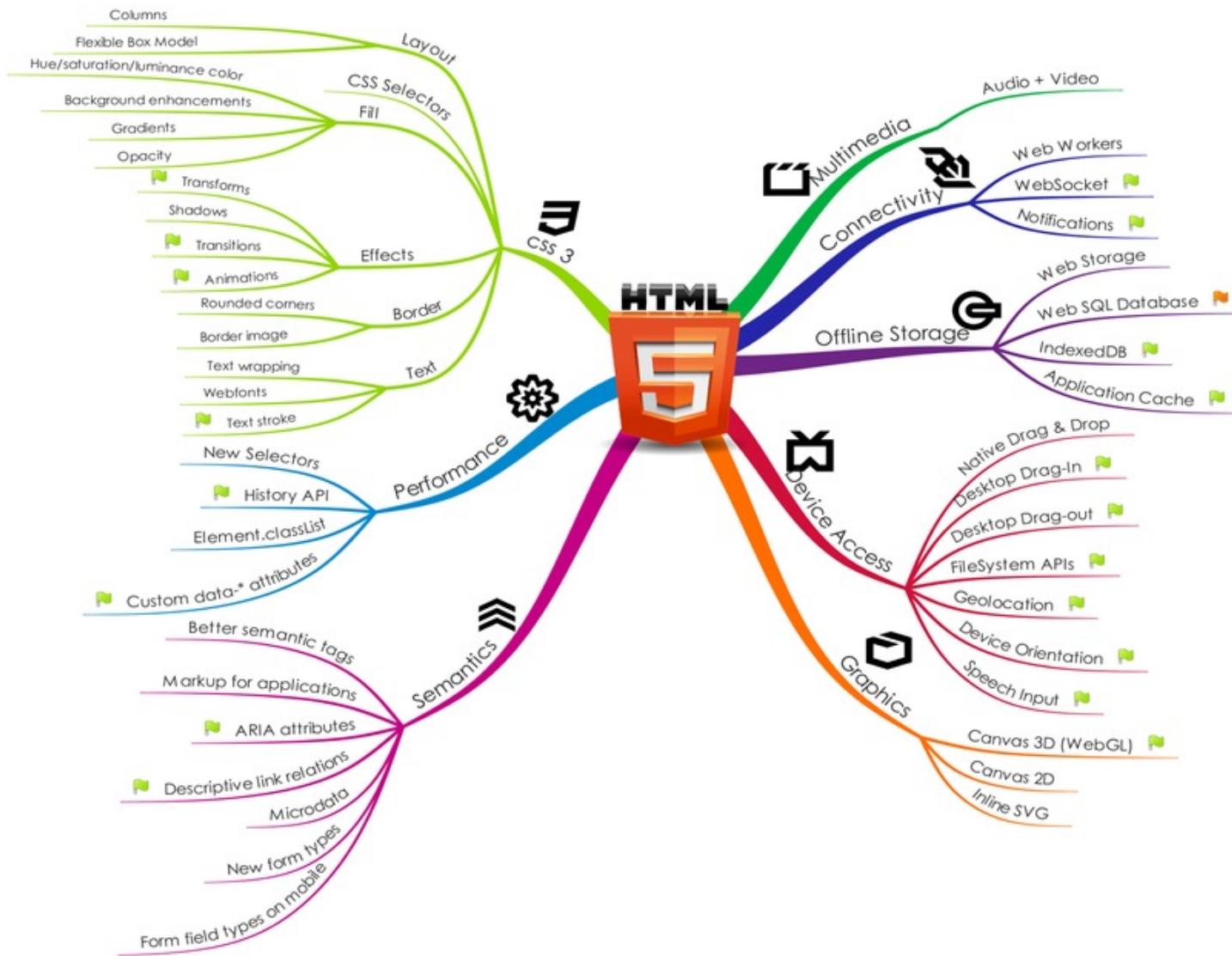
**<table>...</table>: a table element**  
**<th>...</th>: a header cell**  
**<tr>...</tr>: a row in the table**  
**<td>...</td>: a cell**

# Outline

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1. Basic HTML

2. HTML5

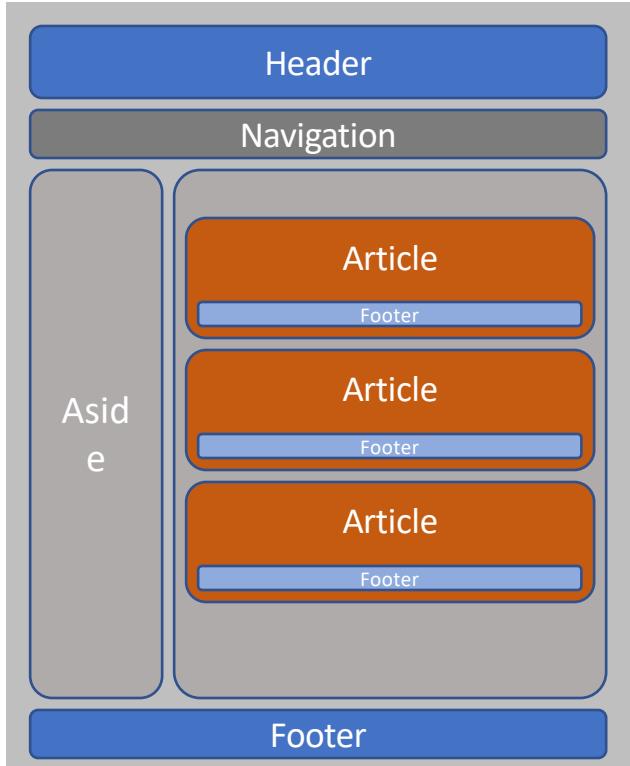


# HTML5 New Tags

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>...</title>
  </head>
  <body>
    <header>...</header>
    <nav>...</nav>
    <article>
      <section>...</section>
    </article>
    <aside>...</aside>
    <figure>...</figure>
    <footer>...</footer>
  </body>
</html>
```

- HTML 5 DOCTYPE as follows: `<!DOCTYPE html>`
- Character Encoding as follows: `<meta charset="UTF-8">`
- New tags introduced in HTML5 for better structure
  - **header** – header of a section.
  - **footer** – footer for a section
  - **nav** – section of the document intended for navigation.
  - **dialog** – mark up a conversation.
  - **figure** – associate a caption together with some embedded content, such as a graphic or video.

# HTML5 New Tags



- **section** – a generic document or application section. It can be used together with h1-h6 to indicate the document structure.
- **article** – an independent piece of content of a document, such as a blog entry or newspaper article.
- **aside** – a piece of content that is only slightly related to the rest of the page.

# HTML5 New Tags

- HTML5 offers new elements for media content:

Tag	Description
<audio>	Defines sound content
<video>	Defines a video or movie
<source>	Defines multiple media resources for <video> and <audio>
<embed>	Defines a container for an external application or interactive content (a plug-in)
<track>	Defines text tracks for <video> and <audio>

```
<audio controls="true">
  <source src="audiodemo.ogg" />
  <source src="audiodemo.mp3" />
  <source src="audiodemo.wav" />
  Not supported.
</audio>
```



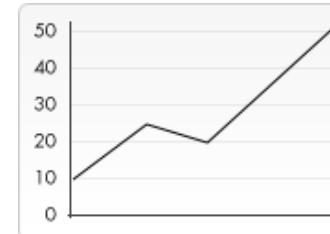
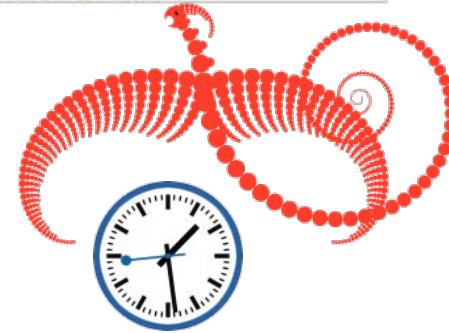
```
<video src="video.ogv" controls poster="poster.jpg" width="320" height="240">
<a href="video.ogv">Download movie</a>
</video>
```

# HTML5 New Tags

- <canvas> element:

Tag	Description
<canvas>	Used to draw graphics, on the fly, via scripting (usually JavaScript)

```
function draw() {  
    var ctx =  
        document.getElementById('canvas').getContext('2d');  
    var img = new Image();  
    img.onload = function(){  
        ctx.drawImage(img,0,0);  
        ctx.beginPath();  
        ctx.moveTo(30,96);  
        ctx.lineTo(70,66);  
        ctx.lineTo(103,76);  
        ctx.lineTo(170,15);  
        ctx.stroke();  
    }  
    img.src = 'images/backdrop.png';  
}
```



# HTML5 New Tags

- New input elements:

button  
checkbox  
color  
date  
datetime  
datetime-local  
email  
file  
hidden  
image

month  
number  
password  
radio  
range  
reset  
search  
submit  
tel  
text  
time  
url  
week

- Form

Number:

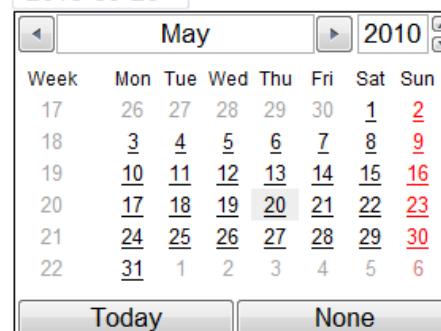
Range:

Month:

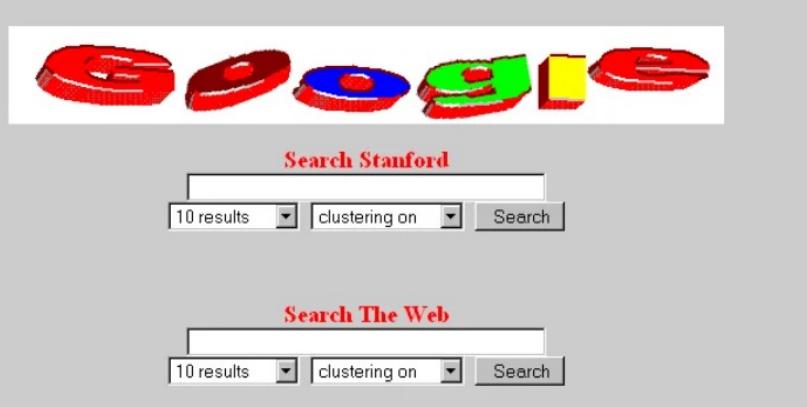
DateTime:  UTC

DateTime-Local:

Date:



# Google page history



1997



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1998



Search the web using Google

Google Search I'm feeling lucky

[More Google!](#)

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1999



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2000

# Google page history



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Google Groups usenet discussion forum

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2002



Web Images Groups Directory News

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2003



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School of Information and Communication Technology



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2004

# Google page history



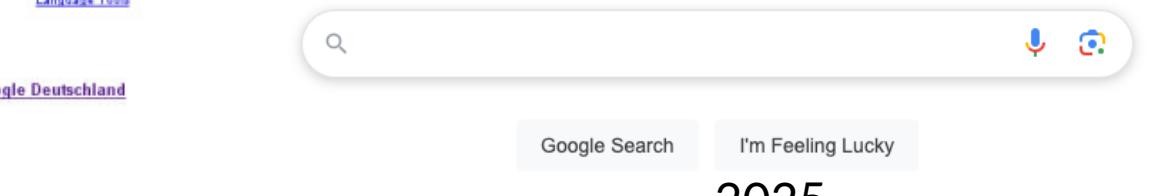
2005

The screenshot shows the Google homepage from 2006. The search bar is at the top with the text "I'm Feeling Lucky". Below the search bar are links for "Advanced Search", "Preferences", and "Language Tools". The main content area features the "New! CSI and NBA on Google Video. Free software with Google Pack." link. At the bottom, the copyright notice reads "©2006 Google".

2006



2007



2025