

Vietnam and Japan Joint
ICT HRD Program

ICT 5 Web Development

Lesson 1-2. Introduction to HTML

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Content

1. HTML Basic
2. Structured Document
3. DOM (Document Object Model)
4. Common HTML Elements

Content

- ⇒ 1. HTML Basic
2. Structured Document
 3. DOM (Document Object Model)
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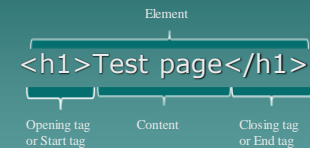
What is HTML? (review)

- ◆ Hypertext Markup Language
- ◆ Markup Language for web pages
 - Markup Language
 - ◆ a set of annotations to text that describe how something is to be structured
 - Hypertext
 - ◆ text with references (hyperlinks) to other text that the reader can immediately access, usually by a mouse click or key press sequence

HTML Example

```
<html>
  <head>
    <title>Test Page</title>
  </head>
  <body>
    <h1>Test Page</h1>
    <p>This is a test page.</p>
  </body>
</html>
```

Element and Tag



Attribute

- ◆ Most of elements can have attributes
- ◆ An attribute describes a property of an element

```
<h1 id="title">Test Page</h1>
```

Attribute name Attribute value

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Hyperlink

- ◆ A link from a document to another document
- ◆ Anchor element with href attribute
 - href has a URI, an absolute path or a relative path
 - Example:
`Yahoo!`



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Images

- ◆ Insert image
 - ``
 - ``
 - E.g. `<p>`
- ◆ Add a border to the image
 - set attribute as ``, where *n* means the thickness of the border in pixels



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Images (2)

- ◆ Change the size of the images
 - ``, where *x*, *y* is in pixel
 - E.g. `<p> My awards here`
- ◆ show the words over the image
 - ``



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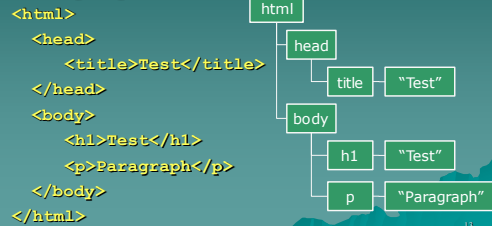
2. Structured Document

- ◆ Most of Documents have a structure
 - Article
 - ◆ Title, Part, Chapter, Section, Paragraph, ...
 - CV
 - ◆ Name, Education, Work Experiences, Skills, ...
- ◆ Markup Language is a way to express structured document
 - Nested Elements

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2.1. Nested Elements

- ◆ Tree structure expressed by Markup Language



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2.1. Nested Elements (2)

- ◆ Rule of Nested Elements
 - Opening tags must be matched to closing tags
 - The latest opening tag must be closed before other opening tag
- ◆ Correct example

```
<head><title>Title</title></head>
```
- ◆ Incorrect example

```
<head><title>Title</head></title>
```

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2.2. Global structure of HTML Document

- ◆ <html>
 - root of document
- ◆ <head>
 - meta information of document
 - ◆ title, meta, link, ...
- ◆ <body>
 - content of document
 - ◆ h1-h6, p, address, ...

```
<html>
  <head>
    <title>Test</title>
  </head>
  <body>
    <h1>Test</h1>
    <p>Paragraph</p>
  </body>
</html>
```

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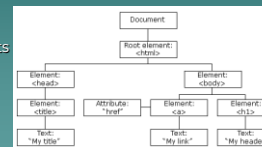
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3. DOM (Document Object Model)

- ◆ API for HTML Documents
 - defines a standard way for accessing and manipulating HTML documents
 - Object Oriented
 - Supported by various programming languages
- ◆ DOM representation
 - Logical tree structure
 - Hierarchy of node objects
 - ◆ root: Document
 - ◆ Node: Element, Attr, Text, ...



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3. DOM (2)

- ◆ DOM in JavaScript
 - E.g. get all of paragraphs in the document and display the first one of them

```
var paragraphs =
  document.getElementsByTagName("p");
alert(paragraphs[0].nodeName);
```

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4. Structured HTML Elements

- ◆ List
- ◆ Table
- ◆ Emphasis

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4.1. List

- ◆ Unordered List
- ◆ Ordered List
- ◆ Definition List

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Unordered List

```
<ul>
  <li>Apple</li>
  <li>Banana</li>
  <li>Grape</li>
</ul>
```

- Apple
- Banana
- Grape

◆ Attributes: TYPE
- TYPE is DISC, CIRCLE, or SQUARE

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```
<ul TYPE="DISC">
  <li>The UL tag
    <ul TYPE="CIRCLE">
      <li>TYPE
        <ul TYPE="SQUARE">
          <li>DISC
          <li>CIRCLE
          <li>SQUARE
        </ul>
      <li>COMPACT
    </ul>
  <li>The LI tag
    <ul TYPE="CIRCLE">
      <li>TYPE
        <ul TYPE="SQUARE">
          <li>DISC
          <li>CIRCLE
          <li>SQUARE
        </ul>
      <li>VALUE
    </ul>
  </ul>
</ul>
```

UL: Custom Bullets

Unordered Lists

- The UL tag
 - TYPE
 - DISC
 - CIRCLE
 - SQUARE
 - COMPACT
- The LI tag
 - TYPE
 - DISC
 - CIRCLE
 - SQUARE
 - VALUE

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Ordered List

```
<ol>
  <li>One</li>
  <li>Two</li>
  <li>Three</li>
</ol>
```

- 1. One
- 2. Two
- 3. Three

Attributes: TYPE, START
- TYPE: 1, a, A, i, I
- START=1 or 2 ... a or b ...

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```

<OL TYPE="I">
  <LI>Headings
  <LI>Basic Text Sections
  <LI>Lists
    <OL TYPE="A">
      <LI>Ordered
        <OL TYPE="1">
          <LI>The OL tag
            <OL TYPE="a">
              <LI>TYPE
              <LI>START
              <LI>COMPACT
            </OL>
          <LI>The LI tag
            <OL TYPE="1">
              <LI>The UL tag
              <LI>The LI tag
            </OL>
          <LI>Unordered
            <OL TYPE="1">
              <LI>The UL tag
              <LI>The LI tag
            </OL>
          <LI>Definition
            <OL TYPE="1">
              <LI>The DL tag
              <LI>The DT tag
              <LI>The DD tag
            </OL>
          <LI>Miscellaneous
        </OL>
      <LI>Miscellaneous
    </OL>
  </LI>
</OL>

```

Nested Ordered Lists

- I. Headings
- II. Basic Text Sections
- III. Lists
 - A. Ordered
 1. The OL tag
 - a. TYPE
 - b. START
 - c. COMPACT
 2. The LI tag
 1. The UL tag
 2. The LI tag
 3. The DD tag
 - B. Unordered
 1. The UL tag
 2. The LI tag
 - C. Definition
 1. The DL tag
 2. The DT tag
 3. The DD tag
- IV. Miscellaneous

Definition List

```

<dl>
  <dt>Apple</dt>
  <dd>A fruit or a computer company</dd>
  <dt>Grape</dt>
  <dd>A juicy purple- or green-skinned fruit</dd>
</dl>

```

Apple
A fruit or a computer company

Grape
A juicy purple- or green-skinned fruit

4.2. Table

```

<table>
  <caption>Users</caption>
  <tr>
    <th>Name</th>
    <th>Email</th>
  </tr>
  <tr>
    <td>John Smith</td>
    <td>smith@example.org</td>
  </tr>
  <tr>
    <td>Amy Wine</td>
    <td>amy@yahoo.com</td>
  </tr>
</table>

```

Users

Name	Email
John Smith	smith@example.org
Amy Wine	amy@yahoo.com

4.2. Table (2)

- Adding a border
 - `<table border=10>`
- Changing the border color
 - `<table border=10 bordercolor=green>`
 - `<table border=10 bordercolorlight=green bordercolordark=red>`
- Setting the width of a cell or table
 - `<table border=0 width=320>`
 - `<table border=0 width=100%>`
 - `<td width=320> data </td>`
 - `<td width=30%> data </td>`

4.2. Table (3)

- Centering a table on a page
 - `<table border=0 width=320 align=center>`
- Aligning a cell's contents:
 - `<td align=d1 valign=d2>`
 - d1: left, right or center
 - d2: top, bottom, middle or baseline
 - `<td align=left valign=top>`

4.2. Table (3)

- Controlling space in and around cells
 - Cellpadding=m, where m is the number of pixels desired between the contents and the walls of the cell
 - `<table cellpadding=8>`
 - Cellspacing=n, where n is the number of pixels desired between each cell
 - `<table cellspacing=8>`

4.2. Table (4)

- Spanning a cell across columns -- `<td colspan=n>`

```
<table border= 2 bordercolor=green align=left>
  <tr> <!-- first row -->
    <td> data 11 </td> <td> data 12 </td>
  </tr>
  <tr> <!-- second row -->
    <td> Data 21 </td>
    <td> Data 22 </td>
  </tr>
  <tr> <!-- third row -->
    <td colspan=2> Data 3 - last row??? </td>
  </tr>
</table>
```

data 11	data 12
Data 21	Data 22
Data 3 - last row???	

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4.2. Table (5)

- Spanning a cell across rows -- `<td rowspan=n>`

```
<table border= 2 bordercolor=green align=left>
  <tr> <!-- first row -->
    <td> data 11 </td> <td> data 12 </td>
  </tr>
  <tr> <!-- second row -->
    <td rowspan=2> Row 23 </td> <td> Data 21 </td>
  </tr>
  <tr> <!-- third row -->
    <td> Data 31 </td>
  </tr>
</table>
```

data 11	data 12
Row 23	Data 21
	Data 31

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4.3. Emphasis

```
<p>
  Here is an emphasized <em>paragraph</em>
</p>
<p>
  This is a strongly emphasized <strong>text</strong>
</p>
```



Here is an emphasized *paragraph*

This is a strongly emphasized text

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4.4. Quote

- Short quote: `<q>`
 - includes only text
 - IE 8 doesn't support `<q>`

He said, "I'm lucky".



```
<p>He said, <q>I'm lucky</q>.</p>
```

- Long quote: `<blockquote>`
 - includes block-level elements like headings, lists, paragraphs or div's
 - inserts white space before and after a blockquote element

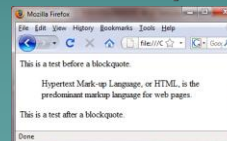
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4.4. Quote (2)

This is a test **before** a blockquote.

```
<blockquote
  cite="http://en.wikipedia.org/wiki/HTML">
  <p>Hypertext Mark-up Language, or HTML, is the
    predominant markup language for web pages.</p>
</blockquote>
```

This is a test **after** a blockquote.



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4.5. Other structuring of text

- dfn
- code
- samp
- kbd
- var
- cite
- br
- abbr
- acronym
- pre
- ins
- del
- sub
- sup

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