Kabul Polytechnic University
Computer Science Faculty
Information System Department

Web-Engineering I

Lecture 3: HTML

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Contents

▸ HTML Block & Inline Elements

▸ HTML Iframes

▸ HTML Forms

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HTML Block & Inline Elements

▸ Every HTML element has a default display value depending on what type of element it is.

▸ The default display value

    i.   Block-level Elements

    ii.   Inline Elements

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Block-level Elements

▸ A block-level element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can).

The <div> element is a block-level element.

Examples of block-level elements:

- <div>
- <h1> - <h6>
- <p>
- <form>

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Inline Elements

▸ An inline element does not start on a new line and only takes up as much width as necessary.

This is an inline <span> element inside a paragraph.

Examples of inline elements:

- <span>
- <a>
- <img>

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HTML Iframes

▸ An iframe is used to display a web page within a web page.

▸ The syntax for adding an iframe is:

```
<iframe src="URL"></iframe>
```

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Iframes - Set Height and Width

‣ Use the **height** and **width** attributes to specify the size.

‣ The attribute values are specified in pixels by default, but they can also be in percent (like "80%").

```
<iframe src="demo_iframe.html" width="200" height="200"></iframe>
```

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Iframes - Remove the Border

▸ By default, an iframe has a black border around it.

▸ To remove the border, add the style attribute and use the CSS border property.

```
<iframe src="demo_iframe.htm" style="border:none"></iframe>
```

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HTML Forms

▸ HTML forms are used to collect user input.

▸ The **<form>** element defines an HTML form.

▸ HTML forms contain **form elements**.

▸ Form elements are different types of input elements, checkboxes, radio buttons, submit buttons, and more.

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The <input> Element

▸ The **<input>** element is the most important **form element**.

▸ The <input> element has many variations, depending on the **type** attribute.

▸ Here are the types used in this chapter:

Type	Description
text	Defines normal text input
radio	Defines radio button input (for selecting one of many choices)
submit	Defines a submit button (for submitting the form)

Text Input

- **<input type="text">** defines a one-line input field for **text input**:

```
First name:<br>
<input type="text" name="firstname"><br>
```

- Radio Button Input

```
<input type="radio" name="gender" value="male" checked> Male<br>
```

- The Submit Button

  - **<input type="submit">** defines a button for **submitting** a form to a **form-handler**.

```
<input type="submit" value="Submit">
```

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The Action Attribute

▶ The **action attribute** defines the action to be performed when the form is submitted.

▶ The common way to submit a form to a server, is by using a submit button.

▶ Normally, the form is submitted to a web page on a web server.

▶ In the example bellow, a server-side script is specified to handle the submitted form:

```
<form action="action_page.php">
```

The Method Attribute

▸ The **method attribute** specifies the HTTP method (**GET** or **POST**) to be used when submitting the forms:

```
<form action="action_page.php" method="post">
```

▸ When to Use GET?

  ▸ When you use GET, the form data will be visible in the page address:

```
<form action="action_page.php" method="get">
```

The Name Attribute

▶ To be submitted correctly, each input field must have a name attribute.

▶ This example will only submit the "Last name" input field.

```
<input type="text" name="lastname" value="Mouse"><br><br>
```

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Grouping Form Data with <fieldset>

▸ The **<fieldset>** element groups related data in a form.

▸ The **<legend>** element defines a caption for the <fieldset> element.

```
<form action="action_page.php">
  <fieldset>
    <legend>Personal information:</legend>
    First name:<br>
    <input type="text" name="firstname" value="Mickey"><br>
    Last name:<br>
    <input type="text" name="lastname" value="Mouse"><br><br>
    <input type="submit" value="Submit">
  </fieldset>
</form>
```

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HTML Form Attributes

▸ An HTML **<form>** element, with all possible attributes set, will look like this:

Attribute	Description
accept-charset	Specifies the charset used in the submitted form (default: the page charset).
action	Specifies an address (url) where to submit the form (default: the submitting page).
autocomplete	Specifies if the browser should autocomplete the form (default: on).
enctype	Specifies the encoding of the submitted data (default: is url-encoded).
method	Specifies the HTTP method used when submitting the form (default: GET).
name	Specifies a name used to identify the form (for DOM usage: document.forms.name).

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The <select> Element (Drop-Down List)

▸ The **<select>** element defines a **drop-down** list.

▸ The **<option>** elements defines the options to select.

▸ The list will normally show the first item as selected.

▸ You can add a selected attribute to define a predefined option.

```html
<select name="cars">
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```

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The <textarea> Element

▸ The **<textarea>** element defines a multi-line input field (**a text area**).

```
<textarea name="message" rows="10" cols="30">
The cat was playing in the garden.
</textarea>
```

The <Button> Element

▸ The **<button>** element defines a clickable **button.**

```html
<button type="button" onclick="alert('Hello World!')">Click Me!</button>
```

HTML5 Form Elements

▸ HTML5 added the following form elements:

<datalist>

▸ The **<datalist>** element specifies a list of pre-defined options for an <input> element.

▸ Users will see a drop-down list of pre-defined options as they input data.

▸ The **list** attribute of the <input> element, must refer to the **id** attribute of the <datalist> element.

```
<input list="browsers" name="browser">
<datalist id="browsers">
  <option value="Internet Explorer">
  <option value="Firefox">
</datalist>
```

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HTML5 Input Types

▶ HTML5 added several new input types:

- ▶ color
- ▶ date
- ▶ datetime
- ▶ datetime-local
- ▶ email
- ▶ month
- ▶ number

- range
- search
- tel
- time
- url
- week

Input type attribute

▸ The value Attribute

▸ The read-only Attribute

▸ The **disabled** attribute specifies that the input field is disabled.

▸ The size Attribute

▸ The **maxlength** attribute specifies the maximum allowed length for the input field

▸ Height width attribute.

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HTML5 Introduction

▸ The most interesting new elements are:

▸ New **semantic** elements like <header>, <footer>, <article>, and <section>.

▸ New form **control attributes** like number, date, time, calendar, and range.

▸ New **graphic** elements: <svg> and <canvas>.

▸ New **multimedia** elements: <audio> and <video>.

Elements Removed in HTML5

Element	Use instead
<acronym>	<abbr>
<applet>	<object>
<basefont>	CSS
<big>	CSS
<center>	CSS
<dir>	
<font>	CSS
<frame>	
<frameset>	
<noframes>	
<strike>	CSS
<tt>	CSS

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HTML5 Browser Support

▸ HTML5 is supported in all modern browsers.

▸ In addition, all browsers, old and new, automatically handle unrecognized elements as inline elements.

▸ Because of this, you can "teach" older browsers to handle "unknown" HTML elements.

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HTML5 New Elements

▸ Below is a list of the new HTML5 elements, and a description of what they are used for.

Tag	Description
<article>	Defines an article in the document
<aside>	Defines content aside from the page content
<bdi>	Defines a part of text that might be formatted in a different direction from other text
<details>	Defines additional details that the user can view or hide
<dialog>	Defines a dialog box or window
<figcaption>	Defines a caption for a <figure> element
<figure>	Defines self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer>	Defines a footer for the document or a section
<header>	Defines a header for the document or a section
<main>	Defines the main content of a document
<mark>	Defines marked or highlighted text
<menuitem>	Defines a command/menu item that the user can invoke from a popup menu
<meter>	Defines a scalar measurement within a known range (a gauge)
<nav>	Defines navigation links in the document
<progress>	Defines the progress of a task

New Input Types

New Input Types	New Input Attributes
• color	• autocomplete
• date	• autofocus
• datetime	• form
• datetime-local	• formaction
• email	• formenctype
• month	• formmethod
• number	• formnovalidate
• range	• formtarget
• search	• height and width
• tel	• list
• time	• min and max
• url	• multiple
• week	• pattern (regexp)
	• placeholder
	• required
	• step

Semantic Elements in HTML5

▸ A semantic element clearly describes its meaning to both the browser and the developer.

Tag	Description
<article>	Defines an article
<aside>	Defines content aside from the page content
<details>	Defines additional details that the user can view or hide
<figcaption>	Defines a caption for a <figure> element
<figure>	Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer>	Defines a footer for a document or section
<header>	Specifies a header for a document or section
<main>	Specifies the main content of a document
<mark>	Defines marked/highlighted text
<nav>	Defines navigation links
<section>	Defines a section in a document
<summary>	Defines a visible heading for a <details> element
<time>	Defines a date/time

HTML5 Audio

▸ HTML5 provides a standard for playing audio files.

▸ Before HTML5, there was no standard for playing audio files on a web page.

▸ Before HTML5, audio files could only be played with a plug-in (like flash).

▸ The HTML5 <audio> element specifies a standard way to embed audio in a web page.

The HTML <audio> Element

▸ To play an audio file in HTML, use the **<audio>** element

```
<audio controls>
    <source src="horse.ogg" type="audio/ogg">
    <source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
</audio>
```

▸ The **controls** attribute adds audio controls, like play, pause, and volume.

▸ Text between the <audio> and </audio> tags will display in browsers that do not support the <audio> element.

▸ Multiple **<source>** elements can link to different audio files. The browser will use the first recognized format.

The <embed> Element

▸ The <embed> element is supported in all major browsers.

▸ The <embed> element also defines an embedded object within an HTML document.

▸ Web browsers have supported the <embed> element for a long time. However, it has not been a part of the HTML specification before HTML5. The element will validate in an HTML5 page, but not in an HTML 4 page.

```
<embed width="400" height="50" src="bookmark.swf">
```

References

▸ Learning Web Design: A beginner's guide to HTML, CSS, Java - Script, and web graphics.

Questions ...?

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