**HTML Basics**

* **HTML and XHTML**
  + - XHTML is HTML written as XML
  + **What is XHTML?**
    - XHTML stands for Extensible Hyper Text Markup Language.
    - XHTML is almost identical to HTML
    - XHTML is stricter than HTML
    - XHTML is HTML defined as an XML application
    - XHTML is supported by all major browsers.
  + **Why XHTML?**
    - Many pages on the internet contain “bad” HTML
    - The below HTML code works fine in most browsers (even if it does not follow the HTML rules):

|  |
| --- |
| <html> <head>   <title>This is bad HTML</title>  <body>   <h1>Bad HTML   <p>This is a paragraph </body> |

* + - Today’s market consists of different browser technologies.
    - Some browser run on computers, and some browsers run on mobile phones or other small devices.
    - Smaller devices often lack the resources to interpret “bad” markup.
    - **XML** is a markup language where documents must be marked up correctly (be well-formed).
    - XHTML was developed by combining the strengths of HTML and XML.
    - XHTML is HTML redesigned as XML
  + **The most important differences from XHTML and HTML:**
    - **Document Structure**
      * XHTML DOCTYPE is **mandatory**
      * The xmlns attribute in <html> is **mandatory**
      * <html>, <head>, <title>, and <body> are **mandatory**
    - **XHTML Elements**
      * XHTML elements must be **properly nested**
      * XHTML elements must always be **closed**
      * XHTML elements must be in **lowercase**
      * XHTML documents must have **one root element**
    - **XHTML Elements**
      * Attribute names must be in **lower case**
      * Attribute values must be **quoted**
      * Attribute minimization is **forbidden**
  + **<!DOCTYPE …..> is mandatory**
    - An XHTML document must have an XHTML DOCTYPE declaration
    - The <html>, <head>, <title>, and <body> elements must also be present, and the xmlns attribute in <html> must specify the xml namespace for the document.
    - The below example shows an XHTML document with a minimum of required tags.

|  |
| --- |
| <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">  <html xmlns="http://www.w3.org/1999/xhtml">  <head>   <title>Title of document</title> </head>  <body>   some content  </body>  </html> |

* + **XHTML Elements Must Be Properly Nested**
    - In HTML, some elements can be improperly nested with each other, like this:

|  |
| --- |
| <b><i>This text is bold and italic</b></i> |

* + - In XHTML, all elements must be properly nested with each other, like this:

|  |
| --- |
| <b><i>This text is bold and italic</i></b> |

* + **XHTML Elements Must Always Be Closed**
    - This is wrong:

|  |
| --- |
| <p>This is a paragraph <p>This is another paragraph |

* + - This is correct:

|  |
| --- |
| <p>This is a paragraph</p> <p>This is another paragraph</p> |

* + **XHTML Empty Elements Must Also Be Closed**
    - This is wrong:

|  |
| --- |
| A break: <br> A horizontal rule: <hr> An image: <img src="happy.gif" alt="Happy face"> |

* + - This is Correct:

|  |
| --- |
| A break: <br /> A horizontal rule: <hr /> An image: <img src="happy.gif" alt="Happy face" /> |

* + **XHTML Elements Must Be in Lower Case**
    - This is wrong:

|  |
| --- |
| <BODY> <P>This is a paragraph</P> </BODY> |

* + - This is correct:

|  |
| --- |
| <body> <p>This is a paragraph</p> </body> |

* + **XHTML Attribute Names Must Be in Lower Case**
    - This is wrong:

|  |
| --- |
| <table WIDTH="100%"> |

* + - This is correct:

|  |
| --- |
| <table width="100%"> |

* + **XHTML Attribute Values Must Be in Quoted**
    - This is wrong:

|  |
| --- |
| <table width=100%> |

* + - This is correct:

|  |
| --- |
| <table width="100%"> |

* + **XHTML Attribute Minimization Is Forbidden**
    - Wrong:

|  |
| --- |
| <input type="checkbox" name="vehicle" value="car" checked /> |

* + - Correct:

|  |
| --- |
| <input type="checkbox" name="vehicle" value="car" checked="checked" /> |

* + - Wrong:

|  |
| --- |
| <input type="text" name="lastname" disabled /> |

* + - Correct:

|  |
| --- |
| <input type="text" name="lastname" disabled="disabled" /> |

* + **How to Convert from HTML to XHTML**

1. Add an XHTML <!DOCTYPE> to the first line of every page
2. Add an xmlns attribute to the <html> element of every page
3. Change all elements names to lowercase
4. Close all empty elements
5. Change all attribute names to lowercase
6. Quote all attribute values.

* **HTML Forms**
  + **The <form> Element**
    - The HTML **<form>** element defines a form that is used to collect user input.

|  |
| --- |
| <form> . *form elements* . </form> |

* + - An HTML form contains **form elements.**
    - Form elements are different types of input elements, like text fields, checkboxes, radio buttons, submit buttons, and more.
  + **The <input> Element**
    - The **<input>** element is the most important form element.
    - The **<input>** element can be displayed in several ways, depending on the **type** attribute.
    - Some Example:

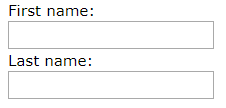
|  |  |
| --- | --- |
| **Type** | **Description** |
| <input type=”text” > | Defines a one-line text input field |
| <input type=”radio”> | Defines a radio button(for selecting one of many choices). |
| <input type=”submit”> | Defines a submit button(for submitting the form). |

* + **Text Input**
    - **<input type=”text”>** defines a one-line input field for **text input.**

**Example:**

|  |
| --- |
| <form>   First name:<br>   <input type="text" name="firstname"><br>   Last name:<br>   <input type="text" name="lastname"> </form> |

**output:**

****

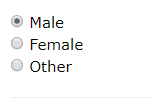
**Note: The form itself is not visible. Also note that the default width of a text field is 20 characters.**

* + **Radio Button**
    - <input type=” radio”> defines a radio button.
    - Radio buttons let a user select ONE of a limited number of choices:

**Example:**

|  |
| --- |
| <form>   <input type="radio" name="gender" value="male" checked> Male<br>   <input type="radio" name="gender" value="female"> Female<br>   <input type="radio" name="gender" value="other"> Other </form> |

**Result:**

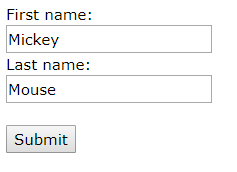
****

* + **The Submit Button**
    - <input type=” submit”> defines a button for submitting the form data to **form-handler**.
    - The form-handler is typically a server page with a script of processing input data.
    - The form-handler is specified in the form’s **action** attribute:

**Example:**

|  |
| --- |
| <form action="/action\_page.php">   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"> </form> |

**Result:**

****

* + **The Action Attribute**
    - The **action** attribute defines the action to be performed when the form is submitted.
    - Normally, the form data is sent to a webpage on the server when the user clicks on the submit button.

Example:

|  |
| --- |
| <form **action="/action\_page.php**"> |

If the **action** attribute is omitted, the action is set to the current page.

* + **The Target Attribute**
    - The **target** attribute specifies if the submitted result will open in a new browser tab, a frame, or in the current window.
    - The default value is **“\_self”** which means the form will be submitted in the current window.
    - To make the form result open in a new browser tab, use the value “**\_blank**”:

|  |
| --- |
| <form action="/action\_page.php" **target="\_blank"**> |

* + - Other legal values are “**\_parent” , “\_top”,** or a name representing the name of an iframe.
  + **The Method Attribute**
    - The **method** attribute specifies the HTTP method (**GET or POST**) to be used when submitting the form data.

**Example:**

|  |
| --- |
| <form action="/action\_page.php" **method="get"**> |

**(OR)**

|  |
| --- |
| <form action="/action\_page.php" **method="post"**> |

* + **When to Use GET?**
    - The default method when submitting form data is GET.
    - However, when GET is used, the submitted form data will be **visible in the page address field:**

|  |
| --- |
| /action\_page.php?firstname=Mickey&lastname=Mouse |

**Note on GET:**

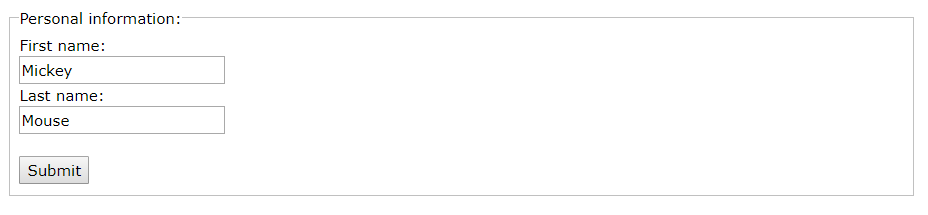
1. Appends form-data into the URL in name/value pairs.
2. The length of a URL is limited (about 3000 characters).
3. Never use GET to send sensitive data! (will be visible in the URL).
4. Useful for form submissions where a user wants to bookmark the result.
5. GET is better for non-secure data, like query string in Google.
   * **When to Use POST?**
     + Always use POST if the form data contain sensitive or personal information.
     + The POST method does not display the submitted form data in the page address field.

**Notes on POST:**

1. POST has no size limitations, and can be used to send large amounts of data.
2. Form submissions with POST cannot be bookmarked.
   * **The Name Attribute**
     + Each input field must have a **name** attribute to be submitted.
     + If the **name** attribute is omitted, the data of the input field will not be sent at all.
     + This below example will only submit the “**Last Name”** input field:

|  |
| --- |
| <form action="/action\_page.php">   First name:<br>   <input type="text" value="Mickey"><br>   Last name:<br>   <input type="text" name="lastname" value="Mouse"><br><br>   <input type="submit" value="Submit"> </form> |

**Result:**

****

* + **List of all <form> Attribute**

|  |  |
| --- | --- |
| **Attribute** | **Description** |
| accept-charset | Specifies the charset used in the submitted form (default: the page charset) |
| action | Specifies the 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). |
| novalidate | Specifies that the browser should not validate the form. |
| target | Specifies the target of the address in the action attribute (default: \_self). |

* **HTML Form Elements**
  + **The <input> Element**
    - The most important form element is the **<input>** element.
    - The **<input>** element can be displayed in several ways, depending on the type attribute.

**Example:**

|  |
| --- |
| <input name="firstname" type="text"> |

**Note:** if the **type** attribute is omitted, the input field gets default type: “text”.

* + **The <select> Element**
    - The **<select>** element defines a **drop-down list:**

**Example:**

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

* + - The **<option>** elements defines an option that can be selected.