

Web Technologies 1

Forms, iframe & Multimedia

Lec5

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HTML Forms

- All our web pages thus far have had a **one-way flow of information**, from us to our web visitors. Now we'll see how our visitors can send information back to us via a web form. There are a number of reasons we might want our audience to fill out a form on our site:
 - Survey
 - Contact us
 - Sign up for an email newsletter
 - Register for an event
 - Submit comments or feedback about our site
 - Log in to a members-only section of the site

HTML Forms

- The HTML `<form>` element defines a form that is used to collect user input:
`<form method="post" action="process.php">`
`<!-- All form content goes here -->`
`</form>`
- HTML form contains form elements.
- Form elements are different types of **input elements**, like text fields, checkboxes, radio buttons, submit buttons, and more.

All elements of the form must reside within the form element. As we have not added any elements to this example form yet, nothing would display on the page.

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<form>
```

```
First name:<br>
```

```
<input type="text" name="firstname">
```

```
<br>
```

```
Last name:<br>
```

```
<input type="text" name="lastname">
```

```
</form>
```

```
<p>Note that the form itself is not visible.</p>
```

```
<p>Also note that the default width of a text  
input field is 20 characters.</p>
```

```
</body>
```

```
</html>
```

First name:

Last name:

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.
- The HTML <input> element is the most used form element.

The type attribute

- The type attribute determines **which kind of input the field will be**. A value of "text" creates a single-line text box with the size attribute determining the width in characters.
- `<input type="text">`
 - Defines a one-line text input field
- `<input type="password">`
- `<input type="radio">`
 - Defines a radio button (for selecting one of many choices)
- `<input type="submit">`
 - Defines a submit button (for submitting the form)
- `<input type="submit">`
 - Displays a submit button (for submitting the form)
- `<input type="button">`
 - Displays a clickable button

Username:

Mohammed

Password:

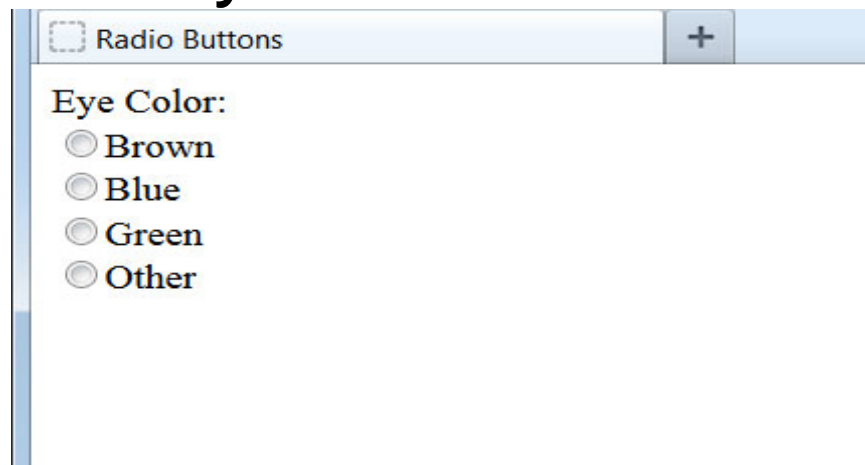
.....|

Radio Buttons

- Notice that **each radio option has its own input element**, with the identical name attribute. **Only the value attribute differs.**
- These are known as radio buttons because older cars used to have a set of buttons to press in for different radio stations. When a new button was pressed in, the old button would pop out.
- Radio buttons let a user select ONE of a limited number of choices.

Radio Buttons

```
<form method="post" action="process.php">  
  Eye Color:<br />  
  <input type="radio" name="eye" value="brown" />  
Brown<br />  
  <input type="radio" name="eye" value="blue" />  
Blue<br />  
  <input type="radio" name="eye" value="green" />  
Green<br />  
  <input type="radio" name="eye" value="other" />  
Other<br />  
</form>
```



The screenshot shows a browser window with a form titled "Radio Buttons". The form contains the text "Eye Color:" followed by four radio button options: "Brown", "Blue", "Green", and "Other". All radio buttons are currently unselected.

Checkboxes

- Checkboxes let a user select ZERO or MORE options of a limited number of choices.

```
<form>
  <input type="checkbox"
id="vehicle1" name="vehicle1"
value="Bike">
  <label for="vehicle1"> I have a
bike</label><br>
  <input type="checkbox"
id="vehicle2" name="vehicle2"
value="Car">
  <label for="vehicle2"> I have a
car</label><br>
  <input type="checkbox"
id="vehicle3" name="vehicle3"
value="Boat">
  <label for="vehicle3"> I have a
boat</label>
</form>
```

I have a bike

I have a car

I have a boat

HTML5 Input Types

- HTML5 added several new input types:
 - color
 - date
 - datetime-local
 - email
 - month
 - number
 - range
 - search
 - tel
 - time
 - url
 - week

New input types that are not supported by older web browsers

The name attribute

- **The name attribute**
 - The **name** attribute and supply a unique value for each element of a web form that collects data from the user. **This will be used later by the web server.**
 - If the name attribute is omitted, the value of the input field will not be sent at all.

Submitted Form Data

Your input was received as:

```
fname=John&lname=Doe
```

HTML Input Attributes

- The **value Attribute**
 - The input value attribute **specifies an initial value** for an input field
- The **readonly Attribute**
 - The input readonly attribute **specifies that an input field is read-only.**
- The **disabled Attribute**
 - The input disabled attribute specifies that **an input field should be disabled.**

read-only input field will be sent but, disabled input field will not be sent when submitting the form

HTML Input Attributes

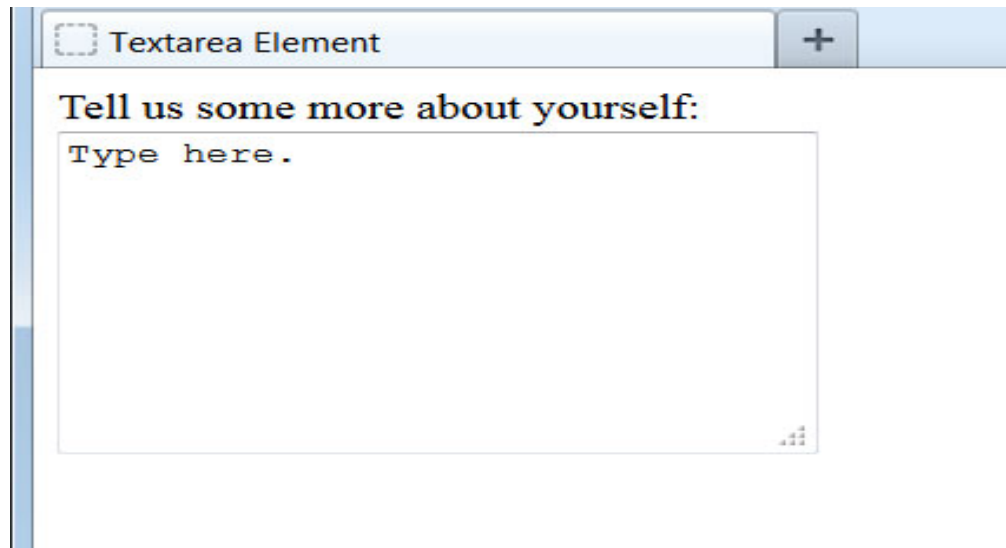
- The **placeholder Attribute**
 - The input placeholder attribute specifies a **short hint** that describes the expected value of an input field
- The **required Attribute**
 - The input required attribute specifies that an **input field must be filled** out before submitting the form.
- The **autocomplete Attribute**
 - The input autocomplete attribute **specifies whether a form or an input field should have autocomplete on or off.**
 - Autocomplete allows the browser to predict the value.

The <label> Element

- The **<label>** tag defines a label for many form elements.
- The <label> element is useful **for screen-reader users**, because the screen-reader will read out loud the label when the user focus on the input element.
- The <label> element also help users who have **difficulty clicking on very small regions** (such as radio buttons or checkboxes) - because when the user clicks the text within the <label> element, it toggles the radio button/checkbox.

The <textarea> Element

- The `<textarea>` element defines a multi-line input field (a text area)
 - `<textarea name="message" rows="10" cols="30">`
Write your text here .
`</textarea>`
- The `rows` attribute specifies the visible number of lines in a text area.
- The `cols` attribute specifies the visible width of a text area.



The <select> Element

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

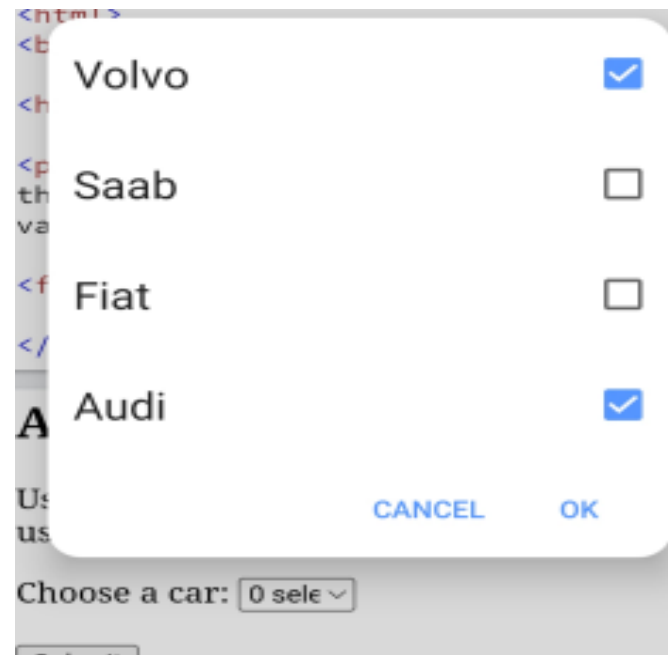
```
<select name="cars">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
  <option value="fiat">Fiat</option>  
  <option value="audi">Audi</option>  
</select>
```

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

Choose a car:

The <select> Element

- By default, the first item in the drop-down list is selected.
- To define a pre-selected option, add the **selected** attribute to the option
- Allow **Multiple Selections**:
 - Use the multiple attribute to allow the user to select more than one value:
 - **<select name="cars" size="4" multiple>**



The <button> Element

- The <button> element defines a clickable button

```
<button type="button" onclick="alert('Hello World!')">
```

Click Me!

```
</button>
```



HTML5 Form Elements

- HTML5 added the following form elements:
 - `<datalist>`
 - `<output>`
- Note: Browsers do not display unknown elements. New elements that are not supported in older browsers will not "destroy" your web page.

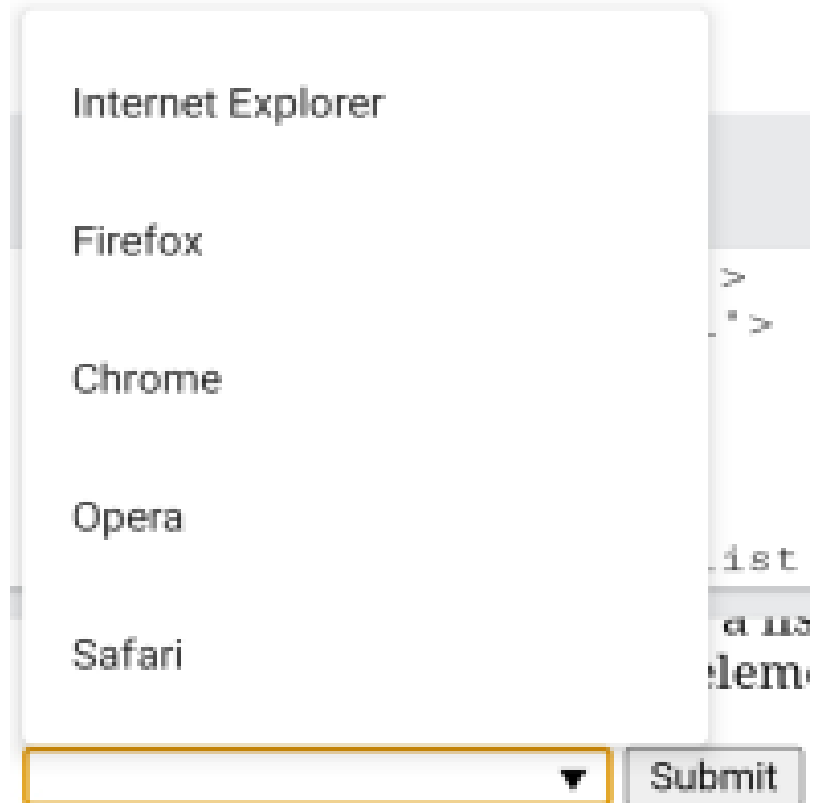
HTML5 <datalist> Element

- The **<datalist>** element specifies a list of pre-defined options for an <input> element.
- Users will see a **drop-down** list of the pre-defined options as they input data.
- The list attribute of the <input> element, must refer to the id attribute of the <datalist> element.

HTML5 <datalist> Element

```
<form action="/action_page.php">  
  <input list="browsers">  
  <datalist id="browsers">  
    <option value="Internet Explorer">  
    <option value="Firefox">  
    <option value="Chrome">  
    <option value="Opera">  
    <option value="Safari">  
  </datalist>  
</form>
```

The datalist element specifies a list of pre-defined options for an input element.



The image shows a web form with two input fields and a 'Submit' button. The first input field is empty. The second input field is a dropdown menu with a yellow border, showing a list of browser names: Internet Explorer, Firefox, Chrome, Opera, and Safari. The dropdown menu is open, and the list of options is visible. The 'Submit' button is located to the right of the dropdown menu.

HTML5 <output> Element


- The **<output>** element represents the result of a calculation (like one performed by a script).
- Perform a calculation and show the result in an <output> element

```
<form action="/action_page.php"
oninput="x.value=parseInt(a.value)+parseInt(b.value)">
0
<input type="range" id="a" name="a" value="50">
100 +
<input type="number" id="b" name="b" value="50">
=
<output name="x" for="a b"></output>
<br><br>
<input type="submit">
</form>
```

The output element represents the result of a calculation.



0 100 +
50 =



Submit

HTML Form Attributes

- The **Action Attribute**
 - The action attribute defines the action to be performed when the form is submitted.
 - If the action attribute is omitted, the action is set to the current page.
 - The action attribute declares which file will receive and process the data once submitted. This will be a file written in a scripting language, such as PHP or ASP
 - `<form action="/action_page.php">`
- The **Target Attribute**
 - The target attribute specifies where to display the response that is received after submitting the form.
 - `<form action="/action_page.php" target="_blank">`
 - `_blank`
 - `_self`

HTML Form Attributes

- The **Method Attribute**
 - The method attribute specifies the HTTP method to be used when submitting the form data.
 - The method attribute determined in which format the submitted data will be sent. The two possible values are "**post**" and "**get**".
 - `<form action="/action_page.php" method="post">`

Get & Post

- Appends the form data to the URL, in name/value pairs
- NEVER use GET to send sensitive data! (the submitted form data is visible in the URL!)
- The length of a URL is limited (2048 characters)
- Useful for form submissions where a user wants to bookmark the result
- GET is good for non-secure data, like query strings in Google
- Appends the form data inside the body of the HTTP request (the submitted form data is not shown in the URL)
- POST has no size limitations, and can be used to send large amounts of data.
- Form submissions with POST cannot be bookmarked

Always use POST if the form data contains sensitive or personal information!

```
<form action="/action_page.php">
  <label for="fname">First name:
</label><br>
  <input type="text" id="fname"
name="fname" value="John"><br>
  <label for="lname">Last name:
</label><br>
  <input type="text" id="lname"
name="lname" value="Doe"><br><br>
  <input type="submit"
value="Submit">
</form>
```

Submitted Form Data

Your input was received as:

```
fname=John&lname=Doe
```

HTML Form Attributes

- The **Autocomplete Attribute**
 - The autocomplete attribute specifies whether a form should have autocomplete on or off.
 - `<form action="/action_page.php" autocomplete="on">`
- The **Novalidate Attribute**
 - The **novalidate** attribute is a **boolean attribute**.
 - `<form action="/action_page.php" novalidate>`

- `<input type="button">`
- `<input type="checkbox">`
- `<input type="color">`
- `<input type="date">`
- `<input type="datetime-local">`
- `<input type="email">`
- `<input type="file">`
- `<input type="hidden">`
- `<input type="image">`
- `<input type="month">`
- `<input type="number">`
- `<input type="password">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="reset">`
- `<input type="search">`
- `<input type="submit">`
- `<input type="tel">`
- `<input type="text">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

The <fieldset> and <legend> Elements

- The <fieldset> element is used to group related data in a form
- The <legend> element defines a caption for the <fieldset> element.

The <fieldset> and <legend> Elements

Personalia: _____

First name:

Last name:

HTML IFRAMES

HTML Iframes

- An HTML iframe is used to display a web page within a web page.
- The HTML `<iframe>` tag specifies an inline frame.
- Syntax
 - `<iframe src="url" title="description"></iframe>`

```
<iframe src="demo_iframe.htm" style="height: 200px; width: 300px; border: none;" title="Iframe Example">
</iframe>
```

HTML MULTIMEDIA

HTML Multimedia

- Multimedia on the web is **sound, music, videos, movies, and animations.**
- Multimedia comes in many different formats. It can be almost anything you can hear or see, like images, music, sound, videos, records, films, animations, and more.

Browser Support & Multimedia Formats

- The first web browsers had support for text only, limited to a single font in a single color.
- Multimedia elements (like audio or video) are stored in **media files**.
- **Multimedia files** have formats and different extensions like: .wav, .mp3, .mp4, .mpg, .wmv, and .avi.

Only MP4, WebM, and Ogg video are supported by the HTML standard.

Only MP3, WAV, and Ogg audio are supported by the HTML standard.

HTML Video

- The HTML `<video>` element is used to show a video on a web page.
- The `<source>` element allows you to specify alternative video files which the browser may choose from.

```
<video width="320" height="240"
autoplay muted>
  <source src="movie.mp4"
type="video/mp4">
  <source src="movie.ogg"
type="video/ogg">
```

Your browser does not support the video tag.

```
</video>
```

HTML Video

- The HTML `<video>` attributes
 - The `controls` attribute
 - adds video controls, like play, pause, and volume.
 - The `width and height`
 - `Muted`
 - The `autoplay` attribute
 - To start a video automatically

Element					
<code><video></code>	4.0	9.0	3.5	4.0	10.5

HTML Audio

- The HTML `<audio>` element is used to play an audio file on a web page.
- The `<source>` element allows you to specify alternative audio files which the browser may choose from.

```
<audio controls autoplay muted>  
  <source src="horse.ogg"  
type="audio/ogg">  
  <source src="horse.mp3"  
type="audio/mpeg">
```

Your browser does not support the audio element.

```
</audio>
```

HTML Audio

- The HTML `<audio >` attributes:
 - The **controls** attribute
 - adds audio controls, like play, pause, and volume.
 - The **width and height**
 - **Muted**
 - The **autoplay** attribute
 - To start a audio automatically

Element					
<code><audio></code>	4.0	9.0	3.5	4.0	10.5

HTML YouTube Videos

- The easiest way to play videos in HTML, is to use **YouTube**.
- **Converting** videos to different formats can be difficult and **time-consuming**.
- When you upload your video, YouTube will display an **id** (like tgbNymZ7vqY)
-
- Playing a YouTube Video in HTML:
 - Define an **<iframe>** element in your web page
 - Let the **src** attribute point to the video URL

HTML YouTube Videos

```
<iframe width="420" height="315"  
src="https://www.youtube.com/emb  
d/tgbNymZ7vqY">  
</iframe>
```

Any Questions?