

Lecture 4: Forms

Objectives

- understand how forms work
- use the `<form>` element
- create input objects
- validate the form on events

element

- container for creating a form
- **usage:** `<form method='post' action='https://a.b.c/register.asp'>`
- **mailto:** `<form action='mailto:joel@abc.com' method='post' enctype='text/plain'>`

Table 1: Form Element Attributes

Attribute	Description
action	URL of the application that processes the form data; URL points to a script file or email address.
enctype	Content type used to submit the form to the server (when value of method=post); most forms do not need this.
method	Specifies HTTP method used to submit the form data; default value is <i>get</i> : <ul style="list-style-type: none">• get: form data appended to URL specified in action attribute• post: form data is sent to server as separate message (more secure)
accept	Comma separated list of content types that a server processing the form can handle correctly; most forms do not need this.
accept-charset	List of allowed character sets for input data accepted by the server processing the form; most forms do not need this.

Creating Input Objects

- `<input>` element defines many of the form input object types
- **type** attribute specifies the type of input object
- **required** attribute makes element mandatory to be filled before submitting form

Table 2: `<input>` Element Types

Type	Description
radio	Lets user choose one value from a range of values; when radio buttons are grouped together with the same name, only one choice can be selected
submit	Sends form data to server using transmission method specified in the <code><form></code> element; <i>every</i> form needs a submit button
reset	Clears form of any user-entered data and returns form to its original state
hidden	Adds a control that is not displayed in the browser; useful for sending additional information with form data that may be needed for processing

Type	Description
image button	Adds a graphic button to the form rather than the default button Creates button that has no default behaviour; button function usually defined by a script; when user pushes the button, script function is triggered
file	Lets user select a file that is submitted with the form
range	Range of values. Shown as a slider control. <code><input type='range' min='0' max='10' step='2'></code>
email	Email address. If email is not syntactically correct, some browsers will display an error message. On mobile, input type can change the virtual keyboard.
url	absolute URL value. If URL address is not syntactically correct, some browsers will display an error. On mobile, input type can change the virtual keyboard.
search	A search term
tel	A telephone number
color	A color name; if supported by browser, input type will display color picker that lets user choose a color value from a color wheel or chart.

Labeling Form Elements

- `<label>` element lets you create a caption for an input element
- lets you extend clickable area of a form element
- to make text clickable, associate `<label>` with the `<input>` element by using the `for` and `id` attributes

```
<p>
<label for='First Name'>First Name:</label>
<input type='text' required name='firstname' id='First Name' size='35' maxlength='35' />
</p>
```

Creating Text Boxes

```
<input type='text' name='firstname' size='20' maxlength='35' value='First Name' />
```

Creating Check Boxes

- check boxes are an on/off toggle that the user can select

```
<input type='checkbox' name='species' value='smbass'> Smallmouth Bass
```

Creating Radio Buttons

- radio buttons are like checkboxes, but only one selection is allowed

```
<p>Would you like to be on our mailing list?</p>
<p>
  <input type='radio' name='list' value='yes' id='Yes'>
  <label for='Yes'>Yes</label>
  <input type='radio' name='list' value='no' id='No'>
  <label for='No'>No</label>
</p>
```

Creating an Image for the Submit Button

- choose an image file and use it instead of the default submit button

```
<input type='image' src='submit.gif' alt='submit button'>
```

Letting User Submit a File

```
<p>Use the browse button to select your file:</p>
<p><input type='file' size='30'></p>
```

Password Entry Field

- like text input, but entered text is hidden by asterisks

```
<p>Enter username and password</p>
<p>
  User Name: <input type='text' size='30' />
  Password: <input type='password' size='30' />
</p>
```

<select> Element

- choose to let user pick multiple values from the list by adding the multiple attribute

```
<select name='snacks' multiple size='6'>
  <option>chips</option>
  <option>nachos</option>
  ...
</select>
```

- group and label sets of list options with the element and label attribute

```
<optgroup label='Salty Snacks'>
  <option>Potato Chips</option>
</optgroup>
```

<textarea> Element

- create a larger text area for user input

```
<p><b>Briefly tell us your favourite fish story:</b><br>
  <textarea name='fishstory' rows='5' cols='30'>
    Enter your story here...
  </textarea>
</p>
```

Creating Input Groupings

- use <fieldset> and <legend> elements to create groupings of different types of input elements

Forms Events

Table 3: Form Events

Attribute	Value	Description
onblur	<i>script</i>	Fires the moment the element loses focus
onchange	<i>script</i>	Fires the moment the value of the element is changed
oncontextmenu	<i>script</i>	Script to be run when a context menu is triggered
onfocus	<i>script</i>	Fires the moment the element gets focus
oninput	<i>script</i>	Script to be run when an element gets user input
oninvalid	<i>script</i>	Script to be run when an element is invalid

Attribute	Value	Description
onreset	<i>script</i>	Fires when the Reset button in a form is clicked
onsearch	<i>script</i>	Fires when user writes something in a search field (for <input='search'>)
onselect	<i>script</i>	Fires after some text has been selected in an element
onsubmit	<i>script</i>	Fires when a form is submitted

Keyboard Events

Table 4: Keyboard Events

Attribute	Value	Description
onkeydown	<i>script</i>	Fires when a user is pressing a key
onkeypress	<i>script</i>	Fires when a user presses a key
onkeyup	<i>script</i>	Fires when a user releases a key

Mouse Events

Table 5: Mouse Events

Attribute	Value	Description
onclick	<i>script</i>	Fires on a mouse click on the element
ondblclick	<i>script</i>	Fires on a mouse double-click on the element
onmousedown	<i>script</i>	Fires when a mouse button is pressed down on an element
onmousemove	<i>script</i>	Fires when the mouse pointer is moving while it is over an element
onmouseout	<i>script</i>	Fires when the mouse pointer moves out of an element
onmouseover	<i>script</i>	Fires when the mouse pointer moves over an element
onmouseup	<i>script</i>	Fires when a mouse button is released over an element
onwheel	<i>script</i>	Fires when the mouse wheel rolls up or down over an element

Summary

- choose the right form elements based on the data you want to collect
- form element has attributes that describe how the form data is processed
- need a server application to process form data
- <fieldset> and <legend> elements let you create more visually appealing forms