



Additional Notes Form Handling in HTML

Client/Server Programming
for Internet Applications

TCSS460

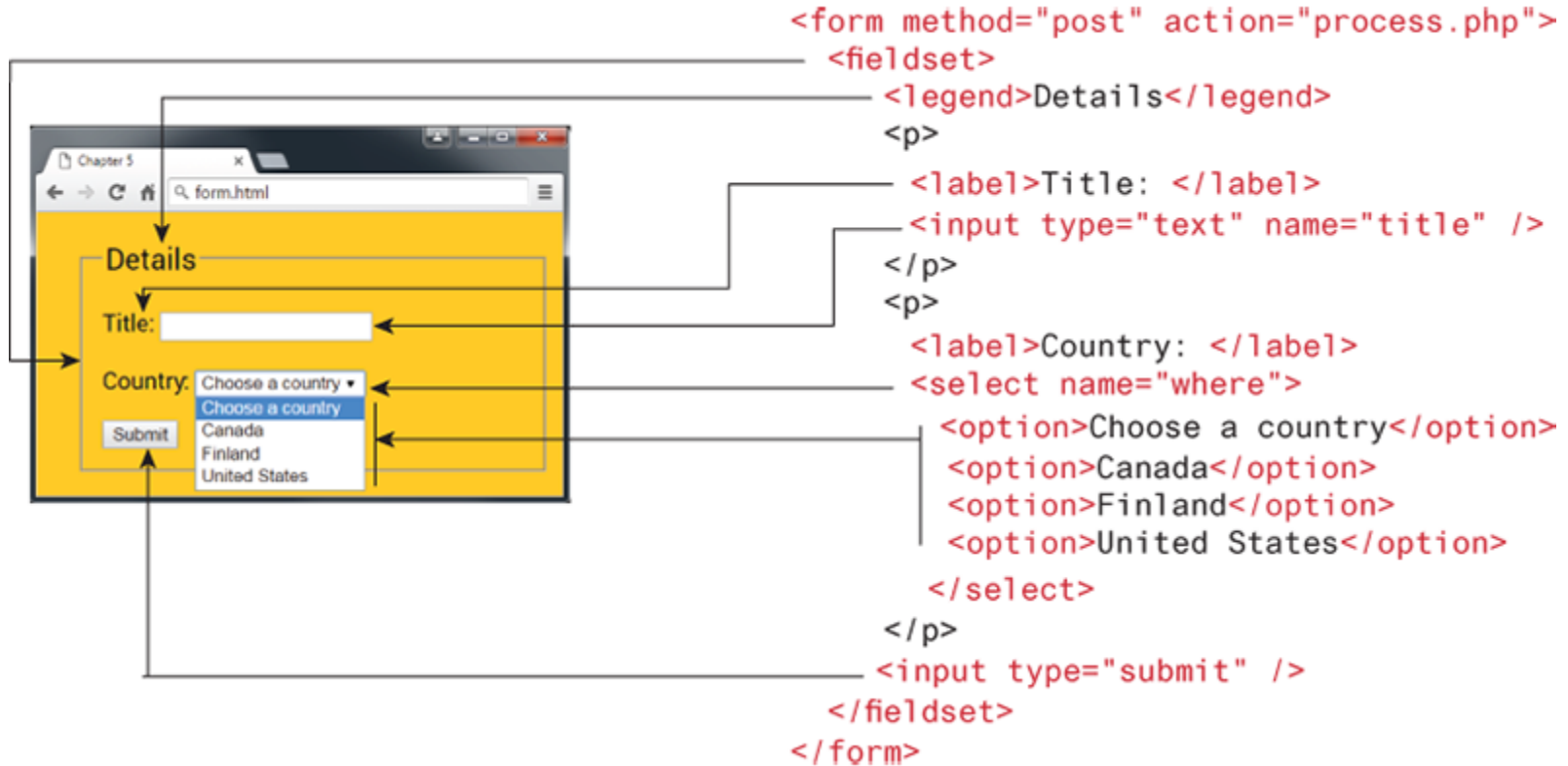


Forms

- **forms** provide the user with an alternative way to interact with a web server
 - clicking hyperlinks provides a mechanism available to the user for communicating with the server
 - forms provide a much richer mechanism
 - user can enter text,
 - choose items from lists, and
 - click buttons
 - typically, programs running on the server will take the input from HTML forms and do something with it
 - save it in a database
 - interact with an external web service
 - customize subsequent HTML based on that input

Forms

→ form structure

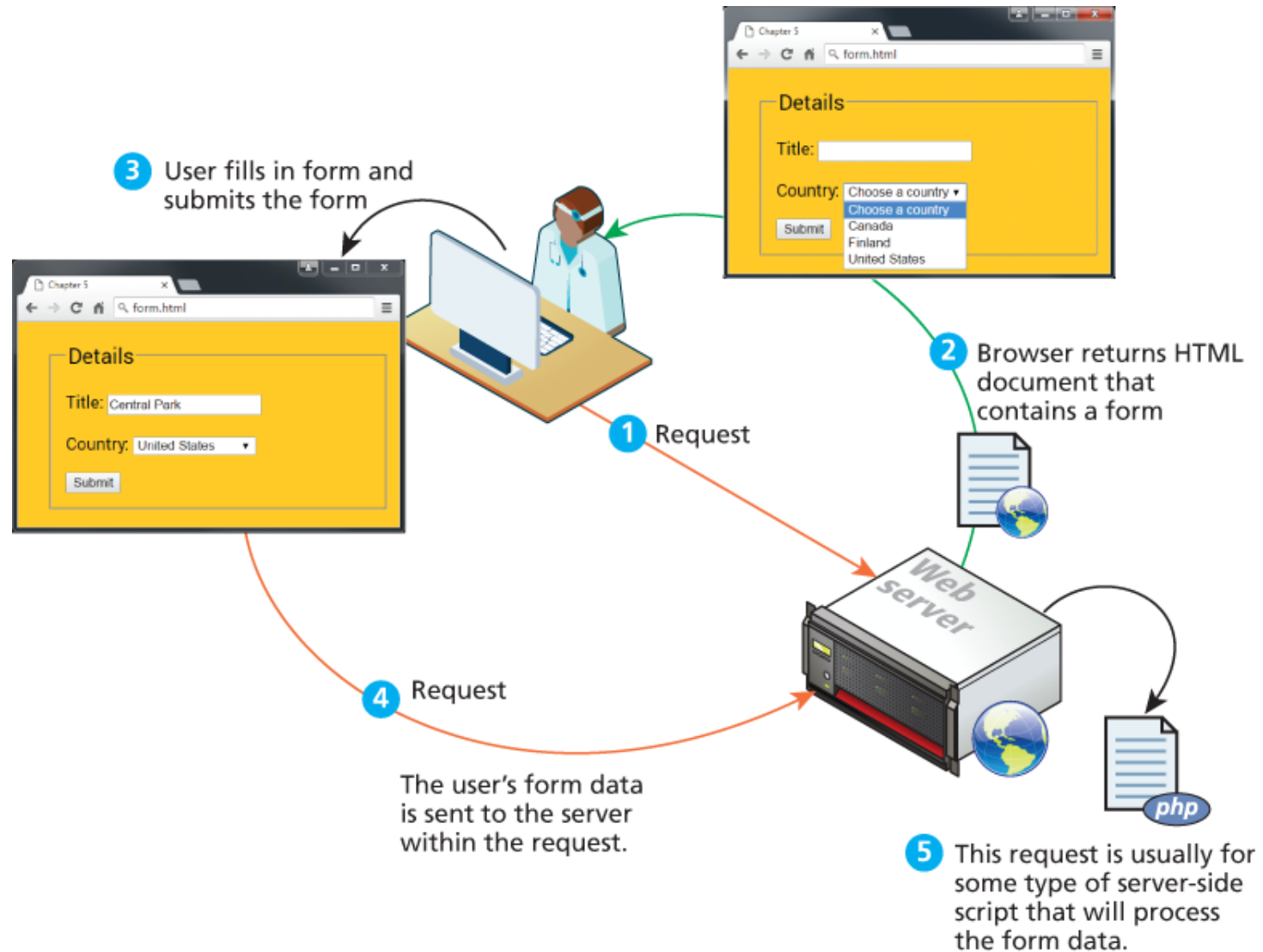


```
<form method="post" action="process.php">
  <fieldset>
    <legend>Details</legend>
    <p>
      <label>Title: </label>
      <input type="text" name="title" />
    </p>
    <p>
      <label>Country: </label>
      <select name="where">
        <option>Choose a country</option>
        <option>Canada</option>
        <option>Finland</option>
        <option>United States</option>
      </select>
    </p>
    <input type="submit" />
  </fieldset>
</form>
```

- a form is defined by a **<form>** element

Forms

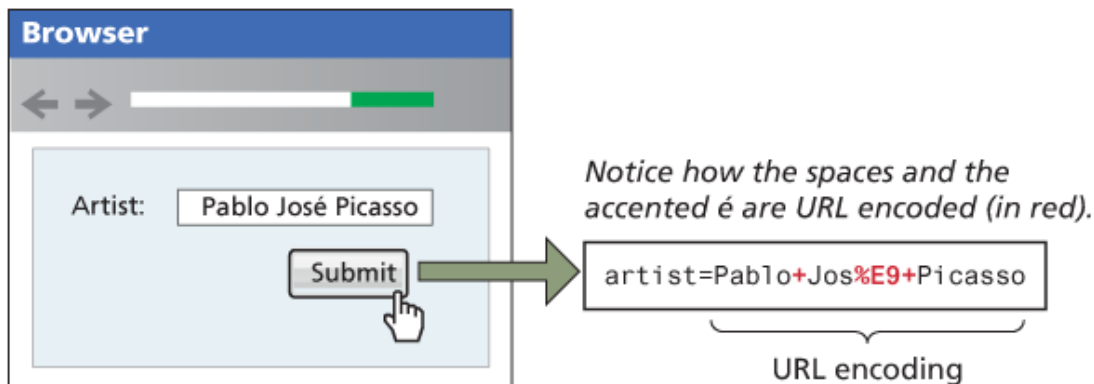
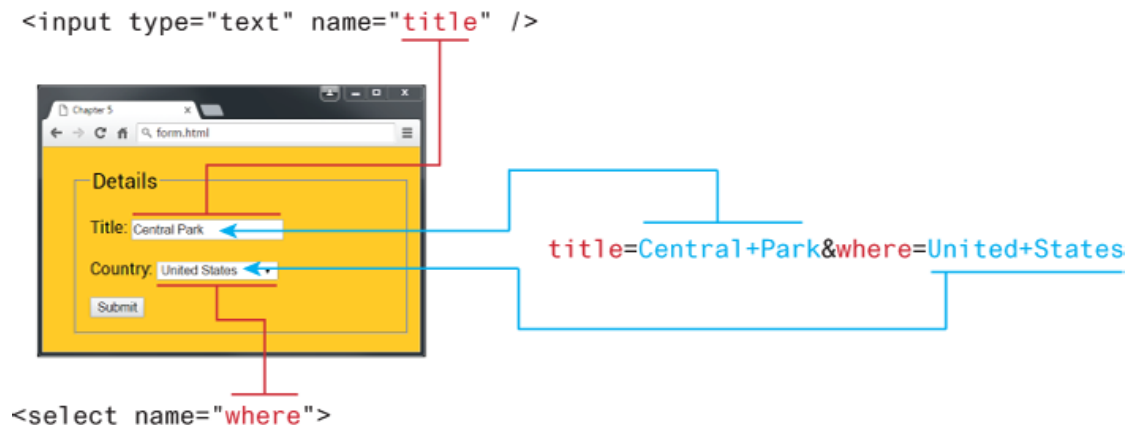
→ how forms work?



Forms

→ recall: query strings

- query strings have certain rules defined by the HTTP protocol

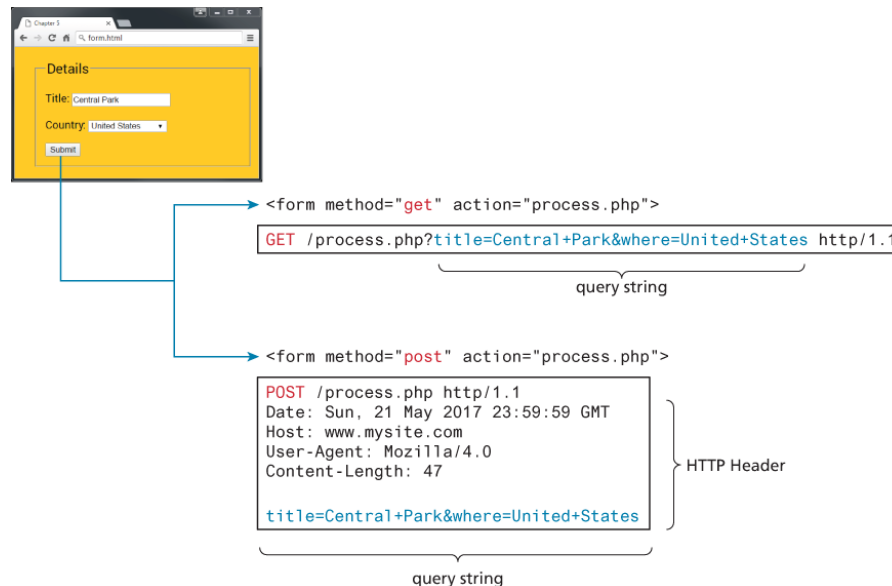


- certain characters such as spaces, punctuation symbols, and foreign characters cannot be part of a query string.
- such special symbols must be **URL encoded**

Forms

→ actions and methods

- there are two important **attributes** that are essential features of any form
 - **action** attribute specifies the URL of the server-side resource that will process the form data
 - **method** attribute specifies how the query string data will be transmitted from the browser to the server.



Forms

→ actions and methods (cont'd)

GET versus POST

Type	Advantages and Disadvantages
GET	<p>Data can be clearly seen in the address bar. This may be an advantage during development but a disadvantage in production.</p> <p>Data remains in browser history and cache. Again this may be beneficial to some users, but a security risk on public computers.</p> <p>Data can be bookmarked (also an advantage and a disadvantage).</p> <p>Limit on the number of characters in the form data returned.</p>
POST	<p>Data can contain binary data.</p> <p>Data is hidden from user.</p> <p>Submitted data is not stored in cache, history, or bookmarks.</p>

Forms

→ form control elements

Type	Description
<code>text</code>	Creates a single-line text entry box. <code><input type="text" name="title" /></code>
<code>textarea</code>	Creates a multiline text entry box. You can add content text or if using an HTML5 browser, placeholder text (hint text that disappears once user begins typing into the field). <code><textarea rows="3" ... /></code>
<code>password</code>	Creates a single-line text entry box for a password (which masks the user entry as bullets or some other character) <code><input type="password" ... /></code>
<code>search</code>	Creates a single-line text entry box suitable for a search string. This is an HTML5 element. Some browsers on some platforms will style search elements differently or will provide a clear field icon within the text box. <code><input type="search" ... /></code>
<code>email</code>	Creates a single-line text entry box suitable for entering an email address. This is an HTML5 element. Some devices (such as the iPhone) will provide a specialized keyboard for this element. Some browsers will perform validation when form is submitted. <code><input type="email" ... /></code>
<code>tel</code>	Creates a single-line text entry box suitable for entering a telephone. This is an HTML5 element. Since telephone numbers have different formats in different parts of the world, current browsers do not perform any special formatting or validation. Some devices may, however, provide a specialized keyboard for this element. <code><input type="tel" ... /></code>
<code>url</code>	Creates a single-line text entry box suitable for entering a URL. This is an HTML5 element. Some devices may provide a specialized keyboard for this element. Some browsers also perform validation on submission. <code><input type="url" ... /></code>

Forms

→ form control elements (cont'd)

text input controls

```
<input type="text" ... />
```

Text:

```
<textarea>
  enter some text
</textarea>
```

TextArea:

```
<textarea placeholder="enter some text">
</textarea>
```

TextArea:

```
<input type="password" ... />
```

Password:

Password:

```
<input type="search" placeholder="enter search text" ... />
```

Search:

Search:

```
<input type="email" ... />
```

Email:

In Opera

Please enter a valid email address

Email:

In Chrome

Please enter an email address.

```
<input type="url" ... />
```

url:

Please enter a URL.

```
<input type="tel" ... />
```

Tel:

Forms

→ form control elements (cont'd)

New in HTML5 – pattern and datalist

```
<input type="text" ... placeholder="L#L #L#" pattern="[a-z][0-9][a-z] [0-9][a-z][0-9]" />
```

Postal:

Postal:

! Please match the requested format.

Search City:

Paris
Prague


```
<input type="text" name="city" list="cities" />
```

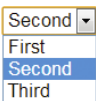
```
<datalist id="cities">  
  <option>Calcutta</option>  
  <option>Calgary</option>  
  <option>London</option>  
  <option>Los Angeles</option>  
  <option>Paris</option>  
  <option>Prague</option>  
</datalist>
```

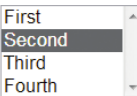
Forms

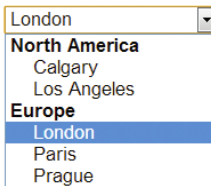
→ form control elements (cont'd)

Choice Controls (<select>)

Select: 

Select: 

Select: 

Cities: 

```
<select name="choices">
  <option>First</option>
  <option selected>Second</option>
  <option>Third</option>
</select>
```

```
<select size="3" ... >
```

```
<select ... >
  <optgroup label="North America">
    <option>Calgary</option>
    <option>Los Angeles</option>
  </optgroup>
  <optgroup label="Europe">
    <option>London</option>
    <option>Paris</option>
    <option>Prague</option>
  </optgroup>
</select>
```

Forms

→ form control elements (cont'd)

Choice Controls <select> using value attribute

Select:

Second
First
Second
Third

```
<select name="choices">  
  <option>First</option>  
  <option>Second</option>  
  <option>Third</option>  
</select>
```

?choices=Second

```
<select name="choices">  
  <option value="1">First</option>  
  <option value="2">Second</option>  
  <option value="3">Third</option>  
</select>
```

?choices=2

Forms

→ form control elements (cont'd)

Button Controls (radio & checkbox)

radio

Continent:

- ☐ North America
- ☒ South America
- ☐ Asia

```
<input type="radio" name="where" value="1">North America<br/>  
<input type="radio" name="where" value="2" checked>South America<br/>  
<input type="radio" name="where" value="3">Asia
```

checkbox

I accept the software license ☒

```
<label>I accept the software license</label>  
<input type="checkbox" name="accept" >
```

Where would you like to visit?

- ☒ Canada
- ☐ France
- ☒ Germany

```
<label>Where would you like to visit? </label><br/>  
<input type="checkbox" name="visit" value="canada">Canada<br/>  
<input type="checkbox" name="visit" value="france">France<br/>  
<input type="checkbox" name="visit" value="germany">Germany
```

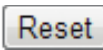
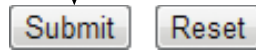
?accept=on&visit=canada&visit=germany

Forms

→ form control elements (cont'd)

Button Controls (submit & file upload)

```
<input type="submit" />
```

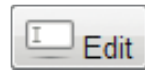


```
<input type="reset" />
```

```
<input type="button" value="Click Me" />
```



```
<input type="image" src="appointment.png" />
```



```
<button>
  <a href="email.html">
    
    Email
  </a>
</button>
```

```
<button type="submit">
  
  Edit
</button>
```

Upload a travel photo

Choose File No file chosen



Upload a travel photo

Choose File IMG_0020.JPG

```
<form method="post" enctype="multipart/form-data" ... >
```

```
...
```

```
<label>Upload a travel photo</label>
```

```
<input type="file" name="photo" />
```

```
...
```

```
</form>
```

Forms

→ form control elements (cont'd)

number and range controls

Rate this photo:

```
<label>Rate this photo: <br/>
```

```
<input type="number" min="1" max="5" name="rate" />
```

Grumpy Ecstatic

Grumpy

```
<input type="range" min="0" max="10" step="1" name="happiness" />
```

Ecstatic

Rate this photo:

Grumpy Ecstatic

Controls as they appear in browser
that doesn't support these input types

Forms

→ form control elements (cont'd)

Specialized Controls (color)

Date:

March 2013

Mon	Tue	Wed	Thu	Fri	Sat	Sun
25	26	27	28	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

Today

```
<label>Date: <br/>  
<input type="date" ... />
```

Time:

02:02 AM

```
<input type="time" ... />
```

DateTime:

2013-03-08 05:46 UTC

```
<input type="datetime" ... />
```

DateTime Local:

2013-03-13 12:02

```
<input type="datetime-local" ... />
```

```
<input type="month" ... />
```

Month:

March, 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
24	25	26	27	28	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

This month Clear

```
<input type="week" ... />
```

Week:

2013-W10

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
9	25	26	27	28	1	2	3
10	4	5	6	7	8	9	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31
14	1	2	3	4	5	6	7

Today

Forms

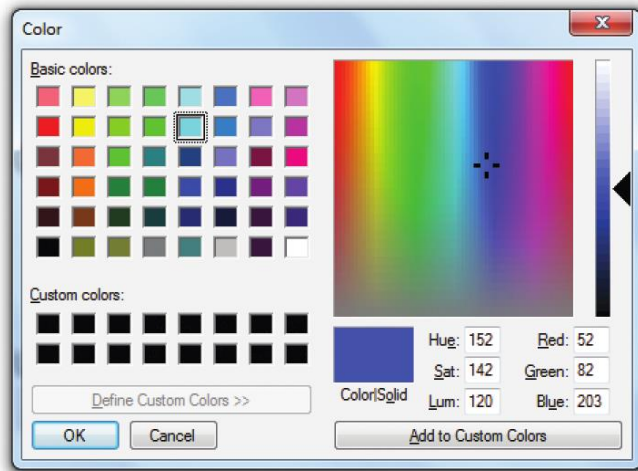
→ form control elements (cont'd)

Date and Time Controls

Background Color:



```
<label>Background Color: <br/>
<input type="color" name="back" />
```



Background Color:

Control as it appears in browser that
doesn't support this input type