

Information Technologies

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Lecture 9 - Overview

Forms in HTML

Form Styling using Bootstrap

Form Validation

- HTML5 Form Validation
- JavaScript Validation

Exercise 4

- Overview + Demos

Lectures – Week 9 Content

<http://comminfo.rutgers.edu/~aspoerri/Teaching/InfoTech/Lectures.html#week9>

HTML Forms

HTML Forms

- Solicit feedback or information from visitors**
- Collection of data entry fields, labels, buttons**
- Processing script on server (PHP)**
- Never assume anything about data**

<http://comminfo.rutgers.edu/~aspoerri/Teaching/InfoTech/Lectures/Lec9/Steps/formDemo.html>

HTML Form – Form Tag

1. **<form>** form elements **</form>**

2. Inside **<form>** tag

- **method** attribute specifies way in which data is to be sent
 - method="get" (limited data amount) method="**post**"
- **action** attribute specifies URL to which user data is to be sent

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

3. **label** and **form element**

```
<form method="post" action="mailto:youremailaddress">
```

```
  <label>First Name: </label>
```

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

```
</form>
```

HTML Form – Form Elements and Organization

Form Elements

Text Field `<input type="text" name="firstname" />`

Text Area `<textarea rows="10" cols="30" name="texta">text</textarea>`

Password `<input type="password" name="password" />`

Radio Button `<input type="radio" name="y_n" value="yes" />Yes
`

Checkbox `<input type="checkbox" name="vehicle" value="Bike" />`

Menu `<select name="cars"><option value="kia">Kia</option></select>`

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

Reset Button `<input type="reset" value="Submit" />`

name needed to **reference** input element

Organize Form Elements

`<fieldset id="idname"><legend align="left">Legend
Text</legend>Form Elements</fieldset>`

Form Example

<http://comminfo.rutgers.edu/~aspoerri/Teaching/InfoTech/Lectures/Lec8/Steps/formDemo.html>

```
<form method="post" action="mailto:youremailaddress">
  <fieldset id="personal">
    <legend align="left">Personal Data</legend>
    <label>First Name: </label><input type="text" name="firstname" />
    <br />
    <label>Last Name: </label><input type="text" name="lastname" />
  </fieldset>
  <p>
    <input type="submit" value="Submit" name="submit"/>
    <input type="reset" value="Reset" name="reset"/>
  </p>
</form>
```

Online Practice

http://www.w3schools.com/html/html_forms.asp

HTML5 Form – New Elements & Attributes

HTML5 New Form Elements

Email Input `<input type="email" name="email" />`

Telephone Input `<input type="tel" name="phone" />`

URL Input `<input type="url" name="website" />`

Search Input `<input type="search" name="search" />`

Attributes

required user needs to complete field for form to be able to submit
not supported in Internet Explorer 9- or in Safari

novalidate turns off HTML5 automatic validation via form element

pattern defines text pattern needed for form to be able to submit

placeholder provides hint of pattern needed for form to submit

label element

for same value as form field's **id** → **explicitly associated**

Form Styling using Bootstrap 4

Bootstrap Form Styles

- Need to **Learn** about **classes** and needed **structure**
- Different types for **Form Layouts**
stacked (full-width), inline forms, input groups

.form-control width of 100% and proper padding

.form-group around form control to ensure proper margins

.form-inline all elements are inline and left-aligned

Use **Bootstrap's spacing utilities**: add right margin (**.mr-sm-2**)

Example

.form-text block-level text in forms

.form-check form-check-label | form-check-input | form-check-inline

Example

Form Validation

Validate Forms Data

- **Client-side JavaScript** used to validate form
- **Saves** server resources and time
- **Can Not Trust** any data submitted to server
 - Hackers can quite easily simulate your web forms and submit any data of their choosing.
 - Need to also perform **Server-Side Validation**

HTML5 Form Validation

JavaScript for Form Validation

https://www.w3schools.com/js/js_validation.asp

See Lectures: Week 9 – Readings for more resources.

HTML5 Form Validation

HTML5 introduces **constraint validation**.

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

pattern attribute for: text, search, url, tel, email, and password

```
<input type="text" name="country" pattern="[A-Za-z]{3}">
```

Regular Expressions: https://www.w3schools.com/js/js_regexp.asp

Use **title** attribute to describe pattern to help user

```
<input type="text" name="country" pattern="[A-Za-z]{3}"  
  title="Country Code needs to be 3 letters">
```

```
<input type="text" name="fname" placeholder="First name">
```

required user needs to complete field to be able to submit

```
<input type="text" name="username" required>
```

JavaScript – Validate Forms Data: Create Functions

/* Want to validate contents of fields to make sure user entered the right data.
Make use of **Document Object Model** and use **JavaScript** to access it */

```
function validate(form) {  
    var fail = "";  
    fail += checkboxesSelected(form.checkboxes, errorString)  
    if (fail == "") return true  
    else { alert(fail); return false }  
}
```

On Submit needs to **trigger** validate function

```
<form method="post" action="mailto:youremailaddress"  
    onsubmit="return validate(this)">
```

where **this = current form**

JavaScript Function – Count Number of Checkboxes Selected

```
function checkboxesSelected (checkboxes, errorString) {  
    var cbSelected = 0;  
    for (i=0; i<checkboxes.length; i++) {  
        // test if current checkbox is checked ... if yes, add 1 to counter  
        if (checkboxes[i].checked) {  
            cbSelected += 1;  
        }  
    }  
      
    if (cbSelected == 0) {  
        return (errorString);  
    } else {  
        return "";  
    }  
}
```

Ex4 – Overview

Create **Two Pages** which will be part of Project Site

- **Report** page: Evaluation of **Open-Source Tool**
being or can be used in libraries / relevant workplace
- **Form** page: related to tool evaluated
 - First & Last Name, Email, State, Zipcode, Radio Buttons, Checkboxes
 - Use **HTML5 Form Validation** functionality when possible

Bootstrap 4

- **Collapsible Navigation with Dropdown** for “Info Tech”
 - “Info Tech” has **“you are here”** indicator
- Form: Use **Bootstrap Form Styles**
 - Use **.form-group** and label and input displayed as **inline**

JavaScript

- Report: **Two Image Rollovers** and text flows around them
- Form: **Modify DOM** by adding text below selected radio button
- Form: Use **JavaScript Form Validation**

Ex4 – Form Page: **Modify DOM**

When radio button selected **Modify DOM** using JavaScript

- **Create function** to display text below radio buttons
 - `<input type="radio" onclick="modifyDOM(this)">`
 - Specify insertionNode using **document.getElementById**
 - **if test** whether element with id="info" **does NOT exist === null**
 - createElement | setAttribute | createTextNode | appendChild
 - Assign **id="info"** | Assign CSS class **.form-text** and **.infoText**
 - **else** just update text
- **Create function** to specify related text info
 - **if { } else if { } else** so that text specific for selected button
- **Update text** based on currently selected radio button
 - Update text using **.innerHTML**

Ex4 – Form Page: **Validation**

Use **HTML5 Form Validation**

- Assign **required** attribute where appropriate
- Assign **pattern** attribute for **State** and **Zipcode** inputs
 - State: **Two Capital Letters** | Zipcode: **Five Numbers**

Use **JavaScript Form Validation**

- Create **checkboxesSelected** function
 - Make sure **at least 2 checkboxes selected**
- Create **validate** function and
 - Make sure that "Submit" input triggers validate function
 - Make sure **field name** used in **function**
matches field name in HTML code