IS234T: MULTI-TIER APPLICATION DEVELOPMENT

Lecture 2: HTML5 – Part 2

Information Systems Department

Objectives

- Build a form using the new HTML 5 input.
- Specify an input element in a form as the one that should receive the focus by default.
- Use self-validating input elements.
- Specify temporary placeholder text in various input elements.
- Use autocomplete input elements that help users reenter text that they have previously entered in a form.

Objectives

- Use a datalist to specify a list of values that can be entered in an input element and to autocomplete entries as the user types.
- Use HTML5's new page structure elements to delineate parts of a page, including headers, sections, figures, articles, footers and more.

New HTML5 Form input Types

```
<!DOCTYPE html>

<!-- newforminputtypes.html -->
<!-- New HTML5 form input types and attributes. -->
<html>
   <head>
      <meta charset="utf-8">
      <title>New HTML5 Input Types</title>
   </head>

   <body>
      <h1>New HTML5 Input Types Demo</h1>
      <p>This form demonstrates the new HTML5 input types
         and the placeholder, required and autofocus attributes.
      </p>

      <form method = "post" action = "http://www.deitel.com">
         <p>
            <label>Color:
               <input type = "color" autofocus />
                  (Hexadecimal code such as #ADD8E6)
            </label>
         </p>
         <p>
            <label>Date:
               <input type = "date" />
                  (yyyy-mm-dd)
            </label>
         </p>
         <p>
            <label>Datetime-local:
               <input type = "datetime-local" />
```

New HTML5 Form input Types

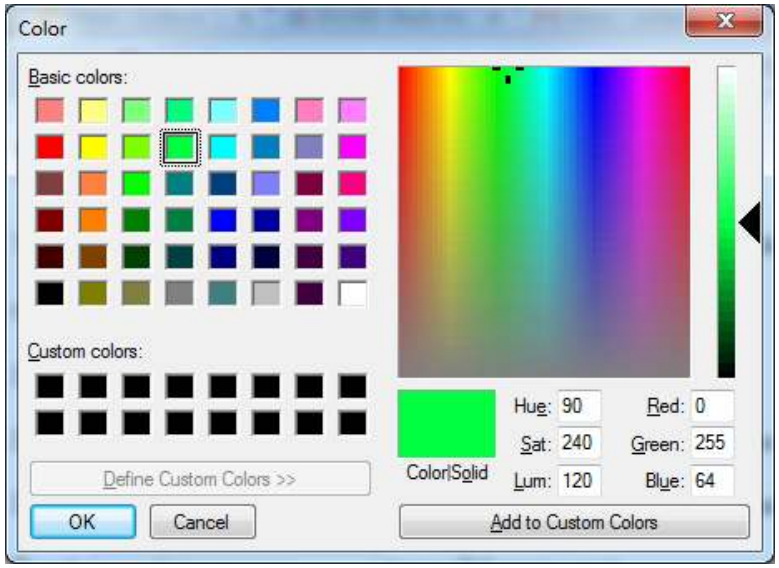
```
33                  (yyyy-mm-ddThh:mm, such as 2012-01-27T03:15)
34              </label>
35          </p>
36          <p>
37              <label>Email:
38                  <input type = "email" placeholder = "name@domain.com"
39                      required /> (name@domain.com)
40              </label>
41          </p>
42          <p>
43              <label>Month:
44                  <input type = "month" /> (yyyy-mm)
45              </label>
46          </p>
47          <p>
48              <label>Number:
49                  <input type = "number"
50                      min = "0"
51                      max = "7"
52                      step = "1"
53                      value = "4" />
54              </label> (Enter a number between 0 and 7)
55          </p>
56          <p>
57              <label>Range:
58                  0 <input type = "range"
59                      min = "0"
60                      max = "20"
61                      value = "10" /> 20
62              </label>
63          </p>
64          <p>
```

New HTML5 Form input Types

```
65              <label>Search:
66                 <input type = "search" placeholder = "search query" />
67              </label> (Enter your search query here.)
68           </p>
69           <p>
70              <label>Tel:
71                 <input type = "tel" placeholder = "(###) ###-####"
72                    required />
73                    (###) ###-####
74              </label>
75           </p>
76           <p>
77              <label>Time:
78                 <input type = "time" /> (hh:mm)
79              </label>
80           </p>
81           <p>
82              <label>URL:
83                 <input type = "url"
84                    placeholder = "http://www.domainname.com" />
85                    (http://www.domainname.com)
86              </label>
87           </p>
88           <p>
89              <label>Week:
90                 <input type = "week" />
91                    (yyyy-Wnn, such as 2012-W01)
92              </label>
93           </p>
94           <p>
95              <input type = "submit" value = "Submit" />
96              <input type = "reset" value = "Clear" />
97           </p>
98        </form>
99     </body>
100 </html>
```

input Type Color

- The ***color*** input type (lines 20-21) enables the user to enter color.
- Depending on browser support, a color picker can show up in the input field.

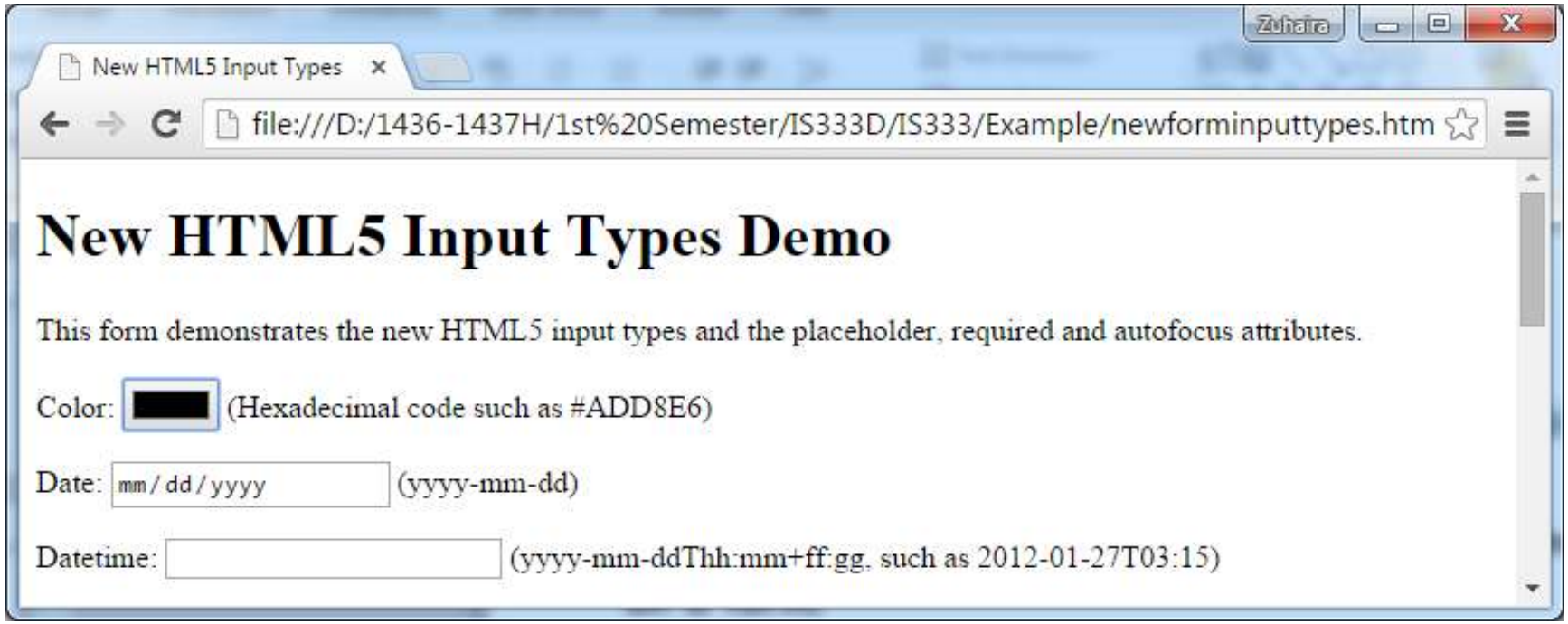


autofocus Attribute

- The ***autofocus*** attribute (line 20) is an *optional* attribute that can be used in only ***one*** input element on a form.
- It will automatically gives the focus to the input element, allowing the user to begin typing in that element immediately.

autofocus Attribute

- E.g.: autofocus on the color element.

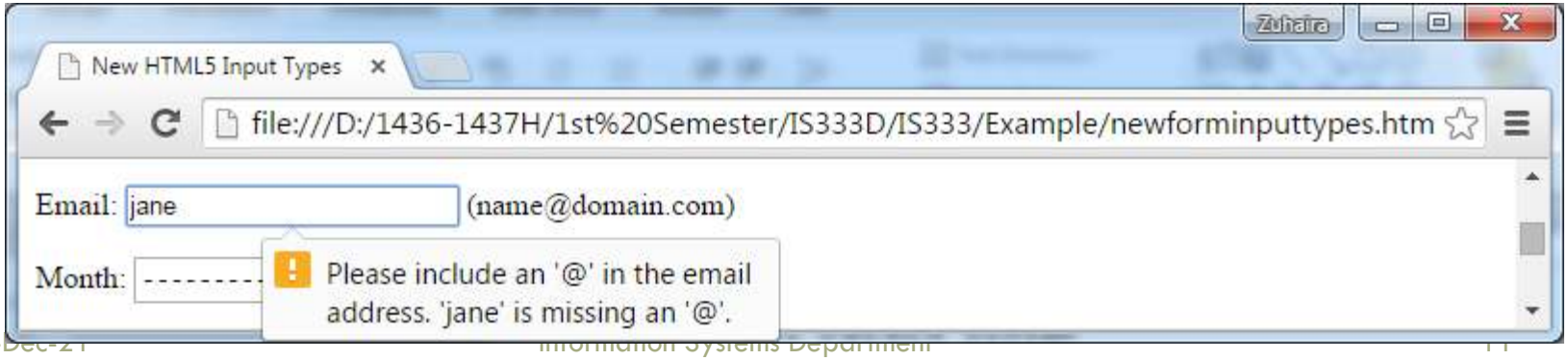


Validation

- Traditionally it's been difficult to validate user input, such as ensuring that an e-mail address, URL, date or time is entered in the proper format.
- The new HTML5 input types are ***self validating*** on the client side,
  - eliminating the need to add complicated Javascript code to your web pages to validate user input
  - reducing the amount of invalid data submitted
  - reducing Internet traffic between the server and the client to correct invalid input

Validation

- When a user enters data into a form then submits the form (e.g. user clicks the Submit button), the browser immediately checks the self-validating elements to ensure that the data is correct.
- E.g. If a user enters an incorrect e-mail address, a callout pointing to the element will appear, indicating that an invalid value was entered.



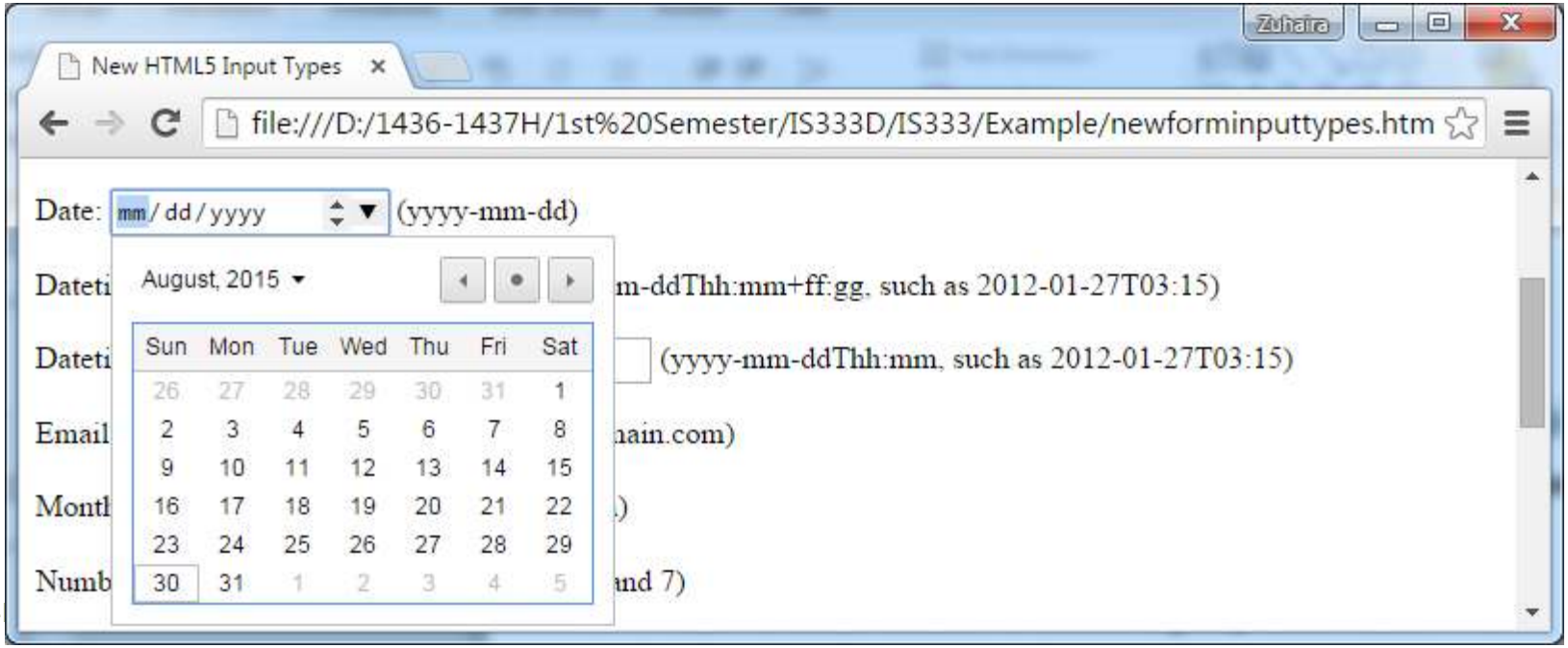
Validation

- To bypass validation, add the formnovalidate attribute to input type submit in line 101:

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

input Type date

- The ***date*** input type (lines 26-27) enables the user to enter a date.
- Depending on browser support, a date picker can show up in the input field.



input Type datetime-local

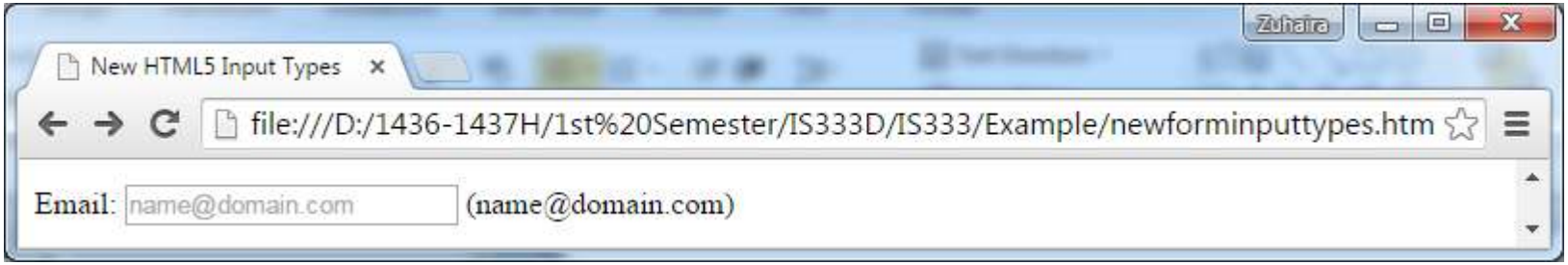
- The ***datetime-local*** input type (lines 32-33) enables the user to enter the date and time in a single control.
- Depending on browser support, a date picker and time control can show up in the input field.

input Type email

- The ***email*** input type (lines 38-39) enables the user to enter an e-mail address or a list of e-mail addresses separated by commas (if ***multiple*** attribute is specified).
- All the browsers display a text field.
- Depending on browser support, the e-mail address can be automatically *validated* when submitted.
- If the user enters an *invalid* e-mail address (not in proper format) and clicks the **Submit** button, a callout asking the user to enter an e-mail address is rendered pointing to the input element.
- HTML5 does not check whether an e-mail address entered by the user actually exists –it just validates the format

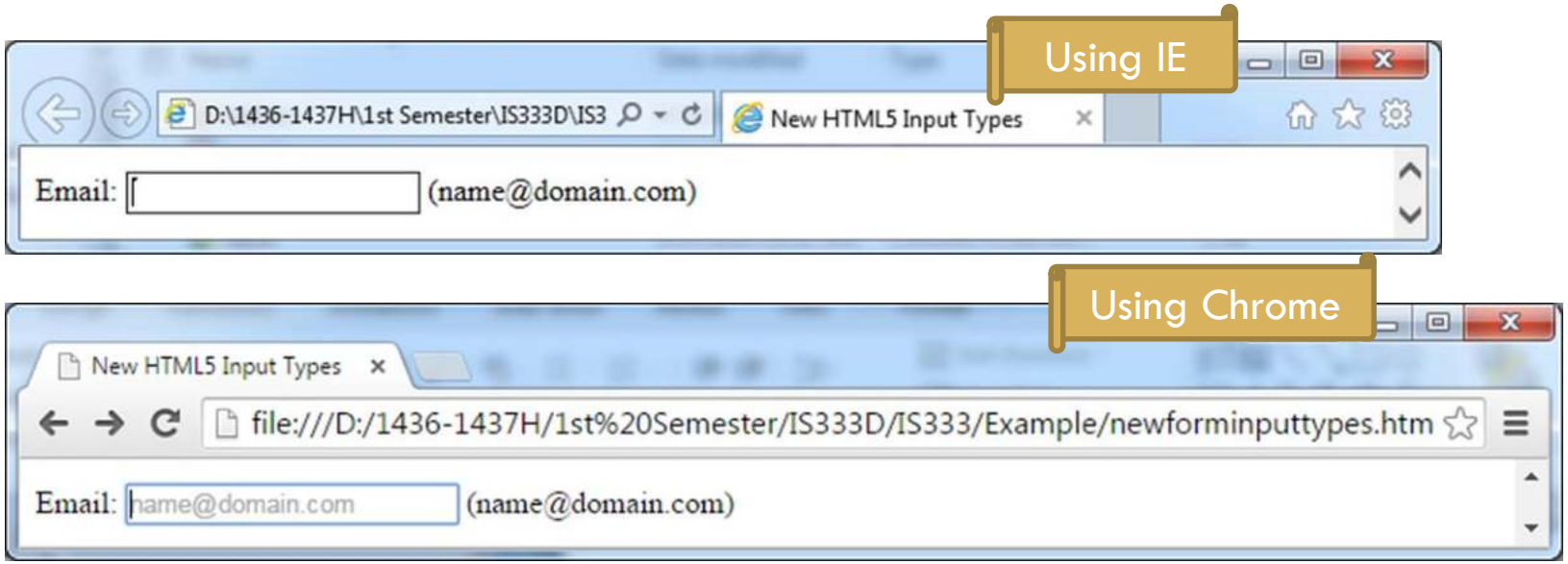
placeholder Attribute

- The ***placeholder*** attribute (lines 38, 66 and 71) allows you to place *temporary text* in a text field.
- Generally, placeholder text is *light grey* and provides an *example of the text* and/or *text format* the user should enter.



placeholder Attribute

- For most browsers, when the focus is placed in the text field (i.e., the cursor is in the text field), the placeholder text disappears but it is not for Chrome.



placeholder Attribute

- The ***placeholder*** text will not be submitted when the user clicks the **Submit** button (unless the user types the same text).
- HTML5 supports ***placeholder*** text for only 6 input types:
  - *text*
  - *search*
  - *url*
  - *tel*
  - *email*
  - *password*

required Attribute

- The ***required*** attribute (lines 39 and 72) forces the user to enter a value before submitting the form.
- It can be added to any of the input types.
- E.g.: The user must enter an e-mail address and a telephone number before being able to submit the form.

required Attribute

- If the user fails to enter an e-mail address and clicks the **Submit** button, a callout pointing to the empty element appears, asking the user to enter the information.

input Type month

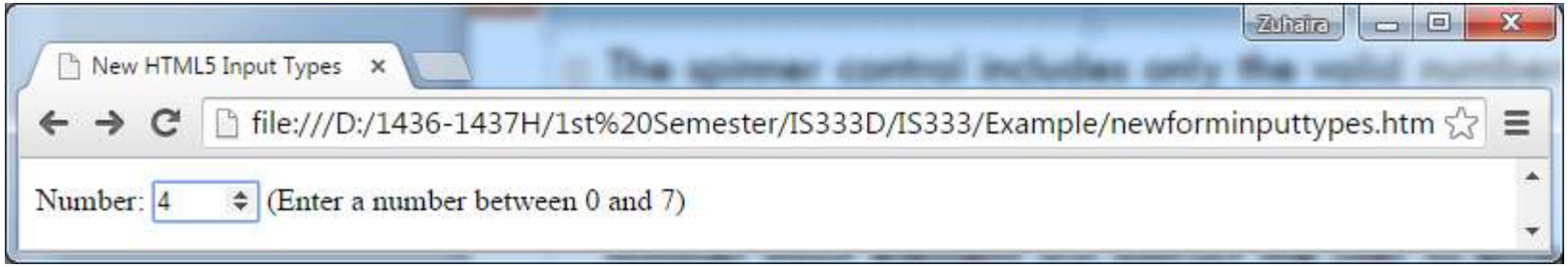
- The month input type (line 44) enables the user to enter a month and year.
- Depending on browser support, a date picker can show up in the input field.

input Type number

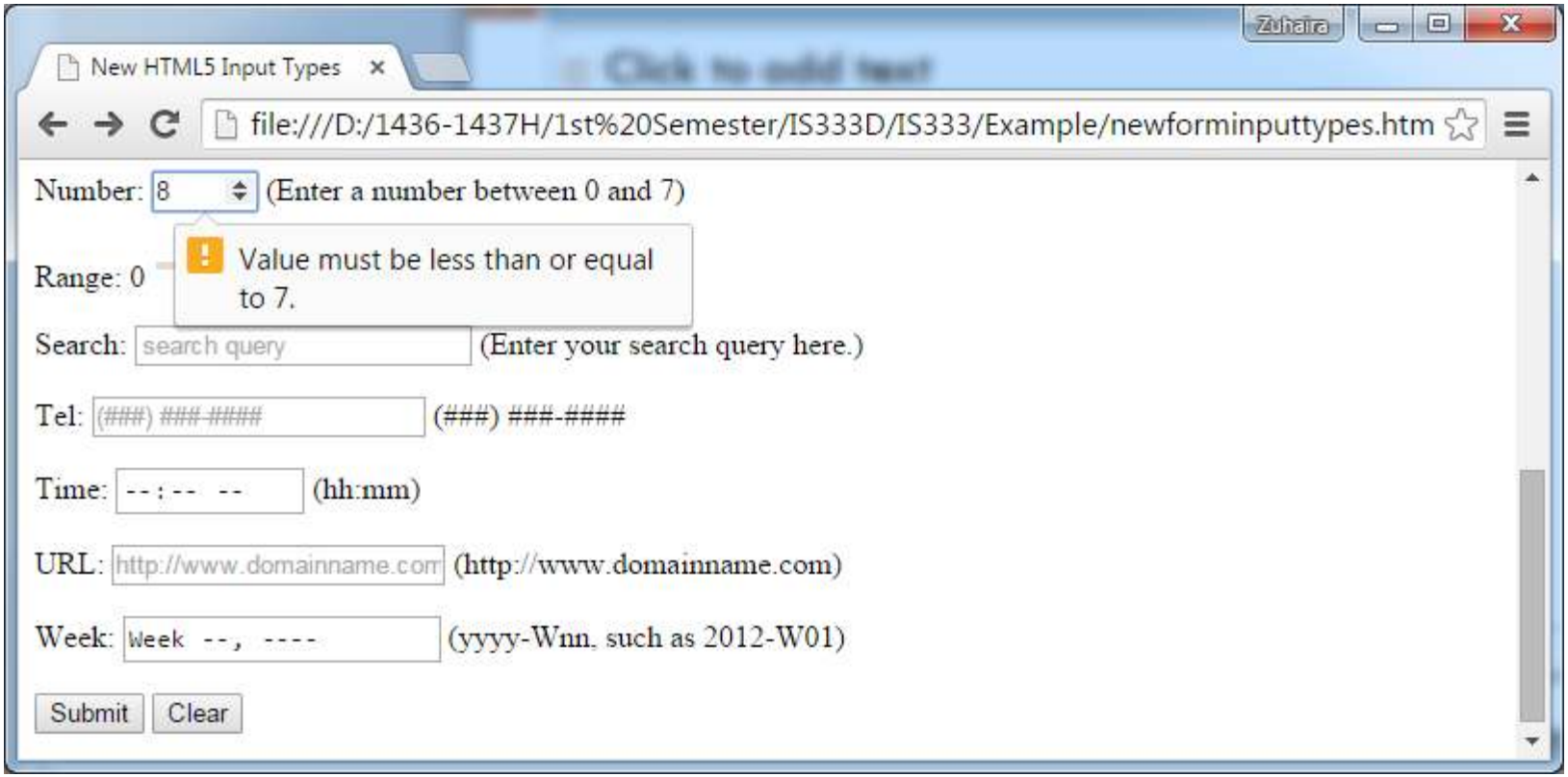
- The ***number*** input type (lines 49-53) enables the user to enter a numerical value.
- The ***min*** attribute sets the minimum valid number.
- The ***max*** attribute sets the maximum valid number.
- The ***step*** attribute determines the increment in which the numbers increase. E.g.: If you set the step to "1", so the number in the spinner control increases or decreases by 1each time the up or down arrow in the spinner is clicked.

input Type number

- The spinner control includes only the valid numbers.
- If the user attempts to enter an invalid value by typing in the text field, a callout pointing to the number input element will instruct the user to enter a valid value.

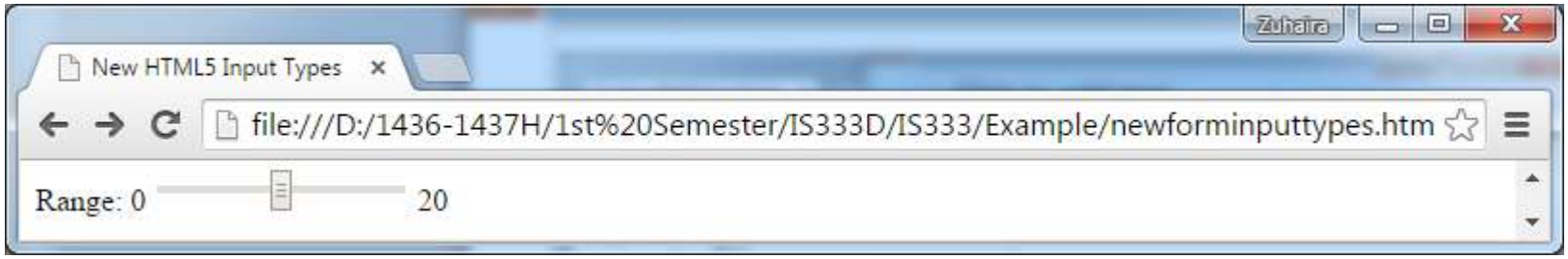


input Type number



input Type range

- The range input type (lines 58-61) appears as a slider control in the supported browser.
- You can set the minimum and maximum and specify a value. E.g.: The min attribute is “0”, the max attribute is “20” and the value attribute is “10”, so, the slider appears near the center of the range when the document is rendered.

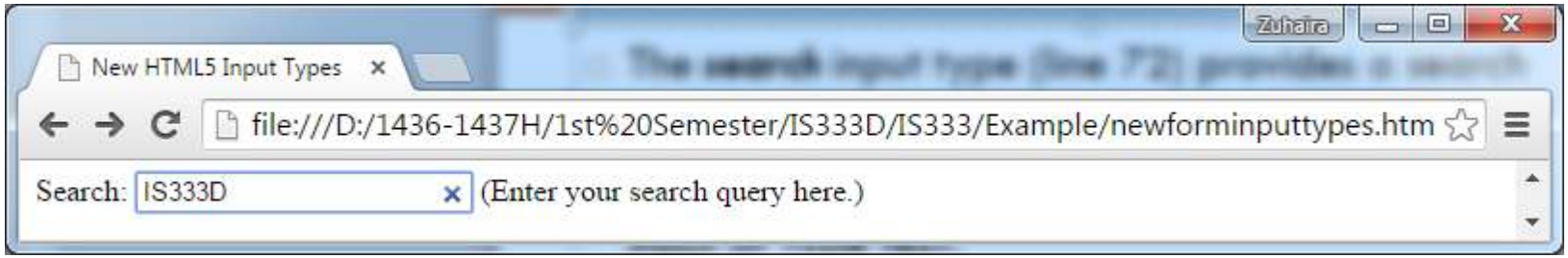


input Type range

- The ***range*** input type is *inherently self-validating* when it is rendered by the browser as a slider control, because *the user is unable to move the slider outside the bounds of the minimum or maximum value.*

input Type search

- The ***search*** input type (line 66) provides a search field for entering a query.
- This input element is functionally equivalent to an input of type text.
- When the user begins to type in the search field, the supported browser will display an X that can be clicked to clear the field.

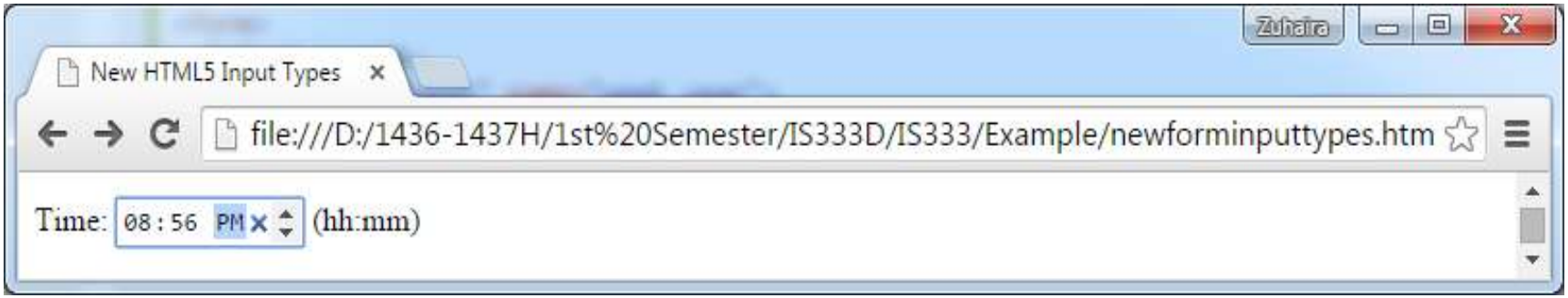


input Type tel

- The ***tel*** input type (lines 71-72) enables the user to enter a telephone number.
- The ***tel*** type is currently supported only in Safari 8.

input Type time

- The ***time*** input type (line 78) enable the user to select a time.
- Depending on browser support, a time picker can show up in the input field.



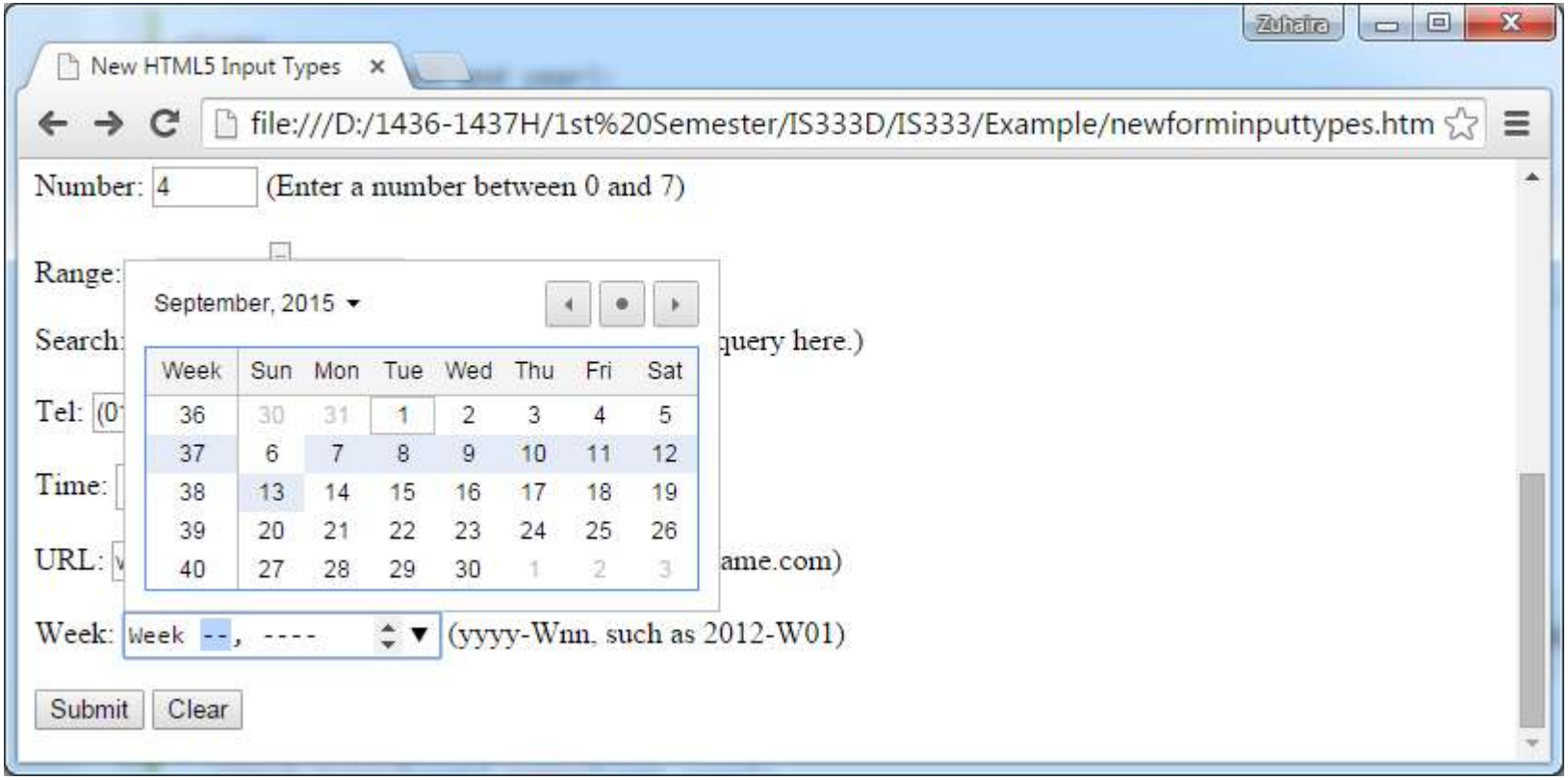
input Type url

- The ***url*** input type (lines 83-84) enables the user to enter a URL.
- Depending on browser support, the ***url*** field can be automatically validated when submitted.

input Type week

- The ***week*** input type (line 90) enables a user to select week and year.
- Depending on browser support, a date picker can show up in the input field.

input Type week



input Element autocomplete Attribute

```
<!DOCTYPE html>

<!-- autocomplete.html -->
<!-- New HTML5 form autocomplete attribute and datalist element. -->
<html>
   <head>
      <meta charset="utf-8">
      <title>New HTML5 autocomplete Attribute and datalist Element</title>
   </head>

   <body>
      <h1>Autocomplete and Datalist Demo</h1>
      <p>This form demonstrates the new HTML5 autocomplete attribute
         and the datalist element.
      </p>

      <!-- turn autocomplete on -->
      <form method = "post" autocomplete = "on">
         <p><label>First Name:
            <input type = "text" id = "firstName"
               placeholder = "First name" /> (First name)
            </label></p>
         <p><label>Last Name:
            <input type = "text" id = "lastName"
               placeholder = "Last name" /> (Last name)
            </label></p>
         <p><label>Email:
            <input type = "email" id = "email"
               placeholder = "name@domain.com" /> (name@domain.com)
            </label></p>
```

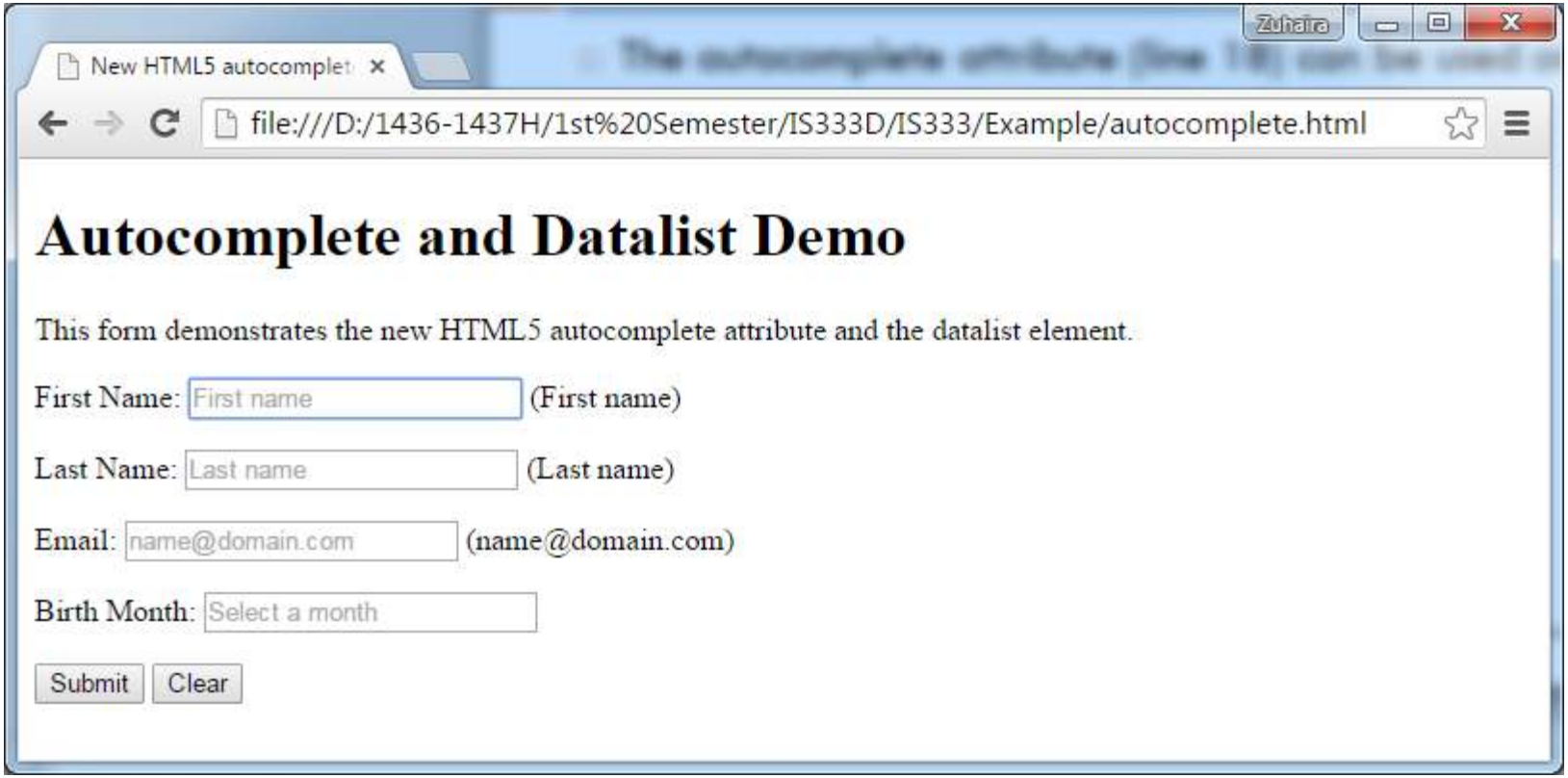
input Element autocomplete Attribute

```
31          <p><label for = "txtList">Birth Month:
32             <input type = "text" id = "txtList"
33                placeholder = "Select a month" list = "months" />
34             <datalist id = "months">
35                <option value = "January">
36                <option value = "February">
37                <option value = "March">
38                <option value = "April">
39                <option value = "May">
40                <option value = "June">
41                <option value = "July">
42                <option value = "August">
43                <option value = "September">
44                <option value = "October">
45                <option value = "November">
46                <option value = "December">
47             </datalist>
48          </label></p>
49          <p><input type = "submit" value = "Submit" />
50             <input type = "reset" value = "Clear" /></p>
51       </form>
52    </body>
53 </html>
```

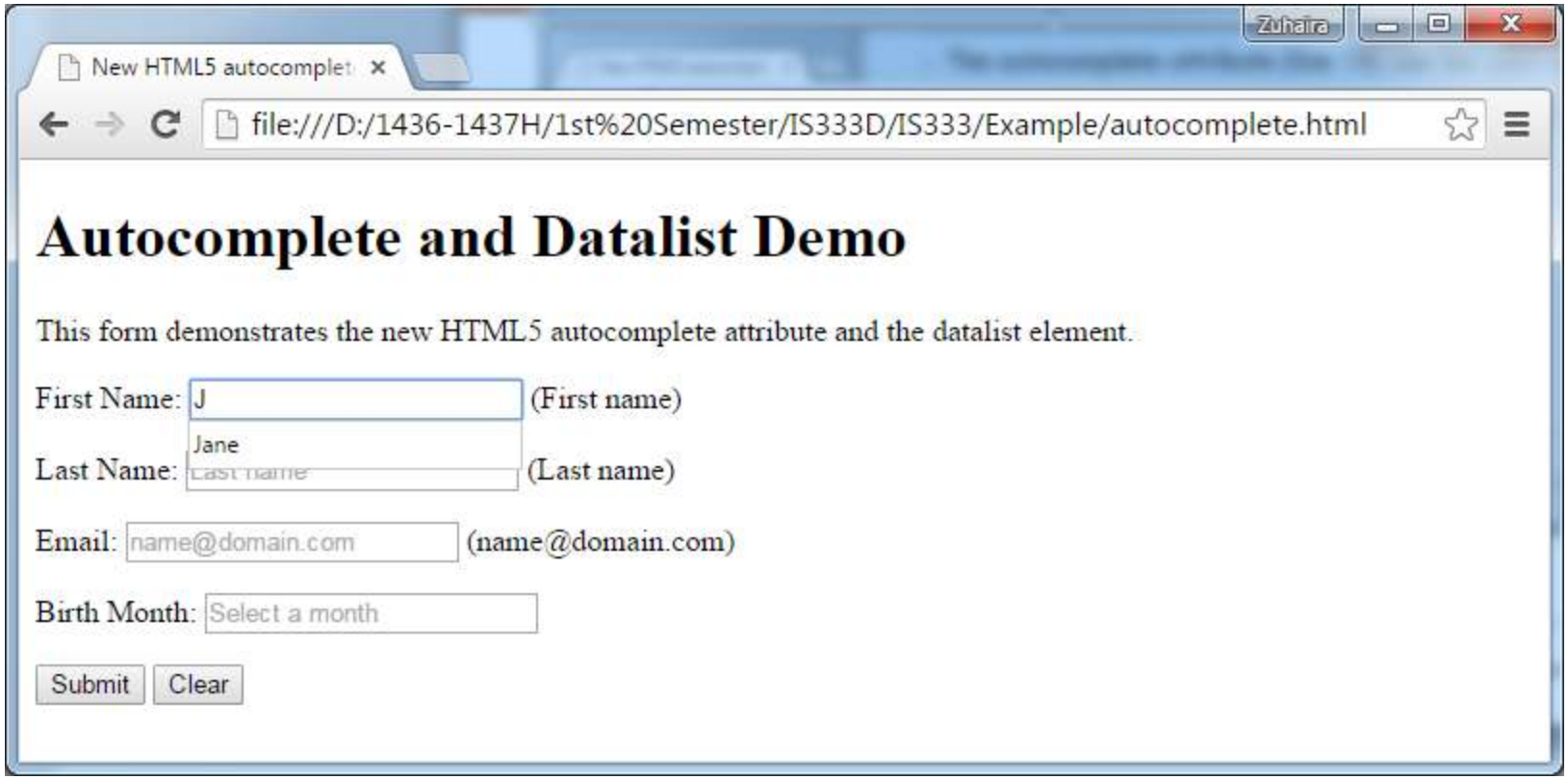
autocomplete Attribute

- The autocomplete attribute (line 18) can be used on input types to automatically fill in the user's information based on previous input.
- The autocomplete attribute can be enabled for an entire form or just for specific elements.

autocomplete Attribute

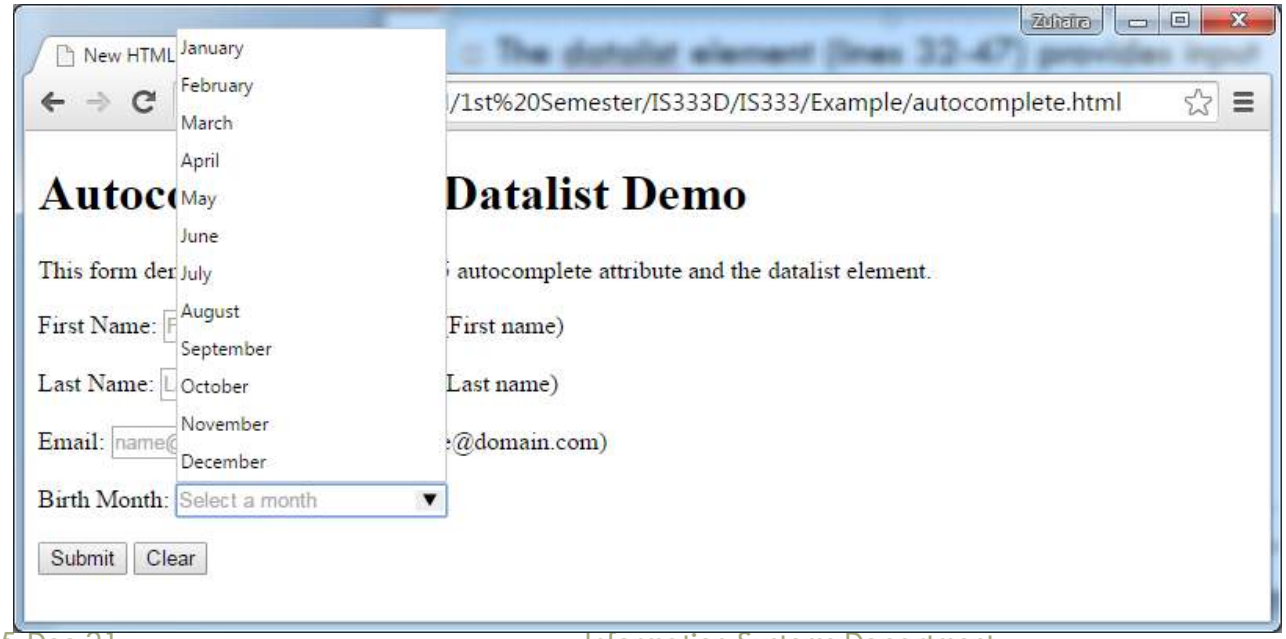


autocomplete Attribute



datalist Element

- The datalist element (lines 32-47) provides input options for a text input element.
- E.g.: Birth Month – drop down list of months of the year.



Page-Structure Elements

- HTML5 introduces several new page-structure elements that meaningfully identify areas of the page as headers, footers, articles, navigation areas, asides, figures and more.

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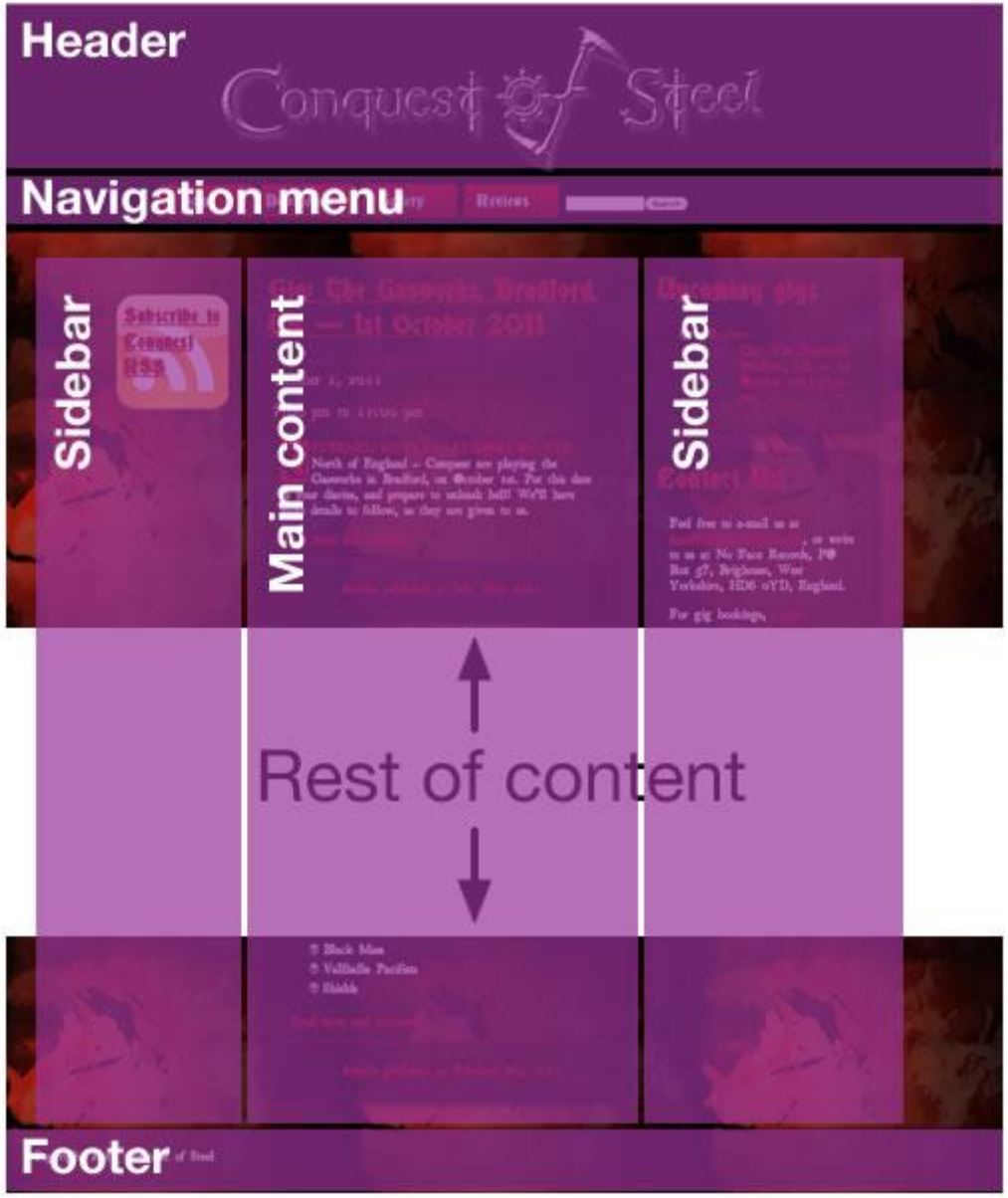

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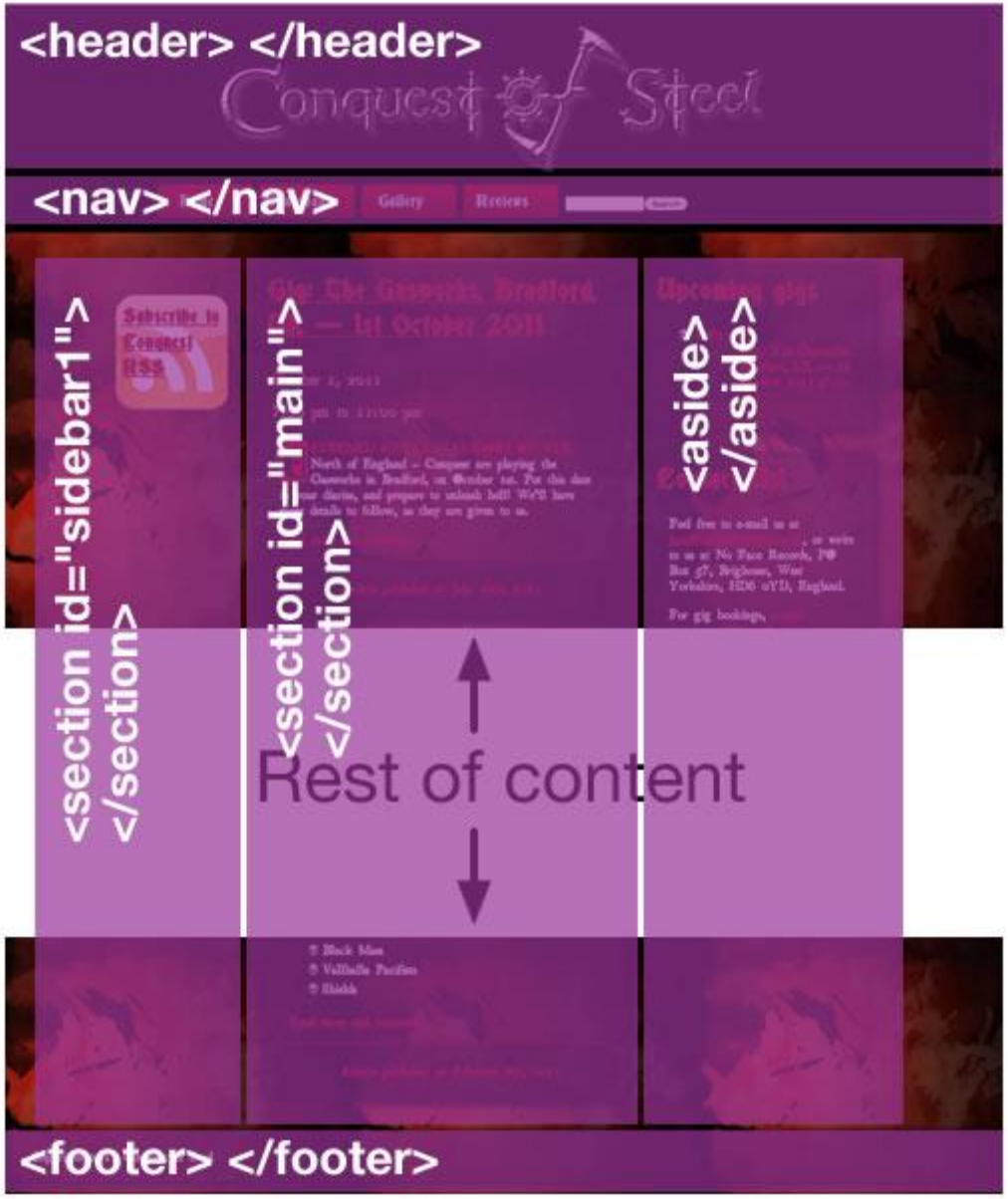

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HTML <header> Element

- The <header> element represents a container for introductory content or a set of navigational links.
- A <header> element typically contains:
  - one or more heading elements (<h1> - <h6>)
  - logo or icon
  - authorship information
- You can have several <header> elements in one document.

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HTML <footer> Element

- The <footer> element defines a footer for a document or section.
- A <footer> element should contain information about its containing element.
- A <footer> element typically contains:
  - authorship information
  - copyright information
  - contact information
  - sitemap
  - back to top links
  - related documents
- You can have several <footer> elements in one document.

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Header and Footer

```
<!DOCTYPE html>
<html>
<body>
<header>
    <h1>Most important heading here</h1>
    <h3>Less important heading here</h3>
    <hr>
 </header>

 <p> This is the body of the document. </p>


<footer>
    <hr>
  <p>Posted by: Hege Refsnes</p>
  <p>Contact information: <a href="mailto:someone@example.com">someone@example.com</a>.</p>
</footer>

</body>
</html>

```


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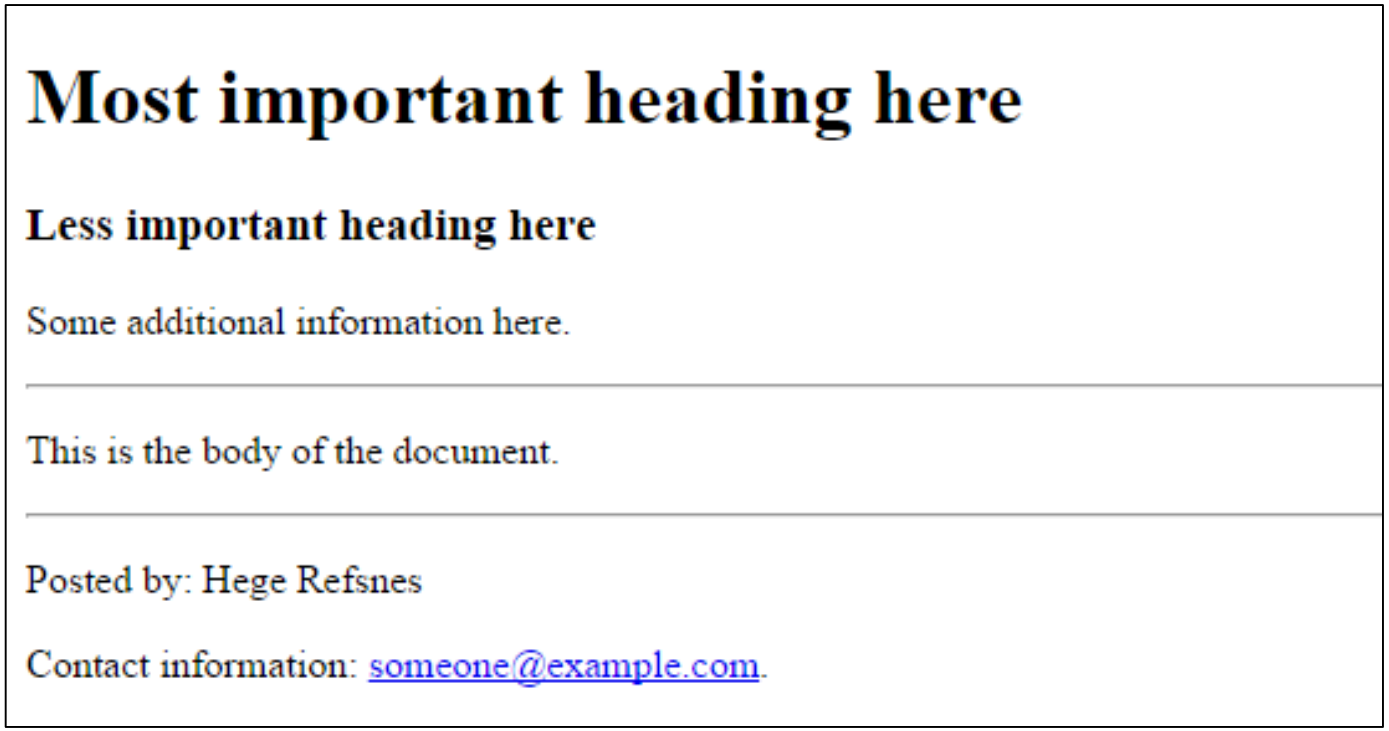
Header and Footer



Most important heading here

Less important heading here

Some additional information here.

This is the body of the document.

Posted by: Hege Refsnes

Contact information: someone@example.com.

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Note

- HTML elements with no content are called empty elements.
- HTML5 does not require empty elements to be closed such as
<img>

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Reference

- Internet and World Wide Web How To Program , Deitel, Deitel & Deitel, 5th Edition (Chapter 3)