Module 10

Implementing an Adaptive User Interface

Module Overview

- Supporting Multiple Form Factors
- Creating an Adaptive User Interface

Lesson 1: Supporting Multiple Form Factors

- Why Design an Adaptive User Interface?
- Considerations for Supporting Different Types of Device

Why Design an Adaptive User Interface?

- The core of a web site is its content
- Implement an adaptive user interface so that a website can present itself better:
  - To smartphones
  - To tablets
  - As printed matter
  - As a spoken page
- Monitor site use to detect how users access your website over time, and modify the design if necessary
- Create platform-specific websites if the user statistics suggest this would be beneficial

Considerations for Supporting Different Types of Device

- Creating an adaptive user interface requires considering the following items:
  - Screen resolution
  - Display density
  - Input method
  - Browser capabilities
- Some users may want to print the contents of a page
- Visually impaired users might require screen readers

Lesson 2: Creating an Adaptive User Interface

- CSS Media Types
- Detecting Device Capabilities by Using Media Queries
- Detecting an Older Version of Internet Explorer by Using Conditional Comments
- Defining Style Sheets for Printing
- Demonstration: Implementing an Adaptive User Interface

CSS Media Types

- HTML uses the **media** attribute to qualify the use of a style sheet for a type of device
  - screen
  - print
  - braille
  - speech
  - all
  - ...

```
<link rel="stylesheet" type="text\css"
  href="print.css" media="print" />
```

- CSS defines the **@media** rule to perform the same task

```
@media print, projection {
   ..print_only_rules..
}
```

Detecting Device Capabilities by Using Media Queries

- Use media queries to detect the capabilities of a device
  - width
  - height
  - orientation
  - resolution
  - …
  - vendor-specific

```
@media screen
   and (max-device-width: 800px)
   and (orientation: portrait) {
   …
}
```

- Write styles for a base device and use media queries to override them based on the properties of a device

Detecting an Older Version of Internet Explorer by Using Conditional Comments

- Conditional comments enable you target specific versions of Internet Explorer prior to version 10
  - To link style sheets:

```
<!--[if gte IE 9]>
  <link href="ie9.css" rel="stylesheet" />
<![endif]-->
```

  - To add classes for styling:

```
<!--[if lt IE 7 ]>
  <html class="ie6">
<![endif]-->
```

  - To run scripts:

```
<!--[if IE]>
  <script src="http://contoso.com/scripts/iescript.js"></script>
<![endif]-->
```

Defining Style Sheets for Printing

- Add print styles to control how content is printed
  - Specify the **print** media type in CSS rules
- Perform the following optimizations
  - Remove page headers, footers, navigation, background, graphics, and animations
  - Set the size of the font and remove text effects
  - Expand the text for links and abbreviations
  - Lay out the content in one column
  - Define the target size and layout of the printed page

Demonstration: Implementing an Adaptive User Interface

In this demonstration, you will learn about the tasks that you will perform in the lab for this module.

Lab: Implementing an Adaptive User Interface

- Exercise 1: Creating a Print-Friendly Style Sheet
- Exercise 2: Adapting Page Layout to Fit Different Form Factors

Logon Information

- Virtual Machines: 20480B-SEA-DEV11, MSL-TMG1
- User Name: **Student**
- Password: **Pa$$w0rd**

Estimated Time: 60 minutes

Lab Scenario

Most conference attendees are expected to use a laptop to view the live version of the Contoso Conference website, but some may wish to print a hard copy of some of the information. Other attendees might use smartphones or other handheld devices to view the website. The different requirements and form factors of a printer or a handheld device compared to a laptop make it necessary for the user interface of the web application to detect device capabilities and adapt itself accordingly. For example, some website elements, such as the header, are not necessary for printing, while the smaller screens of smartphones are not ideal for viewing full-sized websites.

Module Review and Takeaways

- Review Question(s)