MOC 10953 HTML5 Programming

Course Summary

Description

This three-day instructor-led course provides participants with the knowledge and skills to develop HTML5 web applications using Microsoft Visual Studio 2010.

Objectives
At the end of this course, students will be able to:

- Create and view a simple Web application using HTML within the Microsoft Visual Studio 2010 SP1 IDE.
- Explain the new semantic and structural elements that can be used to create HTML5 Webpages.
- Create Web forms that make use of validation capabilities using the new input types and attributes included in the HTML5 specifications.
- Create layouts and styles using advanced CSS and CSS3.
- Integrate graphics and multimedia into webpages using the Canvas, SVG, Video and Audio elements. Implement offline data scenarios using the new HTML5 Web Storage API.
- Use advanced HTML5 JavaScript APIs such as drag-and-drop, File API and Geolocation API.
- Create simple web applications using WebMatrix or ASP.NET MVC.

Topics

- Introduction to HTML5 Development
- Creating Page Structure and Navigation
- Creating Form Input and Validation
- Laying Out and Styling Webpages
- Getting Started with Graphics and Multimedia Elements
- Creating Advanced Graphics
- Using Client-Side Storage
- Using Advanced HTML5 JavaScript APIs
- Using WebMatrix and Other Developer Tools

Audience

This course is intended for entry-level developers for HTML who have a basic but limited understanding of HTML and who are interested in learning core HTML5, CSS, and JavaScript programming skills that are required to successfully create applications for the upcoming Internet Explorer 10 browser and the next version of the Windows operating system.

Prerequisites

Before attending this course, students must:

- Have three to six months of development experience in a professional environment.
- Be familiar with the HTML document structure and associated terminology, but are not expected to be expert and do not need to have experience with HTML5.
- Have one to three months experience with HTML and XML.
- Have a general familiarity with the Microsoft Visual Studio IDE.

Duration

Three days

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Course Outline

I. Introduction to HTML5 Development

This module introduces HTML development, presenting all the basics needed to build a web site or application. It also introduces CSS and JavaScript, which with HTML are the basis for web development. It also introduces the jQuery JavaScript library, the most popular JavaScript library at the time of writing.

A. Overview of HTML
B. What's New in HTML5?
C. Introduction to CSS
D. Introduction to JavaScript
E. Introduction to jQuery

Lab: Building a Basic Web Page in the Visual Studio 2010 SP1 Environment

- Writing the Home Page HTML
- Styling the Homepage
- Adding JavaScript and jQuery to Make a Dynamic Home Page

II. Creating Page Structure and Navigation

This module explains the new HTML5 elements and their meaning, and how and when to use them. The module also discusses navigation and menus, which are the backbone of creating a website or application.

A. HTML5 Structural Elements
B. Navigation and Menus

Lab: Creating Page Structure and Navigation

- Using Semantic Elements in the Home Page.
- Creating the Game Details and Cart Pages.
- Adding Navigation and Menus to the Home Page.

III. Creating Form Input and Validation

This module introduces the new input types and attributes that were added in HTML5. It also discusses the Modernizr JavaScript library, which detects HTML5 features and supplies polyfills for the new HTML5 elements.

A. Working with Input Types
B. Using Form Attributes
C. Validation
D. Using Browser Detection, Feature Detection, and Modernizr

Lab: Creating Form Input and Validation

- Creating the Checkout and Game Review Forms
- Adding Validation to the Checkout and Game Review Forms
- Adding Modernizr Support

IV. Laying Out and Styling Webpages

This module explains important concepts about the layout and styling of webpages and applications. It also describes how to use the new features of Cascading Style Sheets 3 (CSS3), such as new selectors, text effects, and multi-column layouts, to improve the look and feel of your webpages.

A. Creating Layouts
B. Advanced CSS by Using CSS3

Lab: Laying Out and Styling Webpages

- Add a CSS3 style to the store's webpages

V. Getting Started with Graphics and Multimedia Elements

This module explains the canvas element, which displays graphics, and the audio and video elements, which are used to play multimedia. These elements represent HTML5's solution to add-on availability and cross-browser compatibility for multimedia and graphics.

A. Canvas Basics
B. Video/Audio Formats and Codecs
C. Controlling Multimedia with JavaScript

Lab: Getting Started with Graphics and Multimedia Elements

- Adding Video to the Details Page
- Create a Slideshow Using the Canvas

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Course Outline (cont'd)

VI. Creating Advanced Graphics
This module discusses some of the differences between SVG and Canvas. It also describes how to choose one over the other.

A. Drawing with SVG
B. Animation
C. Choosing Between SVG and Canvas

Lab: Creating Advanced Graphics

- Adding an SVG Chart with Animation
- Adding Animation to the Game Details Canvas-Based Slideshow

VII. Using Client-Side Storage
This module explains web storage and how to use its API to have a persistence mechanism on the client-side. It also introduces IndexedDB at a very high level because this specification is currently in development and might change in the future.

A. Web Storage vs. Cookies
B. Web Storage API

Lab: Using Client-Side Storage

- Creating the Cart Behavior by Using the localStorage Object
- Integrating the Cart with the Web Application

VIII. Using Advanced HTML5 JavaScript APIs
This module explains how to use other HTML5 JavaScript APIs, such as the drag-and-drop API, the file API to work with files, and the geolocation API to find the user location.

A. Using the Drag-and-Drop API
B. File API
C. Geolocation API

Lab: Using Advanced HTML5 JavaScript APIs

- Integrating Drag-and-Drop Behavior into the Home Page
- Adding Geolocation Information to the Purchase Event
- Adding Coupon-Reading Behavior

IX. Using WebMatrix and Other Developer Tools
This module explains other developer tools that you can use with HTML5. These tools include Microsoft WebMatrix, ASP.NET MVC3, and the Razor view engine. It also explains how to use these tools to create websites and applications.

A. WebMatrix
B. ASP.NET MVC3 and Razor

Lab: Using WebMatrix and Other Developer Tools

- Using WebMatrix to Create a Website
- Using ASP.NET MVC 3 to Create a Website

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