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Developing Mobile Websites with Responsive Web Design and jQuery Mobile

Duration: 35 hours

Price: \$900

Prerequisites: Prior knowledge of HTML, CSS, JavaScript and jQuery equivalent to attending the **Website Development with HTML5, CSS and Bootstrap, JavaScript Programming** and **jQuery Programming** courses.

Description: This hands-on course conveys the fundamental skills necessary to design and build responsive web sites for mobile devices such as phones and tablets. Attendees will use responsive web design (RWD) techniques such as CSS3 media queries and flexible layouts to build mobile-compatible web sites. Students will learn how to test mobile websites using emulators and simulators.

The course also provides an extensive introduction into using the jQuery Mobile Framework for building mobile-specific web sites. Students will learn how to use jQuery Mobile widgets to create forms, lists, toolbars and collapsible blocks. Students will also learn how to integrate SOA with a mobile web site including working with RSS feeds, Google Maps integration and implementing server-side data access.

Attendees will use ThemeRoller for jQuery Mobile to download existing or custom theme swatches to format the appearance of a web site. Additional topics include responding to user events, configuring jQuery Mobile defaults and using page transitions. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

Course Overview

Overview of Responsive Web Design

- What is the Mobile Web?
- Defining Responsive Design
- Responsive Web Design (RWD) Principles

Viewport and Media Queries

- Working with Viewports
 - viewport Meta Tag
 - @viewport Rule

- Responsive Layout vs. Adaptive Layout
- Designing for Mobile First
- Progressive Enhancement

- CSS3 Media Queries
 - Media Types
 - Logical Operators
 - Media Features
 - Browser Height and Height
 - Device Height and Height
 - Orientation
 - Resolution
- Determining Breakpoints
- Installing and Using Viewport Testing Tools

Creating Responsive Layouts

- Fluid Grid Layouts
 - Calculating Fluid Grid Layouts
 - Predefined Grid Systems
- Creating Flexible Images and Video
- Optimizing Images for Retina Displays
- Responsive Typography
 - Using Ems, Percentages and Rems
 - Viewport Units
- Responsive Navigation Patterns
- Designing Responsive Tables
- Creating a Responsive HTML5 Page

Overview of jQuery Mobile

- What is jQuery Mobile?
- Configuring and Downloading the Mobile Library
- jQuery Mobile File Structure
- Working with HTML5 data- Attributes
- jQuery Mobile Page Structure

Overview of the jQuery Mobile CSS Framework

- Explanation of Themes and Swatches
 - Applying the "a" and "b" Swatches
- Using the data-theme Attribute
- Overview of jQuery Mobile Intrinsic Classes
- Using ThemeRoller for jQuery Mobile
 - Exploring the ThemeRoller UI
 - Upgrading Existing Themes
 - Defining Custom Swatches
 - Downloading and Applying a Custom Theme

Creating jQuery Mobile Pages

- Overview of the Page and Pagecontainer Widgets
- Using Single-Page vs. Multi-Page Templates
- Prefetching Pages
- Caching Pages in the DOM
- Configuring the Loader Widget
- Navigating Between Pages
 - Using Page Transitions
 - Ajax-Driven Page Navigation
 - Hash-based Navigation
- Displaying Pages as Dialogs

Adding Content to a Page

- Adding Specialized Hyperlinks

Using jQuery Mobile Widgets

- Examining the Widget Factory

- Maps
- Email
- Phone
- Integrating with Web Services
- Making Ajax Requests
- Displaying XML Content
- Displaying JSON Content
- Working with Multimedia
- Organizing Content with Grids
- Creating Responsive Grids

- Instantiating a Widget
- Calling Widget Methods
- Setting Widget Options
- Registering Widget Events
- Configuring Widget Options using JavaScript
- Using the `data-role` Attribute to Create a Widget

Adding Toolbars to a Page

- Adding Headers and Footers
- Positioning Toolbars
 - Inline
 - Fixed
 - Fullscreen
- Auto-Generated and Customized Back Buttons
- Adding Content to Toolbars
- Using the Navbar Widget
- Persisting Toolbars Across Pages

Working with List Views

- Creating Lists with List Views
 - Read-only
 - Interactive
- Creating Numbered Lists
- Creating Inset and Non-Inset Lists
- Formatting List Content
 - Adding Images to Lists
 - Creating Split Buttons
 - Creating Count Bubbles
- Working with Nested Lists
- Defining a Filterable List

Working with Forms

- jQuery Mobile Form Requirements
- Form Auto-Enhancements
 - Textinput Widget
 - Checkboxradio Widget
 - Selectmenu Widget
 - Slider Widget
 - Rangeslider Widget
- Creating Accessible Forms
- Defining Field Containers
- Grouping Controls with the Controlgroup Widget
- Adding Input Fields
 - Single-line and Multi-line Text Fields
 - Email, Telephone and Search Fields
 - Checkboxes and Radio Buttons

Working with Buttons

- Creating Buttons
 - Using the `<a>` Tag
 - Using the `<input>` Tag
 - Using the `<button>` Tag
- Defining Inline Buttons
- Creating Button Groups
- Configuring Buttons with Attributes and CSS Classes
- Formatting Buttons
 - Native Buttons
 - Inline Buttons
 - Adding/Removing Rounded Corners
 - Theming Buttons
 - Adding/Removing Drop Shadows

- Working with Select Menus
 - Native Select Menu
 - Custom Select Menu
 - Allowing Multiple Selections
 - Disabling Menu Options
 - Adding Placeholders
- Using a Slider for Numeric Input
 - Controlling a Slider's Appearance
 - Using Slider Events
- Selecting a Range of Values with Rangeslider
- Creating a "Flip" Switch

Minifying Buttons

- Adding Icons

Responding to Events

- Registering Event Handlers
- Comparison of `ready` and `pagecreate` Events
- Introduction to Page Events
- The `mobileinit` Event
- Registering Events in jQuery Mobile
 - Touch/Swipe
 - Orientation Change
 - Scroll
 - Virtual Mouse Events
 - Widget-specific events
 - Slider Widget
 - Tabs Widget
 - Collapsible Widget

Creating Popups

- The Popup Widget
- Positioning Popups
- Dismissing a Popup
- Adding a Close Button
- Modal Popups
- Using Popups for Tooltips
- Embedding Content in Popups
 - Images
 - Video

Integrating JavaScript and jQuery Mobile

- Configuring Default Settings Using the `$.mobile` Object
 - Enabling Ajax
 - Setting Default Page Transitions
 - Preventing Transitions
 - Preventing Auto-Enhancement
 - Customizing Error Messages
- Storing and Removing Arbitrary Data
 - Working with URLs
 - Performing a Silent Scroll
- Loading and Changing Page Content Dynamically

Adding Panels

- Using the Panel Widget
- Setting a Panel's Position
- Setting the Display Mode
 - Reveal
 - Overlay
 - Push
- Opening and Closing Panels
- Creating the Open Button
- Controlling Close Behavior

- Iframes
- Theming Popups
- Using Popups for Navigation
- Displaying Popup Transitions
- Reusing Popups on Multiple Pages

Displaying Pages as Dialogs

- Dialog Overview
- Customizing a Dialog
 - Adding a Close Button
 - Theming
- Linking to the Dialog
- Chaining Dialogs Together
- Displaying Dialog Transitions

Creating Responsive Tables

- Using the Table Widget
- Overriding CSS Classes
- Reflow Table Mode
 - Applying the `ui-responsive` Class
- Column-Toggle Table Mode
 - Prioritizing Columns
 - Customizing the Columns button
 - Customizing the Appearance of the Column Picker Popup

Making Content Filterable

- Using the Filterable Widget
- Defining a Search Field
- Using "Reveal"
- Using a Remote Data Source
- Filtering on Alternative Text
- Controlling Filterable Items
- Defining a Custom Filter Function

- Adding Fixed Panels
- Making Panels Responsive
- Reusing a Panel on Multiple Pages
- Updating a Panel Dynamically

Creating a Tabbed Interface

- Using the Tabs Widget
- Creating Content Panels
- Defining the Tabs
 - Navbar
 - Listview
 - Buttons
- Configuring the Tabs Widget
 - Customizing Options
 - Handling Tab Events
 - Loading Content with Ajax

Adding Collapsible Content

- Using the Collapsible Widget
- Controlling a Collapsible's Appearance
 - Adding a Theme
 - Using Custom Icons
 - Minified and Inset Collapsibles
- Opening a Collapsible by Default
- Nesting Collapsibles
- Opening/Closing Programmatically
- Creating Groups of Collapsibles

Web Services Integration

- Working with RSS Feeds
 - Google Maps Integration
 - Server-Side Data Access
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