

## Apache Cordova Cross-Platform Mobile Application Development

**Duration:** (Face-to-Face & Remote-Live), or 21 Hours (On-Demand)

**Price:** £1,345 (Face-to-Face & Remote-Live), or £1,145 (On-Demand)

**Discounts:** For multiple course purchases, please [contact us](#) for applicable discounts.

**Delivery Options:** Perform training at your own pace via our [on-demand training](#) option or attend regularly scheduled live courses via [remote-live attendance](#).

### Students Will Learn

- The jQuery Mobile Toolkit
- Style Class Manipulation
- DOM Manipulation
- Introduction to Ajax
- Using jQuery Mobile Lists, Forms, Buttons and Themes
- Overview of Geolocation
- Introduction to Apache Cordova (PhoneGap)
- Using the Contacts Database API
- Using the the Cordova File API
- Accessing the Camera with Cordova
- Using the Accelerometer

### Course Description

Apache Cordova (formerly PhoneGap) is an open-source is a mobile application development framework. It utilizes HTML5, CSS3 and JavaScript to create apps for a variety of mobile platforms. Students will learn how to build applications using jQuery Mobile and Apache Cordova that run on a variety of mobile platforms including iOS, Android and Windows Mobile. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

### Course Prerequisites

Knowledge of HTML and JavaScript equivalent to attending the [Website Development with HTML5, CSS and Bootstrap](#) and [JavaScript Programming](#) courses.

### Course Overview

#### The Mobile Landscape

- Devices Types

#### Technology Stack

- HTML5 Main Objectives

- Smartphones
- Tablets
- Device Convergence
- Platform Comparison
- Three Types of Mobile Applications
  - Native Mobile Applications
  - Mobile Web Applications
  - Hybrid Mobile Applications
- Mobile Web Development
- Apache Cordova (PhoneGap) Overview
- Building with Cordova
- Browser-Side Data Storage
- Declaring HTML5
- Detecting Support for HTML5
- The Document Object Model
- CSS Overview
- Class and ID Attribute Selectors
- Working with JavaScript
- Detecting a Feature with JavaScript
- Using JavaScript Libraries
- jQuery Mobile Tooling Support

## jQuery Overview

- What Is jQuery?
- Benefits of Using a JavaScript Library
- How to Use jQuery
- DOM Ready Events
- The jQuery Function Object
- The jQuery Wrapper
- The jQuery Wrapper as an Array-Like Object
- `innerHTML` vs. `html()`
- jQuery Wrapper Chaining
- API Function Notation
- Handling DOM Ready Events

## Style Class Manipulation

- Specifying Style Properties
- Setting Style Properties
- Using `addClass()` and `removeClass()`
- Defining a Stylesheet
- Setting and Getting Dimensions
- Attributes

## Introduction to Ajax

- What is Ajax?
- Creating the `XMLHttpRequest` Object
- The `XMLHttpRequest` Object Basics
- The Browser and the Server
- Ajax Requests and Responses
- Sending an Ajax Request With jQuery
- Data Types
- The `data()` Method
- Using `serialize()`
- Get vs. Post
- `ajaxStart()` and `ajaxError()`

## The jQuery Mobile Toolkit

## Selectors

- Background: The Sizzle Selector Engine
- Selecting Elements by Attribute
- Pseudo-Selectors
- Selecting Elements Using Relationships
- Selecting Elements Using Filters
- Chaining Using `end()`
- Testing Elements
- Iterating Through Selected Elements Using `each()`
- JavaScript Methods
- JavaScript "this"
- Function Context
- The Function `call()` Method

## DOM Manipulation

- The `$` Function Revisited
- Getters and Setters
- The `text()` Element Method
- Appending DOM Elements
- Removing DOM Elements
- DOM Performance

## JSONP

- JSONP - JSON with Padding
- Same-Origin Policy
- The `<script>` Tag
- Best Practices

## jQuery Mobile Lists

- Overview of jQuery Mobile
- Downloading and Using jQuery Mobile
- The Anatomy of a Page
- Page Segments
- Theming
- Creating a List View
- Decorating List View Rows
- Implementing Master Detail Navigation Patterns
- Create a Tabbed View
- Overview of jQuery Mobile Lists
- Inset Lists
- Adding Links
- Numbered Lists
- Count Bubbles
- Formatting List Items
- Formatted List Source
- Filters
- Filtered List Source

## jQuery Mobile Buttons

- jQuery Mobile Buttons
- Creating Buttons
- Button Appearance
- Enabling and Disabling
- Button Groups
- Horizontal Button Groups
- Inline Buttons
- Highlighting Preferred Choice
- Icons
- Alternate Icon Display

## jQuery Mobile Themes

- Overview of the jQuery Mobile Theming System
- Working with Themes
- Theme Examples
- Using ThemeRoller
  - Global Theme Settings
  - Downloading Themes
- Contents of the Theme Zip File
- Theme Images
- Editing Your Themes
- Custom Transitions in jQuery Mobile
- Custom Transitions Using CSS

## Apache Cordova (PhoneGap)

- Introduction to Apache Cordova
- The Cordova Model
  - Usage
  - API
  - Features
- App Stores

## jQuery Mobile Forms

- jQuery Mobile Forms
- Form Enhancements
  - Labels
  - Placeholders
- Client-Side Validation
- The `required` Attribute
- Patterns
- Widgets
- Input Types
  - Color
  - Date
  - Range
  - Select
  - Checkboxes
  - Horizontal Checkboxes
  - Radio Buttons
- Datalists
- Submitting Forms

## Geolocation

- Overview of the Geolocation API
- Functions and Options
  - Success Function
  - Error Function
- Using the `watchPosition()` Method

## Device and Contacts Information APIs

- Cordova Device Info Object
- Device Info Permissions
- The `cordova` and `uuid` Properties
- The `platform` and `version` Properties
- The `name` Property
- Contacts Database API

- Packaging Cordova Apps
- Adobe PhoneGap Build

- Contacts Database Helper Objects
- Supported Platforms
- Contacts API Permissions
- Contact Properties
- Creating a New Contact
- Saving a Contact
- Deleting (Removing) a Contact
- Finding Contact(s)

## The Cordova File API

- Accessing the Mobile File System with Cordova
- File API Permissions
- The Cordova File API
- Accessing the Device File System
- The `requestFileSystem()` Method
- The `File` Object
- The `FileEntry` Object
- The `DirectoryEntry` Object
- The `DirectoryReader` Object
- The `FileError` Object
- Writing Files with the `FileWriter` Object
- Reading Files with the `FileReader` Object

## The Accelerometer

- Overview of the Accelerometer
- Supported Platforms
- Accelerometer Precision
- Accelerometer Detection
- Accelerometer Permissions
- The Accelerometer API
- The Acceleration Object
- The `getCurrentAcceleration()` Method
- The `watchAcceleration()` Method
- The `accelerometerSuccess` Call-Back Function
- The `clearWatch()` Method
- Device Shake Tracking Application Code

## The Camera

- Accessing the Camera with Cordova
- Camera Permissions
- The Cordova Camera API
- The Camera Object
- The `getPicture()` Method
- The `cameraSuccess` Call-Back Function
- The `cameraError` Call-Back Function
- Camera Options
- The `cleanup()` Method

## Best Practices

- jQuery Mobile Benefits
- Progressive Enhancement
- Common UI Guidelines
- Platform-Specific UI Guidelines
- Cordova Business Layer Initialization
- Business Layer Best Practices
- Cordova Domain Whitelist Guide
- Background Tasks
- Cordova Background Task API

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