Course Outline | Microsoft Windows Presentation Foundation for C# Developers

5 day(s)

Overview

Windows Presentation Foundation for C# Developers shows you how WPF really works. It provides you with the no-nonsense, practical advice that you need in order to build high quality WPF applications quickly and easily.

Prerequisites

Previous knowledge and experience of developing applications with C#.NET.

Course Outline

Introducing WPF

- The Evolution of Windows Graphics
- WPF: A Higher-Level API
- Resolution Independence
- The Architecture of WPF
- WPF 4

XAML

- Understanding XAML
- XAML Basics
- Properties and Events in XAML
- Using Types from Other Namespaces
- Loading and Compiling XAML
- XAML 2009

Layout

- Understanding Layout in WPF
- Simple Layout with the StackPanel
- The WrapPanel and DockPanel
- The Grid
- Coordinate-Based Layout with the Canvas

Dependency Properties

- Understanding Dependency Properties
- Property Validation

Routed Events

- Understanding Routed Events
- Event Routing
- WPF Events
- Keyboard Input
- Mouse Input
- Multitouch Input

Controls

- The Control Class
- Content Controls
- Specialized Containers
- Headered Content Controls
- Text Controls
- List Controls

- Range-Based Controls
- Date Controls

The Application

- The Application Life Cycle
- Application Tasks
- Assembly Resources
- Localization

Element Binding

- Binding Elements Together
- Binding to Objects That Aren't Elements

Commands

- Understanding Commands
- The WPF Command Mode
- Executing Commands
- Advanced Commands

Resources

- Resource Basics
- Resource Dictionaries

Styles and Behaviors

- Style Basics
- Triggers
- Behaviors
- Shapes, Brushes, and Transforms
- Understanding Shapes
- Brushes
- Transforms
- Transparency

Geometries and Drawings

- Paths and Geometries
- Drawings

Effects and Visuals

- Visuals
- Effects
- The WriteableBitmap Class

Animation Basics

- Understanding WPF Animation
- Basic Animation
- Storyboards
- Animation Easing
- Animation Performance

Advanced Animation

- Animation Types Revisited
- Key Frame Animation
- Path-Based Animation

- Frame-Based Animation
- Storyboards in Code

Control Templates

- Understanding Logical Trees and Visual Trees
- Understanding Templates
- Creating Control Templates
- Organizing Template Resources
- Building More Complex Templates
- Visual States

Custom Elements

- Understanding Custom Elements in WPF
- Building a Basic User Control
- Creating a Lookless Control
- Supporting Visual States
- Custom Panels
- Custom-Drawn Elements

Data Binding

- Binding to a Database with Custom Objects
- Binding to a Collection of Objects
- Improving Performance in Large Lists
- Validation
- Data Providers

Formatting Bound Data

- Data Binding Redux
- Data Conversion
- List Controls
- List Styles
- Data Templates
- The ComboBox

Data Views

- The View Object
- Filtering, Sorting, and Grouping

Lists, Grids, and Trees

- The ListView
- The TreeView
- The DataGrid

Windows

- The Window Class
- Window Interaction
- Nonrectangular Windows
- The Aero Glass Effect
- Programming the Windows 7 Taskbar

Pages and Navigation

- Understanding Page-Based Navigation
- Page-Based Interfaces
- The Page History

- The Navigation Service
- XAML Browser Applications
- The WebBrowser Control

Menus, Toolbars, and Ribbons

- Menus
- Toolbars and Status Bars
- Ribbons

Sound and Video

- Playing WAV Audio
- The MediaPlayer
- The MediaElement
- Speech

3-D Drawing

- 3-D Drawing Basics
- Deeper into 3-D
- Interactivity and Animations

Documents

- Understanding Documents
- Flow Documents
- Read-Only Flow Document Containers
- Fixed Documents
- Annotations

Printing

- Basic Printing
- Custom Printing
- Print Settings and Management
- Printing Through XPS

Interacting with Windows Forms

- Assessing Interoperability
- Mixing Windows and Forms
- Creating Windows with Mixed Content
- The Last Word

Multithreading

- Multithreading

The Add-in Model

- Choosing Between MAF and MEF
- The Add-in Pipeline
- An Application That Uses Add-Ins
- Interacting with the Host
- Visual Add-Ins

ClickOnce Deployment

- Understanding Application Deployment
- A Simple ClickOnce Publication
- Additional ClickOnce Options