

# Enhanced User Interface using Windows Presentation Foundation

## Course Description

This advanced class focuses on building a Windows Presentation Foundation is one of the new “foundations” being introduced by Microsoft in .NET 3.0, along with the Windows Communication Foundation and the Windows Workflow Foundation.

## Course Level

Intermediate

## Who should attend?

.NET Developer who want to create the powerful presentation application layer

## Pre-requisites

Basic understanding of Programming .NET Application

## Course Objectives

- Introducing WPF
- Programming WPF Applications
- Building Your First WPF Application
- Building a Connected WPF Application
- Exploring the Layout Controls
- Working with XAML Controls
- Working with Graphics and Media
- Working with Animation
- Working with 3D Graphics in WPF
- Distributing Your WPF Applications

## Course Durations

18 Hours

## Course Outline

### 1. Introducing WPF

Presentation Layer Architecture  
Windows Presentation Foundation  
The WinFX Runtime Components  
Visual Studio Development Tools for WinFX

### 2. Programming WPF Applications

What Are WPF Applications?  
Windows Presentation Foundation Architecture  
How to Program WPF Applications  
Using the Application Object  
Supporting Application-Level Navigation Events  
Using the Application Object to Manage Your Windows  
Managing the Shutdown of Your Application  
Window Management  
Using the Window Object  
Using the NavigationWindow Object  
Using the Page Object  
Managing Windows

### 3. Building Your First WPF Application

Getting Started  
The Application  
Building an Application in Expression Interactive Designer  
Creating the Basic Application Layout  
Performing the Basic Data Binding  
Running the Application  
Exploring the XAML for the Bike Browser  
Document Root: The Grid  
Scene Resources  
Triggers  
User Interface Definition  
A More Advanced WPF User Interface  
Setting the Background Gradient  
Creating the 3D “Gel” Effect  
Creating a Reflection Effect

### 4. Building a Connected WPF Application

Getting Started with WCF  
Creating the Service  
Creating the WCF Service Application  
Creating the WCF Service Project  
Adding the Database Wrapper  
Adding the Service Interface  
Creating the Front End  
Connecting the User Interface to the Service  
Implementing the Product Detail Service Method  
Implementing the User Interface for the Product Service Call

### 5. Exploring the Layout Controls

Understanding Layout Basics  
Setting the Wrap Flow Direction  
Setting the Orientation

### 6. Working with XAML Controls

Using the XAMLControl  
Performing Data Binding with XAML Controls  
Control Binding  
Performing XML Binding  
Using an External XML Data Source  
Object Data Source Binding

### 7. Working with Graphics and Media

Introducing the Graphics APIs  
Using Brushes  
Using Shapes  
Performing Transformations  
Using the Imaging APIs  
Using Multimedia  
Using the MediaElement Class  
Using Transforms with Media

### 8. Working with Animation

Understanding the Animation Types  
Using Keyframe-Based Animation  
String Animations Using Keyframes  
Animations Using Storyboards and Timeline Classes  
Working with Animation and Timelines with Interactive Designer  
Assigning Animations to Events in Interactive Designer

### 9. Working with 3D Graphics in WPF

Understanding the Basics of 3D Programming  
Introducing Points, Vertices and Normals  
Setting Up the Camera  
Setting Up the Lights  
Using Transforms

### 10. Distributing Your WPF Applications

Deploying a WPF Windows Application  
Publishing for Online or Offline Mode  
Running and Updating the Application  
Exploring the Installation  
Deploying a WPF Windows Application in Online Mode Only  
Building and Deploying a WinFX Web Application  
Configuring Web Applications for Trust

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