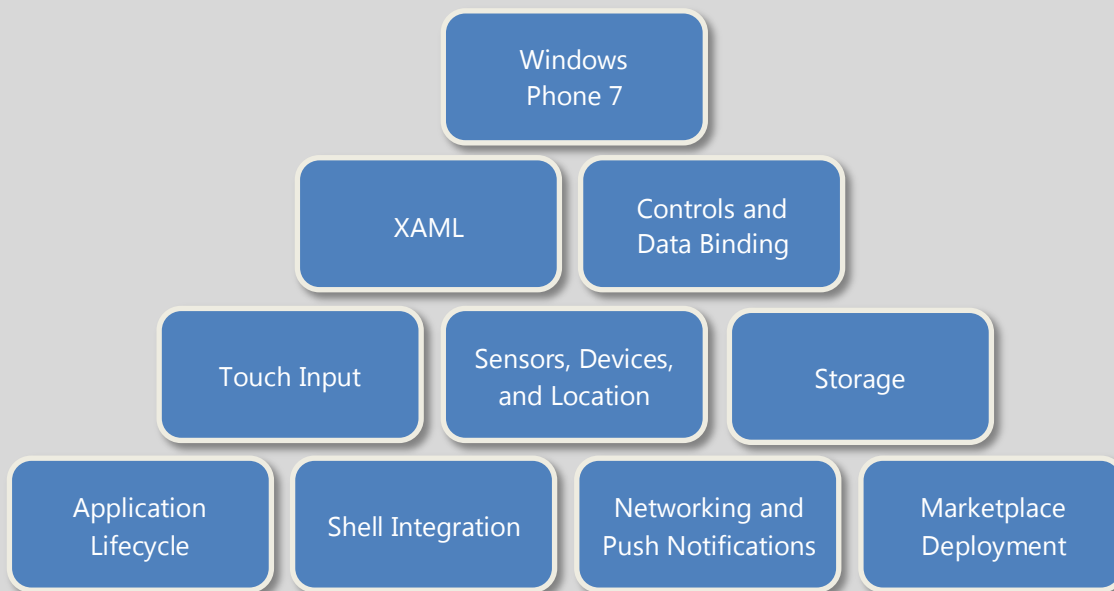


Mastering Windows Phone 7.1 with Jeff Prorise

Windows Phone 7.1 is Microsoft's operating system for mobile devices. And **Windows Phone** is the primary platform used to build applications for those devices. It enables developers to build cutting-edge phone applications with rich, XAML-based UIs, and it brings the power of managed code to the mobile platform. Furthermore, it enables .NET developers to use the knowledge they already have to build great phone apps without having to learn a whole new toolset.

Mastering Windows Phone 7.1 provides developers with the knowledge and skills they need to leverage Windows Phone 7 to its fullest. It includes in-depth coverage of the run-time, XAML, and the Silverlight for Windows Phone Base Class Library. It also includes coverage of topics that are crucial to building great phone apps, such as tombstoning, multi-touch input, sensor input, the location API, and networking, and it includes in-depth coverage of all the new features of Windows Phone 7.1 ("Mango"), including local database, background tasks, new sensor APIs, secondary tiles, and much, much more.



Course Number
W1041

Duration
2 days

Formats
Virtual

Languages
C#

Schedule
March 15th & 16th
11 am – 6 pm ET

Pricing
\$499 per person, per
computer

Prerequisites
Persons who attend Mastering Windows Phone 7.1 should have experience building .NET apps and should be comfortable with the C# programming language. Previous experience with Silverlight is helpful but not required.

Silverlight for Windows Phone

Silverlight for Windows Phone combines a XAML-based rendering engine with great media support and a phone-based version of the .NET Framework. This session introduces the Silverlight for Windows Phone programming model and the basics of working with XAML and managed code in phone applications.

- Windows Phone 7
- Silverlight for Windows Phone
- Your First phone application
- Deploying to a device
- Page orientation
- Screen layout
- Device information

XAML

Silverlight for Windows Phone supports a significant subset of the XAML language supported by WPF. This session takes a deep dive into XAML and provides the foundation developers need to design and implement cutting-edge UXes.

- Layout and positioning
- Shapes, brushes, and brush resources
- Text, fonts, and font resources
- Images and writeable bitmaps
- Transforms and projections
- Animation and animation easing
- GPU caching

Navigation

Silverlight for Windows Phone features a navigation framework that simplifies the creation of multipage applications. The framework also provides back-button support. This session describes how to incorporate navigability into your phone applications and presents techniques for leveraging the framework even in single-page applications.

- The navigation framework
- Passing data between pages
- Back-stack manipulation
- The Back button

Touch Input

The primary input mechanism for phone applications is touch. Silverlight for Windows Phone supports multi-touch with up to four fingers at a time, enabling the development of sophisticated user interfaces built around touch and gestures. This session introduces the various levels of touch support in the run-time and teaches developers how to implement rich gesture support.

- Mouse events
- Touch.FrameReported events
- UIElement touch events
- UIElement Manipulation events
- GestureListener

Sensors and Devices

Every Windows phone has an accelerometer built in, and every Windows phone features Assisted-GPS (A-GPS) support that enables applications to determine the host device's location and bearing. In addition, Windows Phone 7.1 adds support for additional sensors such as compasses and gyroscopes, and it adds a low-level camera API to the platform. This session introduces the sensor, device, and location APIs and provides hard-hitting advice concerning their use.

- Accelerometer API
- Compass API
- Gyroscope API
- Combined motion API
- Camera API
- Location API
- Bing Maps control
- Vibration controller

Data Storage

Windows Phone 7 features two persistent client-side data stores: isolated storage, which functions as a virtual file system, and local database, a built-relational database based on SQL CE. This session examines these APIs in detail and also introduces the new Data Protection API (also known as the "Encrypted Credential Store") for encrypting data as well as new APIs for accessing the phone's contact and calendar databases.

- Isolated storage
- Local database
- Data Protection API (DPAPI)
- Contacts and calendar APIs
- Clipboard API

Controls and Data Binding

Silverlight for Windows Phone features a built-in complement of controls to make building user interfaces easier. It also supports styles, control templates, and more. This session introduces the controls built into the run-time and describes how to use them, stylize them, customize them. It also introduces Silverlight for Windows Phone's data binding model and provides practical examples of how (and why) it is used.

- Built-in controls
- Text-input controls and SIPs
- Styles and templates
- Data binding
- ListBox controls and MVVM
- Panorama and Pivot controls
- WebBrowser control
- Application bars
- Toolkit controls

Application Lifecycle and State Management

Understanding the lifecycle of a phone application is key to writing an app that behaves in a user-friendly manner. This session introduces the application lifecycle and includes an in-depth analysis of tombstoning and of means for persisting data across lifecycle events. It also covers the various background-task APIs introduced in Windows Phone 7.1.

- Launching and closing
- Activation, deactivation, and Fast Application Switching
- Tombstoning
- Page state and application state
- Background tasks
- Alarms and reminders
- Periodic tasks and resource-intensive tasks
- Obscuration
- Idle detection

Shell Integration

Windows Phone 7 provides several hooks and extensibility points that allow applications to integrate more fully with the operating system shell and the phone's built-in applications. This session introduces the integration APIs, including the new secondary-tile API introduced in Windows Phone 7.1.

- Launchers and choosers
- App Connect
- Secondary tiles

Networking

One of Silverlight for Windows Phone's most important features is a networking stack that allows clients to download content, consume network services, and send notifications to phone clients. This session introduces Silverlight for Windows Phone's networking features and provides numerous examples of their use. It also includes coverage of the new sockets API and UDP multicasting support introduced in Windows Phone 7.1.

- Networking with WebClient
- Networking with HttpWebRequest
- Consuming REST services
- Consuming ASMX and WCF services
- Consuming OData services
- Push notifications
- Sockets

Setup Requirements

Application Requirements

Tool	Version
Operating System	Windows 7 or higher
Development Environment	Visual Studio 2010 Ultimate or Visual Studio 2010 Premium
Development Installation	Must be a default/typical installation (i.e., do not remove any tools) or a full installation
Windows Phone 7.1 SDK	Download free of charge from http://www.microsoft.com/download/en/details.aspx?id=27570 .

System Requirements

Hardware that can run Visual Studio 2010. Additionally, lab computers must be connected to the Internet.

If labs are included with the course, each student must register with Microsoft as a Windows phone developer (\$99 per year), and must have a Windows phone (any model that runs Windows Phone 7 will do) that has been registered and unlocked. For more information about the registration process and requirements, see <http://create.msdn.com/en-US/>.

Additional Requirements

A projection system capable of projecting a 1024x768 screen.

A WolfVision desktop visualizer or equivalent to project phone screens.

Instructor(s)

Mastering Windows Phone 7.1 is taught by **Jeff Prorise**, who is a cofounder of Wintellect. He has written nine books and hundreds of magazine articles on computer programming, and today focuses most of his energy on phone development and on Web technologies such as Silverlight, HTML5, and jQuery. A reformed engineer who discovered after college that there's more to life than computing loads on mounting brackets, Jeff is known to go out of his way to get wet in some of the world's best dive spots and to spend way too much time building and flying R/C aircraft.