Course 20485C:

Advanced Windows Store App Development Using C#

Course Details

Course Outline

Module 1: Windows Store App Essentials

In this module, you will get an overview of the Windows 8.1 user experience and features, and will become acquainted with the Windows Store apps and the new user interface. You will review the process of developing apps by using XAML to create the user interface, and the WinRT API to interact with the platform.

Lessons

- Review Windows Store App Essentials
- Review Windows Store App Essentials – Under the Hood

After completing this module, students will be able to:
- Describe the Windows 8.1 platform, architecture, and features.

- Describe the process of creating user interfaces with XAML.

- Explain the new WinRT API model.

- Describe the basics of working with files, implementing contracts, displaying notifications, and deploying your app to the Windows Store.

Module 2: Implementing Animations and Transitions

In this module, you will learn how to add animations to your Windows Store apps, and how to take advantage of the functionality offered by the VisualStateManager class.

Lessons

- Using Animations
- Working with Transitions and Transformations

Lab : Implementing Animations and Transitions

- Creating Animations in a Windows Store App
- Creating Transitions in a Windows Store App

After completing this module, students will be able to:
- Use both built-in and custom animations, and storyboards.

- Apply transformations to UI elements and use the VisualStateManager class to create fluid UI transitions.

Module 3: Implementing Globalization and Localization

In this module you will learn how globalization prepares an app for a global audience. This involves changing culture-specific elements of the user interface, such as dates, times, currencies, languages, and more. Localization takes globalization further by supporting specific languages, cultures, and regions.

Lessons
- Working with Resource Files

- Implementing Culture-Specific Formatting

Lab : Implementing Globalization and Localization

- Creating and Consuming the Resource Files

- Applying Culture-Specific Formatting

After completing this module, students will be able to:
- Create and use resource files for localization.

- Implement culture-specific formatting.

Module 4: Branding and a Seamless UI

This module explains how to brand your app and add a branded splash screen to improve user experience.

Lessons
- Branding

- Customizing the Splash Screen

- Branding Your App's UI

Lab : Branding and Seamless UI

- Creating a Customize Splash Screen

- Branding a Windows Store App

After completing this module, students will be able to:
- Create a splash screen for a Windows Store app.

- Apply branding to a Windows Store app.

Module 5: Advanced Data Scenarios in a Windows Store App

In this module, you will learn about the new file storage capabilities of Windows 8.1.In addition, you will learn how to use the file storage capabilities in your apps. You will also learn how to design and implement more useful data storage through caching and how to set up file extensions, associations, and compression. These features will help you to provide a better experience to the user by increasing the responsiveness of your app, and lowering its resource usage.

Lessons

- Windows Store App Storage Options

- Implementing Data Caching

- Advanced File Functionality

Lab : Caching Data

- Caching Data

After completing this module, students will be able to:

- Use file storage in a Windows Store app.

- Explain what caching is, and how and when to use it in a Windows Store app.

- Set up file extensions and associations in an app.

- Compress files in your app.

Module 6: Creating Reusable Controls and Components

In this module, you will learn how the Windows Runtime (WinRT) contains a rich set of XAML controls, such as GridView, ListView, FlipView, and AppBar. In many cases, you can use these controls to create fully functional apps. However, if the built-in controls do not contain the functionality that you need, you can create your own custom controls. You will be able to reuse these custom controls in other apps, like any other built-in control.

You can also extend the WinRT itself to expose existing or new libraries to Windows Store apps. You can create custom WinRT components, which can be used from any supported programming language (C#, VB.NET, C++, or JavaScript).

Lessons

- Working with Custom and Templated Controls

- Creating and Using WinRT Components

Lab : Creating Reusable Controls and Components

- Creating and Using a Custom Control

- Using a WinRT Component

After completing this module, students will be able to:

- Create and use custom XAML controls.

- Create and use custom WinRT components.

Module 7: Implementing Advanced Contract Scenarios

This module describes how to use two new contracts:
• The Play To contract enables media sharing with other devices, such as television sets.
• The Print contract enables interaction with printing devices.

Windows Store apps can integrate with the contacts and calendar appointments managed by the operating system. You can create new contacts and calendar appointments, update and delete existing ones.

Lastly, you will learn how to take advantage of several convenient Windows 8.1 application programming interface (APIs) to provide exciting, user friendly features in your apps. Windows RT has native APIs for working with Portable Document Format (PDF) files, creating screenshots of your app, and generating speech from text through speech synthesis.

Lessons

- The Play To Contract

- The Print Contract

- Integrating Contacts and Calendars

- Support PDF files and screenshots

- Integrating Speech Synthesis

Lab : Integrating the Print Contract Into the App

- Printing a Single Page

- Printing Multiple Pages

- Adding PDF support

After completing this module, students will be able to:

- Implement the Play To contract.

- Implement the Print contract.

- Display PDF documents in your app.

- Create snapshots of your app.

Module 8: The Windows Push Notification Service

This module explains Windows Push Notifications.

Lessons

- Introduction to The Push Notification Service

- Communicating with the WNS

Lab : The Windows Push Notification Service

- Manage a Windows Notification Service Channel

After completing this module, students will be able to:
- Explain how Windows push notifications work.

- Use Windows push notifications in a Windows Store app.

Module 9: Capturing Media

In this module, you will learn how to include media capturing functionality in your app. Learning to leverage the Windows Runtime (WinRT) media capturing APIs can help you create an exciting and successful app.

Lessons

- Using CameraCaptureUI to Capture Pictures, Videos or Audio

- Using MediaCapture to Capture Pictures, Video, or Audio

Lab : Capturing Media

- Capturing Video by Using the CameraCaptureUI API

- Capturing an Image by Using the MediaCapture API

After completing this module, students will be able to:
- Use the CameraCaptureUI API to capture pictures, videos and audio.

- Use the MediaCapture API to capture pictures, videos and audio.

Module 10: Background Tasks

This module explains how to create, register, and use background tasks for Windows Store apps.

Lessons

- Creating Background Tasks

- Using Background Tasks in a Windows Store App

Lab : Background Tasks

- Transfer Files in the Background

- Create and Consume a Background Task

After completing this module, students will be able to:

- Create background tasks for your Windows Store app.

- Use background tasks in your Windows Store app.

Module 11: Working with Sensors and Devices

This module describes some of the sensors and devices available to a Windows Store app and explains how to access them from your Windows Store app.

Lessons

- Working with Sensors

- Working with Devices

Lab : Working with Sensors and Devices

- Using the SimpleOrientationSensor

- Using Location Services

- Using Geofencing

After completing this module, students will be able to:
- Discover and access sensors and act upon sensor data from a Windows Store app.

- Discover and interact with devices from a Windows Store app.

Module 12: Generating Revenue with Your Windows Store App

This module will introduce you to the options you have, as a developer, to make money with your Windows Store apps.

Lessons

- Implementing Trial Functionality in a Windows Store App

- Implementing In-App Purchases

- Advertising in a Windows Store App

Lab : Generating Revenue with your App

- Use Windows.Store Classes to Support Trial App Conversion

- Implement In-App Purchasing in an App

After completing this module, students will be able to:
- Implement trial functionality in your Windows Store app.

- Implement in-app purchases in your Windows Store app.

- Incorporate advertising in your Windows Store app.

Module 13: Securing Windows Store App Data

In this module, you will learn how to create an application that is secure at the client and server side, and provides protection for your data. You will also learn how to implement a security protocol that lets you communicate with services such as Windows Azure and Microsoft SkyDrive.

Lessons

- Managing Windows Authentication
- Managing Web Authentication
- Encryption in Windows Store Apps

Lab : Securing Windows Store App Data

- Use ACS Authentication
- Encrypt User Information

After completing this module, students will be able to:

- Manage Windows authentication.
- Manage Web authentication.
- Encrypt data.

Module 14: Tracing and Profiling Windows Store Apps

In this module, you will learn the techniques that help you to analyze your code for potential issues, create run time logs efficiently, and diagnose various types of performance problems in your Windows Store app.

Lessons

- Analyzing a Windows Store App
- Tracing a Windows Store App
- Profiling a Windows Store App

Lab : Tracing and Profiling Windows Store Apps

- Profiling Performance
- Profiling Memory Usage

After completing this module, students will be able to:

- Analyze the code of your Windows Store app to find potential problems.
- Trace the run time flow of your Windows Store app.
- Diagnose CPU and memory performance problems in your Windows Store app.