Exploring Silverlight 2

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Course description: In this course, you will learn about Microsoft Silverlight, the new cross-browser, cross-platform, and cross-device plug-in that helps you deliver rich interactive Web applications. You will see what Silverlight 1.0 plug-in was designed for, and how 2 takes Silverlight to the next level. You will learn how the coding of a Web page using Silverlight 2 works with .NET, AJAX and other Web-based applications.

Course outline:

Why Use Silverlight?
- Introduction
- Richer Web Experience
- What About AJAX
- Limits of Web UI
- Evolution of Web UI
- Plug-ins
- Enter Silverlight
- Objectives - Silverlight 1.0
- Objectives - Silverlight 2
- Silverlight v. AJAX
- Silverlight v. Smart Client
- Silverlight vs XBAP
- Summary

First Look at Silverlight
- Introduction
- What"s a Silverlight App?
- Cross-platform
- The Silverlight Plug-in
- object type
- Silverlight 1 JavaScript
- Silverlight Host Function
- CreateSilverlightHost()
- Silverlight Control
- Plug-in Properties
- Plug-in Events
- Make Silverlight Classes
- Demo: Silverlight App
- Summary

Silverlight App Mechanics
- Introduction
- Inside a Silverlight App
- Plug-in Architecture
- What is XAML?
- XAML in Action
- Downloading XAML
- Windowed v. Windowless
- XAML Object Model
- Ref. XAML Elements
- x:Class Attribute
- Dynam Gen XAML
- Demo: Linking the Plug-in
- Summary

XAP Packages
- Introduction
- From XAML to XAP
- XAP Packages
- Inside XAP
- XAP on the Client
- Manifest
- Downloaded Files
- Instancing
- On-Demand XAML
- On-Demand Assemblies
- Summary

On-Demand and XML
- Introduction
- Demo: OnDemand
- Demo: Download Event
- Demo: Add - Remove Stuff
- Downloader Class
- Downloader Class Code
- Rerunning the Sample App
- Summary

Accessing Page DOM
- Introduction
- Interop Layer
- Accessing Page DOM
- Updating Page DOM
- Window Object
- CreateInstance
- Demo: Page DOM
- Demo: Change Title
- Demo: JavaScript Alert
- Demo: Query String
- HTML / C# Interaction
- Demo: Random Number C#
- Summary

Using Silverlight from DOM
- Introduction
- DOM-to-Silverlight
- Invoke C# from JS
- Access the XAML Tree
- Scriptable Members
- Scriptable - Creatable
- OrderFx and Order
- Summary

Essential WPF
- Introduction
- WPF at a Glance
- WPF Applications
- Silverlight Prog Model
- Silverlight WPF App
- WPF UI Framework
- Layout Manager
- Grid
- StackPanel
- Canvas
- Attached Properties
- WPF Silverlight Controls
- Demo: Controls
- CheckBox & Buttons
- Summary

Controls and Binding
- Introduction
- Silverlight Controls
- Styling Controls
- Control Templates
- Demo: Buttons
- Buttons in StackPanel
- ControlTemplate Block
- Resources
- Simple Data Binding
- DataContext
- Data Binding Modes
- Binding to a Collection
- Summary

LINQ and Silverlight
- Introduction
- In-Memory Data
- LINQ at a Glance
- LINQ in Pseudo-code
- Query-able Types
- IQueryable
- Flavors of LINQ
- LINQ Syntax
- LINQ to Objects
- SilverBCL
- Summary

Silverlight and Threading
- Introduction

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- Threading
- Threading Considerations
- Demo: Update UI Thread
- BackgroundWorker Class
- Threading Gotchas
- Timers
- Timer in Action
- Demo: Timer
- Summary

Isolated Storage
- Introduction
- MethodAccessException
- LocalStorage
- Isolated Storage API
- User Scoped Storage
- Where Are Files Located?
- IsolatedStorageFile API
- IsolatedStorageFileStream
- Writing to Streams
- Locating Files
- Reading from Streams
- Demo: Read and Write Files
- Summary

Local Storage in Silverlight
- Introduction
- OpenFile Dialog Box
- OpenFileDialog in Action
- Demo: OpenFileDialog
- Storage Concepts
- Quota
- Occasional Connection
- Summary

XML in Silverlight
- Introduction
- XML in .NET
- XML in Silverlight
- Pulling XML Data
- XmlWriter
- Writers in Action
- Creating XML Content
- XMLReader
- Readers in Action
- Using the Reader
- Walkthrough: XmlWriter
- Demo: XmlWriter
- Read an XML File
- Read in the Real World
- Summary

LINQ to XML
- Introduction
- LINQ to XML
- Demo: LINQ to XML
- Demo: ParseWithLinq
- Demo: Update the UI
- Application Settings
- Custom Containers
- Summary

Networking
- Introduction
- Communication Facts
- Communication APIs
- WebClient
- On-Demand Download
- Demo: WebClient Class
- DownloadStringCompleted
- Parsing the Content
- UpdateUI
- buttonBar
- WebRequest
- Helper Streams
- Demo: WebRequest
- Response Stream
- DataContractJsonSerializer
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Cross-Domain Calls
- Introduction
- Synchronous Calls
- Deadlocks
- Sync Call to Remote URL
- Evergreen Approach
- Cross-Domain Calls
- CrossDomain.xml
- ClientAccessPolicy.xml
- Summary

WCF
- Introduction
- Data and Services
- Silverlight and Services
- Four Moves
- WCF Services
- ABCs of WCF
- Defining the Contract
- Defining the Data Contract
- Implement the Service
- Publish the Service
- Invoke the Service
- Call the Proxy Class
- Get Data from Service
- Create WCF Service
- IStockService Interface
- Create the Endpoint
- Edit Web.config
- Config the Web Service
- Using Data from the Service
- Summary

Securing Services
- Introduction
- Considerations
- JSON, SOAP, AJAX
- XML vs JSON
- JSON in Silverlight
- Services in Silverlight
- Security for Services
- Securing Public Services
- Securing Backend Services
- Graphically Speaking
- Protecting the Page
- ASP.NET Changes
- Authentication
- Inside the Service
- ASP.NET Compatibility
- Outside Callers
- Demo: Protected Service
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Security Models
- Introduction
- Security and RIA
- ActiveX
- Balancing Security
- Code Access Security
- Human Factor
- CAS or Not?
- Silverlight Security
- Transparent Code
- Critical Code
- SecurityCritical Attribute
- Safe-Critical Code
- Summary

Critical Code
- Introduction
- Why Critical Code?
- Critical & Safe-Critical
- Graphically Speaking
- App vs Platform Code
- Detecting Platform Code
- Inheritance Rules
- Override Safe-Critical Code
- Demo: Critical Code
- Summary

WPF and Silverlight
- Introduction
- Can You Reuse XAML?
- Sharing XAML
- Demo: WPF User Control
- Separation of Concerns
- Inside the Code-Behind
- Model-View-Presenter
- M-V-P Illustrated
- Structure of Presenter
- Demo: M-V-P Pattern
- Model-View-ViewModel
- Summary