Xamarin Tools, Part 1 of 3: Solutions and File Linking

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Meet the expert: Wallace McClure specializes in building applications that have large numbers of users and large amounts of data as well as user interface specific technologies such as AJAX, iPhone, and Android. He is a Microsoft MVP, ASPInsider, and a partner in Scalable Development, Inc. Wally has authored books on iPhone Programming with Mono/MonoTouch, Android Programming with Mono for Android, application architecture, ADO.NET and SQL Server, and finally AJAX.

Prerequisites: This course assumes that students have some programming background and experience using Visual Studio and Xcode. In addition, this course assumes knowledge of Visual C# and Mono for Android, as well as Objective C and Mono Touch. An understanding of XML is also required.

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Course description: In this training course, we will look at the background on mobile, what is happening in the marketplace, why cross platform development makes sense, and some general strategies for cross platform development with iOS, Android, and Windows. These platforms all have one thing in common; the platforms can all be targeted with the C# language. Next we will examine file linking, general abstraction, the observer pattern, partial classes, and conditional compilation. In file linking, we can use cross platform language features, such as calling web services, LINQ, XML, and JSON to handle the communication with a remote data source on both android and iPhone.

Course outline:

Market Place Vendor Directed
- Introduction
- Mobile Marketplace
- Other Mobile Operating Systems
- What Are Users Doing?
- Options for Building Apps
- Vendor Directed Native Apps
- Native Languages and IDEs
- Java Options
- Objective C Options
- .NET/C# Options
- Summary

Solutions
- Introduction
- Write One, Run Everywhere
- Marketplace
- Why Cross Platform?
- What is Needed?
- MonoTouch and Mono for Android
- MonoTouch Solution
- Mono for Android Solution
- Typical Cost Advantage
- Amount of Reuse
- Resources
- Summary

File Linking
- Introduction
- Agenda
- Code That Can Be Shared
- Compile Problem
- File Setup
- Setup Projects
- Result in iOS and Android
- Demo: Mono for Android
- Summary

Abstraction & Observer Pattern
- Introduction
- Abstraction
- Interface
- Observer Pattern
- .NET Observer Pattern
- Demo: Interface
- Demo: .NET Observer Pattern
- Summary

Conditional Compilation
- Introduction
- Partial Classes
- Conditional Compilation
- Platform Compiler Symbols
- Visual Studio Options
- MonoDevelop Options
- MonoTouch Results
- Demo: Partial Class
- Demo: Conditional Compilation
- Portable Class Libraries
- Summary