Xamarin.Forms: Native iOS, Android, and Windows Phone apps from ONE C# Codebase

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Create native iOS, Android, Mac and Windows apps in Visual Studio and C#  

Automatically test your app on hundreds of mobile devices
What is native?
The Anatomy of a Native App

Native User Interfaces
Architecting Mobile Apps
Silo Approach

Build Apps Multiple Times

- iOS App
  - Objective-C
  - Xcode

- Android App
  - Java
  - Eclipse

- Windows App
  - C#
  - Visual Studio
Write Once, Run Anywhere

Approach

Lowest Common Denominator
Xamarin’s Unique Approach

Native With Code Sharing

- iOS C# UI
- Android C# UI
- Shared C# Backend
- Windows C# UI
Windows APIs

- System.Net
- System
- System.IO
- System.Xml
- System.Linq

C#
iOS APIs | 100% Coverage

C#

- UIKit
- MapKit
- System.Net
- System
- System.IO
- System.Xml
- System.Linq
- CoreMotion
- CoreGraphics
- iBeacon
Android APIs | 100% Coverage

C#

- Printing Framework
- ActionBar
- Renderscript
- Text-to-speech
- NFC
- System.Net
- System.Xml
- System.Linq
- System.IO
Anything you can do in Objective-C, Swift, or Java can be done in C# with Xamarin using Visual Studio.
C# runs on 2.6 Billion Devices
How Xamarin Works

- C# + .NET Runtime
- Native UI
- Native Performance
Development Environment

Xamarin Studio
PC or Mac

Visual Studio Plugin
VS 2010/2012/2013
Xamarin Designer for Android

Fully integrated into Xamarin Studio & Visual Studio

Multi-resolution editing

Easy switch between design and Android XML

Shipping for over 2 years
Xamarin Designer for iOS
Meet Xamarin.Forms

Build native UIs for iOS, Android and Windows Phone from a single, shared C# codebase.
Xamarin.Forms

Traditional Xamarin approach

iOS C# UI  Android C# UI  Windows C# UI

Shared C# Backend

With Xamarin.Forms:
more code-sharing, native controls

Shared UI Code

Shared C# Backend
Xamarin.Forms

Quickly and easily build native user interfaces using shared code.

Xamarin.Forms elements map to native controls and behaviors.

Mix-and-match Xamarin.Forms with native APIs.
What’s Included

- 40+ Pages, Layouts, and Controls
  - Build from code behind or XAML
- Two-way Data Binding
- Navigation
- Animation API
- Dependency Service
- Messaging Center

Shared UI Code

Shared C# Backend
Pages

Content

MasterDetail

Navigation

Tabbed

Carousel
Layouts

- Stack
- Absolute
- Relative
- Grid
- ContentView
- ScrollView
- Frame
### Controls

<table>
<thead>
<tr>
<th>ActivityIndicator</th>
<th>BoxView</th>
<th>Button</th>
<th>DatePicker</th>
<th>Editor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry</td>
<td>Image</td>
<td>Label</td>
<td>ListView</td>
<td>Map</td>
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<td>OpenGLView</td>
<td>Picker</td>
<td>ProgressBar</td>
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<td>ImageCell</td>
<td>SwitchCell</td>
<td>TextCell</td>
<td>ViewCell</td>
<td></td>
</tr>
</tbody>
</table>
Demo
Cross Platform Cloud Service

• **Azure Mobile Service**
  • Cross Platform
  • Component & NuGet
  • PCL Support
  • Online / Offline Sync
Cloud Made Easy

- OAuth
  - Twitter
  - Facebook
  - Microsoft Account
  - Google
  - Custom

- Easy Implementation
  - Look and Feel of Each Platform
Client Synchronization

Windows Azure

[Diagram showing various devices and components connected to Windows Azure]
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