
Introduction to Xamarin

— With focus on iOS and Android —

What is Xamarin?

- Developer tools for building cross-platform mobile apps

Why Use it:

- Visual Studio and C#
- Acquired by Microsoft in 2016

Development Environment Requirements

- Windows Computer
 - Visual Studio + Xamarin Tools + Others
 - Android Phone
 - Android Simulator
- Mac Computer (required for iOS compilation)
 - Xcode + Xamarin + Others
 - iPad/iPhone
 - iOS Simulator*
- Build process needs a Mac Agent/Virtual Mac

Be Prepared for Downtime

Lots of moving parts / risk of breaking changes:

- Mac OS version
- iOS version
- Visual Studio
- Xamarin
- XCode
- Android SDK
- iOS certificate and profiles

How Does Xamarin Work?

Entire Android and iOS SDK converted to C#

Xamarin.iOS / Xamarin.Android

- Code UI separately in native format.
- Shared business layer code

Pros:

- Smaller apps with native performance

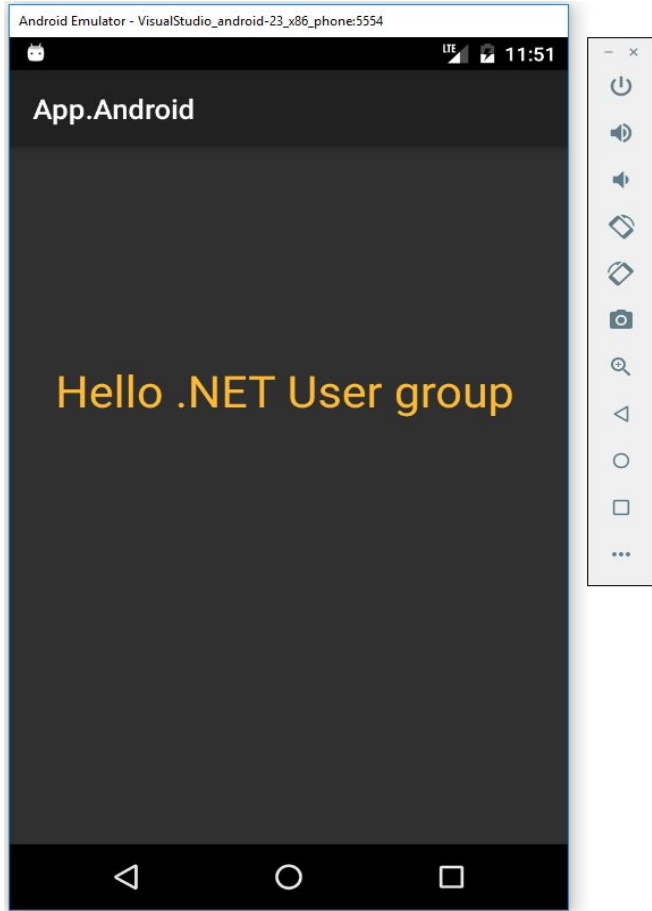
Xamarin.Forms

- Wrapper for shared UI
- Use dependency injection for platform-specific code

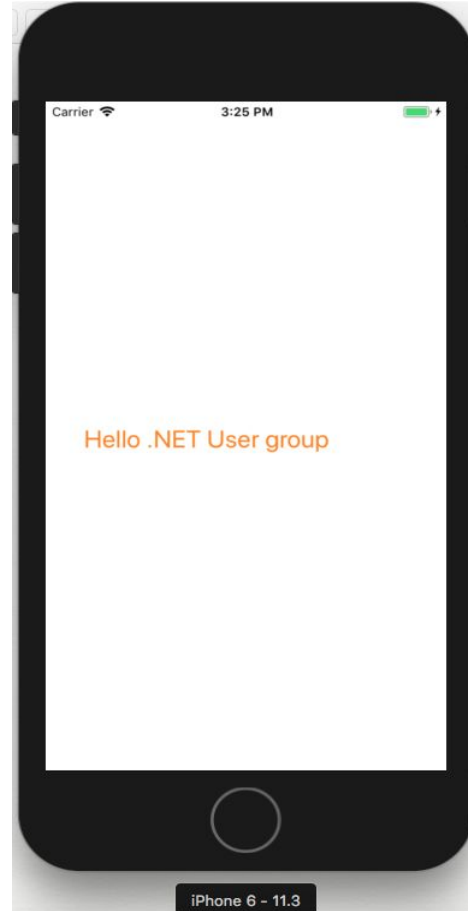
Pros:

- Close to 100% code sharing

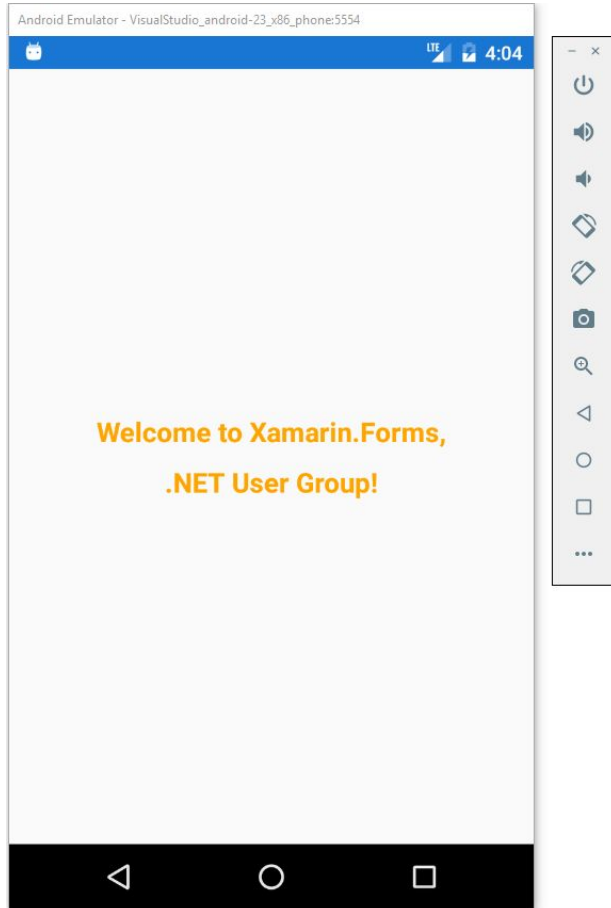
Xamarin.Android:



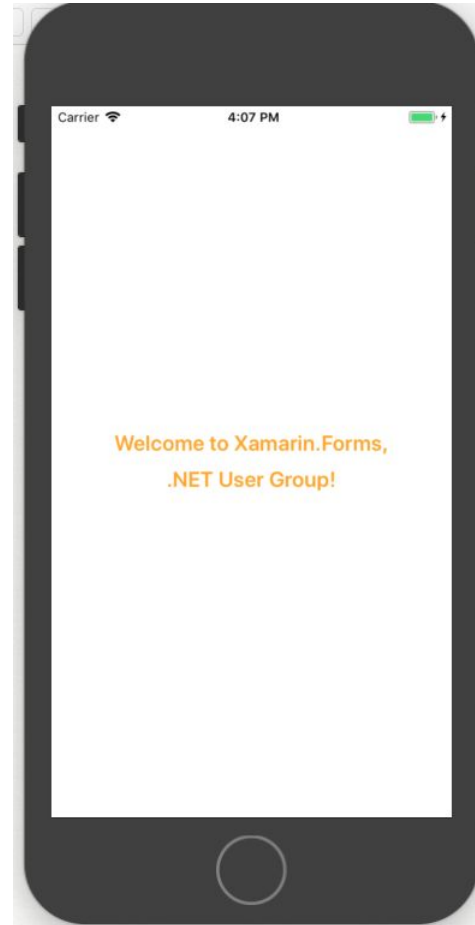
Xamarin.iOS:



Xamarin.Forms Android:



Xamarin.Forms iOS:



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References

- <http://www.thewindowsclub.com/what-is-xamarin-and-cross-platform-mobile-development>