



# Introduction

## Mike Irving



Macclesfield based Full Stack Developer

C# / Mobile / Web / Obj-C .. Lots of stuff

[www.mike-irving.co.uk](http://www.mike-irving.co.uk)  
[@mikeirvingweb](https://twitter.com/mikeirvingweb)

# Meetup Groups



## Dot Net North

[Meetup.com/DotNetNorth](https://www.meetup.com/DotNetNorth)

[@DotNetNorth](https://twitter.com/DotNetNorth)



## Macc Tech

[Meetup.com/MaccTech](https://www.meetup.com/MaccTech)

[@MaccTech](https://twitter.com/MaccTech)

# 'Project Islandwood'

Tool for Porting iOS apps to Windows



# The Windows Bridge for iOS

**So what is it exactly?**

**A tool for creating UWP Apps, based on Apple / iOS stuff...**

**Objective-C Compiler for Windows / VS**

**Support for iOS SDKs / APIs / Frameworks / 'Kits'**

- i.e. CoreFoundation, CoreData, CoreGraphics, UIKit, AudioToolbox..

**Support for iOS Interface / Markup Files**

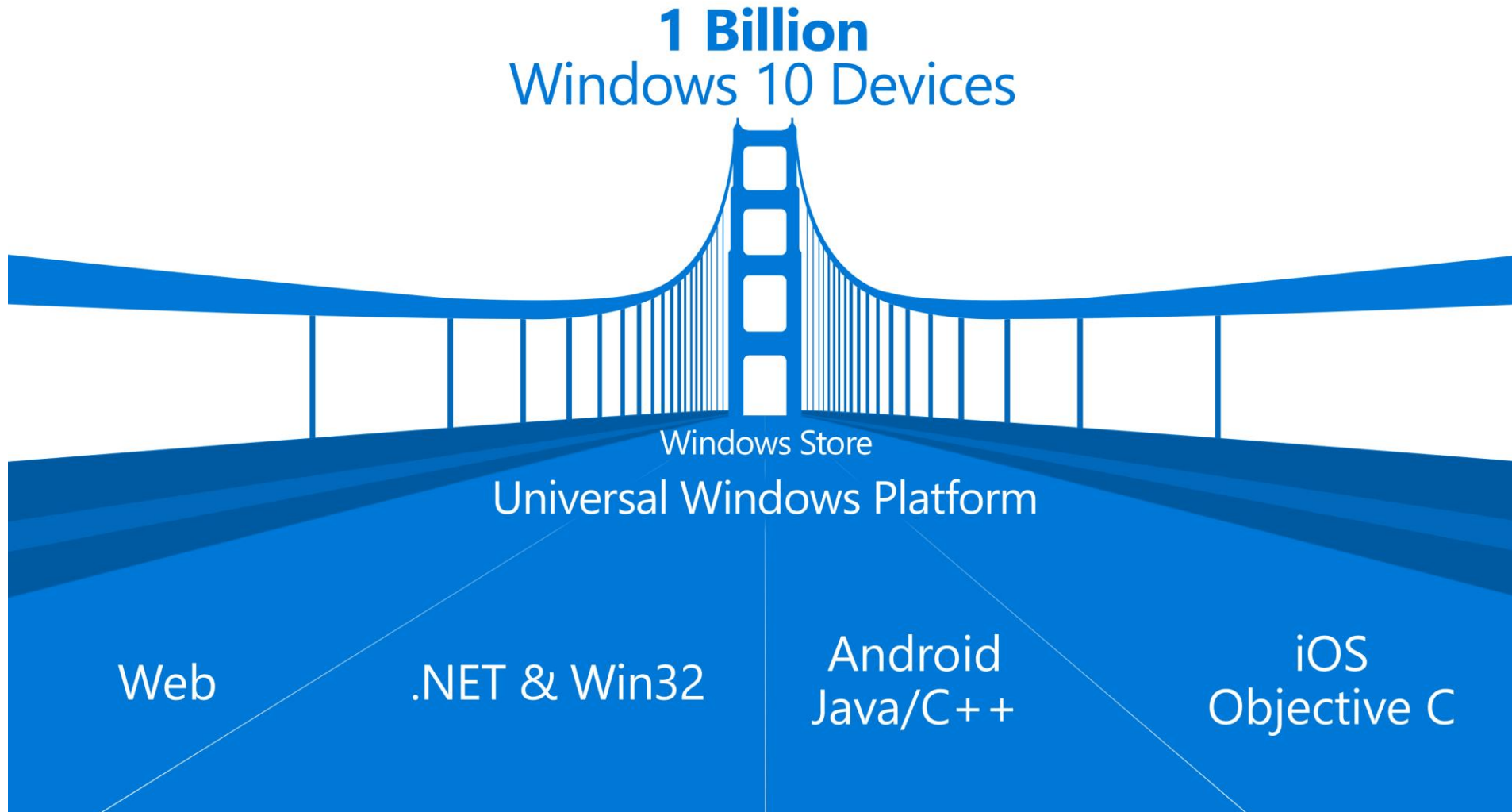
- Xib and Storyboard files

**Support for iOS UI Components**

- These map on to UWP equivalents, via iOS Methods and Properties.

**Access to all UWP stuff once across the bridge.. Via Obj-C or C++**

# Full Set of Windows Bridges



# Bridges that didn't go A Bridge Too Far

Microsoft Developer resources ▾

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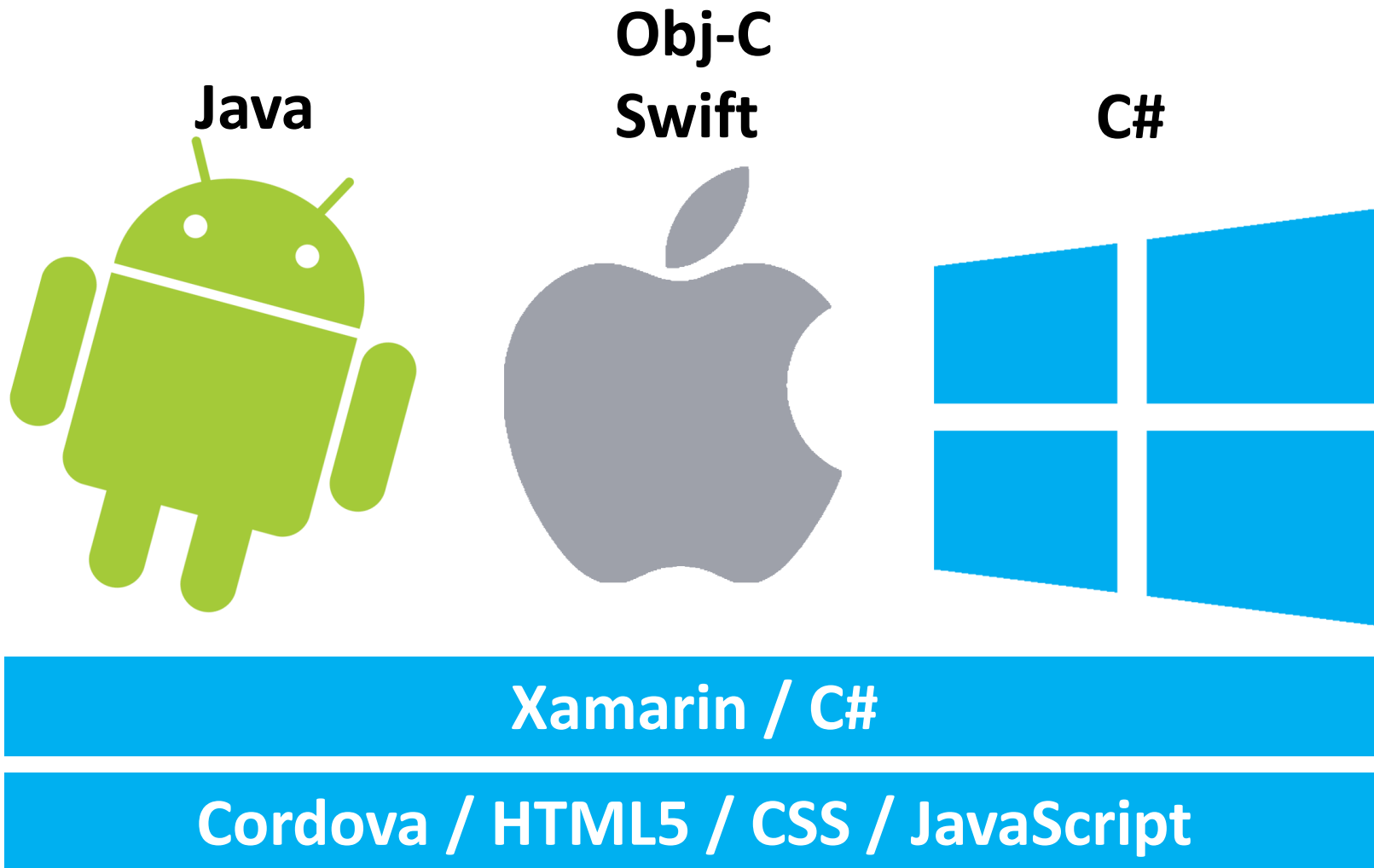
Bring your existing code to Windows  
Wherever your code was born, you can bring it to Windows.

[Learn why](#)

```
graph TD; MS[Mobilize.Net's Silverlight Bridge] --- UWP[UWP]; DB[Desktop Bridge] --- UWP; IB[iOS Bridge]; HWA[Hosted Web Apps]; PG[Porting guidance]; UWP --- PG; UWP --- IB; UWP --- HWA; UWP --- DB; UWP --- MS
```

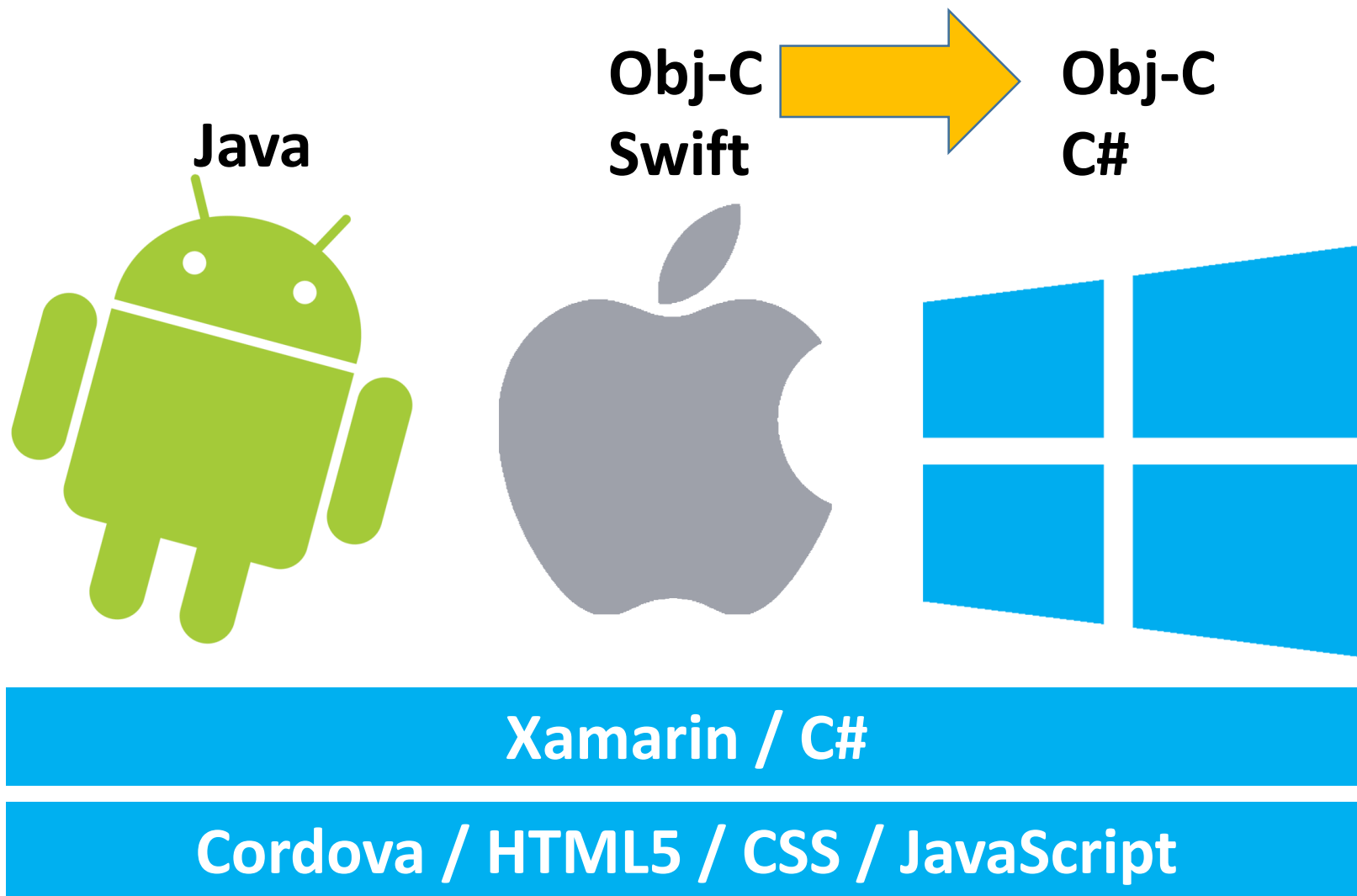
<https://developer.microsoft.com/en-us/windows/bridges>

# Cross Platform Choices






# Yet Another Cross Platform Choice




# An Objective-C UWP App



# Available today, The Windows Bridge for iOS

 Developer resources ▾

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Windows Dev CenterWindows Bridge for iOSAnalyze your appBridge for iOS on GitHubDashboard


Windows apps > Windows Bridges > Bridge for iOS

## Build the Windows app you already wrote

The Windows Bridge for iOS is a Microsoft open-source project that provides an Objective-C development environment for Visual Studio and support for iOS APIs.

Download the bridge on GitHub

0.2 161130 (November 30, 2016) 0.2.161130



<https://developer.microsoft.com/en-us/windows/bridges/ios>

# Open Source, available on GitHub

The screenshot shows the GitHub repository page for Microsoft's WinObjC project. At the top, navigation links include Personal, Open source, Business, Explore, Pricing, Blog, and Support. A search bar and 'Sign in'/'Sign up' buttons are also present. The repository name 'Microsoft / WinObjC' is displayed, along with statistics: 538 Watchers, 5,552 Stars, and 743 Forks. Below this, tabs for Code, Issues (304), Pull requests (16), Projects (0), Wiki, Pulse, and Graphs are visible. The repository description is 'Objective-C for Windows'. A progress bar shows 2,674 commits, 12 branches, 43 releases, and 67 contributors. Action buttons for 'Branch: develop', 'New pull request', 'Find file', and 'Clone or download' are provided. A recent commit by 'aballway' is highlighted, followed by a table of directory changes.

Directory	Commit Message	Time Ago
Frameworks	Rewrite CGDataProvider and change DWrite to use it directly (#1579)	13 days ago
bin	Update objc2winmd binary: Fixed UI element rendered at wrong place (#...	21 days ago
build	Rewrite CGDataProvider and change DWrite to use it directly (#1579)	13 days ago
deps	Bbowman/new projections sdk (#1339)	2 months ago
docs	Composition and layout refactor (#1318)	2 months ago
include	Rewrite CGDataProvider and change DWrite to use it directly (#1579)	13 days ago
msvc	Make tgmath header C compliant (#1466)	26 days ago
samples	Revert "Modify WOCCatalog to make framework leaks more apparent (#1462)..."	14 days ago

<https://github.com/Microsoft/WinObjC>

# What you'll need

## **Windows 10 PC**

## **Visual Studio Community 2015**

- Visual C++
- Universal Windows App Development Tools
  - Windows 10 SDK
  - Emulators for Windows 10 Mobile

<https://www.visualstudio.com/>

## **The Windows Bridge for iOS, latest recommended release**

<https://github.com/Microsoft/WinObjC/releases>

## **A decent spec machine**

Hyper-V required for Windows 10 Mobile Emulator

# Run on a Mac

**A Windows 10 Virtual Machine**

**Nested Hypervisor for Windows 10 Mobile Emulator**



**Parallels®**



## **Running Windows 10**

- on a Mac**
- running the Windows 10 Mobile Emulator**
- running an app built originally for iOS**

**As simple as that!**

# Getting Started

## Visual Studio 2015

## The WinObjC ZIP from GitHub

The Windows Bridge for iOS, latest recommended release

<https://github.com/Microsoft/WinObjC/releases>

## An iOS project ZIP



# Shot Time App



## **Shot Time – A Pool Game Timer**

**My first Objective-C App, dating from 2011**

# Demo

# Publishing

Upload binary, artwork, screenshots, descriptions, pricing etc.

<http://dev.windows.com>

The screenshot shows the Microsoft Dev Center interface for a submission named 'CMS Detect'. The top navigation bar includes the Microsoft logo, 'Developer resources', a search bar, and a user profile 'Mike'. Below this is a blue navigation bar with tabs for 'Dashboard', 'Windows', 'Cortana', 'Office', 'Hardware', and 'Groove'. On the right of this bar are links for 'Payout', a chat icon, a settings icon, and a help icon. Below the navigation bar, there's a section for 'Apps' with sub-tabs for 'Analytics', 'Customers', and 'Promotions'. The main content area shows 'Submission 6' for 'CMS Detect'. It includes a sidebar with links to 'App overview', 'Analytics', 'Submissions', 'Add-ons', 'Monetization', 'Services', and 'App management'. The main content area displays 'Submission 6' with the status 'This submission is in the Store.' and several sections: 'Pricing and availability' (Free and available to customers), 'Properties' (Utilities + tools), 'Age ratings' (displaying various rating icons), 'Packages' (CMSDetect\_2.0.0.0\_x86\_x64\_arm\_bundle... Validated), and 'Store listings' (Languages supported in packages: English (United States) Complete). A 'Feedback' button is at the bottom right.

# App Analysis Tool



Developer resources ▾

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Windows Dev Center

Windows Bridge for iOS

Analyze your app

Bridge for iOS on GitHub

Dashboard

Windows Bridges > Bridge for iOS > App analysis tool

## Analyze your iOS app

Drag and drop your IPA here or [browse your files](#)

To help you evaluate how well the Windows Bridge for iOS will work for your app, we are providing an app analysis tool. The tool will examine your project and cross-reference the frameworks and classes used with the ones currently supported by the bridge, and return the results right in your browser. The tool will also identify third-party libraries and SDK packages used in your project and let you know if they – or equivalent libraries – are available on Windows 10. The analysis is just a starting point, but it will give you a good idea of how much work will be required to bring your iOS app to Windows 10.

**Note:** Depending on the size of your IPA and the number of third-party libraries it uses, the analysis may take several minutes to complete.

Name

Email

### How do I export an IPA from Xcode?

You will need to export an unencrypted IPA from Xcode to use the app analysis tool. Here's how:

1. In Xcode, choose **Generic iOS Device** or a connected device from the **Scheme** toolbar menu. You can't create an IPA from a simulator build.
2. Choose **Product > Archive**.
3. In the Archives Organizer, select the archive and click **Export**.
4. Select **Save for Development Deployment** and click **Next**. The resultant IPA will be code signed with your development certificate.
5. Follow the Xcode prompts to generate and save your IPA.

### What's next?

The app analysis tool will give you a good sense of how well your code will run on Windows, but nothing beats actually trying out the bridge. If you have a PC, you can [download the bridge from GitHub](#) and try it out with your app. If you

## Any Questions?

### Links:

<https://www.visualstudio.com/>

<https://github.com/Microsoft/WinObjC/releases>

<https://developer.microsoft.com/en-us/windows>

<http://www.mike-irving.co.uk/>