

Xamarin: Conceptos fundamentales



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<https://github.com/icebeam7/>

Celaya Mobile .NET Developers Group

<https://www.meetup.com/CelayaMobileDevelopers/>

22 Julio 2016

Agenda

1. ¿Qué es Xamarin?

2. Beneficios

3. Instalación

4. Preguntas

1. ¿Qué es Xamarin?



Xamarin Platform

C# on iOS, Android, Mac & Windows



Xamarin Test Cloud

Find bugs before your users do



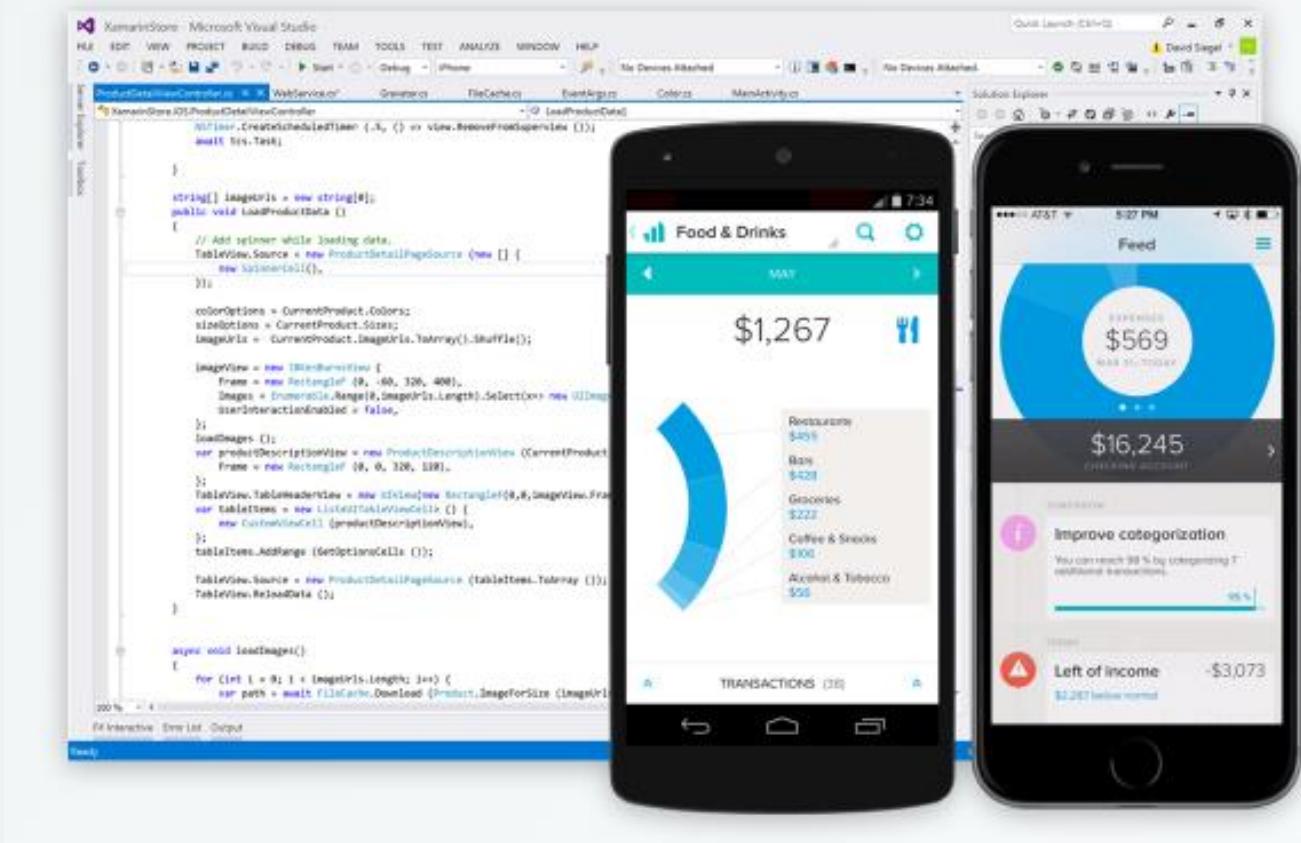
Xamarin Insights

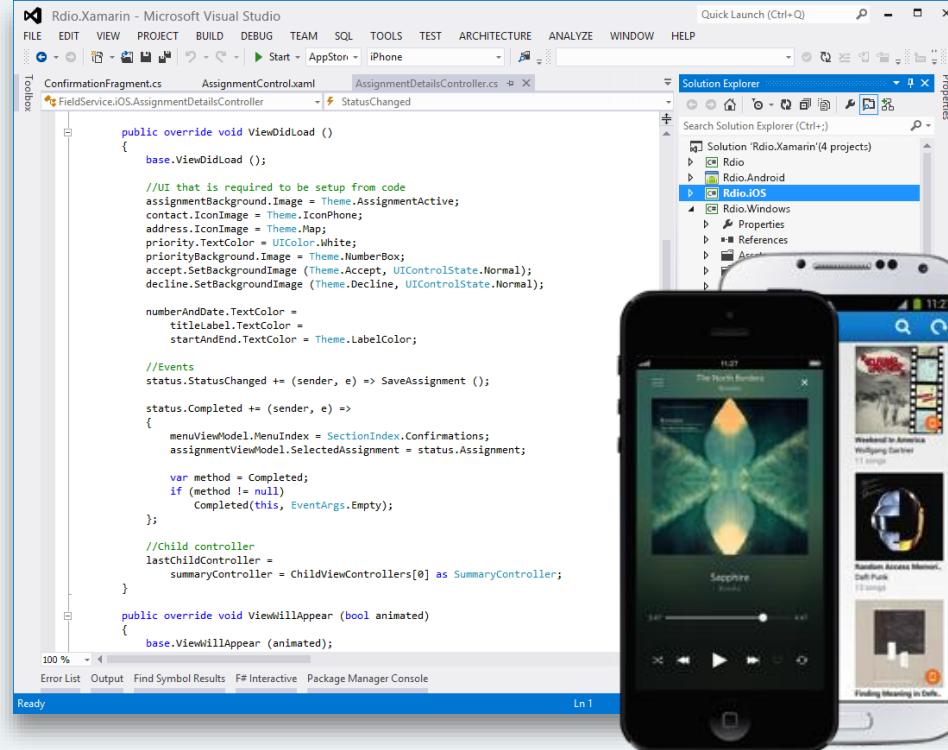
Improve your apps with real-time monitoring



Xamarin University

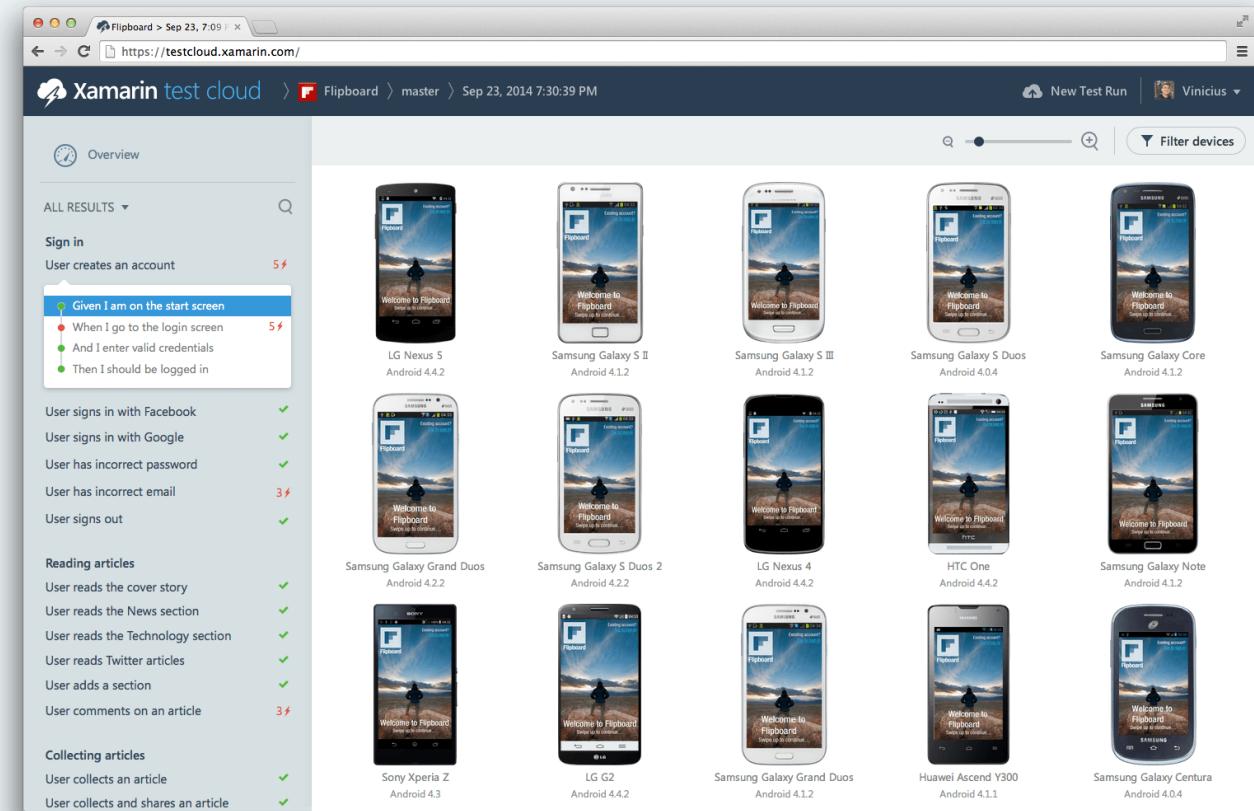
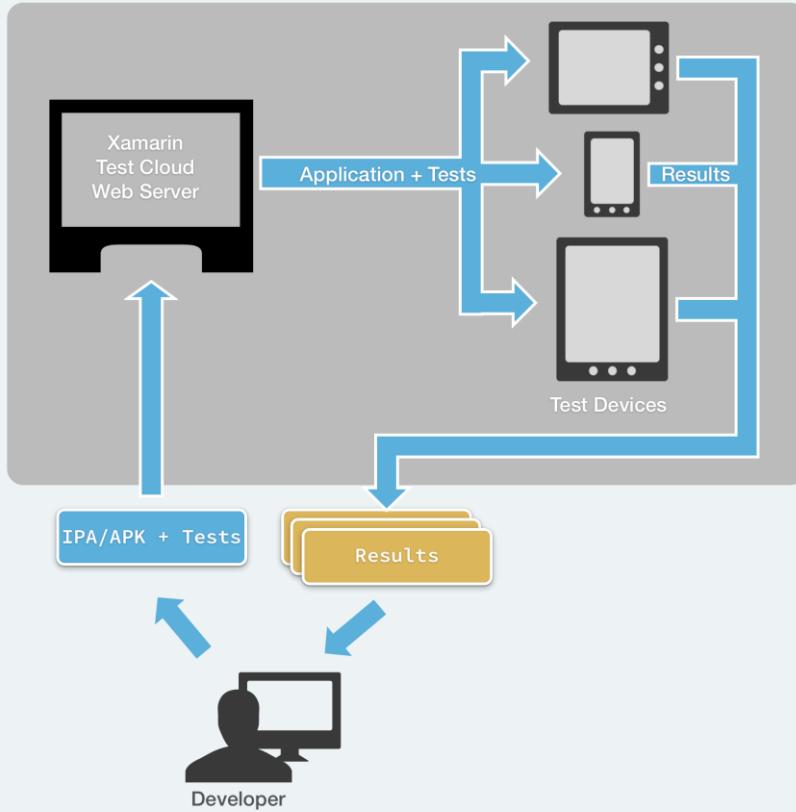
Unlimited, live mobile development training





Crea aplicaciones nativas de iOS, Android, Mac y
Windows en Visual Studio con C# de forma
GRATUITA

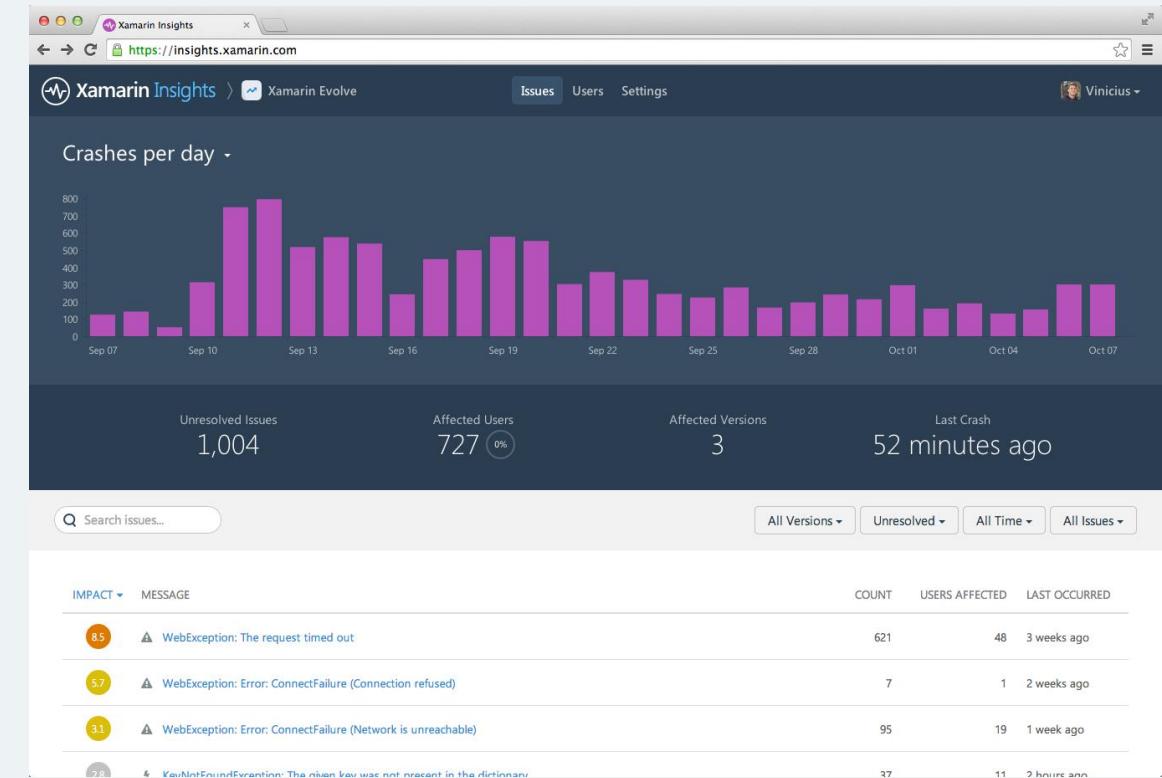
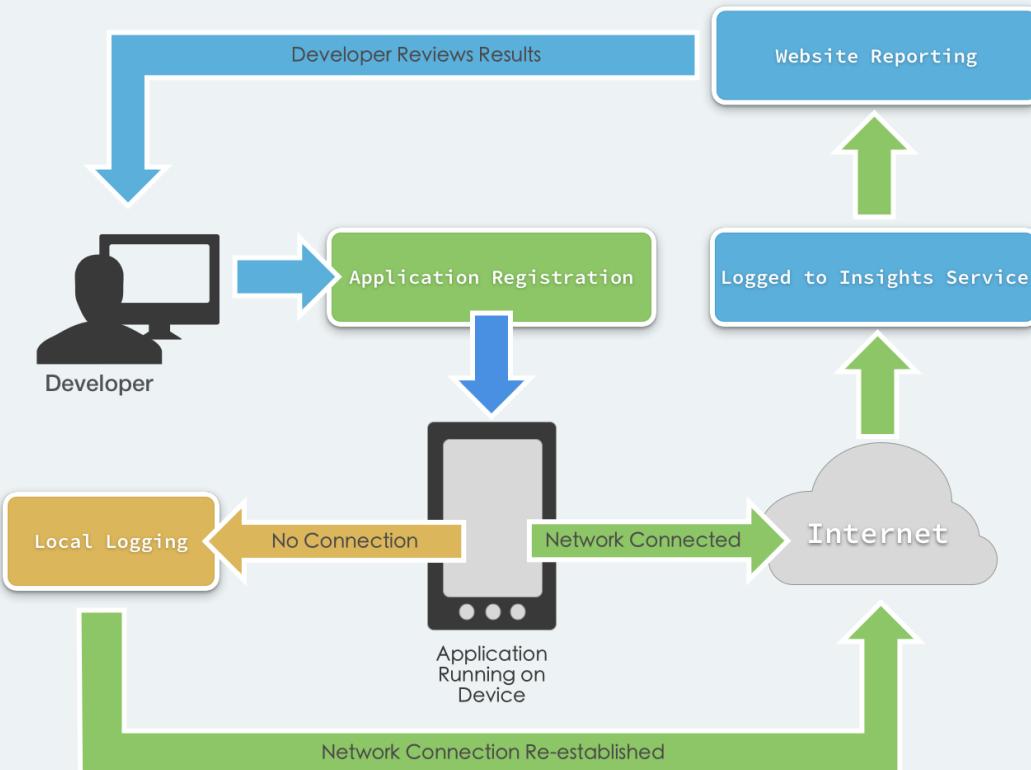
Xamarin Test Cloud



Automatiza las pruebas de tus apps en más de 2000 dispositivos reales en la nube. Localiza bugs, problemas de rendimiento y obtén datos analíticos para construir apps móviles de calidad.



Xamarin Insights



Obtén información en tiempo real sobre la salud de tu app con respecto a informes de crasheos, bitácoras de errores y dar un seguimiento al uso de tu app.



Xamarin University



AND102

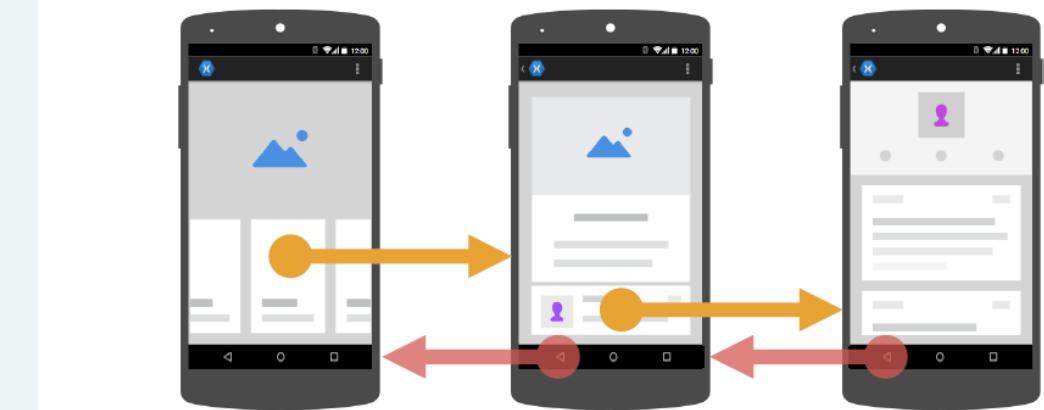
Activities and Intents

- ▶ Lecture will begin shortly
- ▶ Download class materials from university.xamarin.com

XamarinUniversity

What is stack navigation?

- ❖ *Stack navigation* records the sequence of Activities in a stack to enable the user to return from any Activity to the one that started it

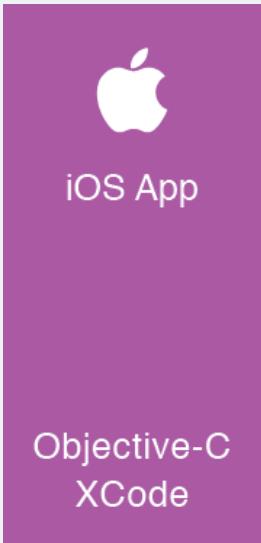


Certificado en Xamarin con un entrenamiento interactivo con expertos mediante sesiones en vivo.
Más de 70 clases disponibles.

2. Beneficios

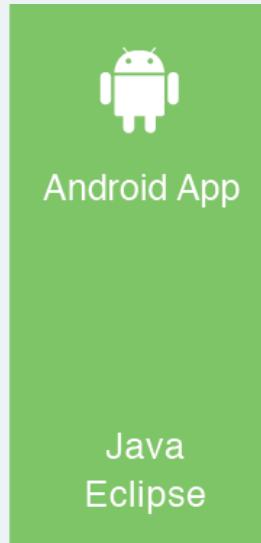
Enfoques de
Desarrollo Móvil

Enfoque Silo



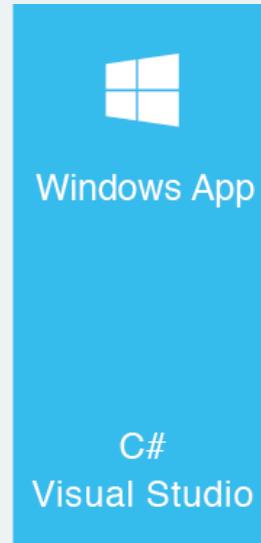
iOS App

Objective-C
XCode



Android App

Java
Eclipse



Windows App

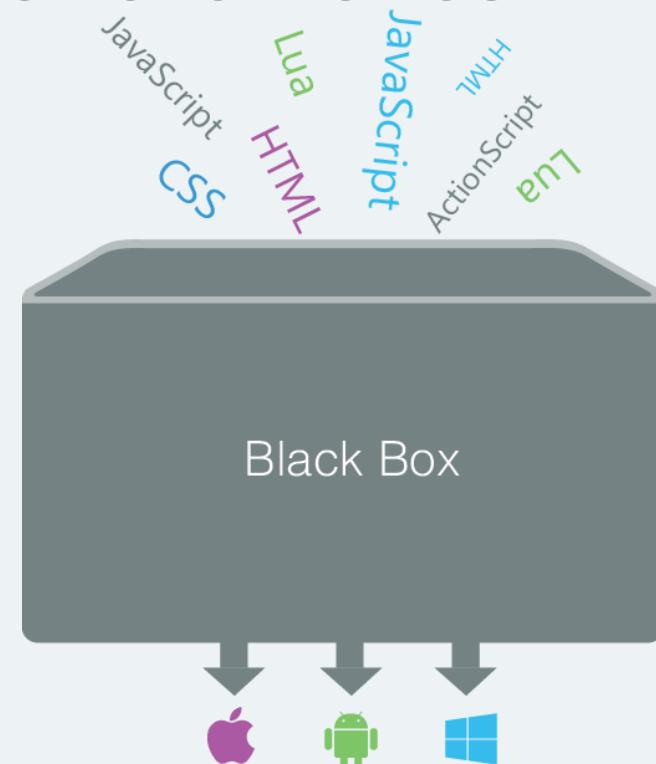
C#
Visual Studio

Desarrolla una app múltiples veces

- Múltiples Equipos
- Múltiples Bases de código
- Diferentes conjuntos de herramientas

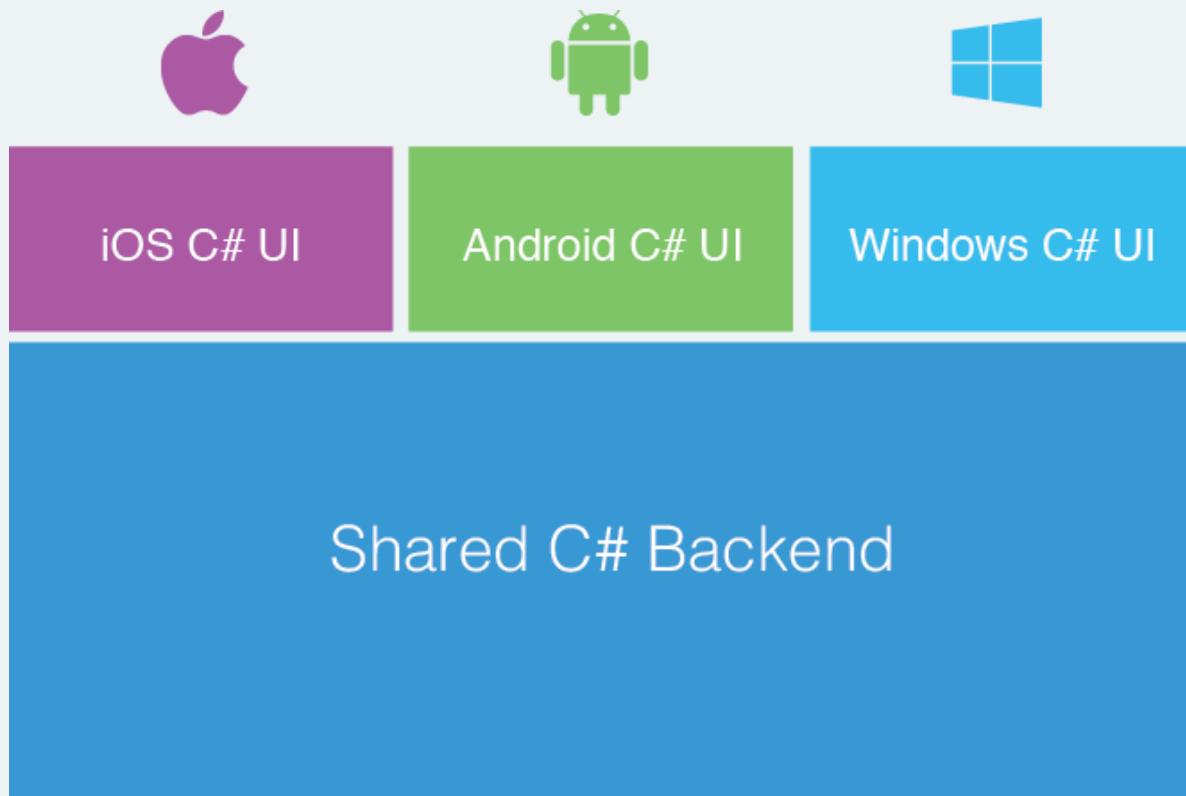
Enfoque WORA

- Más bajo común denominador
- Fragmentación de navegador
- Desarrollar y diseñar para una plataforma funciona para el resto

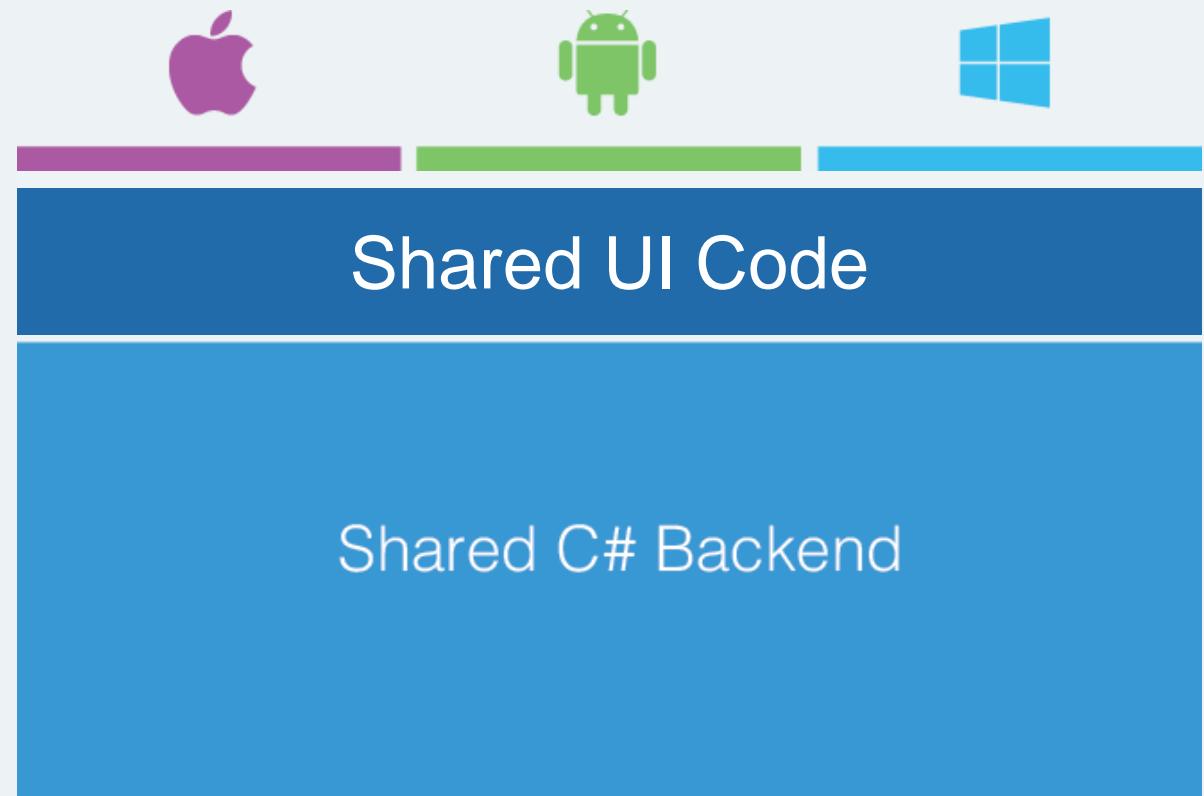


Enfoque Único de Xamarin

Enfoque Tradicional Xamarin

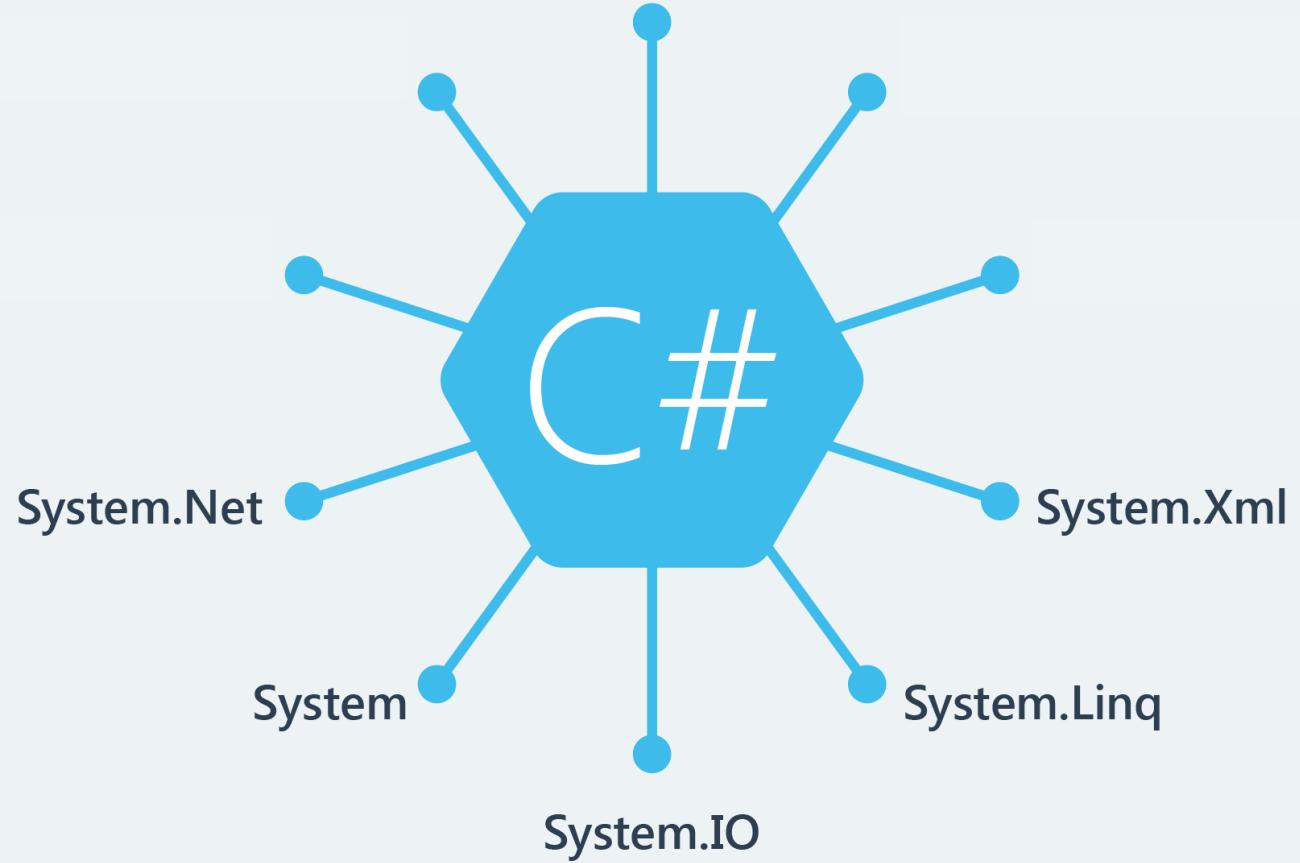


Xamarin.Forms:
Más código compartido, controles nativos

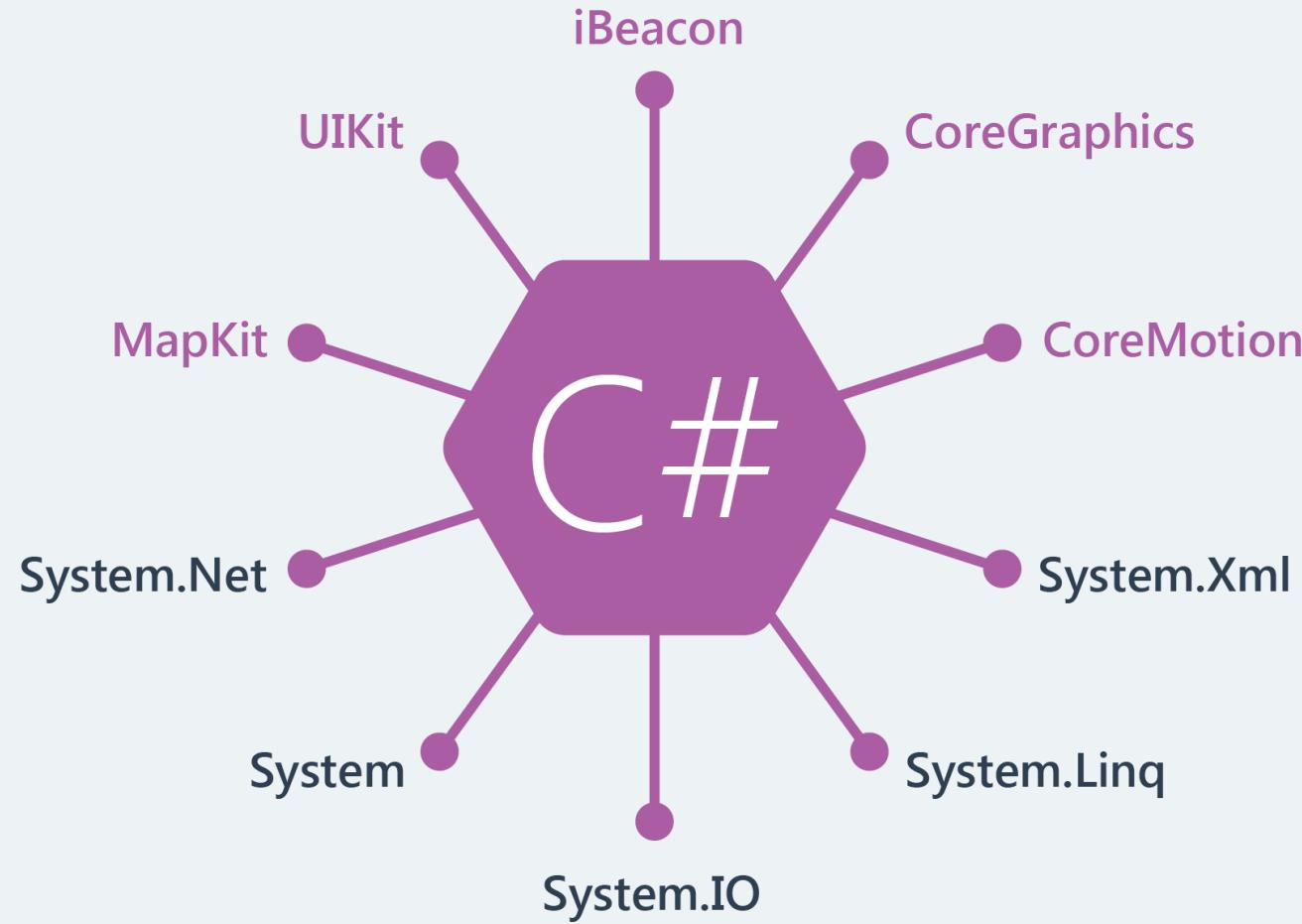


¿Cómo funciona Xamarin?

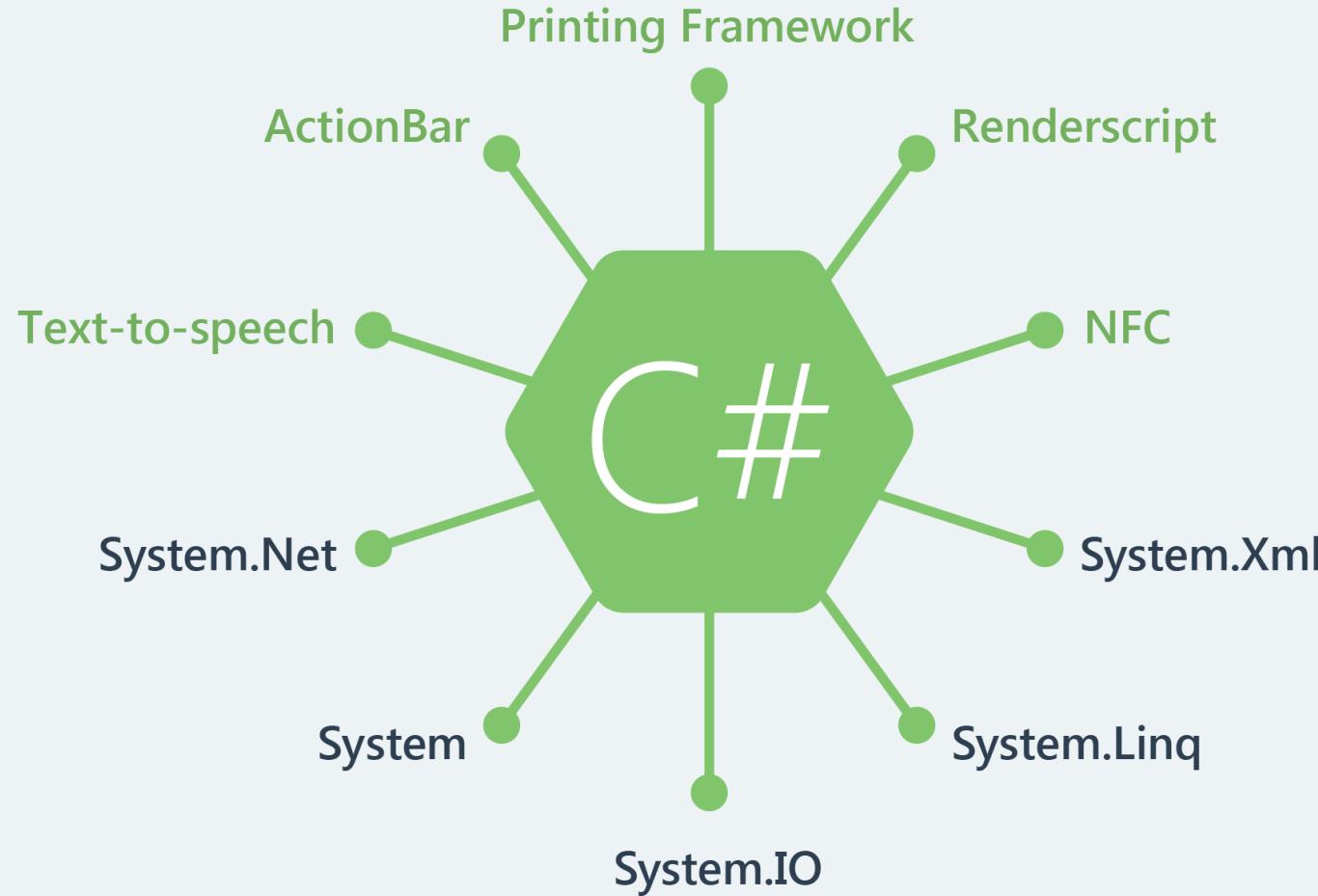
Windows APIs



iOS APIs | 100% Coverage



Android APIs | 100% Coverage



Cualquier cosa que puedes desarrollar en Objective-C, Swift, o Java, la puedes desarrollar en C# con Xamarin utilizando Visual Studio

Xamarin.Forms Example

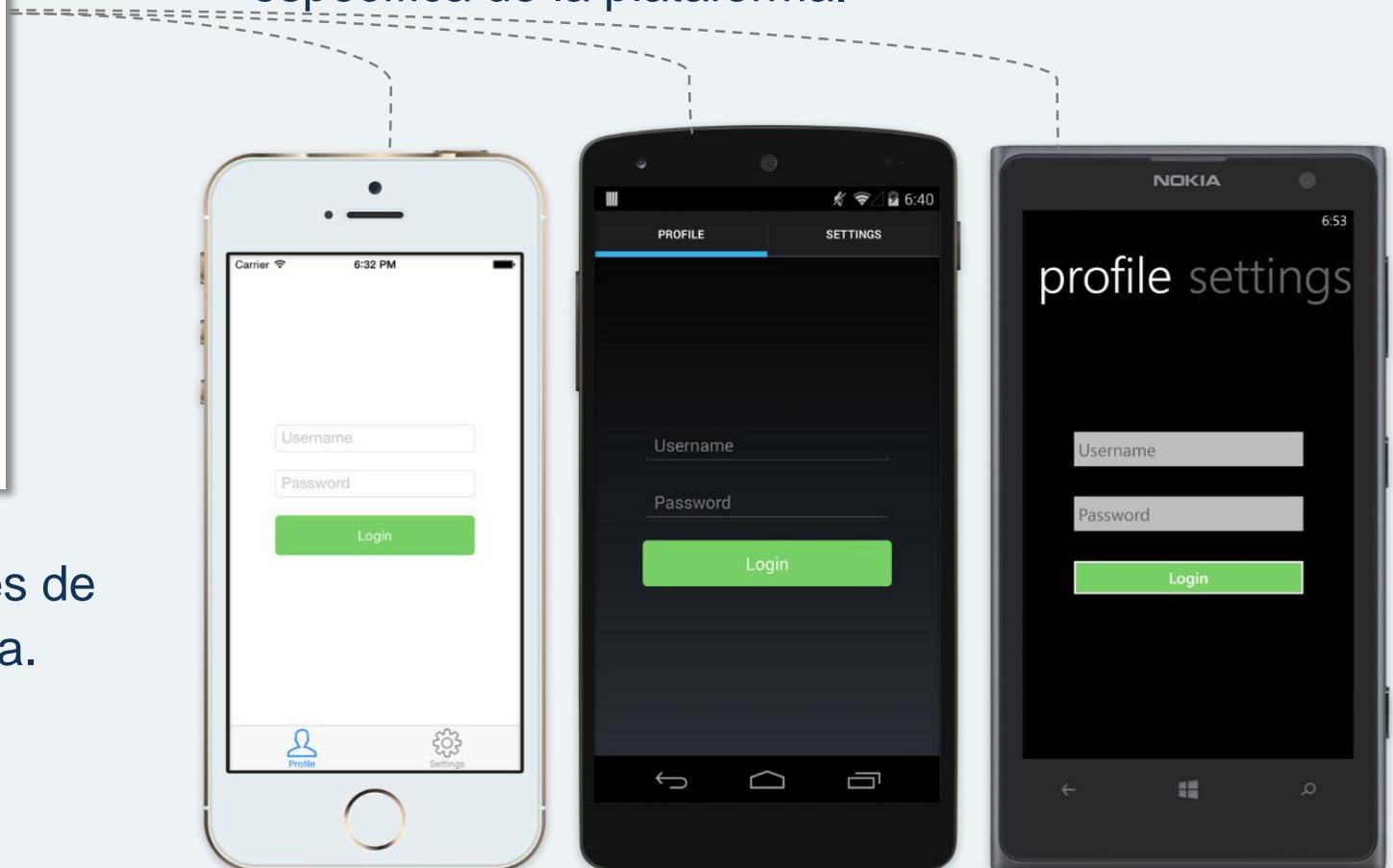
```
using Xamarin.Forms;

var profilePage = new ContentPage {
    Title = "Profile",
    Icon = "Profile.png",
    Content = new StackLayout {
        Spacing = 20, Padding = 50,
        VerticalOptions = LayoutOptions.Center,
        Children = {
            new Entry { Placeholder = "Username" },
            new Entry { Placeholder = "Password", IsPassword = true },
            new Button {
                Text = "Login",
                TextColor = Color.White,
                BackgroundColor = Color.FromHex("77D065") }}}
};

var settingsPage = new ContentPage {
    Title = "Settings",
    Icon = "Settings.png",
    (...)}
};

var mainPage = new TabbedPage { Children = { profilePage, settingsPage } };
```

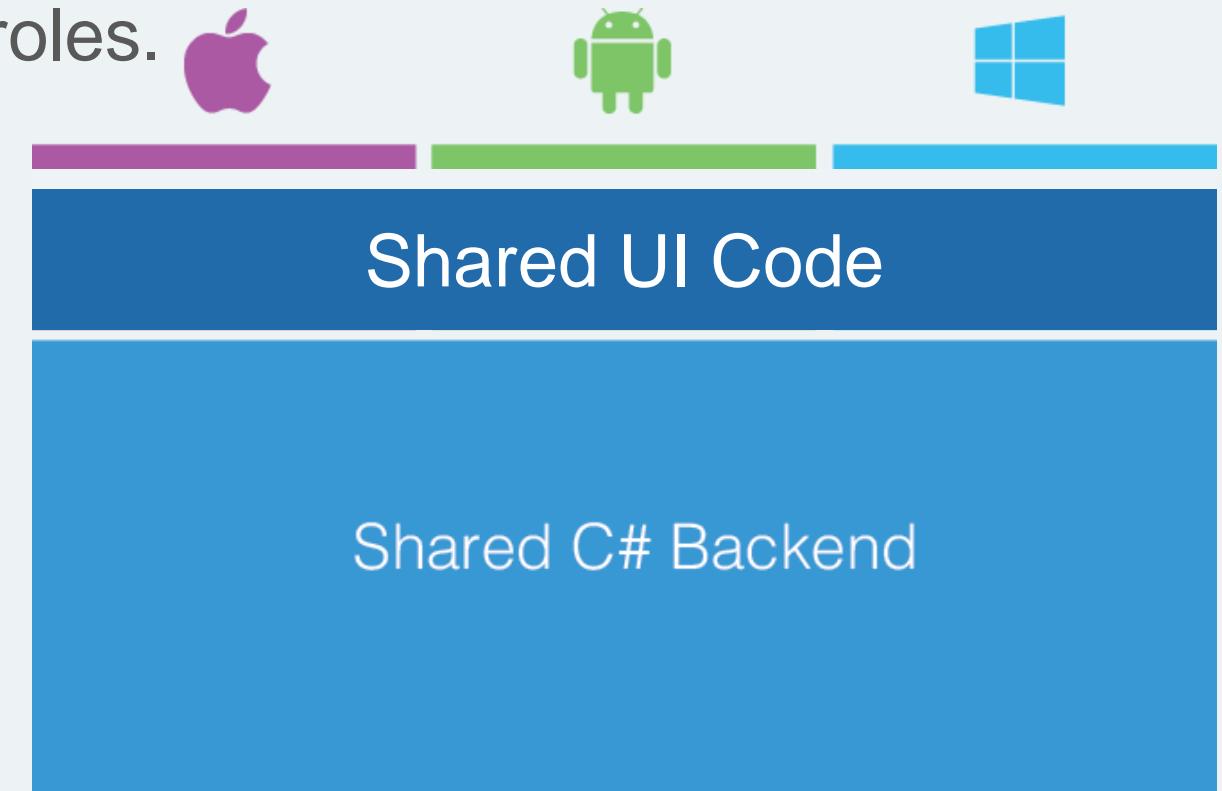
En tiempo de ejecución, cada página de Xamarin.Forms y sus controles son mapeados a elementos nativos de la interfaz de usuario específica de la plataforma.



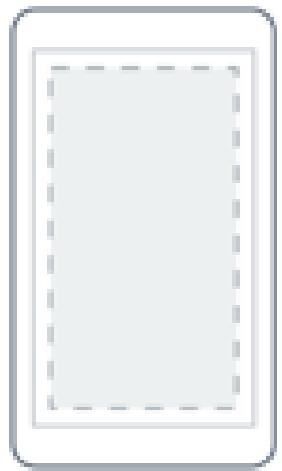
Utiliza una sola API para generar interfaces de usuario nativas y específicas de plataforma.

¿Qué incluye?

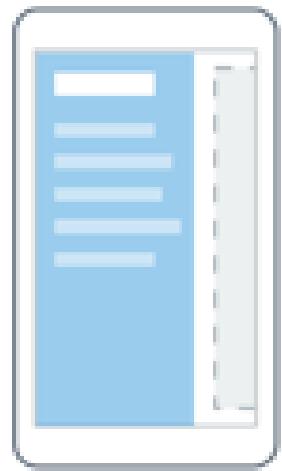
- Diseña tu app mediante code-behind (C#) o con XAML
- Más de 40 páginas, layouts y controles.
- Two-way Data Binding
- Navegación
- API de Animación
- Servicios de Dependencia
- Centro de mensajes



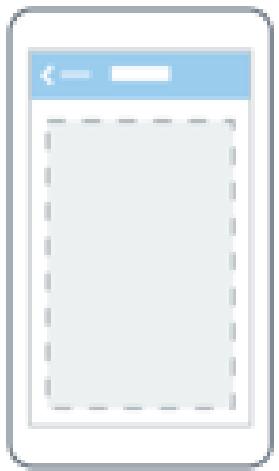
Páginas



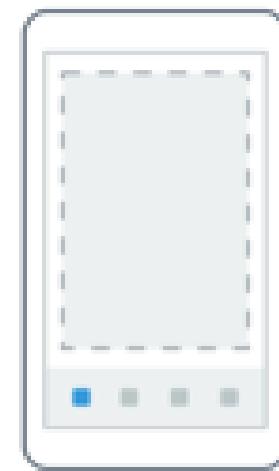
ContentPage



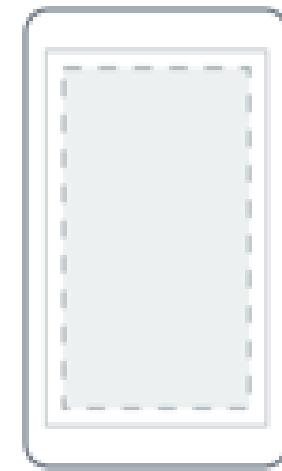
MasterDetailPage



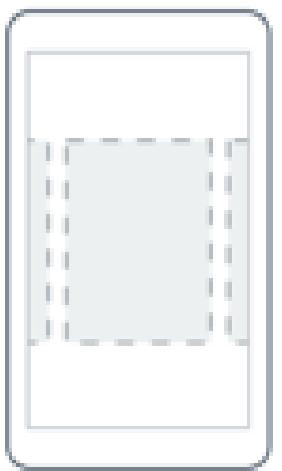
NavigationPage



TabbedPage

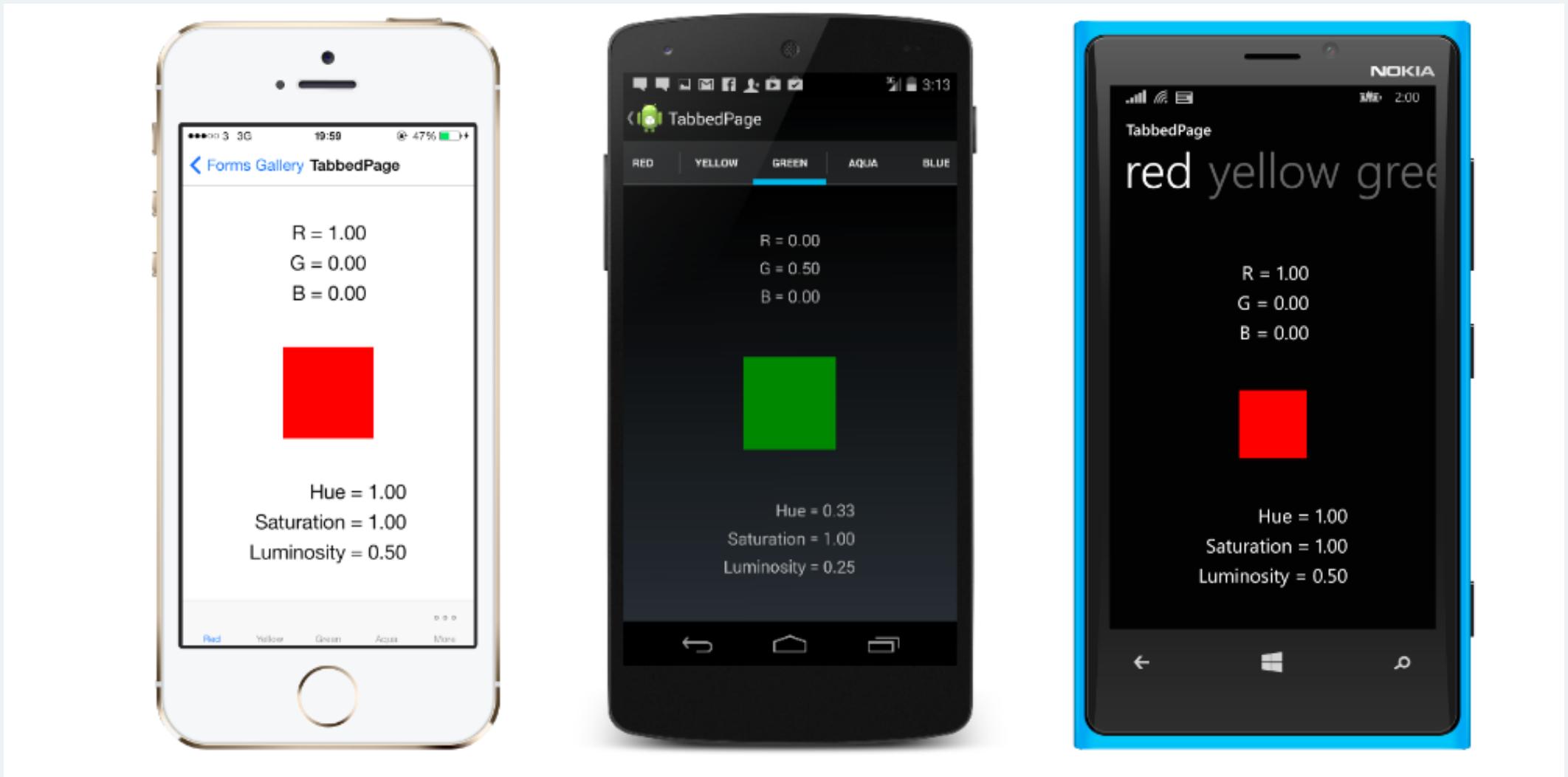


TemplatedPage

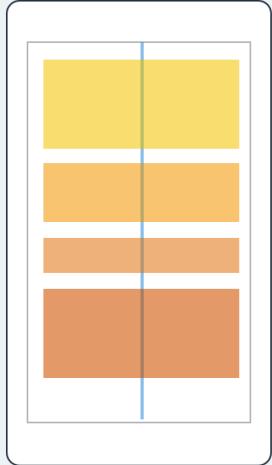


CarouselPage

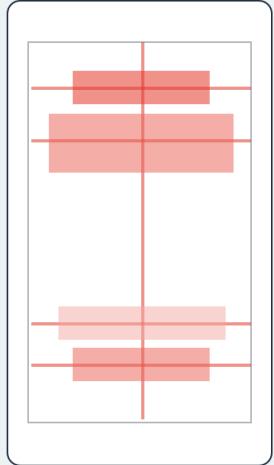
Páginas



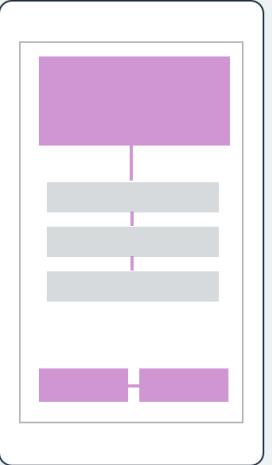
Layouts



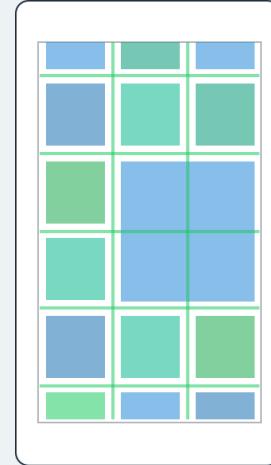
Stack



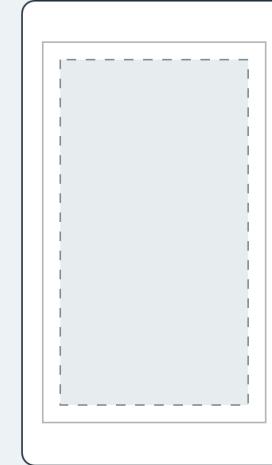
Absolute



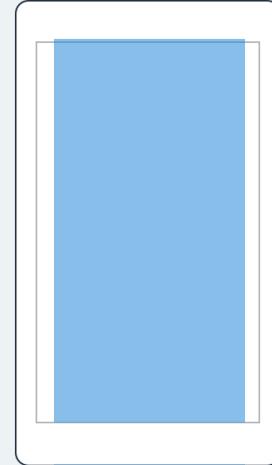
Relative



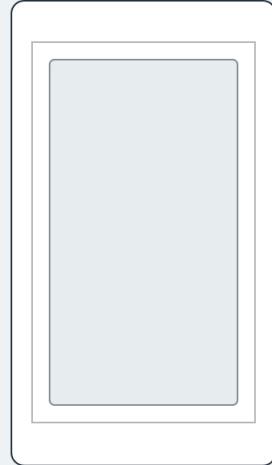
Grid



ContentView



ScrollView



Frame

Controles (Views)

ActivityIndicator

BoxView

Button

DatePicker

Editor

Entry

Image

Label

ListView

Map

OpenGLView

Picker

ProgressBar

SearchBar

Slider

Stepper

TableView

TimePicker

WebView

EntryCell

ImageCell

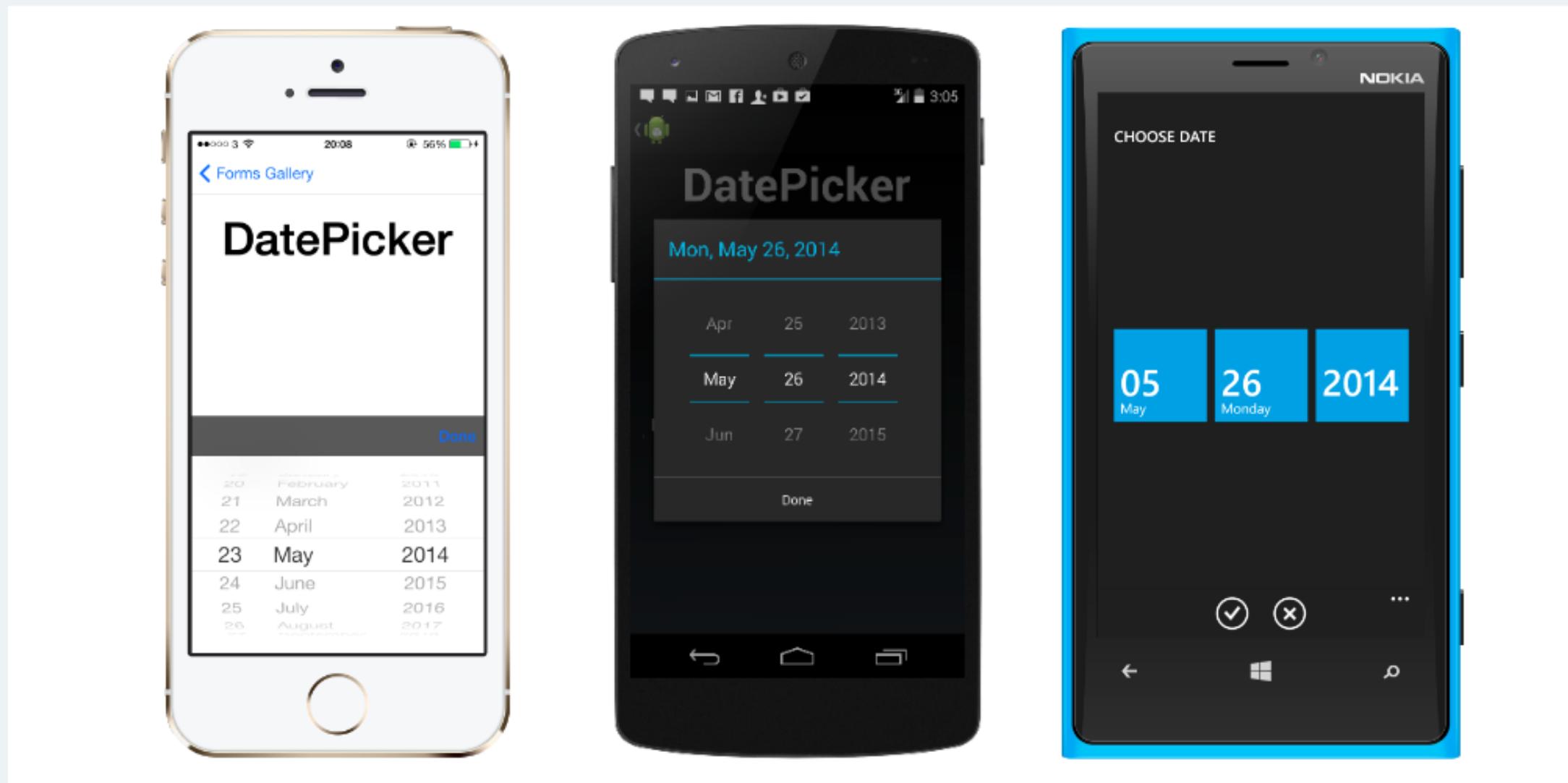
SwitchCell

TextCell

ViewCell

Switch

Controles (Views)



Distribuye en todas partes

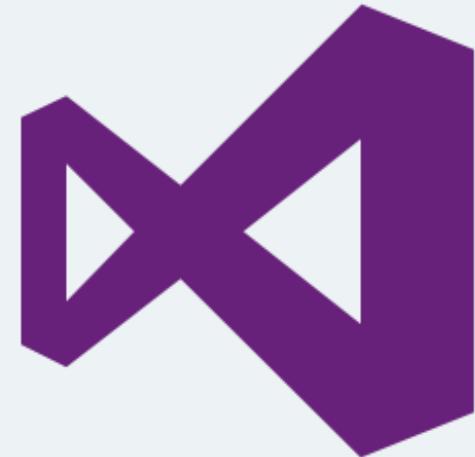
Una app de Xamarin se puede distribuir en varias plataformas



Entornos de desarrollo

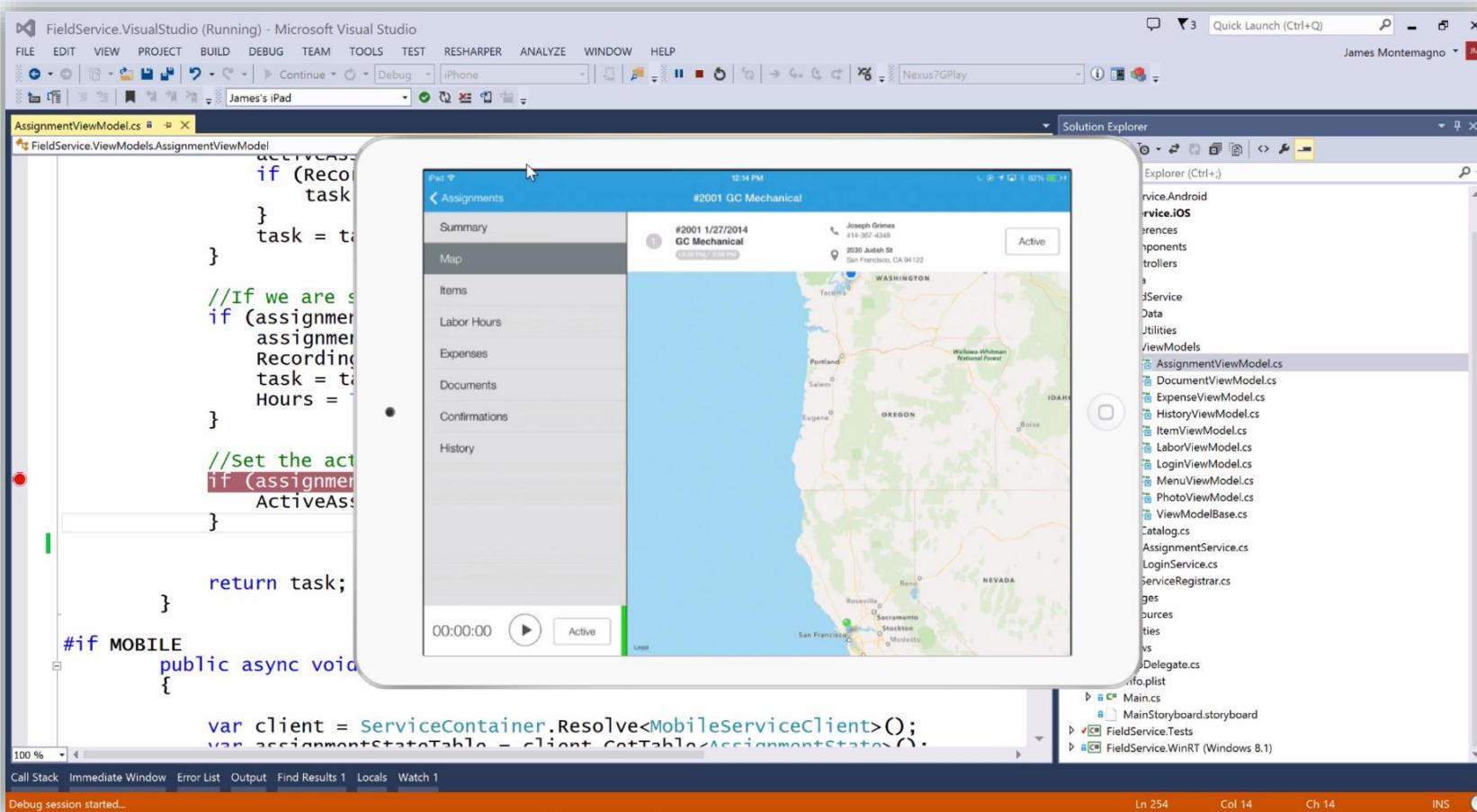


Xamarin Studio
PC o Mac

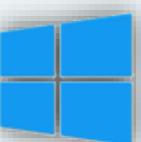


Visual Studio Plugin
VS 2010+

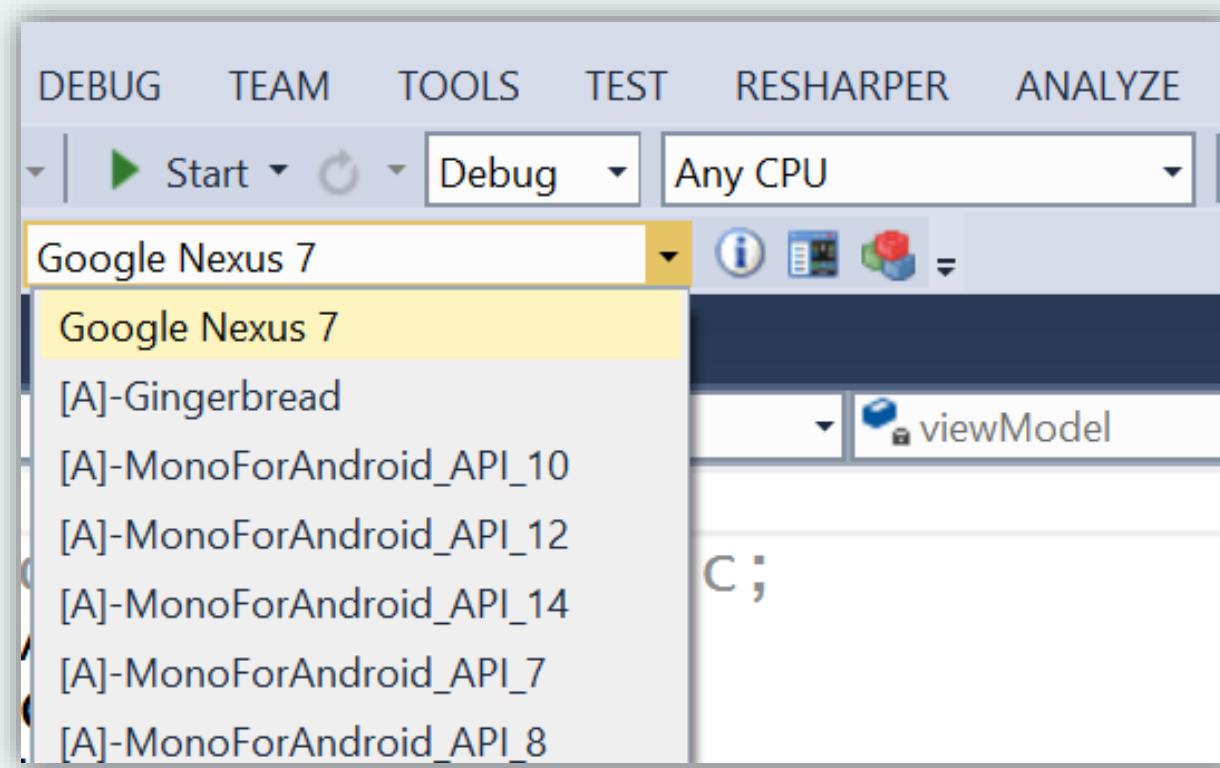
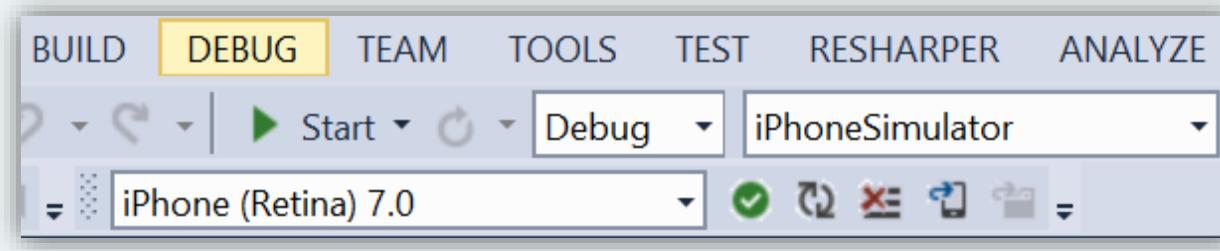
Integración con Visual Studio



- ## Una única solución:
- iOS
 - Android
 - Windows Phone
 - Windows Store
 - Universal Windows Platform



Integración con Visual Studio



Depura con:

- Emuladores
- Dispositivos

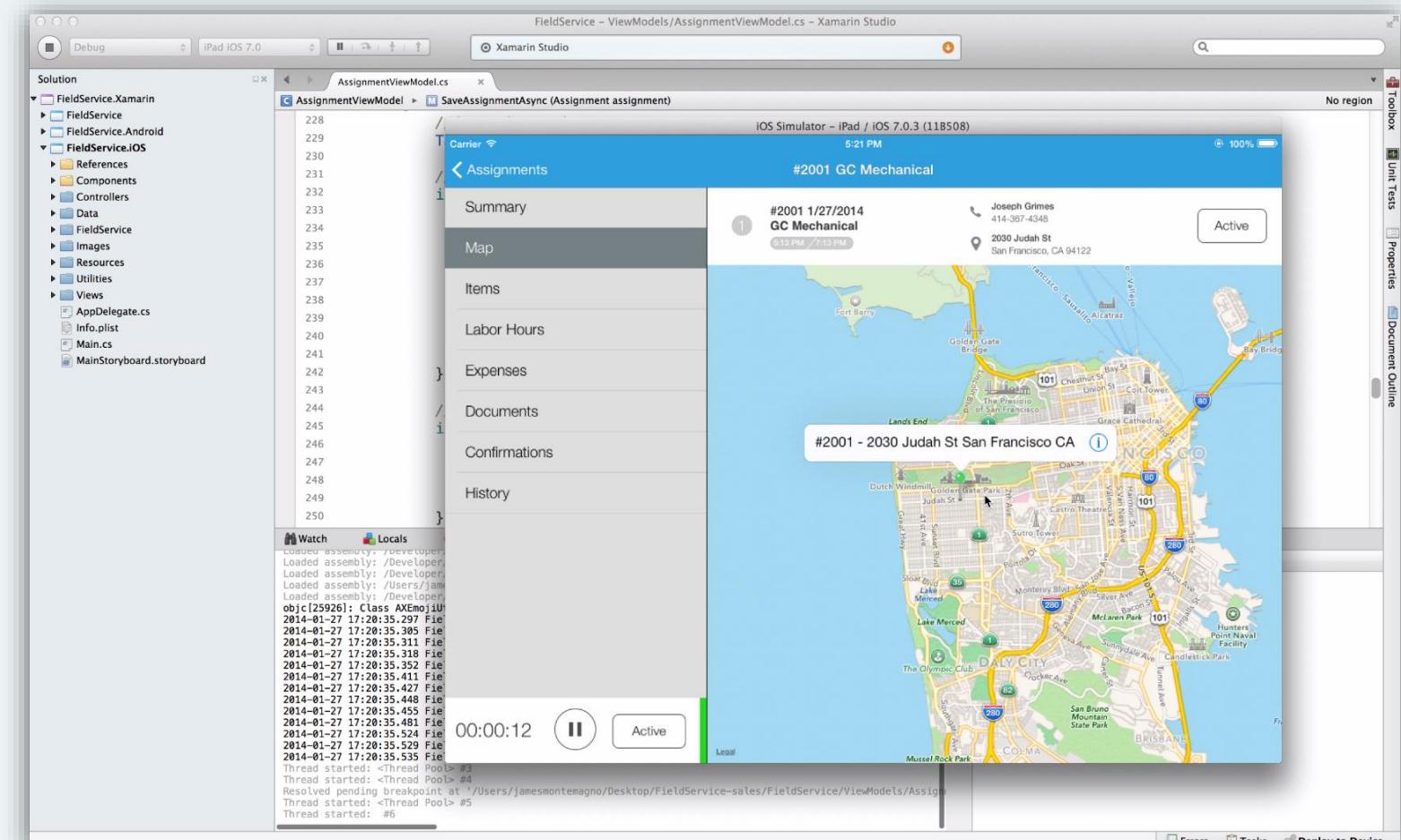
Barra de herramientas:

- Status
- Logs
- Lista de dispositivos

**Solo da clic en Start
Debugging!**

Xamarin Studio

- Optimizado para desarrollo de apps móviles multiplataforma
- Explora APIs nativas
- Diseñadores para Android e iOS
- Depuración poderosa en simulador y dispositivos



NuGet

Add Packages

nuget.org

xamarin

Xamarin.Social Share statuses, links, and images

 **Xamarin.Social**
Share statuses, links, and images

 **Xamarin.Auth**
A cross-platform API for authentication.

 **Xamarin.Mobile**
Xamarin.Mobile is a library that provides common mobile device functionality.

 **Xamarin.InAppBilling**
Component to assist in adding In-App Billing support via Google Play Services.

 **Xamarin.FacebookBinding**
Xamarin Android Binding library for Facebook.

 **BugSense plugin for Xamarin**
BugSense is the leading crash reporting solution for mobile.

Show pre-release packages

Each package is licensed to you by its owner. Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.

Settings

Installed packages

Online

All nuget.org Motz NuGets Microsoft and .NET

Updates

Stable Only Sort by: Most Downloads

Json.NET EntityFramework jQuery WebGrease Microsoft ASP.NET MVC Microsoft HTTP Client Libraries Microsoft ASP.NET Web API 2.2

Install

Created by: James Newton-King
Id: Newtonsoft.Json
Version: 6.0.3
Last Published: 4/27/2014
Downloads: 6189092
License
View License
Project Information
Report Abuse
Description:
Json.NET is a popular high-performance JSON framework for .NET
Tags: json
Dependencies:
No Dependencies

Close

Receso (5 min)



Contest: Add an Azure Backend to Your Mobile App

All apps need a backend, and Azure Mobile Apps makes it simple to add a backend to your mobile application. From no-code backends with [Azure Easy Tables](#) to full .NET backends with ASP.NET Web API, Azure has a backend for any kind of mobile app. Once you've built your backend, it's time to [consume it from a mobile app](#), and thanks to the [App Service Helpers library](#), adding a backend to your mobile app can be done in as little as four lines of code.

In this contest, we invite you to add an Azure Mobile Apps backend to your app to **win a Xamarin t-shirt!**



How to Enter

1. Create a new Azure Mobile App:

Use the Mobile Apps Quickstart to [create a preconfigured no-code backend](#) in five minutes

Or [create your own no-code backend](#) with Azure Easy Tables.

2. [Connect your mobile app to the cloud](#).

3. Tweet a short video clip of your Xamarin app connected to an Azure Mobile Apps backend with the hashtags:

#Xamarin **AND** #AzureMobile

<http://bit.ly/xamarin-contest-azure>



Pro Tip: Easily [add a no-code backend to your mobile app](#) with just four lines of code in five to ten minutes with App Service Helpers, or [follow our guides](#) on adding a backend with Azure Easy Table.

Rules

All submissions must be made by **Monday, July 25 at 12 pm EST**. A valid entry consists of a tweet containing the hashtags #Xamarin **AND** #AzureMobile, along with a short video [clip](#) of your app connecting to an Azure Mobile Apps backend. A valid entry will win one Xamarin t-shirt. Limit one entry per person. To be eligible, you must follow [@XamarinHQ](#) to enable us to DM you for private follow up. Please allow up to three weeks for us to verify entries and collect shipping information to send your Xamarin t-shirt. There is no purchase necessary to enter the "Add an Azure Backend To Your Mobile App" contest.



Creating Mobile Apps with Xamarin.Forms



Cross-platform C# programming
for iOS, Android, and Windows

CHARLES PETZOLD

<http://bit.ly/xamarin-books>

3. Instalación

Opción #1 – Visual Studio Community (recomendada)

Visual Studio Community

A free, fully-featured, and extensible IDE for creating modern applications for Windows, Android, and iOS, as well as web applications and cloud services.

[Download Community 2015](#)



Visual Studio Community is free for individual developers, open source projects, academic research, education, and small professional teams. [Learn more](#)

Opción #1 - Requisitos

- Sistema operativo: Windows (mínimo Windows 7 SP1, se recomienda Windows 8.1 Pro/Windows 10)
- Recomendable 8 GB de RAM al menos (4 GB funciona también)
- Equipo físico (no máquina virtual)

Opción #1 - Requisitos

- Si deseas trabajar con aplicaciones de **iOS**, requieres una **Mac** con **OSX Yosemite (10.10.5)** o superior con **Xcode** y **Xamarin** instalado para poder compilar y depurar.
- La depuración de apps de **Android y Windows (Phone/RT/UWP)** la puedes realizar con un emulador o dispositivo físico (tablet/teléfono). Opciones disponibles:
 - El emulador rápido de Visual Studio para Android y los emuladores de Windows requieren Hyper-V instalado (tu SO debe ser Windows 8 Pro/Windows 10 que soporta virtualización).
 - Otros emuladores (Xamarin Android Player, Genymotion, etc) no requieren Hyper-V.

Opción #1 - Instalación

- Descarga el instalador de VS Community 2015:

<https://www.visualstudio.com/en-us/downloads/download-visual-studio-vs.aspx>

- Ejecuta el instalador.

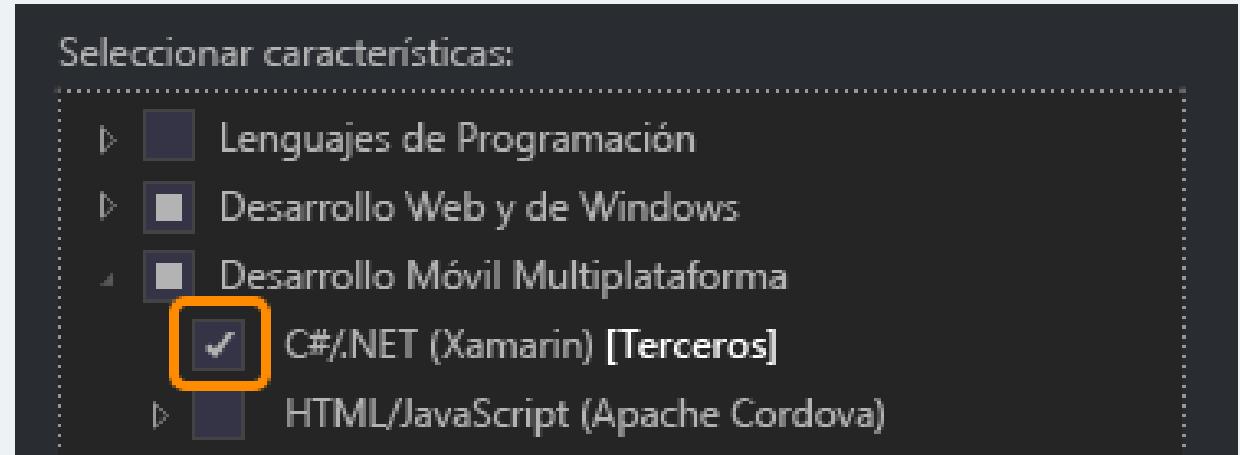
Selecciona instalación Personalizada



Opción #1 - Instalación

Activa las siguientes casillas:

- **C#/.NET (Xamarin) [Terceros]** bajo la categoría **Desarrollo Móvil Multiplataforma**



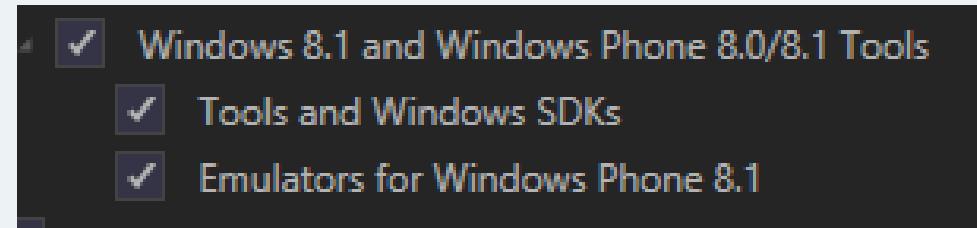
(Al seleccionar la opción anterior, automáticamente se seleccionan las distintas herramientas de Android en **Kits de desarrollo de software y herramientas comunes**).

- Opcional: **Emulador de Microsoft Visual Studio para Android** (solo Windows 8 y posteriores) bajo la categoría **Desarrollo Móvil Multiplataforma**.

Opción #1 - Instalación

Activa las siguientes casillas:

- Opcional: **Herramientas de desarrollo de aplicaciones universales de Windows** bajo la categoría **Desarrollo de Web y de Windows** si se desea incluir proyectos de UWP en Xamarin (recomendable la última versión disponible). Los emuladores también son opcionales.



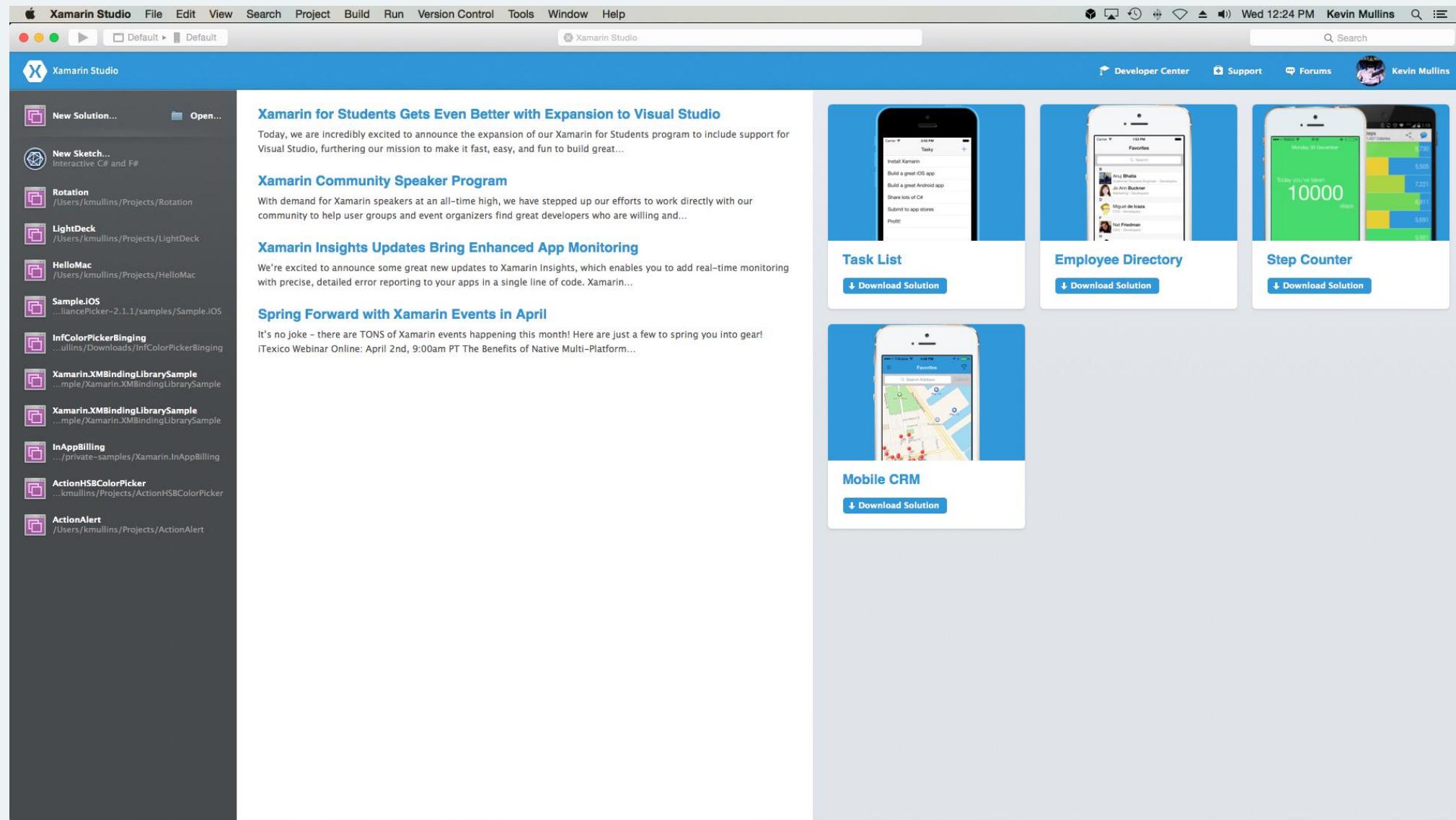
- Opcional: **Herramientas de Windows 8.1 y Windows Phone 8.0/8.1** bajo la categoría **Desarrollo de Web y de Windows** si se desea incluir estos proyectos en Xamarin. Los emuladores también son opcionales.

Opción #1 - Instalación

Da clic en el botón Instalar y espera a que finalice (el proceso tarda mínimo 1 hora).

Es probable que se requiere una cuenta y licencia válidas de Xamarin (gratuitas). Se le pedirá que inicie sesión con la cuenta de Xamarin en Visual Studio al crear o cargar soluciones de Xamarin. Selecciona la licencia Community (gratuita).

Opción #2 – Xamarin Studio



Opción #2 - Requisitos

- Sistema operativo: Windows (mínimo Windows 7 SP1, se recomienda Windows 8.1 Pro/Windows 10) o Mac
- Recomendable 8 GB de RAM al menos (4 GB funciona también)
- Equipo físico (no máquina virtual)
- Crear una cuenta de Xamarin en <https://www.xamarin.com/account/register>

Opción #2 - Requisitos

- Si deseas trabajar con aplicaciones de **iOS**, requieres una **Mac** con **OSX Yosemite (10.10.5)** o superior con **Xcode** y **Xamarin** instalado para poder compilar y depurar.
- La depuración de apps de **Android** la puedes realizar con un emulador o dispositivo físico (tablet/teléfono). Xamarin instala un emulador, pero también puedes utilizar el de tu conveniencia: **Xamarin Android Player**, **Genymotion**.

Opción #2 - Instalación

- Accede a tu cuenta <https://www.xamarin.com/account/login>
- Descarga el instalador de Xamarin Studio
<https://store.xamarin.com/account/my/subscription/downloads>
- Ejecuta el instalador.

Download Xamarin

Get the latest versions of Xamarin products, including Xamarin.iOS, Xamarin.Android, Xamarin Studio and Xamarin for Visual Studio (on Windows). Download the package for each product separately with "View all versions".



Download Xamarin
for Windows

[Download Xamarin - for Mac](#) | [Hide all versions](#)

Opción #2 - Instalación

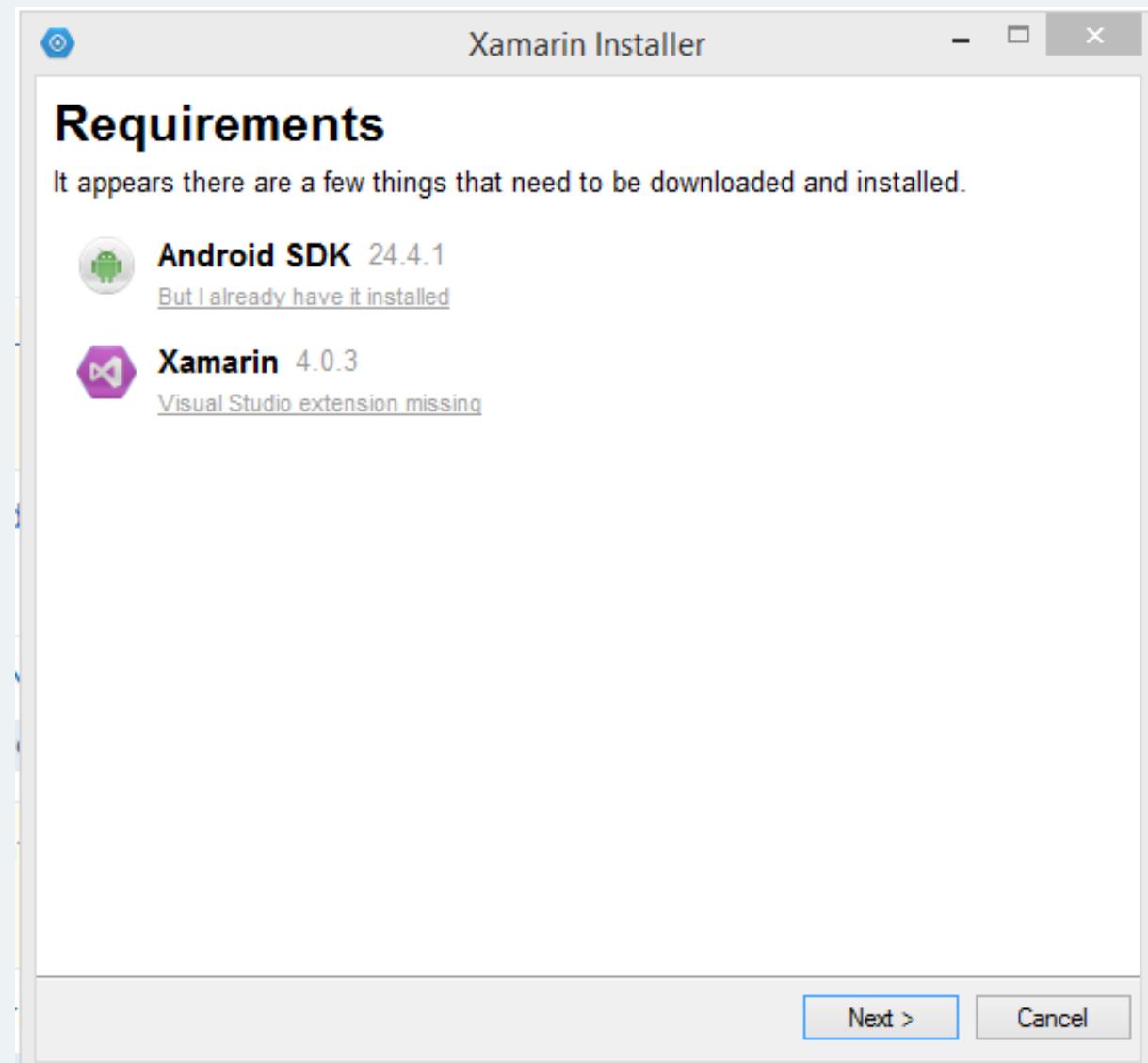
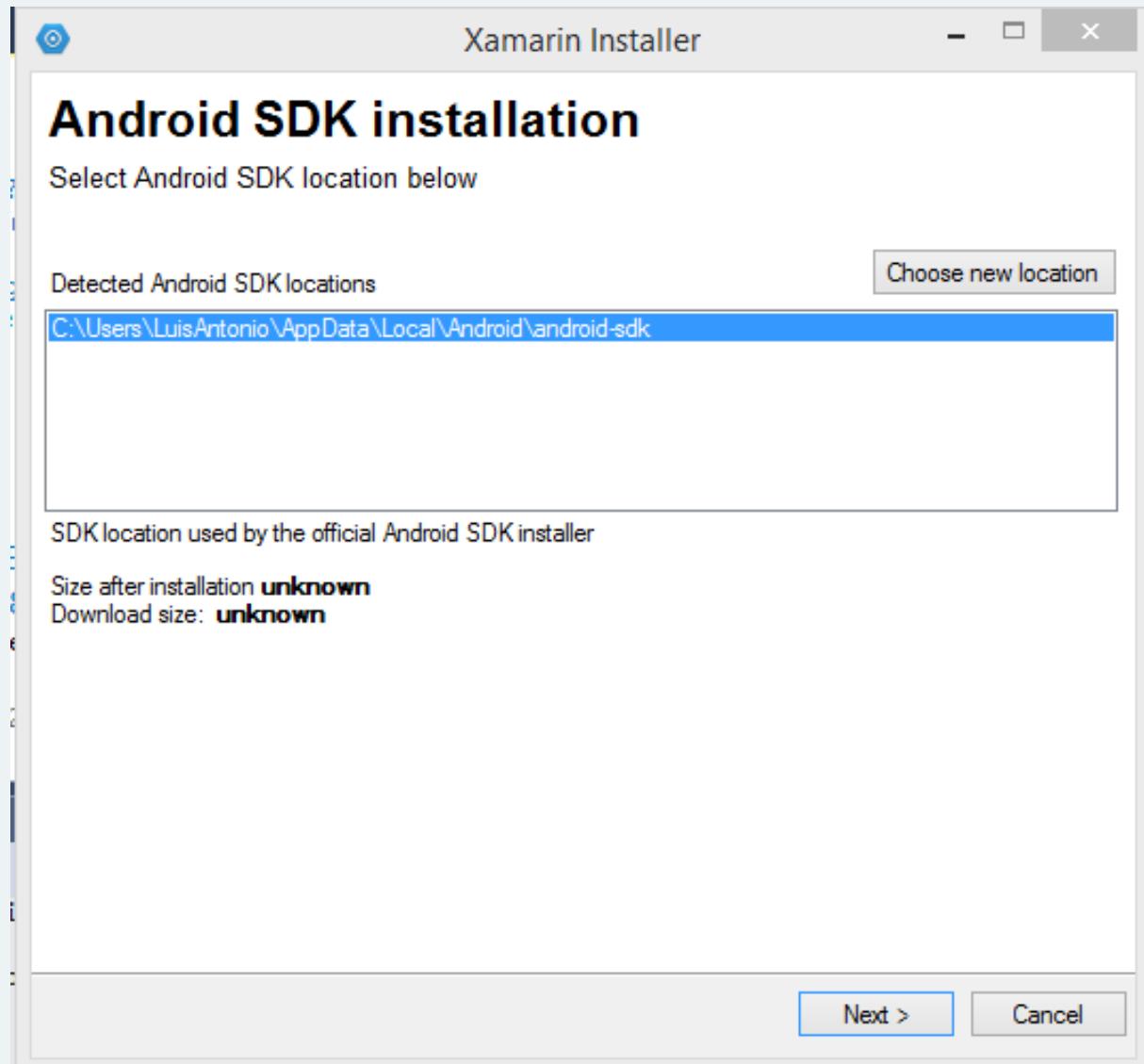
La instalación es un proceso directo. Se instalarán los pre-requisitos (como el SDK de Android, emuladores, etc).

The image contains two side-by-side screenshots of the Xamarin Installer application.

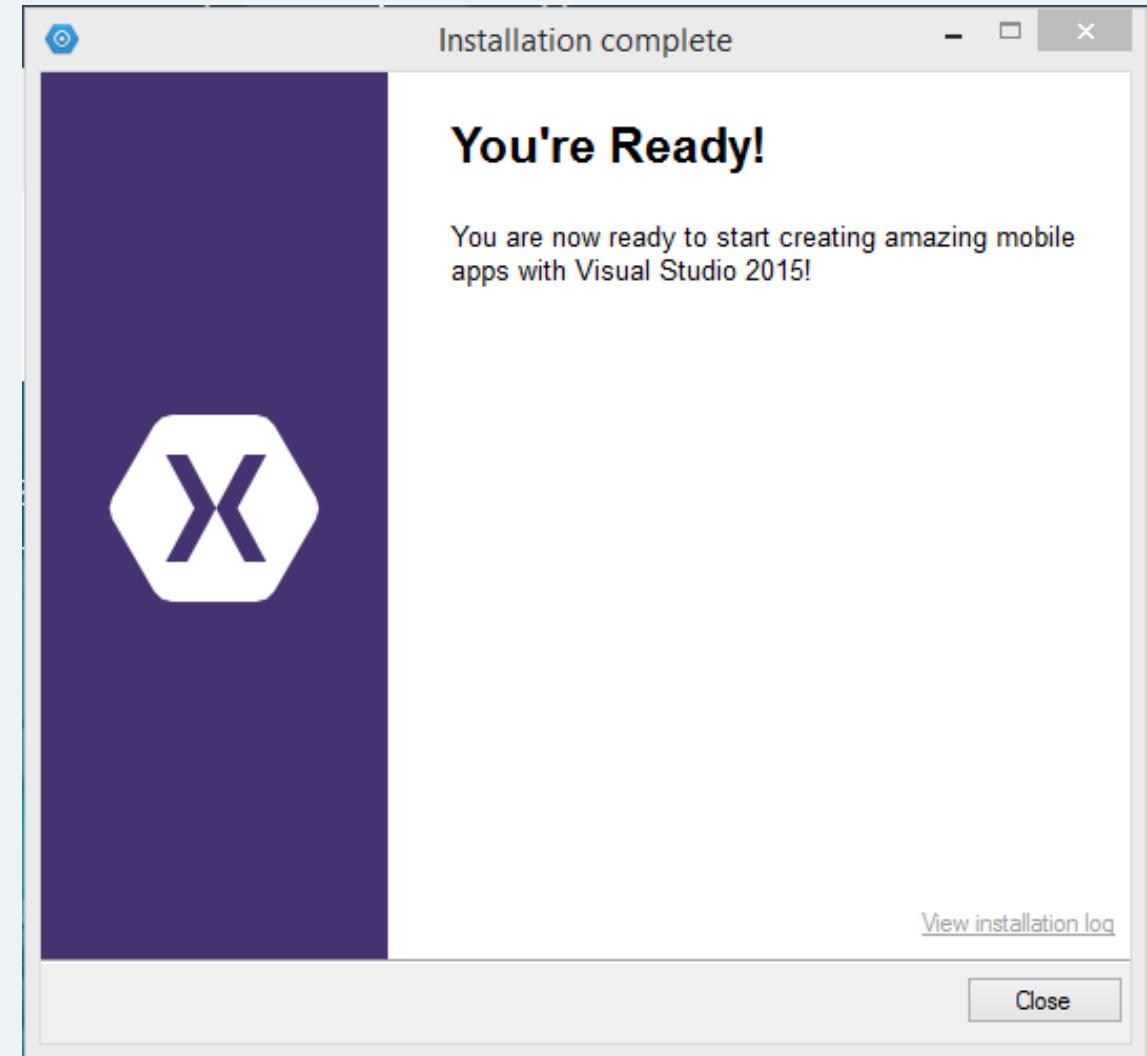
Welcome to Xamarin Installer: This screen shows a large purple background area with a white hexagonal logo containing a stylized 'X'. The title "Welcome to Xamarin Installer" is at the top, followed by a descriptive text: "This application will install Xamarin and all its pre-requisites." At the bottom are "Next >" and "Cancel" buttons.

Xamarin License Agreement: This screen displays the "XAMARIN SOFTWARE LICENSE TERMS" and "XAMARIN STUDIO" sections. It states: "These license terms are an agreement between Xamarin Inc. and you. They apply to the software named above and to any services or updates for the software, except to the extent those have different terms." Below this is a bolded section: "BY USING THE SOFTWARE, YOU ACCEPT THESE TERMS. IF YOU DO NOT ACCEPT THEM, DO NOT USE THE SOFTWARE." A note below it says: "SECTION I: XAMARIN STUDIO COMMUNITY. If you do not have an active Visual Studio Enterprise or Visual Studio Professional subscription, then your license is for Xamarin Studio Community, and this Section I and Section III below apply to your use of Xamarin Studio. If you comply with these license terms, you have the rights in those sections." At the bottom is a checked checkbox: "I agree to license terms". At the very bottom are "< Back", "Next >", and "Cancel" buttons.

Opción #2 - Instalación



Opción #2 - Instalación



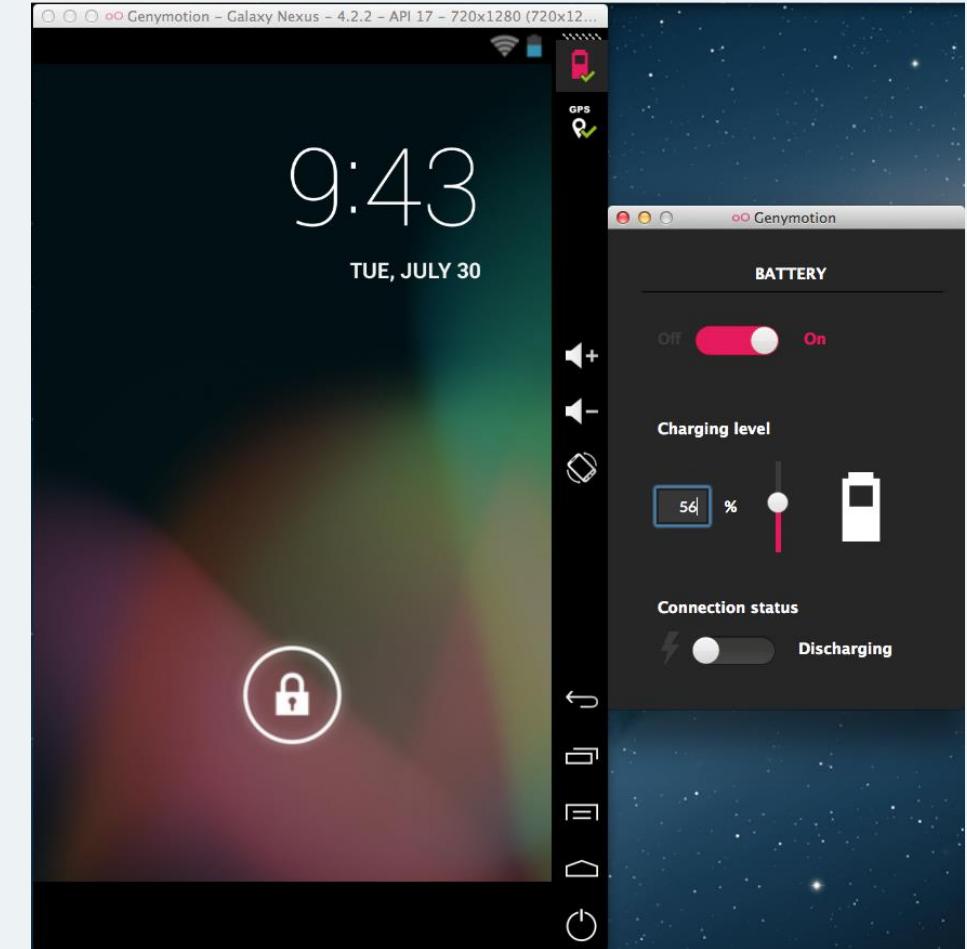
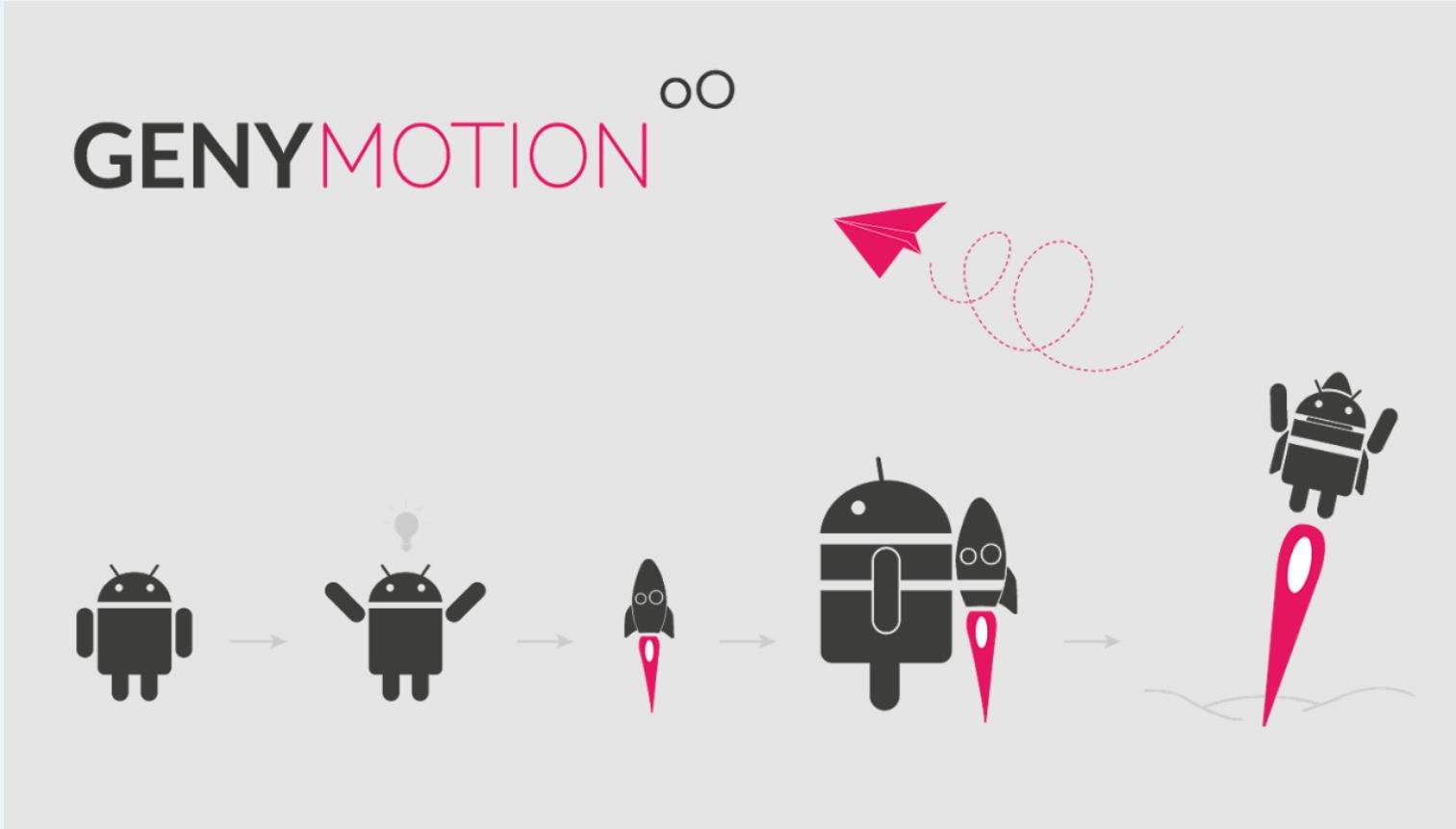
Emuladores (Opcional)

<https://developer.xamarin.com/releases/android/android-player/>



Emuladores (Opcional)

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



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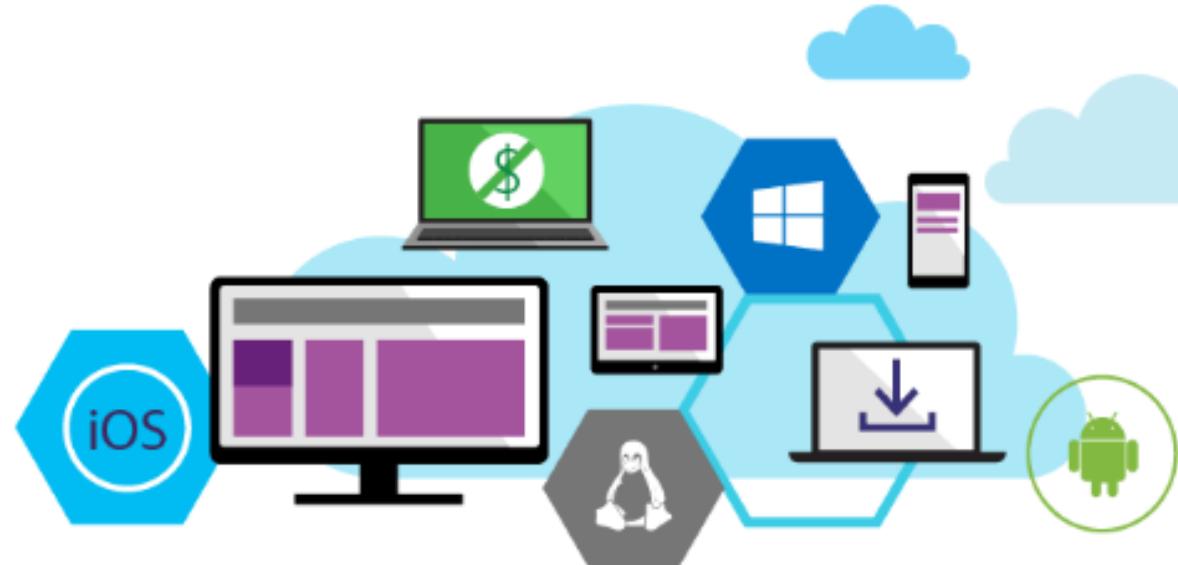
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Featured (6)



Visual Studio Community

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A powerful, streamlined code editor for your favorite platform - Linux, Mac OS X, an...

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Visual Studio Team Services

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Build native iOS and Android apps in C# with expert getting-started videos (subset of class...

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Tools (11)

 Microsoft R Server Developer Edition Build Advanced Analytics solutions in R on Windows, Hadoop, Terradata and Linux. Download	 New Microsoft SQL Server Developer Edition Build mission-critical data solutions with unparalleled security, mobile BI, and... Download	 Azure App Service Free plan Everything you need to quickly and easily build web and mobile apps for any platform... Use it free	 Application Insights Free plan Gain deep insight into the health and performance of your web app no matter where it's... Use it free	 New Syncfusion Free for 1 year Get Xamarin Studio and UWP Studio! 50+ controls – charts, grids, maps & more. Make yo... Get Code	 HockeyApp Free plan Beta test mobile apps, track crashes, gather feedback and drive improvements with one... Use it free
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Education (4)

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Support (2)

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Start learning with select Xamarin University courses.

As a Visual Studio Dev Essentials member, you get on-demand access to select Xamarin University course recordings and guest lectures to get you started with mobile development. You can watch at any time to brush up on skills.

Installing Xamarin

1. Installing Xamarin on OS X

We'll walk you through how to set up your Mac machine and get you ready to build fully native apps.

2. Installing Xamarin on Windows

We'll walk you through how to set up your Windows machine and get you ready to build fully native apps.



Xamarin.Android

1. Introduction to Xamarin.Android

Learn Android development basics, including tool chain, app structure, and other fundamentals.

2. Activities and Intents

Understand Android Activities and Intents, allowing you to create multiple pages for engaging apps.

3. List Views and Adapters in Android

Learn how to enhance your Xamarin.Android apps with a ListView to display, and interact with lists of scrollable data.

4. Navigation Patterns in Android

Learn how to use the most common navigation styles in Android to manage multiple Activities in your apps.



Download Materials

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1. Introduction to Xamarin.iOS

Dive into iOS architecture, app structure, and UI basics.

2. Getting started with the iOS Designer

Explore Xamarin.iOS' visual designer and use a WYSIWYG designer to create app screens straight from the IDE.

3. Fundamentals of Table Views

Get started with presenting lists of interactive data using a Table View in your iOS application.

4. Navigation Patterns in iOS

Explore built-in iOS navigation styles to manage multiple screens in your apps.

Download Materials



Xamarin.Forms

1. Introduction to Xamarin.Forms

Take code sharing to the next level with Xamarin.Forms. Define a single UI that creates a native user experience for iOS, Android, and Windows.

Download Materials



Cross-Platform

1. Introduction to Cross-Platform Mobile Development

Dive into sharing your code between your platforms using Portable Class Libraries and Shared Projects.

Download Materials

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Guest Lectures

[1. Azure Mobile Services and Xamarin](#)

David Giard explains how to connect your Xamarin projects to Azure for native, cloud-connected apps for all platforms.

[2. Introduction to Prism for Xamarin.Forms](#)

Brian Lagunas shares how to use Prism to enhance your Xamarin.Forms apps and create maintainable, well-designed apps quickly.

[3. Spice up Xamarin.Forms UIs with Custom Renderers](#)

Pierce Boggan explores how Custom Renderers allow you to create even better Xamarin.Forms apps.

 [Download Materials](#)

4. ¿Preguntas?

Camino a SG Next: Bots, Servicios Cognitivos y App móviles

EVENT DETAILS

- START: 3 AGOSTO 2016 2:00 PM
- CATEGORIES: [WEBINAR LUNCH & LEARN](#)

Los servicios cognitivos, tales como Visión de Computadora, Emociones, Reconocedor de Voz y Lenguaje Natural, entre otros permiten añadir Inteligencia Artificial a tus aplicaciones.

Un bot es una aplicación que se comporta como un humano, es decir, es inteligente y puede interactuar con otros humanos. Puede platicar contigo, tomar decisiones y darte información útil realizando cálculos a gran velocidad o analizando grandes cantidades de información en segundos.

En este webinar aprenderás lo fácil y sencillo que es integrar un bot y servicios cognitivos a una aplicación móvil de recomendaciones (películas, nutrición y/o otros servicios).

Tecnologías a utilizar:

- * Microsoft Bot Framework
- * Microsoft Cognitive Services
- * Microsoft Azure
- * Xamarin Platform

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Acerca del conferencista

Luis Beltrán se desempeña como profesor en el Instituto Tecnológico de Celaya, y actualmente estudia el Doctorado en Ingeniería Informática en la Universidad Tomás Bata en Zlín, República Checa. Es Microsoft Student Partner y Xamarin Student Partner. Sus áreas de interés son el desarrollo de aplicaciones móviles, cloud computing con Azure, C# y Machine Learning.

¡Regístrate!

SG Campus

<http://bit.ly/sgbots>

¡Gracias!

ISC Luis Beltrán

Microsoft Student Partner

Xamarin Student Partner

 @darkicebeam



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<https://github.com/icebeam7/>

Celaya Mobile .NET Developers Group

<https://www.meetup.com/CelayaMobileDevelopers/>

22 Julio 2016