

Uno Platform

Transcript

Start

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Welcome to this Talk about Uno Platform from tutorialr.com/talks.

Development

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Development can be performed using native, common or cross-platform development.

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Native Development can be done on Windows using C# and XAML with the Universal Windows Platform, for modern browsers like Edge, Chrome, Firefox and Safari using JavaScript with HTML 5 and CSS 3, for iOS and macOS using Swift with Swift UI, for Android using Kotlin with Google Material Design, and for Linux using Python with GTK.

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C# Development can target Windows, Modern Browsers, iOS, MacOS, Android and Linux using Universal Windows Platform and WinUI on Windows, Blazor WebAssembly in Modern Browsers, Xamarin on iOS, macOS or Android and SKIA on Linux.

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Cross-platform Development with C# targeting Windows, Modern Browsers, iOS, MacOS, Android and Linux is possible using Uno Platform.

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Architecture for Uno Platform supports Windows, Modern Browsers, iOS, macOS and Linux with XAML and C# with a single codebase.

Windows uses WinUI with Universal Windows Platform running directly against Windows API and full support for Visual Studio.

Modern Browsers use WebAssembly and renders using HTML and CSS.

iOS, macOS and Android use Xamarin and are supported by their native libraries UI Kit, App Kit and Android UI.

Linux uses SKIA to draw UI on the Canvas.

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Mappings for Uno Platform allows you to use Universal Windows Platform and APIs to map to native controls and APIs on each platform, implemented using platform specific APIs.

TextBlock on WinUI becomes HTML Paragraph on WebAssembly, UILabel on iOS, NSTextView on MacOS, TextView on Android and Canvas with SKIA on Linux

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WinUI makes it easy to build modern, seamless UIs on every Windows device for intuitive, accessible and powerful experiences using the latest user interface patterns.

WinUI is an open-source user interface layer providing modern controls and styles for building Windows applications.

WinUI allows you to target a variety of Windows 10 based devices such as Desktop, Tablet, Xbox, HoloLens and more.

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WebAssembly is a binary instruction format for a stack-based virtual machine and aims to execute at native speed on a wide range of platforms.

WebAssembly is designed as a portable compilation target for many programming languages like C# and enables deployment for client applications in modern browsers.

Uno Platform parses XAML into C# then uses WebAssembly to build the app's visual tree with support for data binding and implements views and controls using HTML and CSS.

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Xamarin is an application platform to build iOS, macOS and Android apps with .NET & C#.

Xamarin adds to the .NET platform a base framework for accessing native features and support for platform-specific libraries and common patterns such as MVVM.

Uno Platform parses XAML into C# then uses Xamarin to build the app's visual tree with support for databinding and implements views and controls using each platform's native UI framework.

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SKIA is a 2D graphics library providing common APIs across a variety of hardware and software platforms.

SkiaSharp is a cross-platform 2D graphics API for .NET platforms based on the SKIA library to render images.

Uno Platform parses XAML into C# to build the app's visual tree rendering this completely with SkiaSharp with support for databinding and implements the views and controls using native UI framework with shell support using GTK.

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Uno Platform has support for .NET libraries such as ReactiveUI an advanced, composable, functional reactive model-view-viewmodel framework.

ReactiveX for asynchronous programming with observable streams.

Windows Community Toolkit which is a collection of helper functions, custom controls, and app services.

Prism for building XAML based applications using proven patterns and development practices.

platform.uno

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platform.uno is where you can find out more about the Uno Platform.

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Discover how to create pixel-perfect multi-platform applications with C# and WinUI and target Windows, WebAssembly, iOS, MacOS, Android and Linux.

See a Gallery of Uno Platform examples in your web browser, applications or code samples, showcases of work using Uno Platform, full documentation, information about target platforms supported and read articles.

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Uno Playground is a convenient way to experiment with the Uno Platform.

Snippets that allow you to easily use various XAML-based controls and XAML Editor allows you to try out any XAML and can use Data Context for data binding.

Uno Playground allows you to see what your XAML will look like using Uno Platform on desktop, mobile and web at playground.platform.uno.

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Uno Gallery is a collection of ready-to-use code snippets to speed up multi-platform development supporting Light or Dark and Colour Palette Themes.

It supports Components such as Button or Navigation View with Features shown such as Acrylic and Path.

Uno Gallery allows you to compare and try out themes, components and features on desktop, mobile and web at gallery.platform.uno

Getting Started

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Getting Started developing using the Uno Platform.

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Uno Platform can be developed on Windows, Mac and Linux.

Environments supported Visual Studio 2019 on Windows for Universal Windows Platform, WebAssembly, iOS, macOS, Android and Linux.

Visual Studio for Mac, Visual Studio Code on Windows, Mac and Linux for WebAssembly projects and JetBrains Rider on Windows, Mac and Linux

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Setup Uno Platform on Windows you need to Install Visual Studio 2019 with the Universal Windows Platform development, Mobile development with .NET and ASP.NET and web development workloads installed.

Then you just need to install the Uno Platform Solution Templates Visual Studio extension from the Visual Studio Marketplace. You'll also need macOS if you want to target iOS and macOS.

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Start using Uno Platform on Windows you need to Launch Visual Studio 2019, select "Create a new Project" from Get Started,

then choose the "Cross-platform App" project template and finally set the project name and location and choose Create.

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Solution created for Uno Platform contains projects for each target platform including Android, iOS, macOS, Windows using Universal Windows Platform and Web using WebAssembly.

The shared project is where you'll put your shared XAML, C# Code and assets.

Set as Startup Project the one you want to launch such as UWP (Universal Windows) then run the example to see the output "Hello, world!"

Summary

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Uno Platform is where you can create pixel-perfect multi-platform applications with C# and WinUI.

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Uno Platform enables modern .NET developers to build applications using a single codebase using XAML and C# and target Windows, Modern Browsers using WebAssembly plus iOS, MacOS, Android and Linux.

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platform.uno is where you can get started with Uno Platform, check out the gallery, code samples, documentation and more.

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Uno Platform can be developed on Windows, Mac and Linux. You can create a cross-platform App in Visual Studio 2019 using Uno Platform targeting Windows with WinUI, iOS, macOS or Android with Xamarin and Linux with SKIA.

Finish

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Thanks for watching this talk about Uno Platform, you can find out more at tutorialr.com/talks/seriesone.