

Robust Framework

.NET MAUI:

One (Codebase) for All (Apps)

Targeted

Shared Resources

Charles Lakes II



About Me:



Software
Engineer.



Community
Speaker.



M365
Blogger.



Middle-child.

Objectives:

What

Cross-platform

Origin + Timeline

Blazor Hybrid

Why

Leadership

Marketing

How

Developers

Layouts

Visual Elements

Shared Resources

The What

.NET Multi-platform App UI

Build native, cross-platform desktop and mobile apps all in one framework.

- Cross-platform
- Origin + Timeline
- Blazor Hybrid

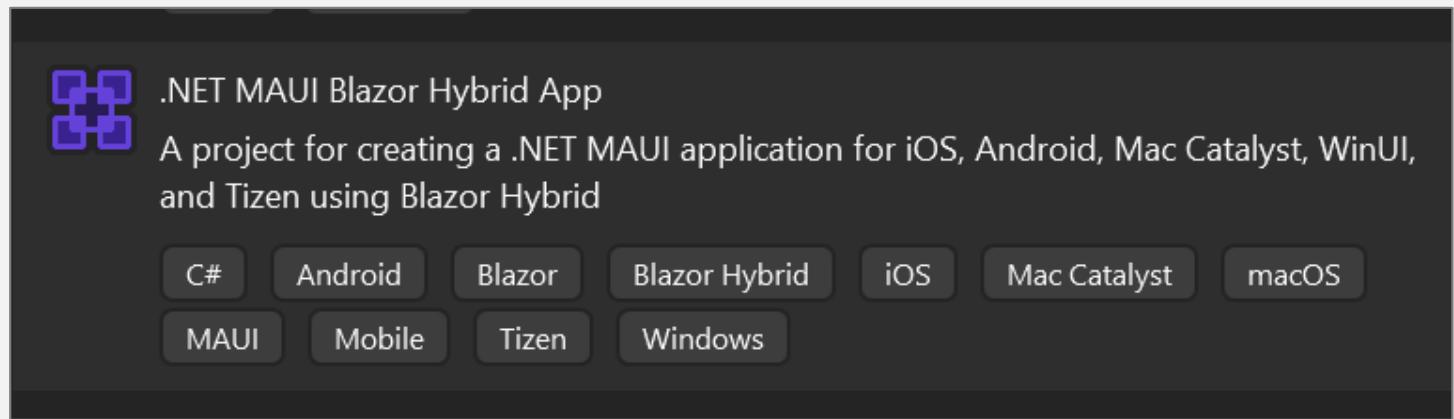
The What

Microsoft subsidiary (2016–present) [edit]

At [Microsoft Build](#) 2016 Microsoft announced that they will open-source the Xamarin SDK and that they will bundle it as a free tool within [Microsoft Visual Studio](#)'s integrated development environment,^[29] and Visual Studio Enterprise users would also get Xamarin's enterprise features free of charge. As a part of the acquisition they would also [relicense Mono](#) completely under the [MIT License](#) and would release all other Xamarin SDK software through the [.NET Foundation](#) also under the MIT License.^{[30][31]}

- Cross-platform
- Origin + Timeline
- Blazor Hybrid

The What



- Cross-platform
- Origin + Timeline
- Blazor Hybrid

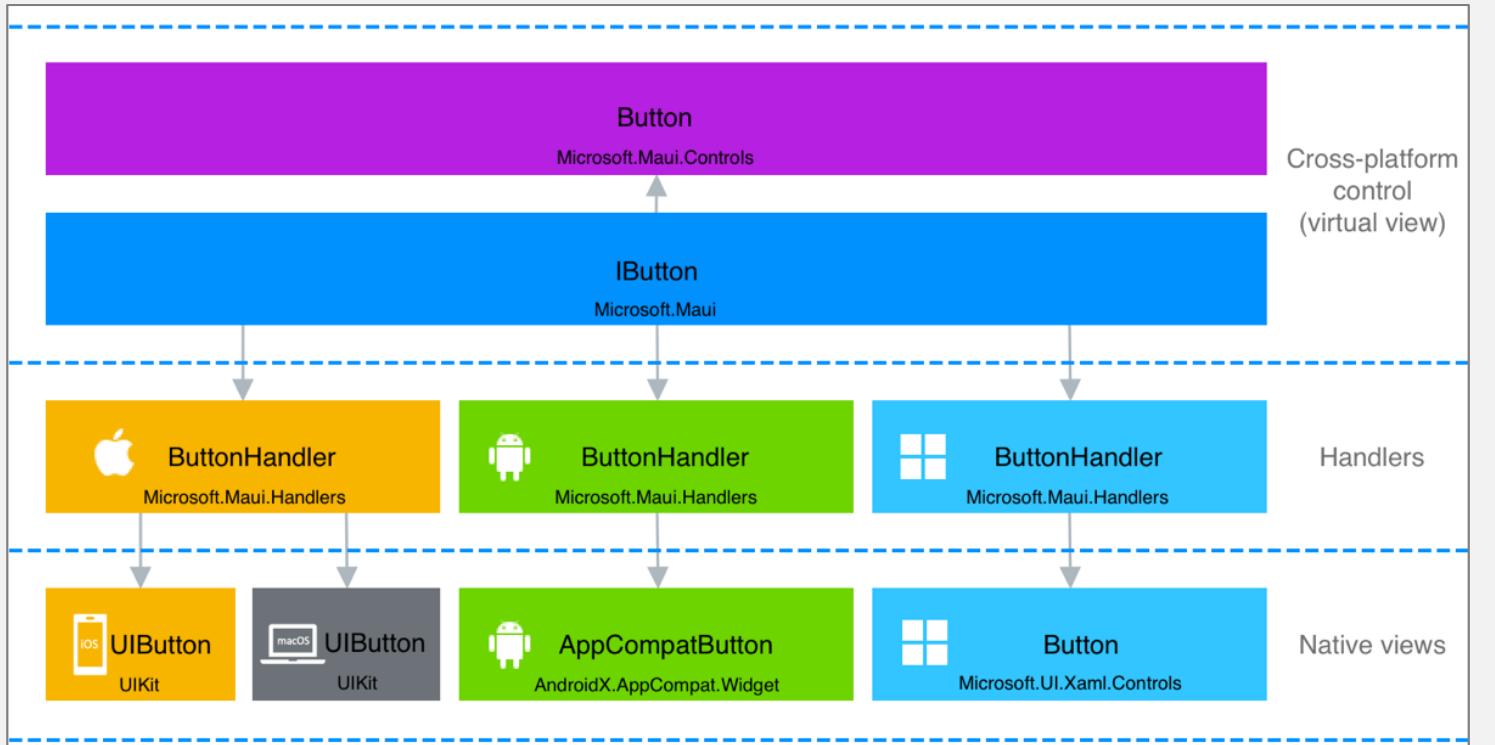
The Why

\$25 to \$49 per hour

The **average cost of hiring an app developer** ranges from **\$25 to \$49 per hour**^{1 4}. Freelance mobile app developers typically charge **\$61-80/hr**². The global average annual pay for app developers ranges from **\$61,714 (Java/Android developers)** to **\$75,184 (Swift/iOS developers)**³.

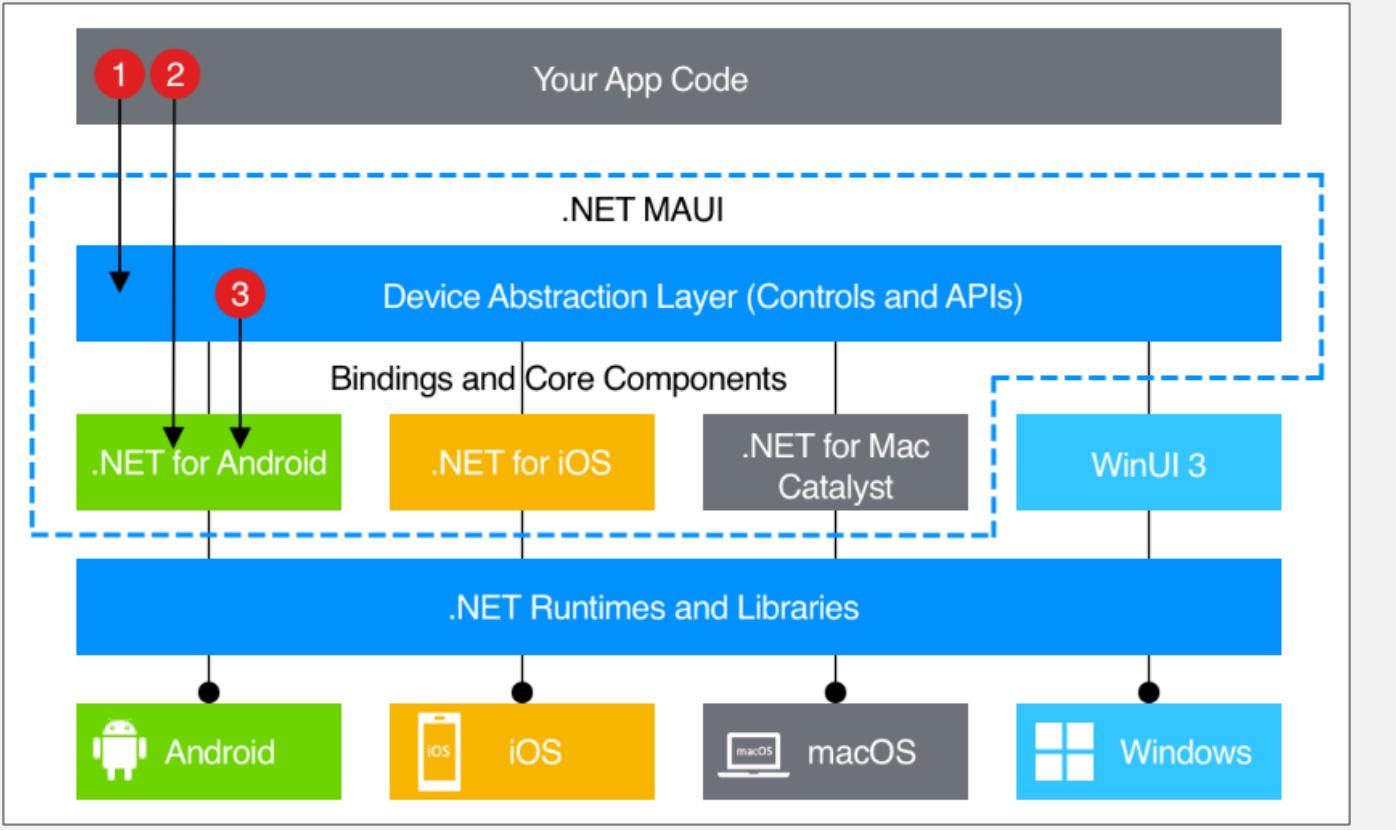
- Leadership
- Marketing
- Developers

The Why



- Leadership
- Marketing
- Developers

The Why



- Leadership
- Marketing
- Developers

The How

- Layouts**
 - Absolute
 - Stack
 - Grid
- Visual Elements**
 - Image
 - Button
 - Label
- Shared Resources**
 - Fonts
 - Colors
 - Styles

Visual Studio Installer

Modifying — Visual Studio Community 2022 — 17.10.3

Workloads Individual components Language packs

Installation locations

Web & Cloud (4)



ASP.NET and web development

Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker supp...



Azure development

Azure SDKs, tools, and projects for developing cloud apps and creating resources using .NET and .NET Framework....



Python development

Editing, debugging, interactive development and source control for Python.



Node.js development

Build scalable network applications using Node.js, an asynchronous event-driven JavaScript runtime.

Desktop & Mobile (5)



.NET Multi-platform App UI development

Build Android, iOS, Windows, and Mac apps from a single codebase using C# with .NET MAUI.



.NET desktop development

Build WPF, Windows Forms, and console applications using C#, Visual Basic, and F# with .NET and .NET Frame...



Desktop development with C++

Build modern C++ apps for Windows using tools of your...



Windows application development

Build applications for the Windows Platform using WinUI

Location

C:\Program Files\Microsoft Visual Studio\2022\Community

Remove out-of-support components

By continuing, you agree to the [license](#) for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio. This software is licensed separately, as set out in the [3rd Party Notices](#) or in its accompanying license. By continuing, you also agree to those licenses.

Total space required 0 B

Install while downloading ▾

Close

Installation details

- [Visual Studio core editor](#)
- [ASP.NET and web development](#)
- [Python development](#)
- [Node.js development](#)
- [.NET Multi-platform App UI develop...](#)
- [Game development with Unity](#)
- [Office/SharePoint development](#)

Included

- ✓ Office Developer Tools for Visual Studio
- ✓ .NET Framework 4.7.2 development tools
- ✓ Developer Analytics tools

Optional

- ✓ Visual Studio Tools for Office (VSTO)
- ✓ Web Deploy
- ✓ IntelliCode
- ✓ .NET Framework 4.8 development tools

 CPU selection

Visu

Search for templates (Alt+S)  Clear all

All languages All platforms MAUI

 .NET MAUI App
A project for creating a .NET MAUI application for iOS, Android, Mac Catalyst, WinUI and Tizen
C# Android iOS Mac Catalyst macOS MAUI Mobile
Tizen Windows

 .NET MAUI Blazor Hybrid App
A project for creating a .NET MAUI application for iOS, Android, Mac Catalyst, WinUI, and Tizen using Blazor Hybrid
C# Android Blazor Blazor Hybrid iOS Mac Catalyst macOS
MAUI Mobile Tizen Windows

 .NET MAUI Class Library
A project for creating a .NET MAUI class library
C# Android iOS Mac Catalyst macOS MAUI Mobile
Tizen Windows

 .NET MAUI Multi-Project App
A project for creating a .NET MAUI application for iOS, Android, Mac Catalyst and WinUI with multiple, separate app projects.
C# Android iOS Mac Catalyst macOS MAUI Mobile
Windows

Get started



Clone a repository

Get code from an online repository like GitHub or Azure DevOps



Open a project or solution

Open a local Visual Studio project or .sln file



Open a local folder

Navigate and edit code within any folder



Create a new project

Choose a project template with code scaffolding to get started

[Continue without code →](#)

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help | Search SampleMauiAppDemo | Sign in - GitHub Copilot

MainPage.xaml* PageEventNew2.xaml PageEventNew.xaml Styles.xaml PageEventNew2.xaml.cs MainPage.xaml.cs Colors.xaml App.xaml

New to .NET MAUI? Click here to learn more! | Don't show again

SampleMauiAppDemo (net8.0-android) ContentPage ContentPage

```
<?xml version="1.0" encoding="utf-8" ?>
<ContentPage xmlns="http://schemas.microsoft.com/dotnet/2021/maui"
    xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml"
    x:Class="SampleMauiAppDemo.MainPage">

    <ScrollView>
        <VerticalStackLayout
            Padding="30,0"
            Spacing="25">
            <Image
                Source="dotnet_bot.png"
                HeightRequest="185"
                Aspect="AspectFit"
                SemanticProperties.Description="dot net bot in a race car number eight" />

            <Label
                Text="Hello, World!"
                Style="{StaticResource Headline}"
                FontSize="96"
                SemanticProperties.HeadingLevel="Level1" />

            <Label
                Text="Welcome to &#10; .NET Multi-platform App UI"
                Style="{StaticResource SubHeadline}"
                SemanticProperties.HeadingLevel="Level2"
                SemanticProperties.Description="Welcome to dot net Multi platform App U I" />

            <Button
                x:Name="CounterBtn"
                Text="Click me"
                SemanticProperties.Hint="Counts the number of times you click"
                Clicked="OnCounterClicked"
                HorizontalOptions="Fill" />

            <Button x:Name="btnPage1" Text="Page #1" IsVisible="True" />
        
    

```

100% No issues found

Output

Show output from: Debug

The thread [Thread Destroyed] (44800) has exited with code 0 (0x0).
'SampleMauiAppDemo.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.8\mscorlib.dll'. Skipped loading symbols. Module is optimized and the thread [Thread Destroyed] (38684) has exited with code 0 (0x0).

Solution Explorer

Search Solution Explorer (Ctrl+.)

- Platforms
 - Android
 - iOS
 - MacCatalyst
 - Tizen
 - Windows
- Resources
 - AppIcon
 - appicon.svg
 - appiconfg.svg
 - Fonts
 - OpenSans-Regular.ttf
 - OpenSans-Semibold.ttf
 - Images
 - dotnet_bot.png
 - Raw
 - Splash
 - Styles
 - Colors.xaml
 - Styles.xaml
 - ViewModels

Properties

Type ContentPage

Arrange By: Name

AnchorX 0

AnchorY 0

AutomationId

AutomationProperties

AutomationProperties

AutomationProperties

Background No brush

The screenshot shows the Visual Studio IDE interface for a .NET MAUI application named "SampleMauiAppDemo".

Top Bar: File, Edit, View, Git, Project, Build, Debug, Test, Analyze, Tools, Extensions, Window, Help, Search, SampleMauiAppDemo.

Toolbar: Includes icons for Undo, Redo, Save, Open, Print, and various build and navigation tools.

Solution Explorer: Shows files like MainPage.xaml*, PageEventNew2.xaml, PageEventNew.xaml, Styles.xaml, PageEventNew2.xaml.cs, MainPage.xaml.cs, Colors.xaml, and App.xaml.

Status Bar: Debug, Any CPU, Windows Machine, abc, and other status indicators.

Message Bar: A tooltip message: "New to .NET MAUI? Click here to learn more! | Don't show again".

Code Editor: The main area displays the XAML code for the `MainPage.xaml` file:

```
<?xml version="1.0" encoding="utf-8" ?>
<ContentPage xmlns="http://schemas.microsoft.com/dotnet/2021/maui"
    xmlns:x="http://schemas.microsoft.com/winfx/2009/xaml"
    x:Class="SampleMauiAppDemo.MainPage">
```

Toolbox: A floating toolbox titled "ContentPage" containing the following items:

- Installed
- C# Items
 - .NET MAUI ContentPage (C#)
 - .NET MAUI ContentPage (XAML) (selected)
 - .NET MAUI ContentView (C#)
 - .NET MAUI ContentView (XAML)
 - .NET MAUI ResourceDictionary (XAML)
- Web
- SQL Server
- Workflow
- Xamarin.Forms
- .NET MAUI (selected)
- Android

Search: A search bar with placeholder "Search (Ctrl+E)" and a magnifying glass icon.

Information: A tooltip for ".NET MAUI ContentPage (XAML)" stating: "Type: C# Items" and "A page for displaying content using XAML".

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help | Search | SampleMauiAppDemo

Debug Any CPU Windows Machine | PageEventNew2.xaml PageEventNew.xaml Styles.xaml PageEventNew2.xaml.cs MainPage.xaml.cs Colors.xaml App.

i New to .NET MAUI? Click here to learn more! | Don't show again

C# SampleMauiAppDemo (net8.0-android) ContentPage ContentPage

```
1 <?xml version="1.0" encoding="utf-8" ?>
2 <ContentPage xmlns="http://schemas.mi
3     xmlns:x="http://schemas.
4     x:Class="SampleMauiAppDe
5
6     <ScrollView>
7         <VerticalStackLayout
8             Padding="30, 0"
9             Spacing="25">
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11                Source="dotnet_bot.pn
12                HeightRequest="185"
13                Aspect="AspectFit"
14                SemanticProperties.De
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            Clicked="OnCounterClicked"
            HorizontalOptions="Fill" />
    

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Home



Hello, World!

Welcome to
.NET Multi-platform App UI

Click me

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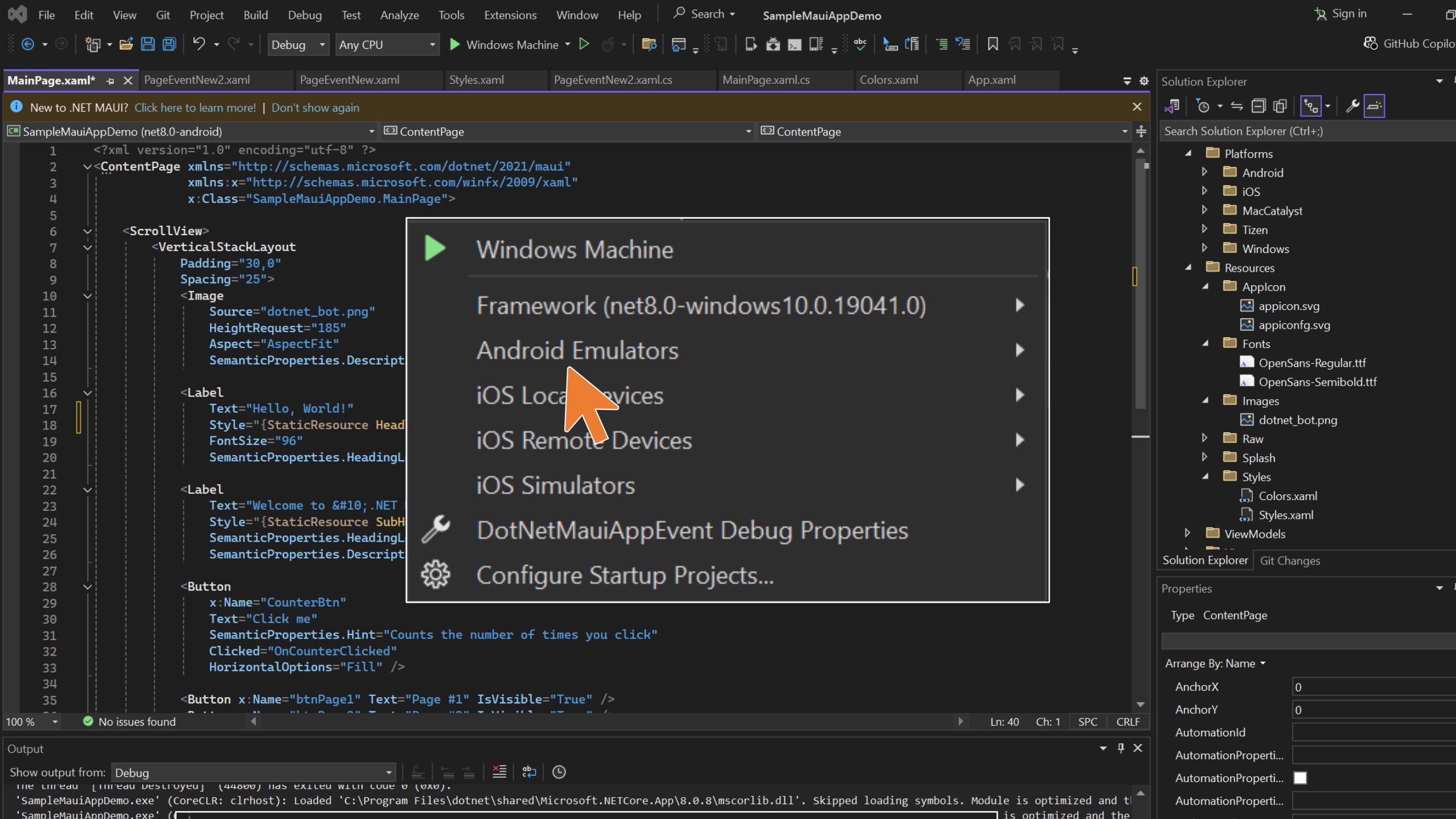


Hello, World!

Welcome to
.NET Multi-platform App UI

Click me

An orange cursor arrow points to the "Click me" button.



Recap:

What

Cross-platform

Origin + Timeline

Blazor Hybrid

Why

Leadership

Marketing

How

Developers

Layouts

Visual Elements

Shared Resources

Resources:

#1 James Montemagno



/jamesmontemagno

#2 Gerald Versluis



/jfversluis

#3 David Ortinau



/in/davidortinau/

Contact:



/charles-e-lakes-ii



@The2Lakes



/losodamus



Charles is a technical speaker and low-code advocate with a pro-code background, specializing in transforming business data architecture. With a passion for innovation, he shares his expertise to solve complex business problems and guide organizations in reimagining their legacy processes, advancing automation initiatives, streamlining operations, and reducing infrastructure costs.

Feeback:

