

# INTRODUCTION TO MODERN DESKTOP APP DEVELOPMENT WITH .NET AND .NET MAUI

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- Xamarin, .NET,  
Cloud stuff

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# WHY DESKTOP MATTERS

# BACK TO THE DESKTOP

- Inputs and ergonomics
- Performance
- Platform integration
- macOS/IPad OS popularity

## WHAT DO WE WANT

- Cross platform: Windows, macOS, iPad OS, Linux
- One language
- Shared or dedicated UI
- Platform API access

MICROSOFT PLEASE?

# .NET CORE

- Cross platform framework
- There is no “native” ui framework on .NET Core
- WPF, WinForms powered by .NET Core on Windows

# XAMARIN

- Xamarin.iOS/.Android/.MacOS -> Xamarin.Native
- Full native API/Control access
- Shared UI with Xamarin.Forms/XAML



Focus on mobile, desktop experience was not great

.NET 6 & .NET MAUI

## MAC & MAC CATALYST

- Xamarin.MacOS still exists as .NET Mac
- Mac Catalyst brings iOS Apps to the Mac
- Easier development coming from iOS

```
> dotnet new mac
```

```
> dotnet new maccatalyst
```

# WINUI 3

- Ships with Windows App SDK (previously Project Reunion)
- Windows UI Framework for UWP and Windows Desktop
- Latest patterns (Fluent Design)
- Decoupled from the OS

## WinUI 3.0: the Windows UI platform

Microsoft.UI.Xaml.\*

Microsoft.UI.Composition.\*

Microsoft.UI.Input.\*

Win32

Universal Windows Platform

Windows PCs

Xbox

HoloLens

Surface  
Hub

Devices +  
IoT

# .NET MAUI

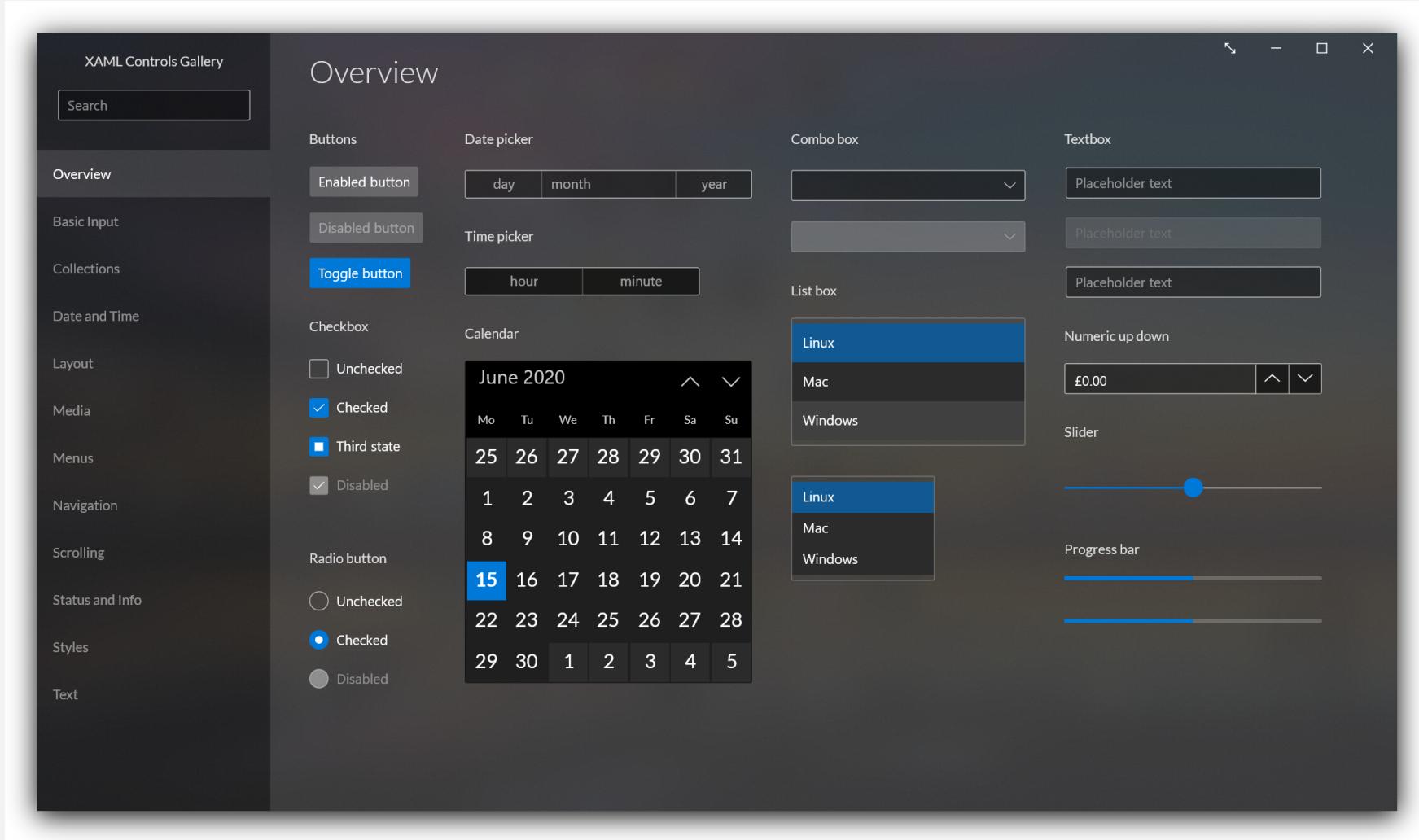
- Successor to **Xamarin.Forms**
- **Win UI 3, Mac Catalyst, iOS, Android**
- Shared UI

```
> dotnet new maui
```

# THIRD PARTY

# AVALONIA UI

- XAML/C#
- Custom drawn UI (SkiaSharp)
- Independent
- Windows/macOS (mobile support comming)



Sample App in the Microsoft Store: Avalonia Control Gallery

# UNO PLATFORM

- “WinUI everywhere”
- C#/XAML
- Android, iOS, **Windows, macOS, Linux, Tizen, WebAssembly**
- Full C# API access
- Uniform/Native controls



THE FUTURE IS NEAR NOW

# WEBASSEMBLY

- Assembly for the web
- Alternative to JavaScript
- Performance
- Widely supported
- .NET runtime



# BLAZOR

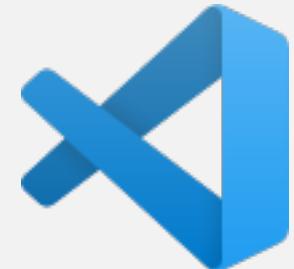
- „Run C# in the browser“
- WebAssembly
- .NET web client framework
- Razor-ish



# PROGRESSIVE WEB APP

- „Install websites“
- Supported by most browsers on desktop and mobile
- Offline capabilities
- Limited to browser APIs (Camera, File)
- Supported by Uno and Blazor out of the box

```
> dotnet new blazorwasm --pwa
```





# BLAZOR DESKTOP

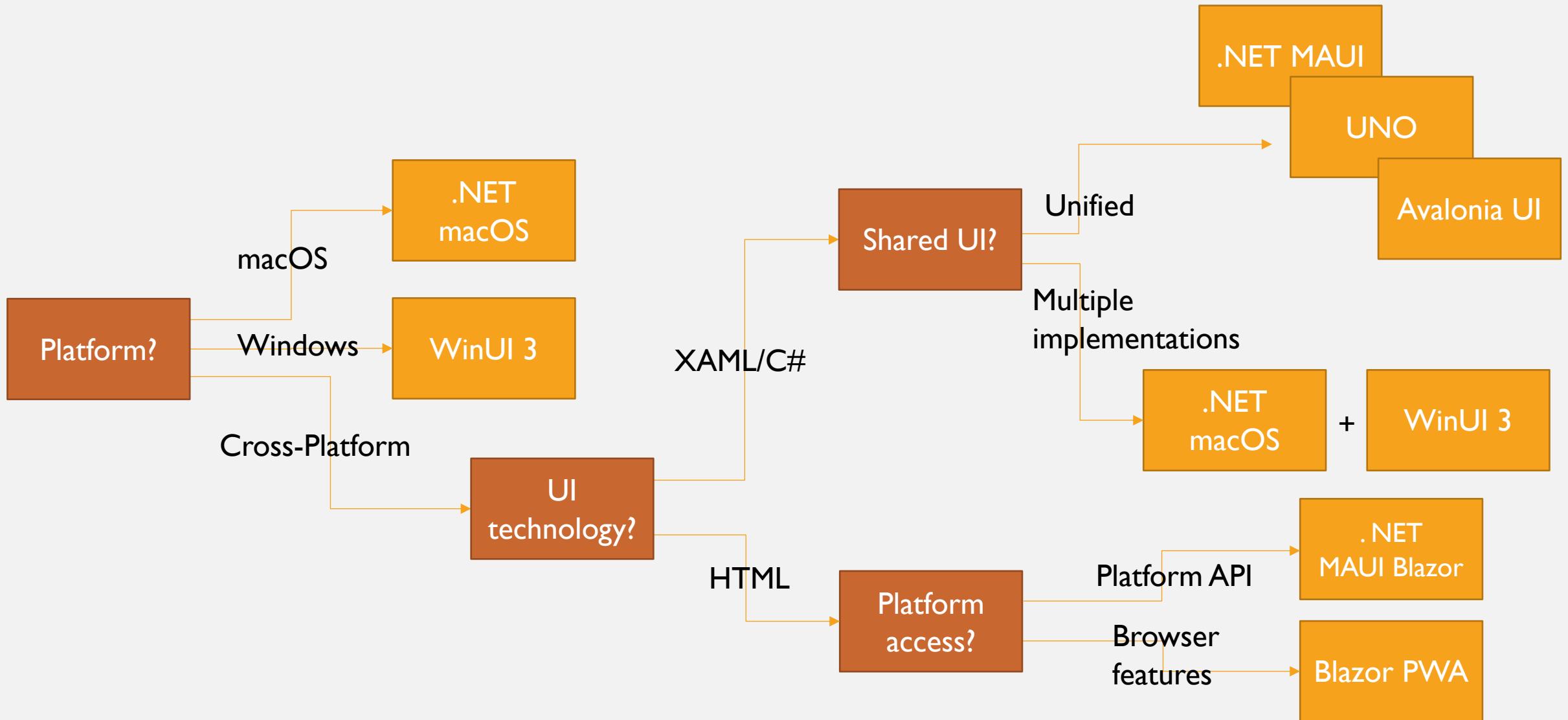
## BLAZOR DESKTOP

- BlazorWebView
- Runs in MAUI (MAUI.Blazor) but also WPF, WinForms, WinUI 3
- Uses .NET runtime directly

```
> dotnet new maui-blazor
```

**SO MANY OPTIONS**

# I'm a C# developer and want to build a desktop app for ...



# Slides, code and interesting links

<https://github.com/krdmllr/DotNetDesktopSamples>



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