.NET Conf
2022
Hybrid web apps with Blazor
Andrea Dottor

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Codice

Tutto il codice è disponibile su GitHub nei repository:

- https://github.com/andreadottor/maui-blazor-hybrid
- https://github.com/andreadottor/Umarell

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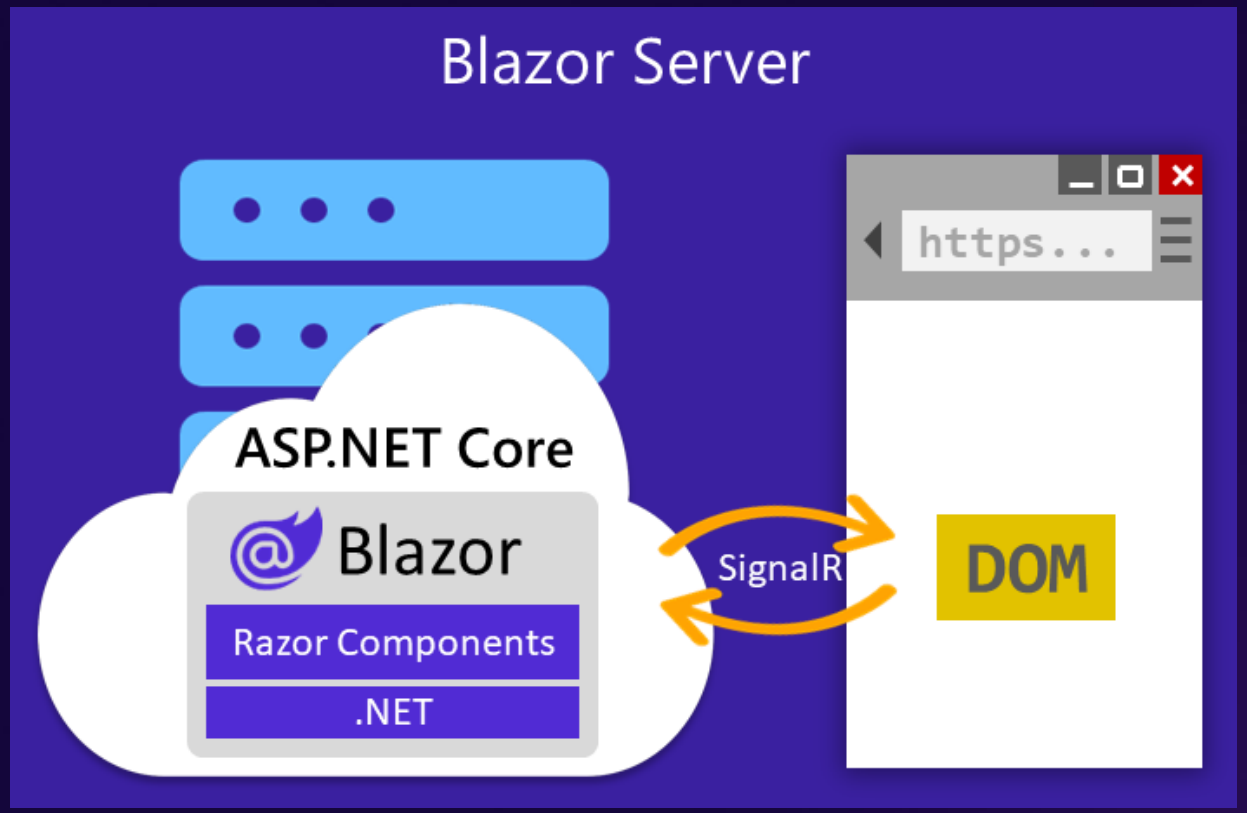
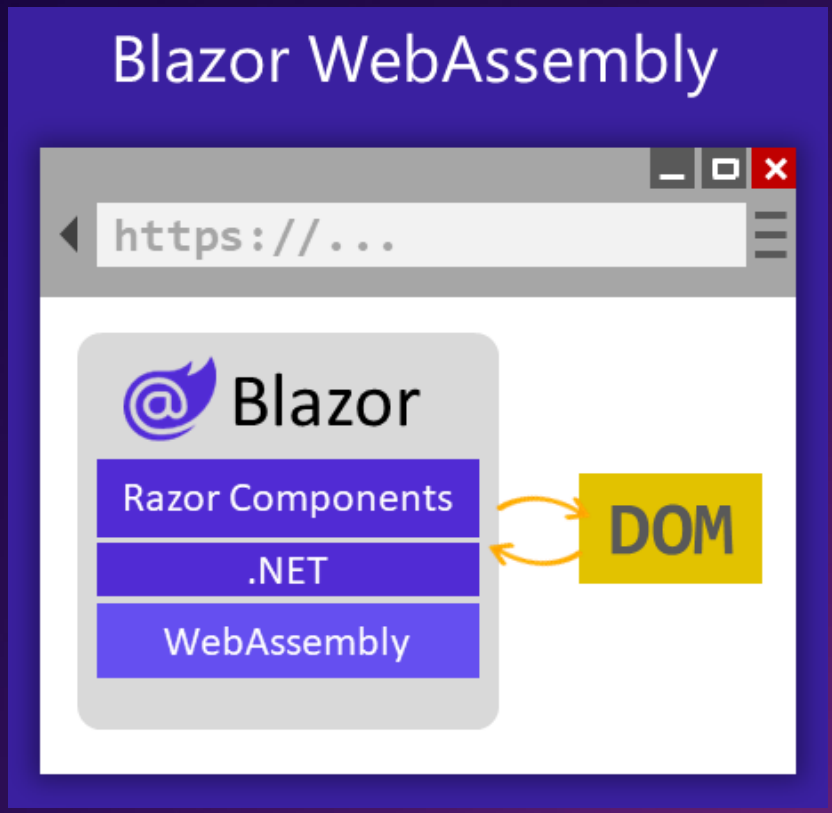
Blazor oggi





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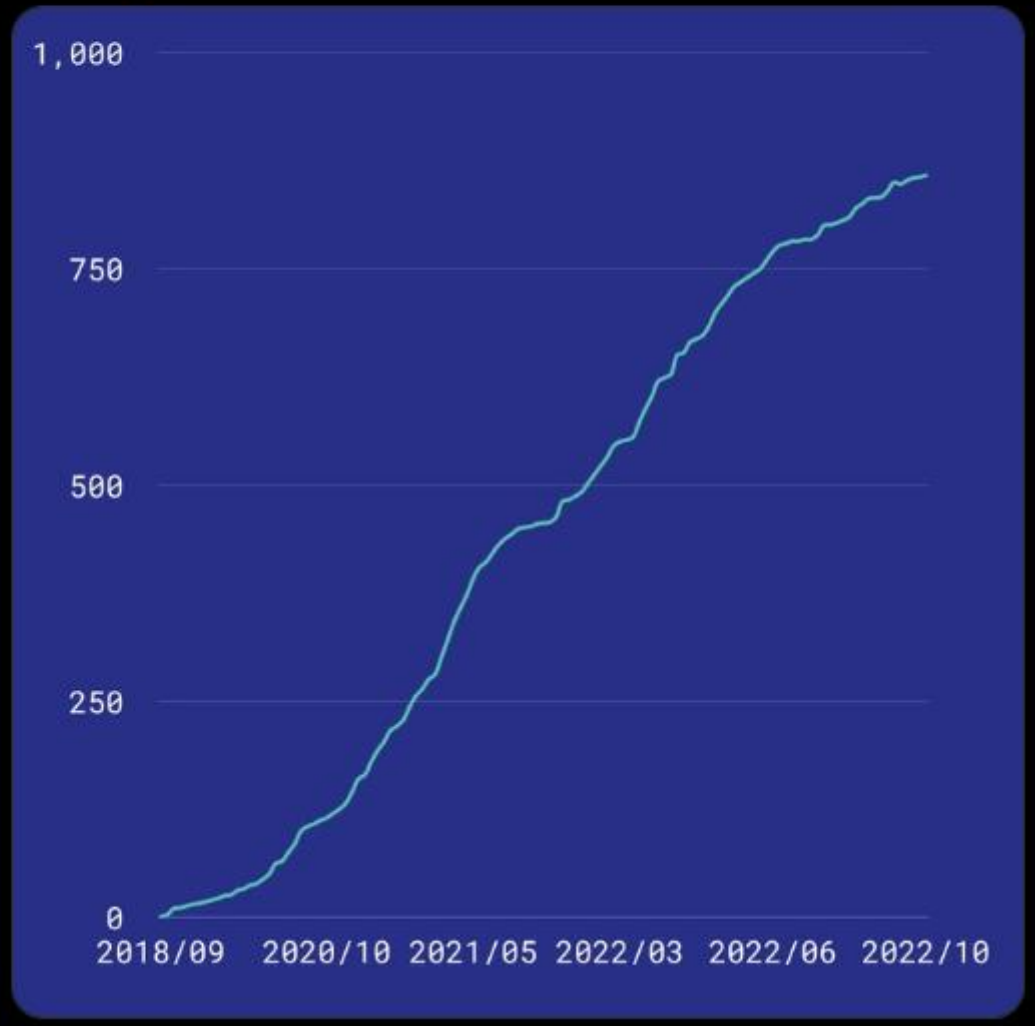
Progress Telerik @Telerik · 26min

#Blazor usage in the top 1m sites

I love the trend that I'm seeing.

Source: @builtwith



Progress Telerik @Telerik · 27min

In risposta a @Telerik e @builtwith

Additionally, around 5% of professional developers are using #Blazor according to 2022 StackOverflow survey results.

Pretty neat!

https://twitter.com/Telerik/status/1617553767007764480

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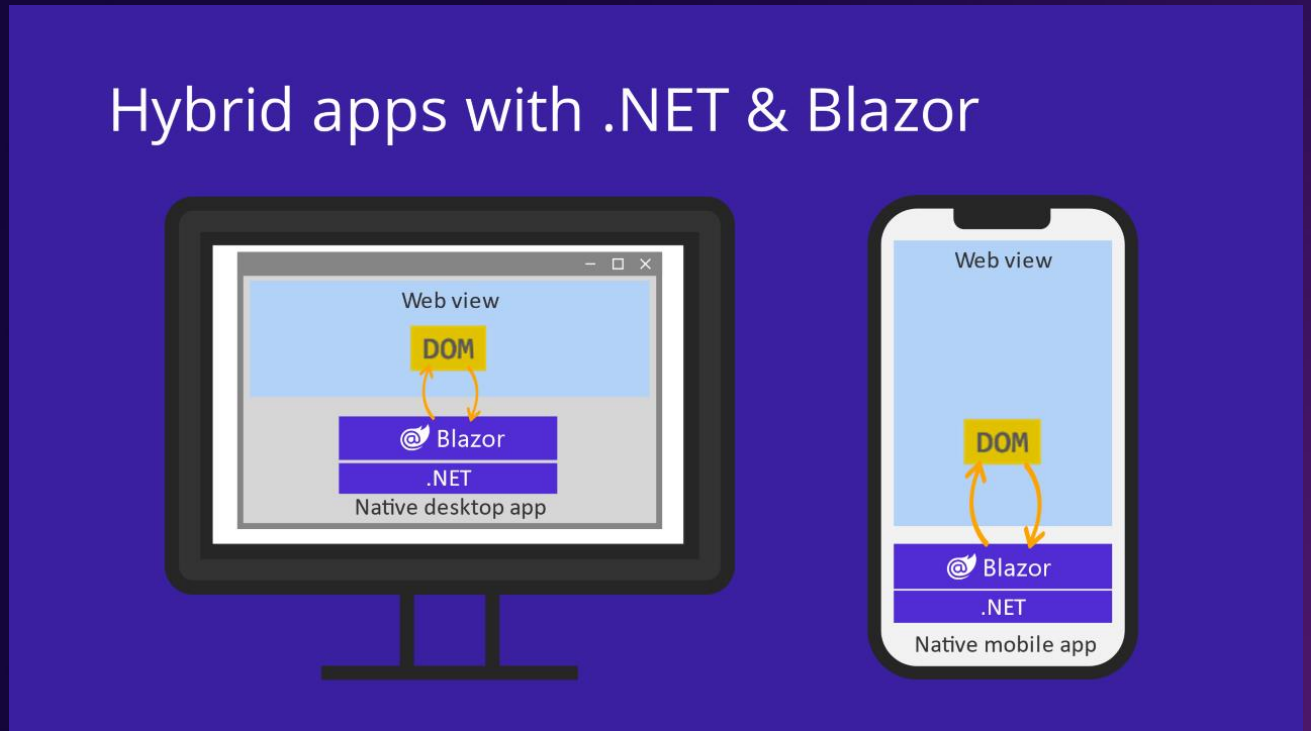
Blazor Hybrid

Tramite il controllo BlazorWebView è possibile aggiungere componenti Blazor alle applicazioni MAUI*.

Le applicazioni .NET Blazor Hybrid App vengono eseguite al 100% nativamente nel dispositivo, e non in una sandbox.



Blazor Hybrid benefits

- Riuso di componenti, che possono venir condivisi tra web, desktop e mobile.
- La possibilità per gli sviluppatori web/blazor di riutilizzare tutte le conoscenze per sviluppare applicazioni MAUI.
- Poter sfruttare nel codice Blazor tutte le funzionalità del dispositivo, e non essere limitati come nel browser.

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Which Blazor hosting model should I choose?

Feature	Blazor Server	Blazor WebAssembly (WASM)	Blazor Hybrid
Complete .NET API compatibility	✓	✗	✓
Direct access to server and network resources	✓	✗†	✗†
Small payload size with fast initial load time	✓	✗	✗
Near native execution speed	✓	✓‡	✓
App code secure and private on the server	✓	✗†	✗†
Run apps offline once downloaded	✗	✓	✓
Static site hosting	✗	✓	✗
Offloads processing to clients	✗	✓	✓
Full access to native client capabilities	✗	✗	✓
Web-based deployment	✓	✓	✗

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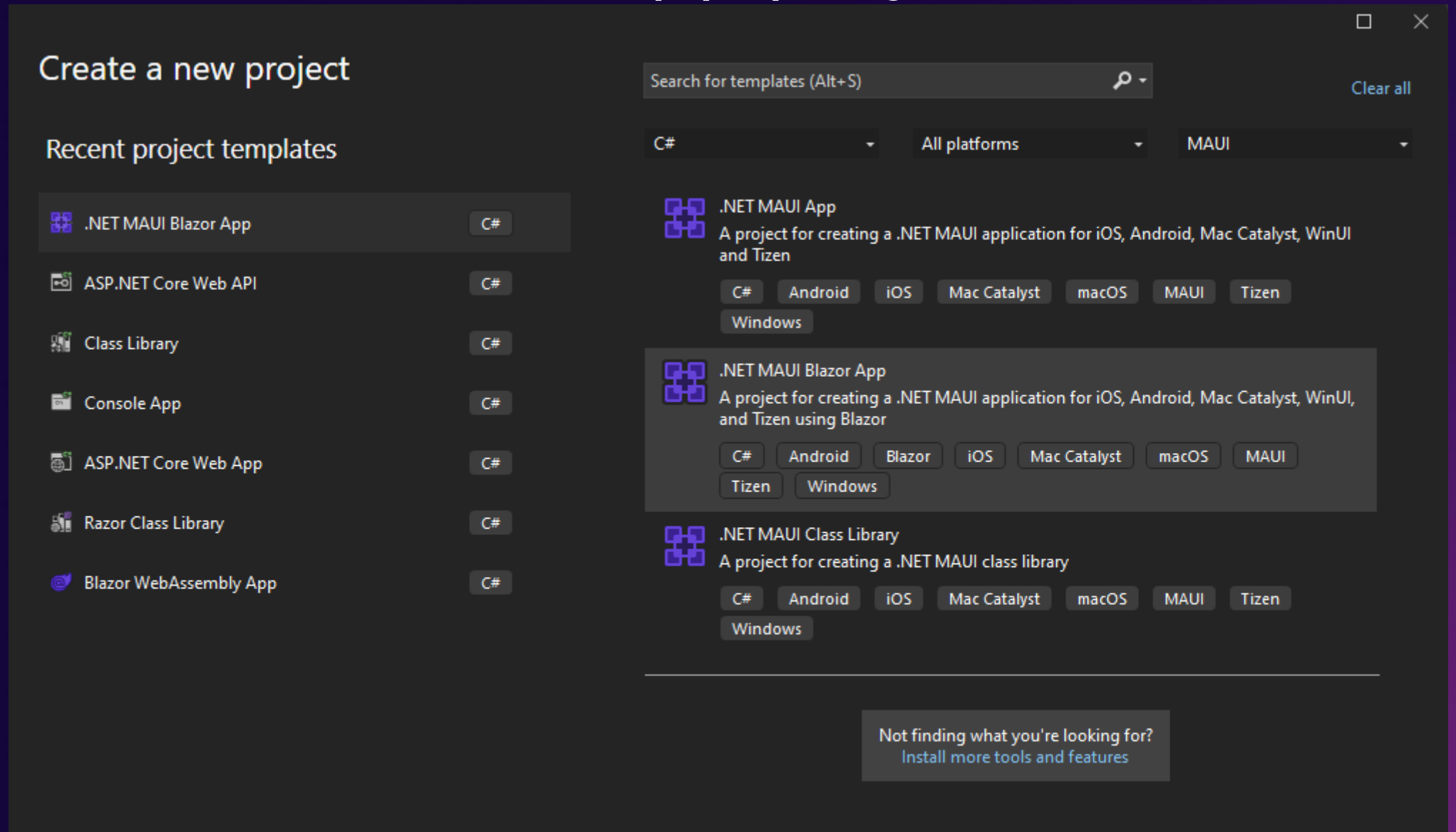
.NET MAUI Blazor app project



MainPage.xaml (BlazorWebView)

```
<?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"
             xmlns:local="clr-namespace:Dottor.MAUIBlazorApp"
             x:Class="Dottor.MAUIBlazorApp.MainPage"
             BackgroundColor="{DynamicResource PageBackgroundColor}">

    <BlazorWebView HostPage="wwwroot/index.html">
        <BlazorWebView.RootComponents>
            <RootComponent Selector="#app" ComponentType="{x:Type local:Main}" />
        </BlazorWebView.RootComponents>
    </BlazorWebView>

</ContentPage>
```

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DEMO

DEMO 1: MAUI Blazor, da dove iniziare.
Struttura del progetto

Il meglio dei due mondi

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Sfruttare codice nativo in Blazor

The .NET Multi-platform App UI (.NET MAUI) BlazorWebView is a control that enables you to host a Blazor web app in your .NET MAUI app. These apps, known as Blazor Hybrid apps, enable a Blazor web app to be integrated with platform features and UI controls. The BlazorWebView control can be added to any page of a .NET MAUI app, and pointed to the root of the Blazor app. The Razor components run natively in the .NET process and render web UI to an embedded web view control. In .NET MAUI, Blazor Hybrid apps can run on all the platforms supported by .NET MAUI.

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Sfruttare codice nativo in Blazor

- Posso sfruttare tutti i servizi nativi di MAUI
  - specifici di ogni piattaforma: connettività, sensori, media, ...
- Posso sfruttare componenti di UI di MAUI direttamente da blazor
  - DisplayAlert, FilePicker, ...
- Non ho le limitazioni solitamente imposte dal browser, ma posso accedere a file/database/servizi al pari di un'applicazione desktop e/o mobile

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DEMO

DEMO 2 e 3: MAUI Blazor, il meglio dei due mondi.

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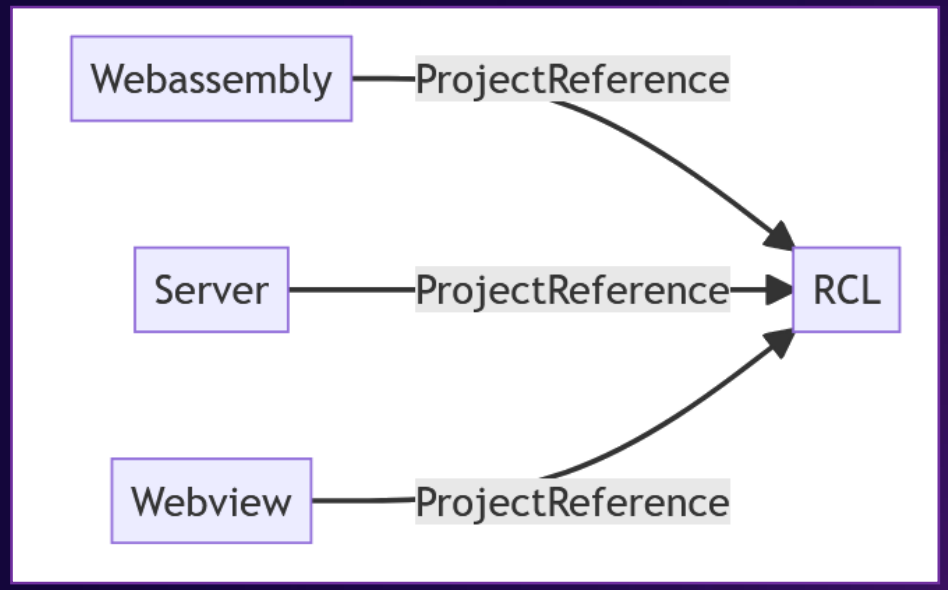
Reuse Razor components in ASP.NET Core Blazor Hybrid

Sfruttando le Razor Class Library è possibile condividere il codice tra applicazioni Blazor Webassembly, Blazor Server e Blazor Hybrid



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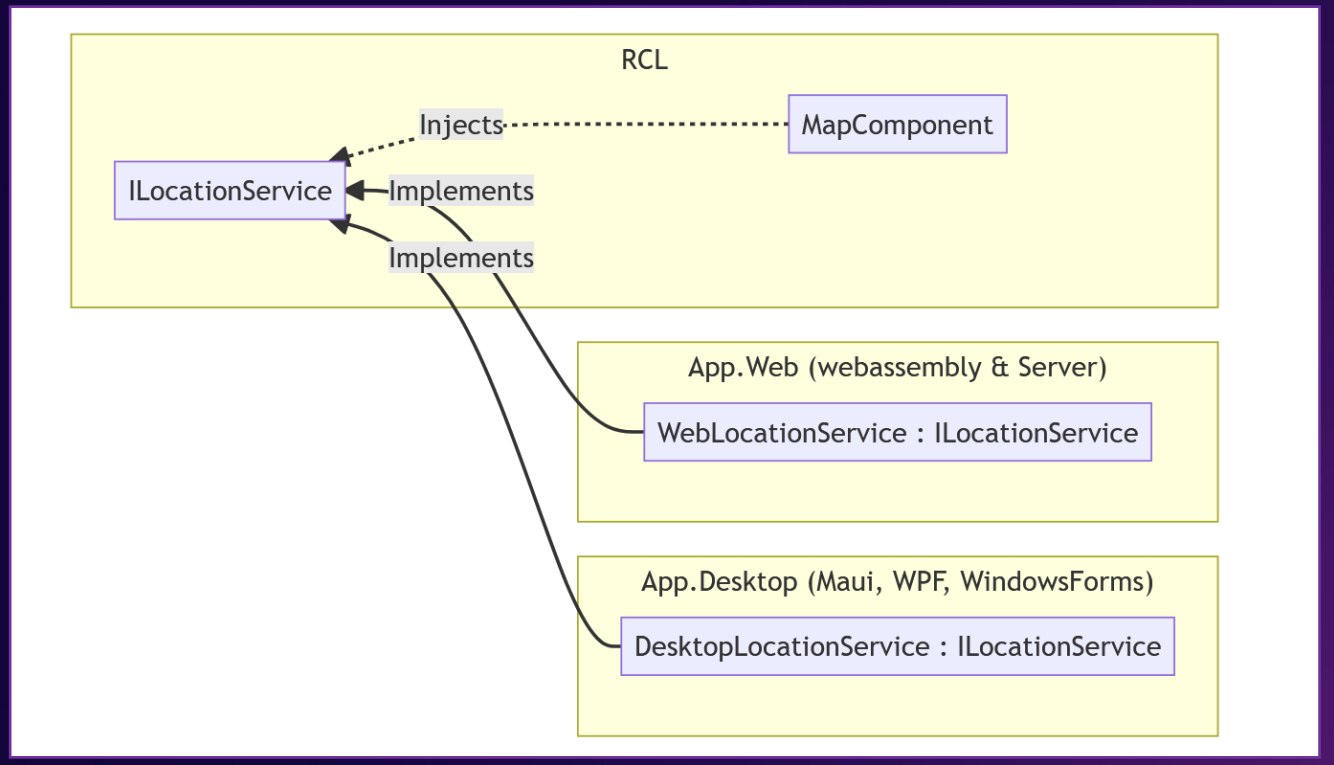
Use abstractions for unique features

Astraendo i servizi è possibile fare in modo di ottenere il meglio dalle varie piattaforme, utilizzando servizi specifici



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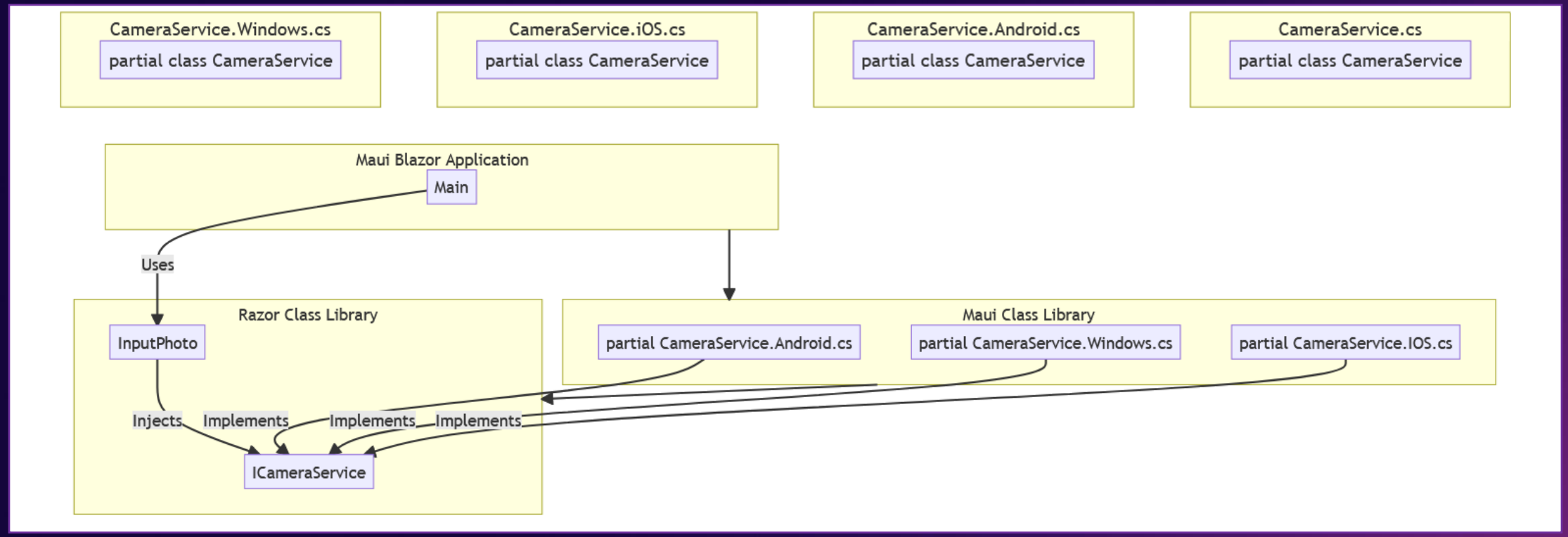
.NET MAUI Blazor platform-specific code

Con MAUI è possibile astrarre ulteriormente i servizi, potendo sfruttare servizi specifici del sistema operativo



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DEMO

DEMO 4: Condivisione codice tra web, desktop e mobile

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Blazor Hybrid apps with WPF and Windows Forms

Blazor Hybrid apps can be built with **Windows Presentation Foundation** (WPF) and **Windows Forms**. Blazor provides BlazorWebView controls for both of these frameworks. Razor components run natively in the Windows desktop and render to an embedded Web View. Using Blazor in WPF and Windows Forms enables you to add new UI to your existing Windows desktop apps that can be reused across platforms with .NET MAUI or on the web.

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Links

From Web to Native with .NET MAUI and Blazor | .NET Conf: Focus on MAUI

- https://youtu.be/bnoCU5XGBh4

Build a .NET MAUI Blazor app

- https://docs.microsoft.com/en-us/aspnet/core/blazor/hybrid/tutorials/maui

Host a Blazor web app in a .NET MAUI app using BlazorWebView

- https://docs.microsoft.com/en-us/dotnet/maui/user-interface/controls/blazorwebview

Intro to Blazor Hybrid (.NET MAUI Blazor)

- https://youtu.be/v36s9snCrXU

ASP.NET Core Blazor hosting models

- https://docs.microsoft.com/en-us/aspnet/core/blazor/hosting-models

Codice:

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About me

Andrea Dottor

Microsoft MVP Developer Technologies

```
{
    site:        www.dottor.net
    email:       andrea@dottor.net
    twitter:     @dottor
    mastodon:    @dottor@hachyderm.io
}
```

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