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Blazor

Stav světa a co se chystá



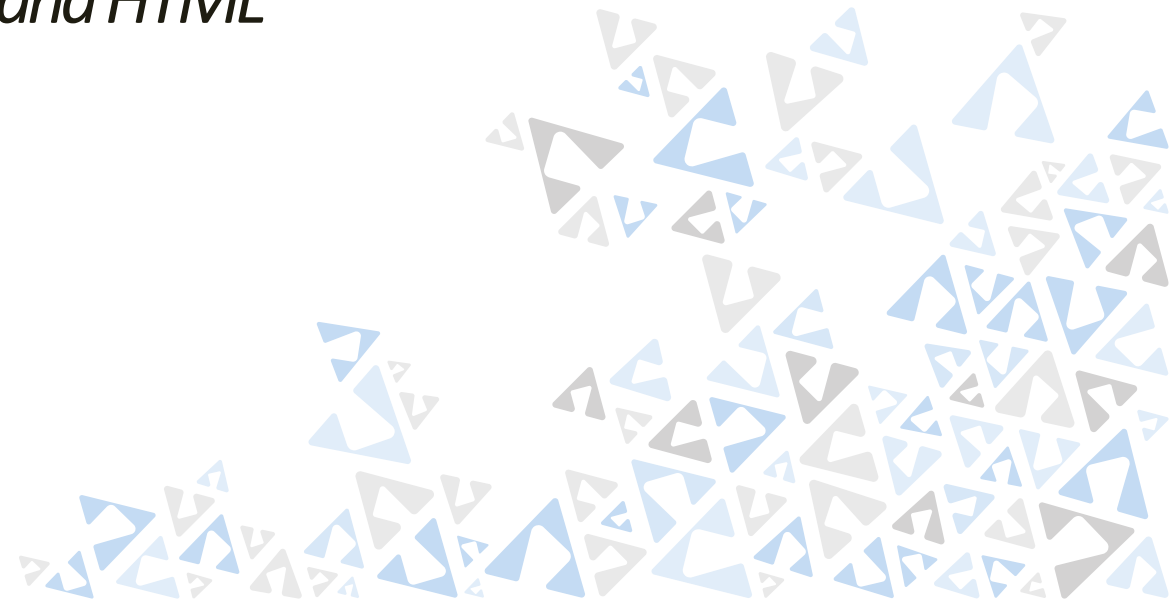
What is Blazor?

Blazor is an open source and cross-platform web UI framework for building single-page apps using .NET and C# instead of JavaScript.

Blazor: C# in the browser via WebAssembly

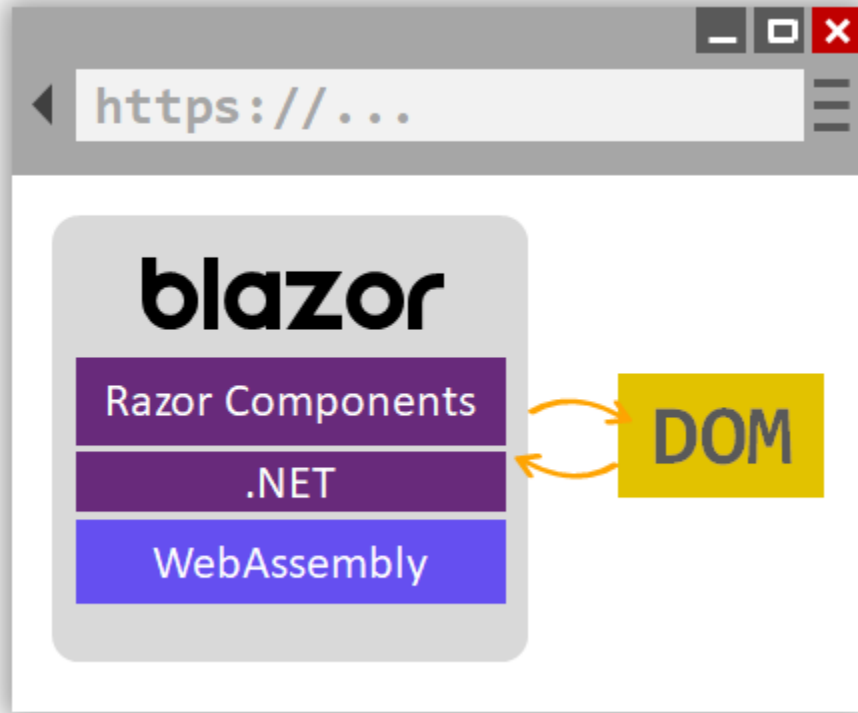
Blazor is a .NET web framework using C#/Razor and HTML that runs in the browser with WebAssembly.

LIVE-DEMO: <https://askme.blazor.cz>

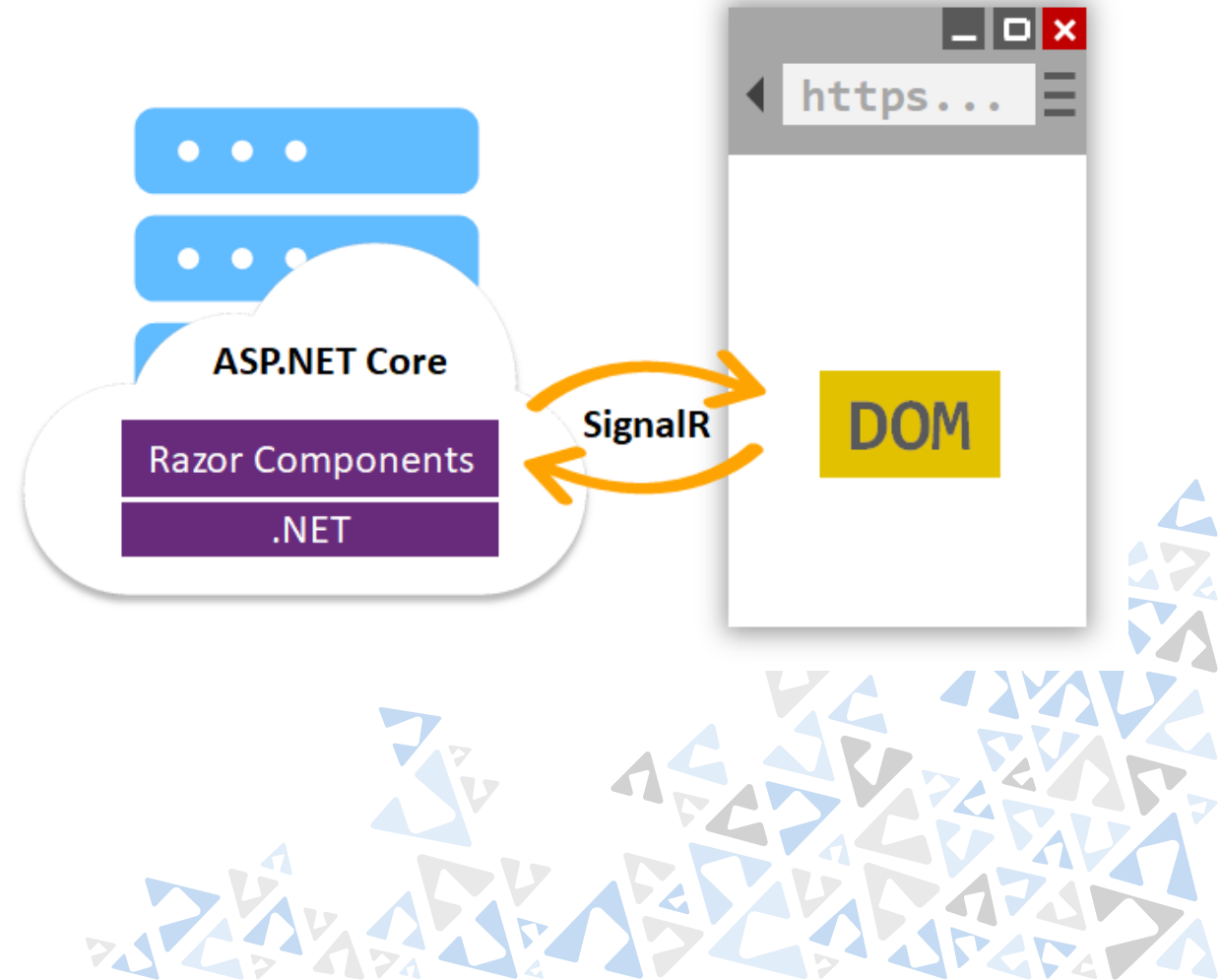


Blazor

Blazor WebAssembly hosting model



Blazor Server hosting model (.NET 3.1 LTS)



Mobile Blazor Bindings

...

Blazor WebAssembly

v3.2.0 - May 19th, 2020 - "Current" release (not an LTS)

Component model

Routing

Layouts

Forms & validation

Dependency Injection

JavaScript Interop

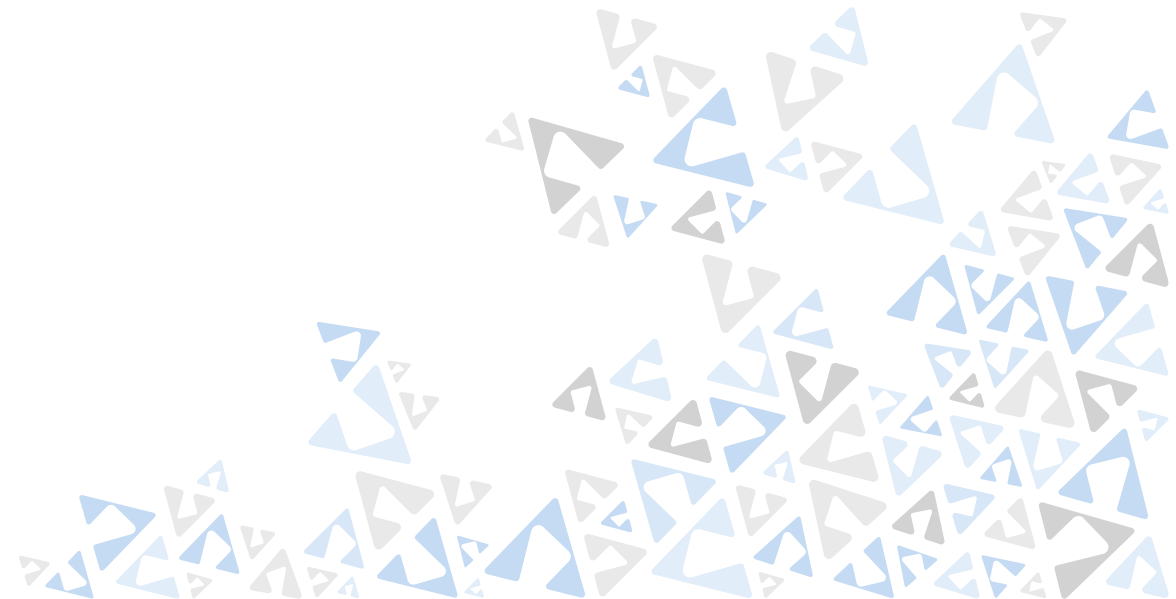
Authentication

Globalization & localization

Configuration

IL trimming & pre-compression

Full-stack debugging (🤔)



Blazor in .NET 5

„Web Applications supporting multiple platforms: Single Blazor project that supports an application that can work in browsers, on mobile devices and as a native desktop application (Windows 10x for example)“

.NET Conf 2020 – November 10-12



Blazor in .NET 5

Blazor **performance** improvements

Blazor WebAssembly in .NET 5 is 2-3x faster for most scenarios

- .NET runtime execution
- JSON serialization
- JavaScript interop
- Blazor component rendering

Updated **debugging** for Blazor WebAssembly



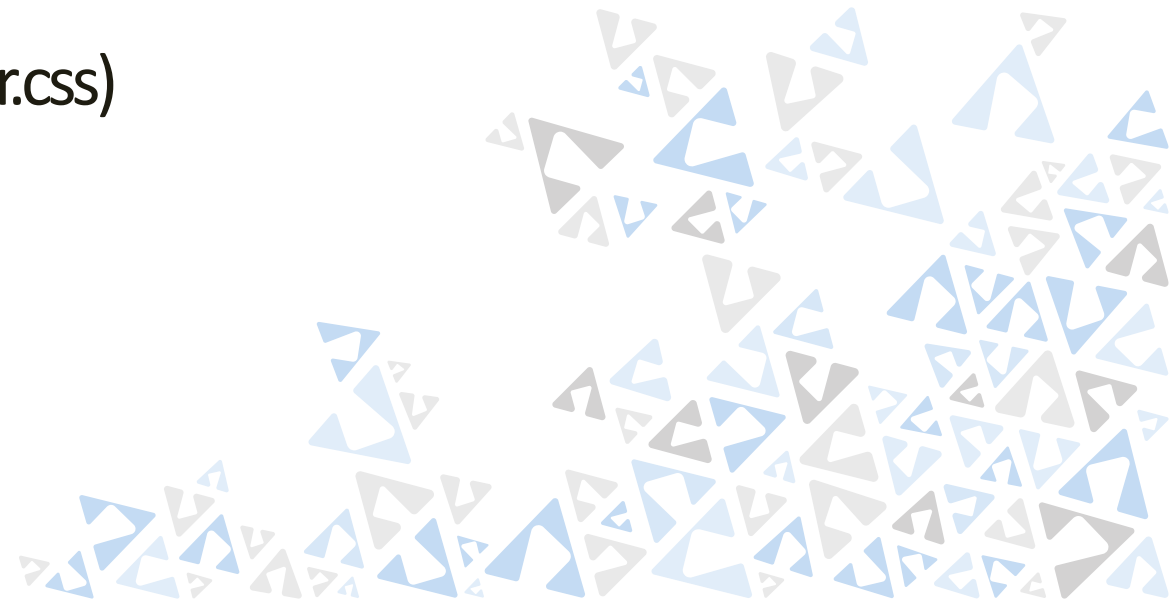
CSS isolation for Blazor components (Preview 8)

DEMO

`.razor.css`

přidává atributy do HTML elementů

(popř. `::deep "combinator"`, viz `MainLayout.razor.css`)



Lazy loading in Blazor WebAssembly (Preview 8)

DEMO

`<BlazorWebAssemblyLazyLoad Include="xy.dll" />` do .csproj

LazyAssemblyLoader service

App.razor - `Navigator.AdditionalAssemblies`

vícenásobný lazyload zatím blbne, reloaduje apku ze serveru



Radio-buttons components (Preview 8)

DEMO

InputRadio, InputRadioGroup

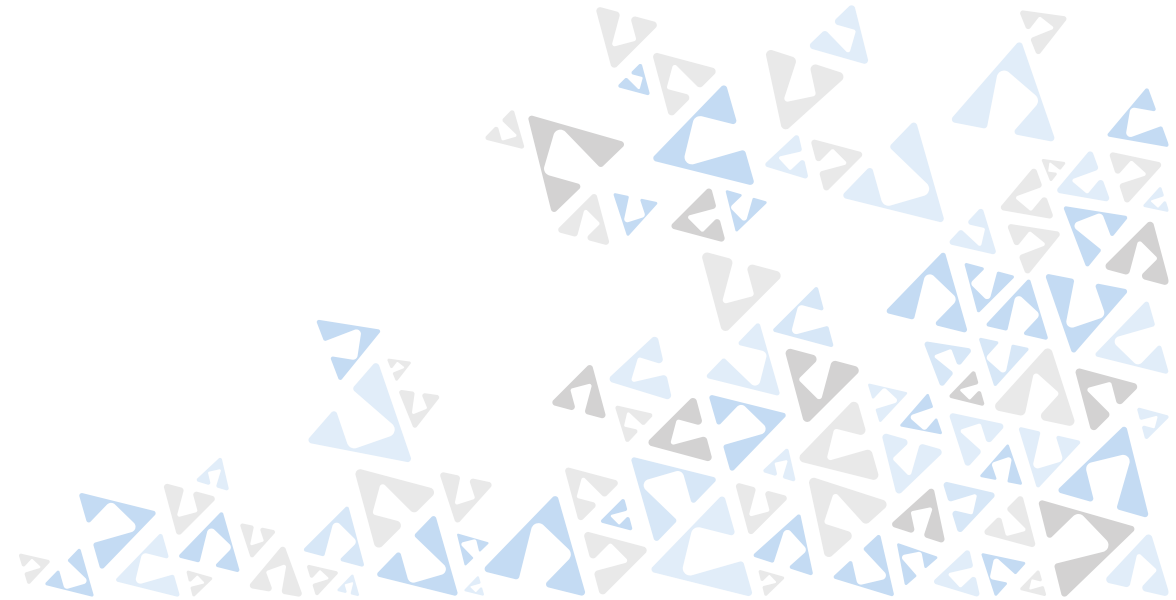
Supports validation



Set UI focus in Blazor apps (P8)

DEMO

`ElementReference.FocusAsync()`



Influencing the HTML head in Blazor apps (P8)

DEMO

Title, Link, and Meta components

```
Microsoft.AspNetCore.Components.Web.Extensions
```

```
_content/Microsoft.AspNetCore.Components.Web.Extensions/headManager.js
```

```
@using Microsoft.AspNetCore.Components.Web.Extensions.Head
```

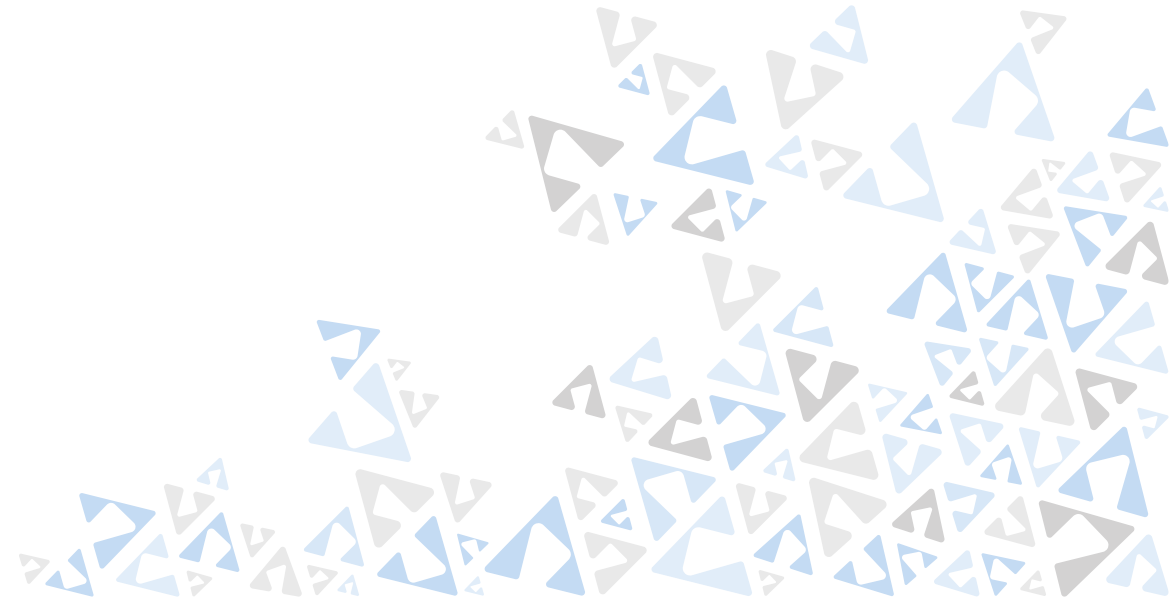


Component virtualization (RC1)

DEMO

```
<Virtualize Items=... />
```

```
<Virtualize ItemProvider=... />
```



Blazor WebAssembly Server Prerendering (RC1)

DEMO

index.html => _Host.cshtml

```
<component type="typeof(App)" render-mode="WebAssemblyPrerendered" />
```

```
endpoints.MapFallbackToPage("/_Host");
```

```
// builder.RootComponents.Add<App>("#app");
```



File input support

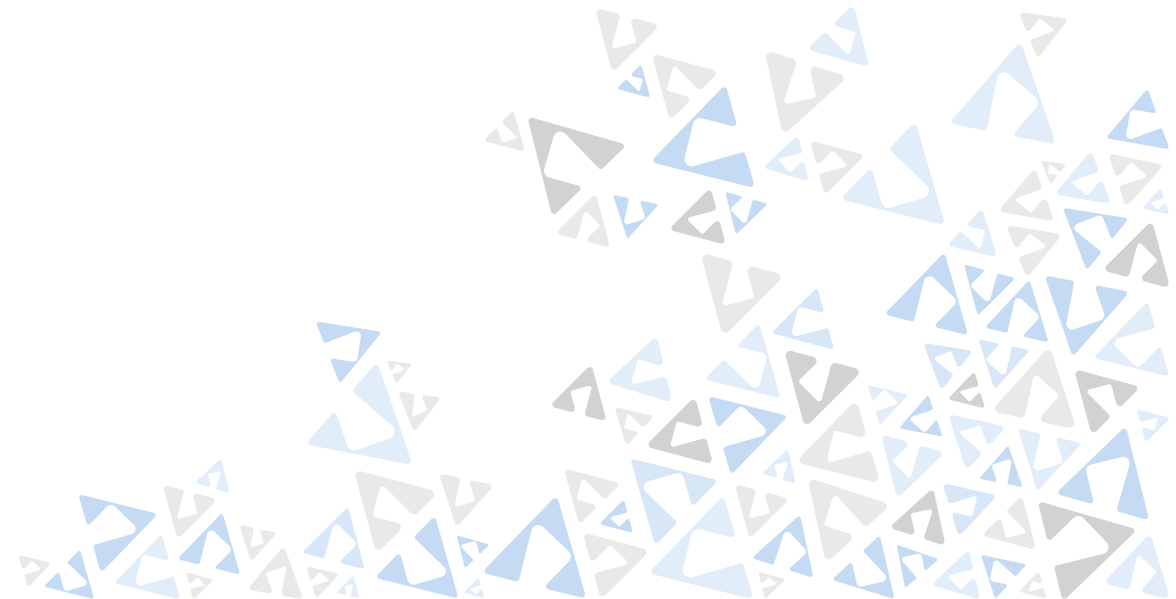
DEMO

<InputFile [multiple] />

InputFileChangeEventArgs

IBrowserFile

- OpenReadStream()
- Name
- LastModified
- Size
- ContentType
- RequestImageFileAsync() extension method



Custom validation class names (CSS)

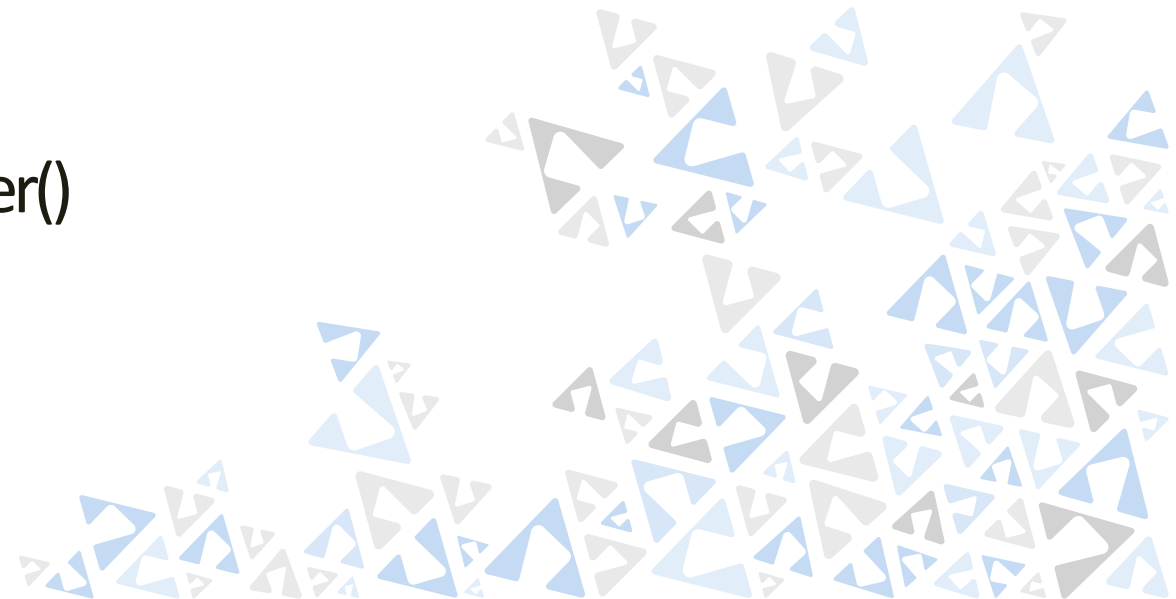
DEMO

useful when integrating with CSS frameworks, like Bootstrap

derive from `FieldCssClassProvider`

override `GetFieldCssClass`

```
SetFieldCssClassProvider.SetFieldCssClassProvider()
```



Support for ontoggle event

DEMO

```
<details ontoggle="..." />
```



IAsyncDisposable support for Blazor components

component can implement `IAsyncDisposable.DisposeAsync()`
cleanup resources on JS end, etc.



Blazor Plans for .NET6+

Ahead-of-time (AoT) compilation to WebAssembly

Drag & drop

SVG support

Restrict parent and child component hierarchy

Required parameters to blazor components

Generic type constraints

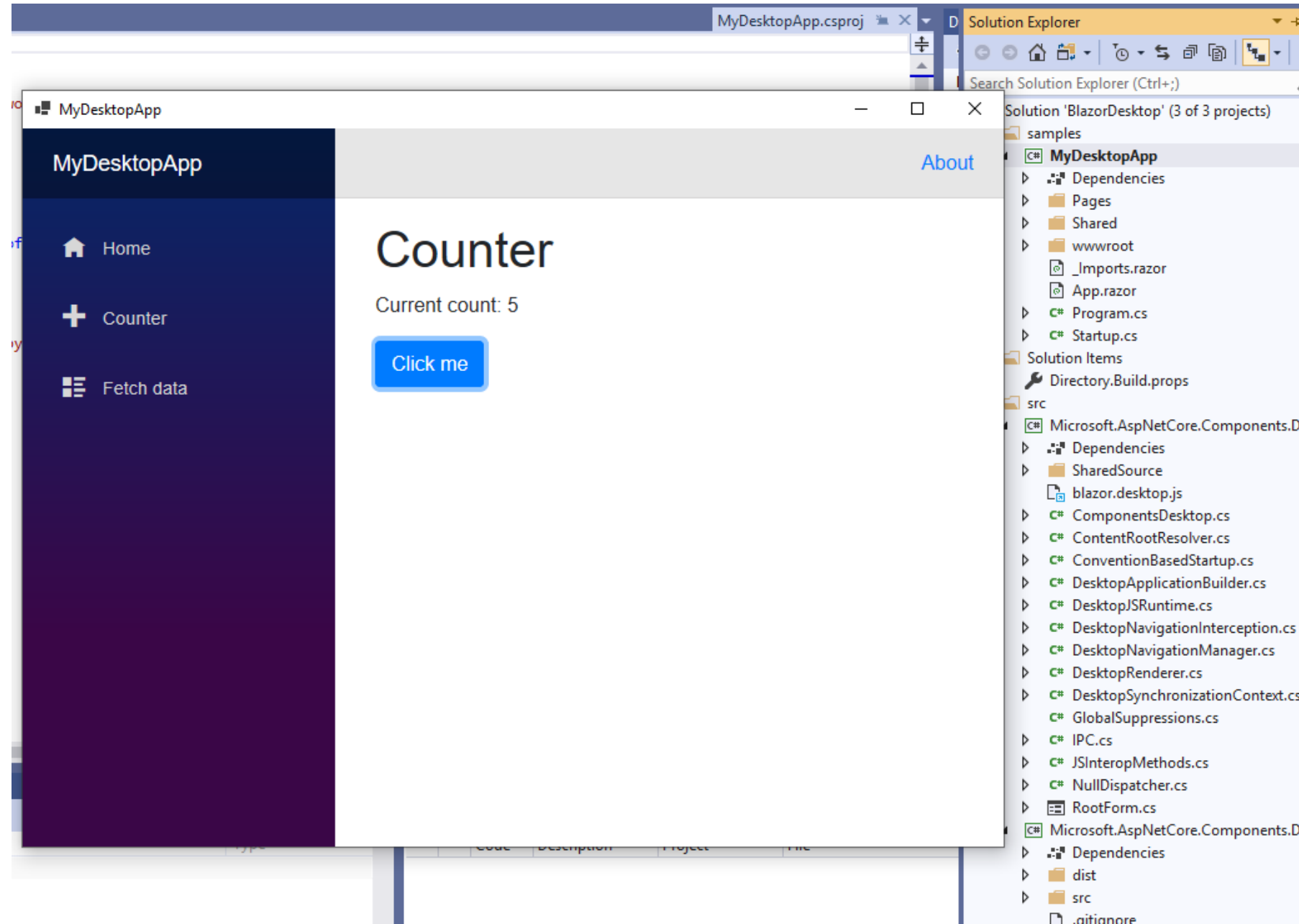
Hot reload

Multiple event handlers for the same event on the same element

Ability to pass @typeparam down to child components



Blazor Native?



REFERENCES

- Demos <https://github.com/hakenr/BlazorNet5Demos>
<https://github.com/hakenr/AskMe>
<https://github.com/ridercz/AskMe>
- Blog <http://knowledge-base.havit.cz/> + .eu
www.blazor.cz
- Twitter [@RobertHaken](https://twitter.com/RobertHaken)
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