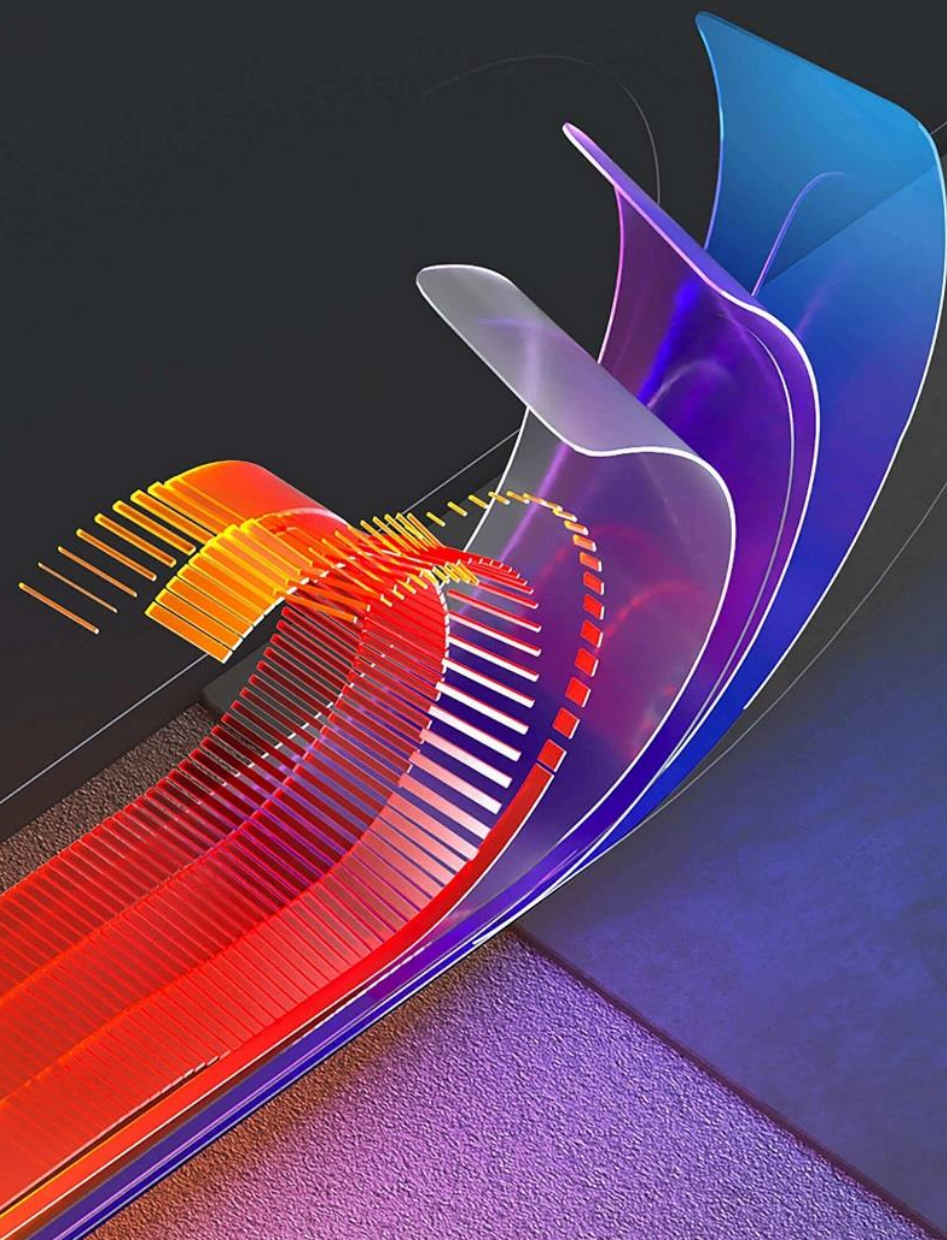


# Microsoft Build

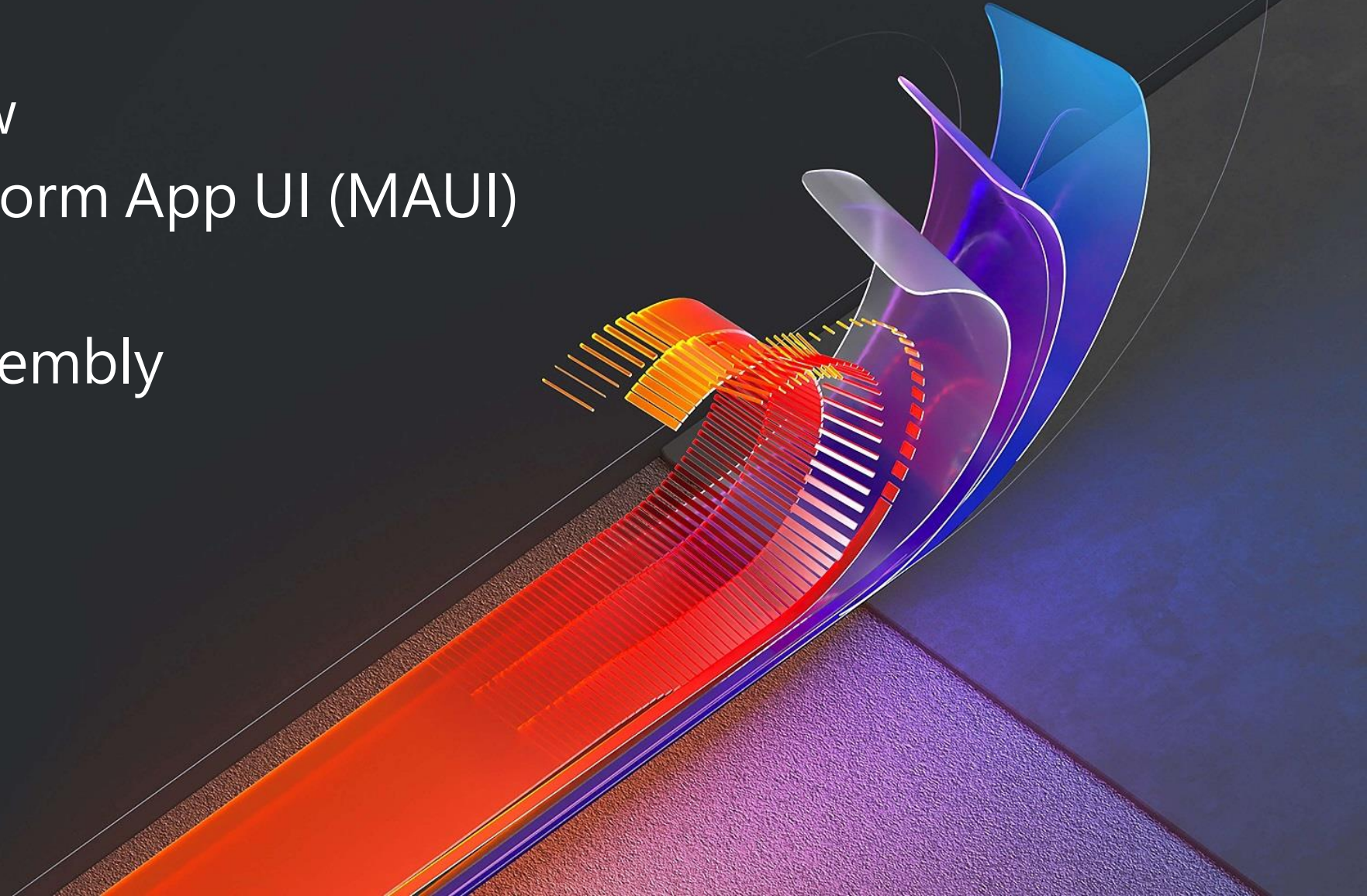
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For developers by developers



# Microsoft Build Takeaways

- .NET 5.0 preview
- .NET Multi-Platform App UI (MAUI)
- C# 9.0
- Blazor, Web Assembly
- Tools





# .NET 5.0 preview 4 and Beyond

- Simplified Target Framework approach, TFM

```
<Project Sdk="Microsoft.NET.Sdk">  
  <PropertyGroup>  
    <TargetFramework>netcoreapp3.1</TargetFramework>  
  </PropertyGroup>  
</Project>
```

```
<Project Sdk="Microsoft.NET.Sdk">  
  <PropertyGroup>  
    <TargetFramework>net5.0</TargetFramework>  
  </PropertyGroup>  
</Project>
```



# .NET 5.0 preview 4 and Beyond

- Simplified Target Framework approach, TFM
- One .NET approach in the future

```
<Project Sdk="Microsoft.NET.Sdk">  
  <PropertyGroup>  
    <TargetFrameworks>net5.0-android</TargetFrameworks>  
  </PropertyGroup>  
</Project>
```

```
<Project Sdk="Microsoft.NET.Sdk">  
  <PropertyGroup>  
    <TargetFrameworks>net5.0-ios</TargetFrameworks>  
  </PropertyGroup>  
</Project>
```



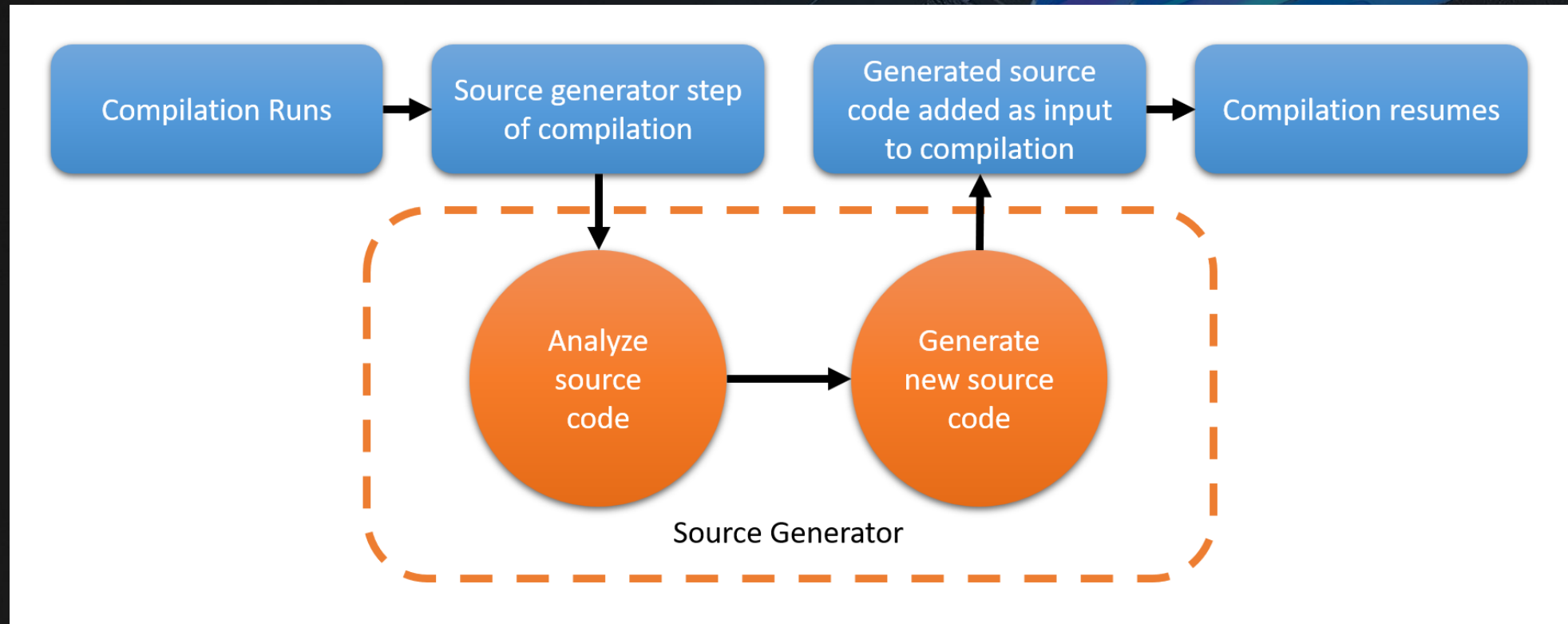
# .NET 5.0 preview 4 and Beyond

- Simplified Target Framework approach, TFM
- One .NET approach in the future
- C# 9
- Improvements in System.Text.Json
- Windows Form Designer .NET Core



# .NET 5.0 preview 4 and Beyond

- C# Source Generators



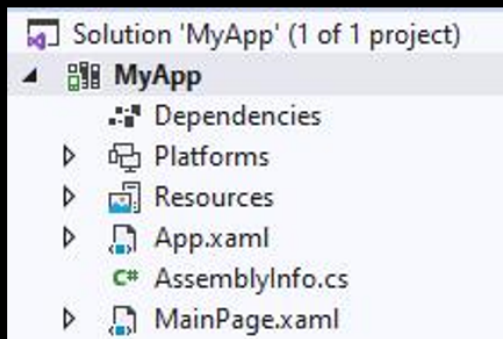


# .NET 5.0 preview 4 and Beyond

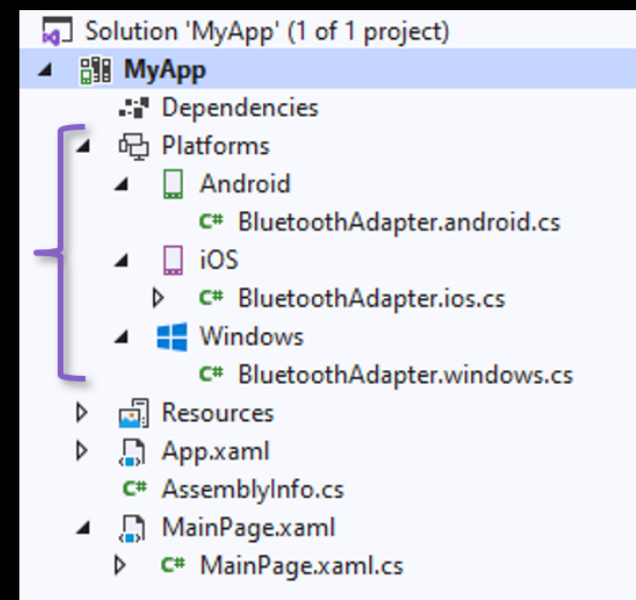
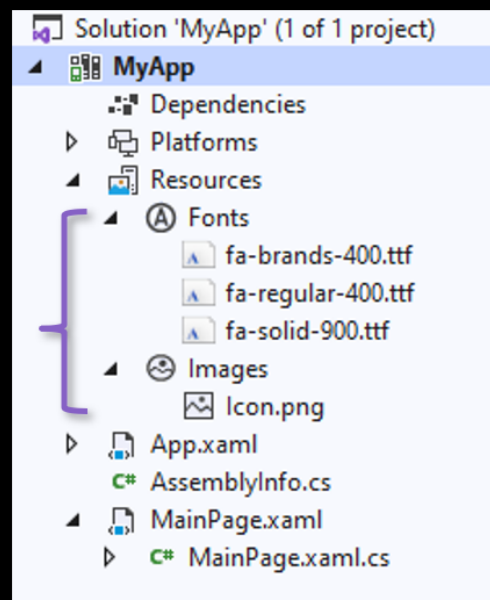
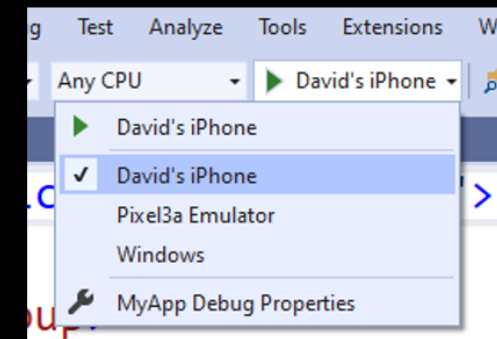
- Simplified Target Framework approach, TFM
- One .NET approach in the future
- C# 9
- Improvements in System.Text.Json
- Windows Form Designer .NET Core
- C# Source Generators



# MAUI: Cross-platform development, simplified



```
<Project Sdk="Microsoft.NET.Sdk">  
  
  <PropertyGroup>  
    <TargetFrameworks>net5.0-ios;net5.0;net5.0-android</TargetFrameworks>  
  </PropertyGroup>  
  
  <ItemGroup>  
    <PackageReference Include="System.Maui" />  
    <PackageReference Include="System.Device" />  
  </ItemGroup>  
  
</Project>
```





# C# 9.0

- Records object types

```
public data class Person
{
    public string FirstName { get; init; }
    public string LastName { get; init; }
}
```

```
var mePerson = new Person("Jerome", "Guarin")

var myWifePerson = person with { FirstName = "Melissa" };
```

```
public data class Person(string FirstName, string LastName);
```



# C# 9.0

- Top-level Programs

```
using System;  
class Program  
{  
    static void Main()  
    {  
        Console.WriteLine("Hello World!");  
    }  
}
```

```
using System;  
  
Console.WriteLine("Hello World!");
```



# C# 9.0

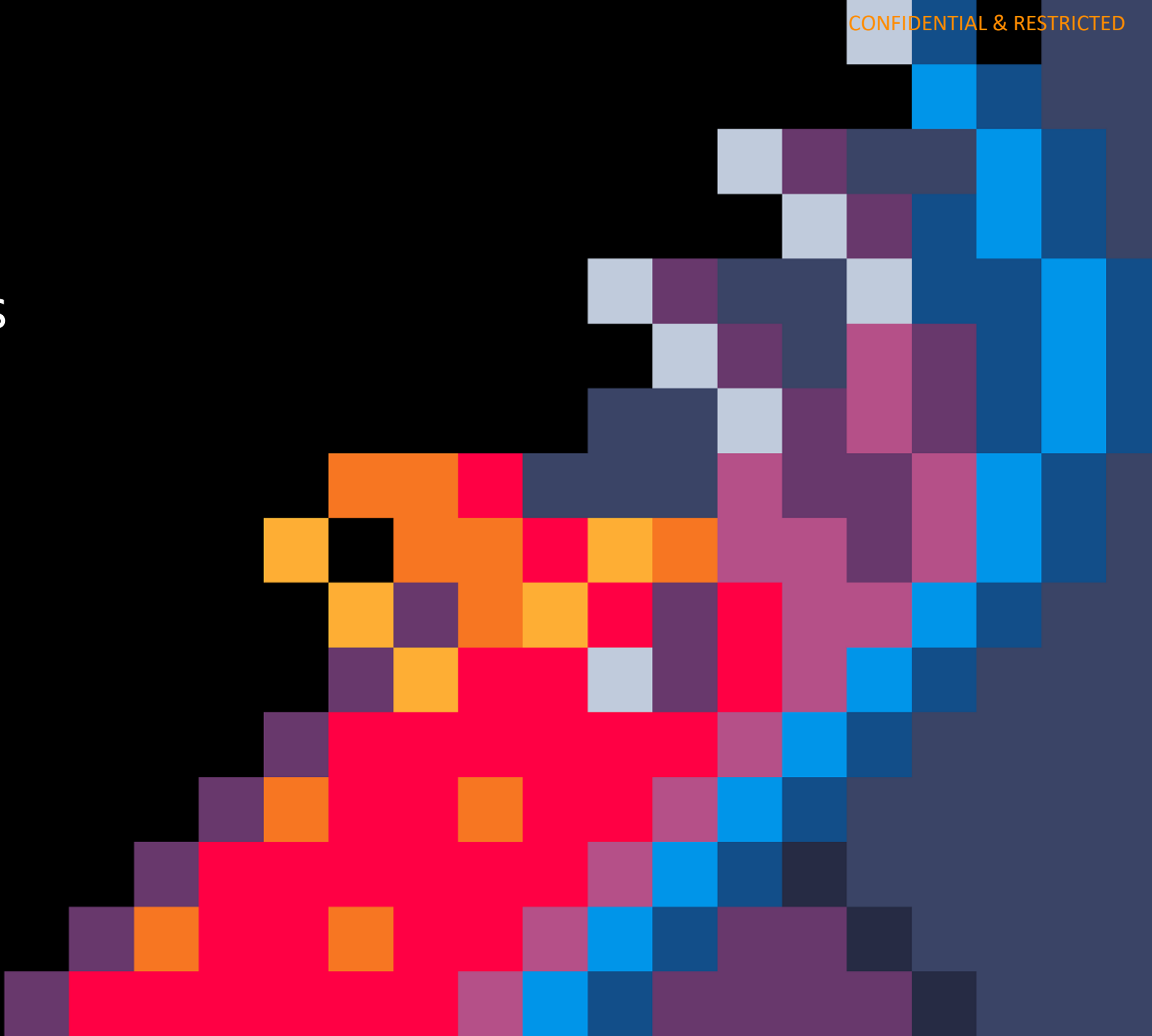
- Pattern matching
- Covariant returns

```
abstract class Animal
{
    public abstract Food GetFood();
    ...
}
class Tiger : Animal
{
    public override Meat GetFood() => ...;
}
```



# C# 9.0

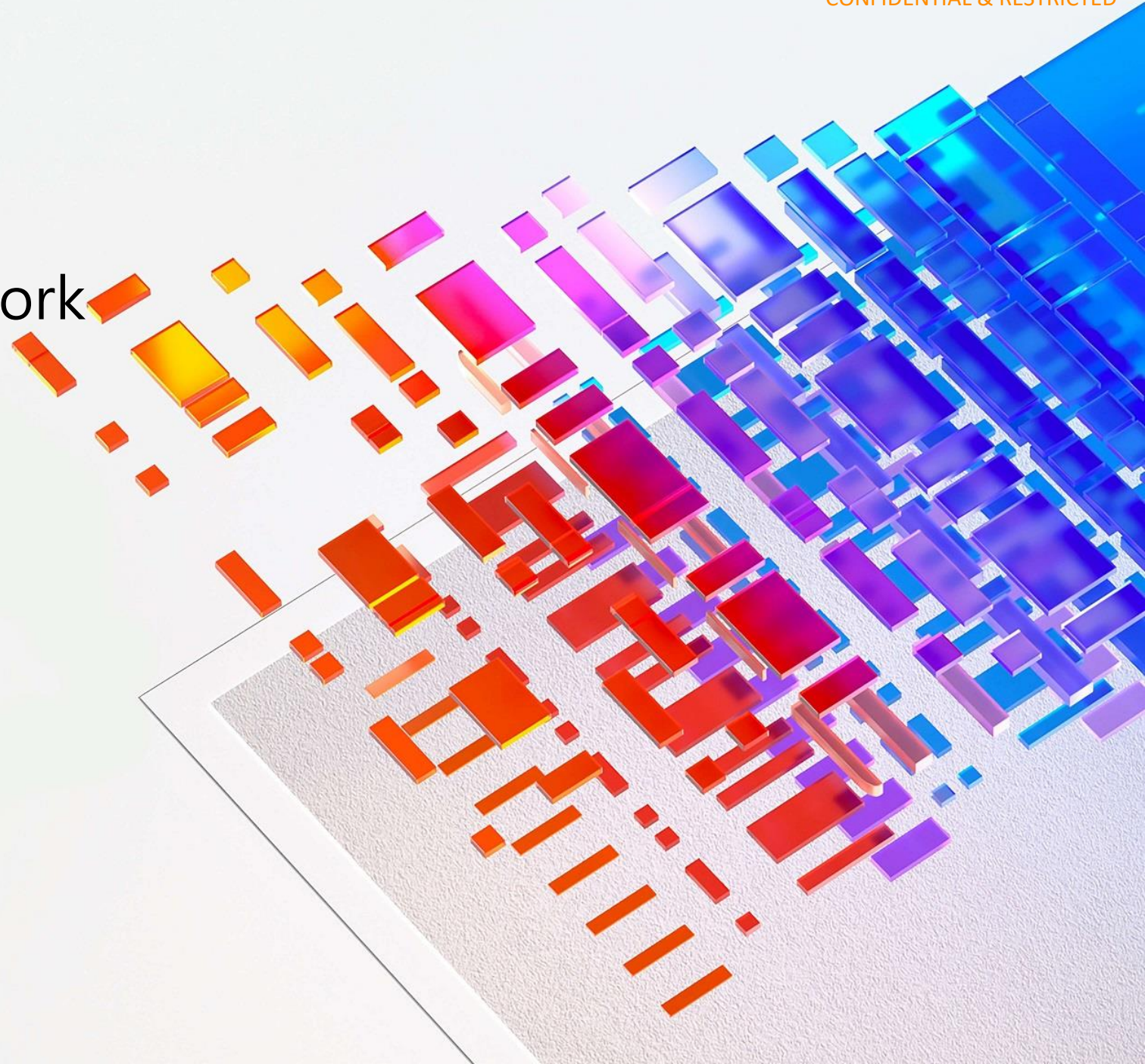
- Records object types
- Top-level Programs
- Pattern matching
- Covariant returns



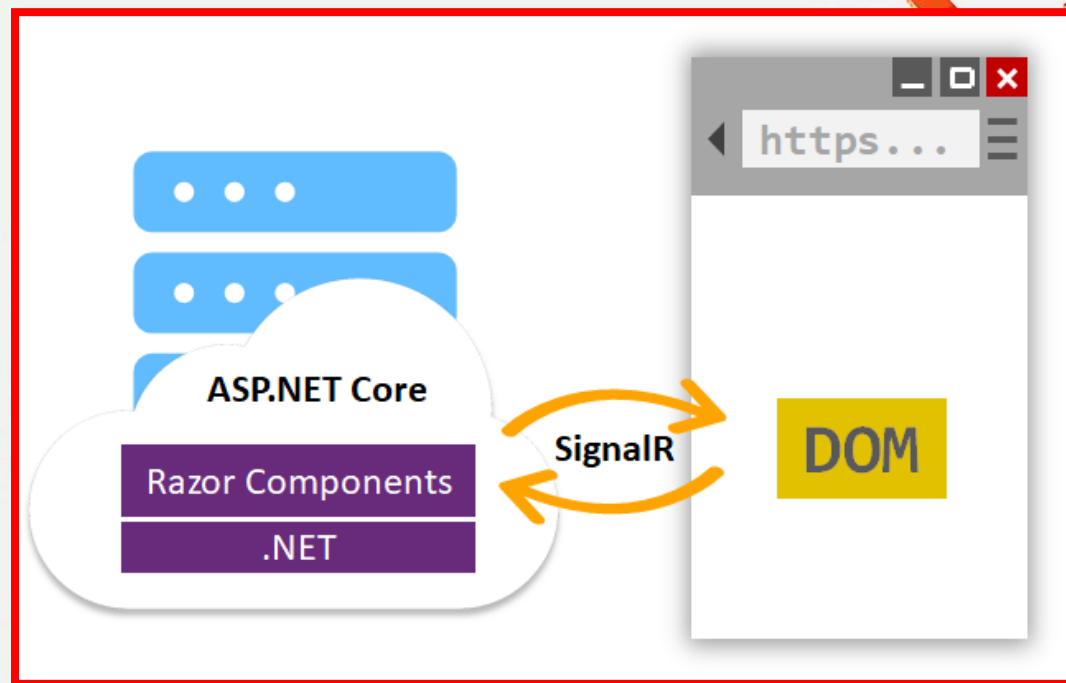


# Blazor

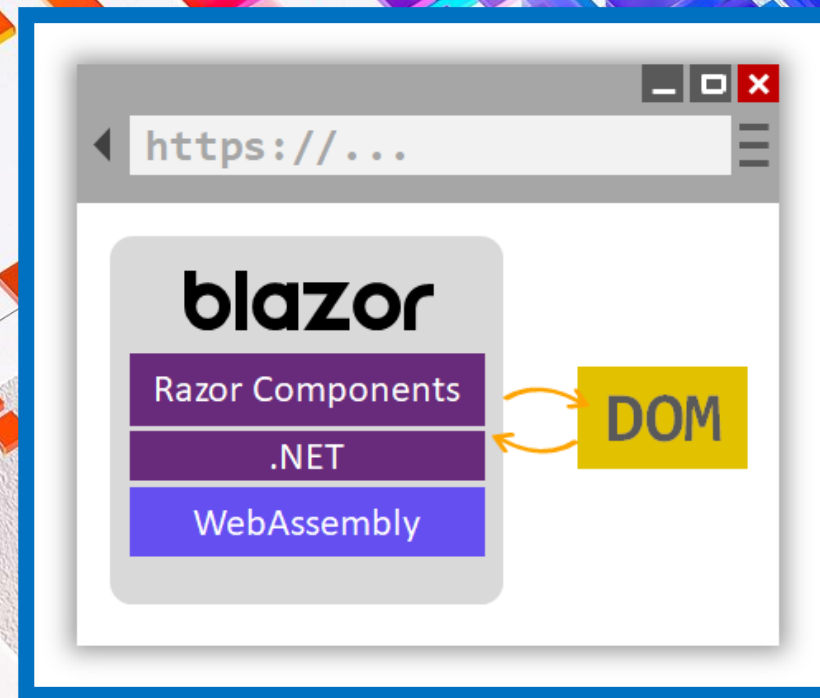
- Single-page UI framework
- Uses C# and HTML
- UI Components
  - or Razor Components
- Allows interoperability with JavaScript



# Blazor



Blazor Server

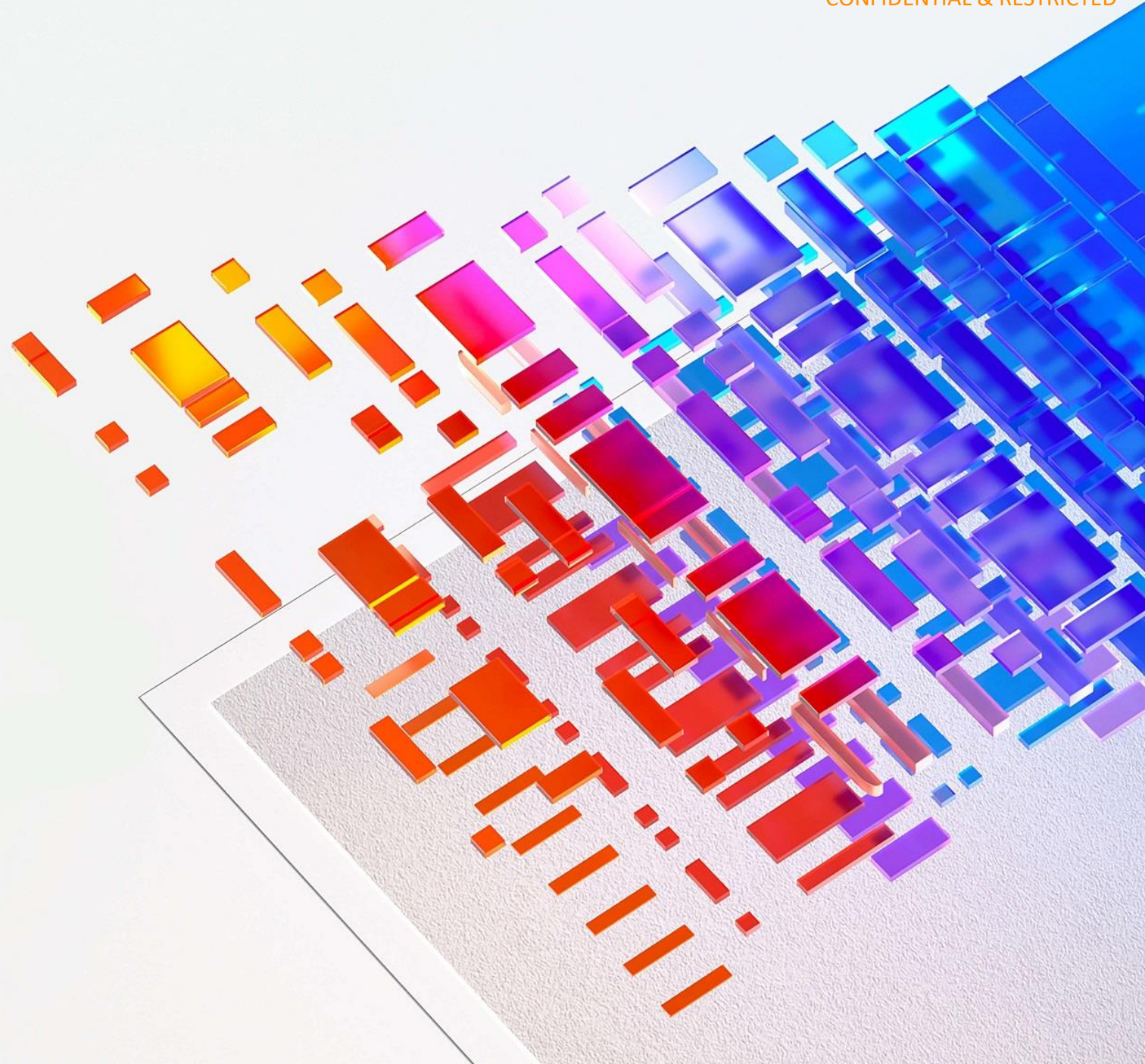


Blazor WebAssembly



# Blazor

- Demo





# Tools

- Windows Package Manager, winget, <https://github.com/microsoft/winget-cli/releases>
- VS Codespaces for VS2019, Windows instances
- Fluid Framework, <https://fluidpreview.com>
- PowerToys
- Windows Terminal 1.0



Microsoft  
Build





# Resources

- <http://mybuild.microsoft.com/>
- <https://aka.ms/ScottBuildSessions>
- <https://aka.ms/blazor-in-action>
- <https://aka.ms/learn>
- <https://channel9.msdn.com>