Avalonia Ul

A SHORT INTRODUCTION



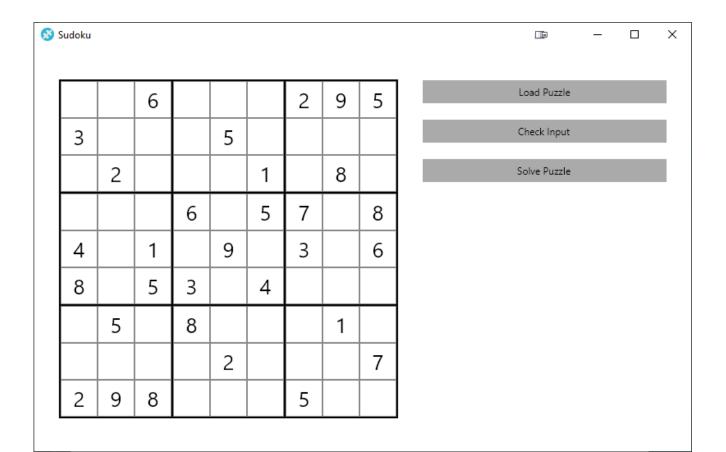
Source: http://avaloniaui.net

What is Avalonia Ul



- Cross Platform UI Framework for .NET Framework, .NET Core and Mono (Windows, Linux, OSX, Android and iOS)
- XAML
- MVVM Binding through Reactive UI
- ▶ Open Source (MIT) ☺

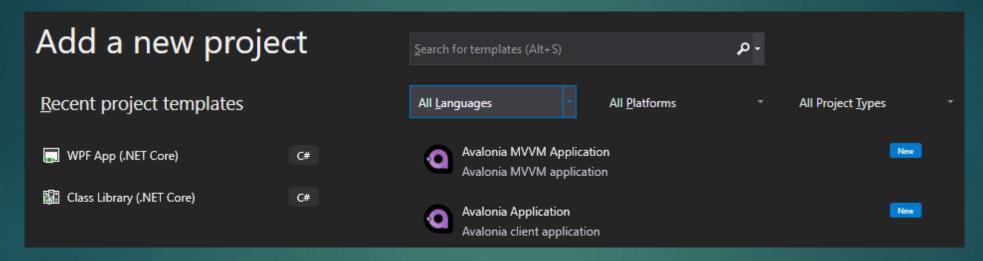
Architecture .NET4.5+/Mono .NET Core <u>IRun</u>timePlatform Xamarin.* Win32 Avalonia.Xaml **AvaloniaUI** GTK# (netstandard 2.0) (netstandard 2.0) GTK3 Bindings Logical/Visual Tree Avalonia.DefaultTheme Xamarin.iOS (netstandard 2.0) Renderer(s) Xamarin.Android Controls Styles Etc. **IWindowingPlatform** Direct2D Skia **IRenderingPlatform** Cairo Source: https://github.com/AvaloniaUl/Avalonia/wiki/High-level-architecture-overview



Implementing a Sudoku App

Creating the project

Option 1: Visual Studio Extensions



Option 2: .NET Core Template (available on Github)

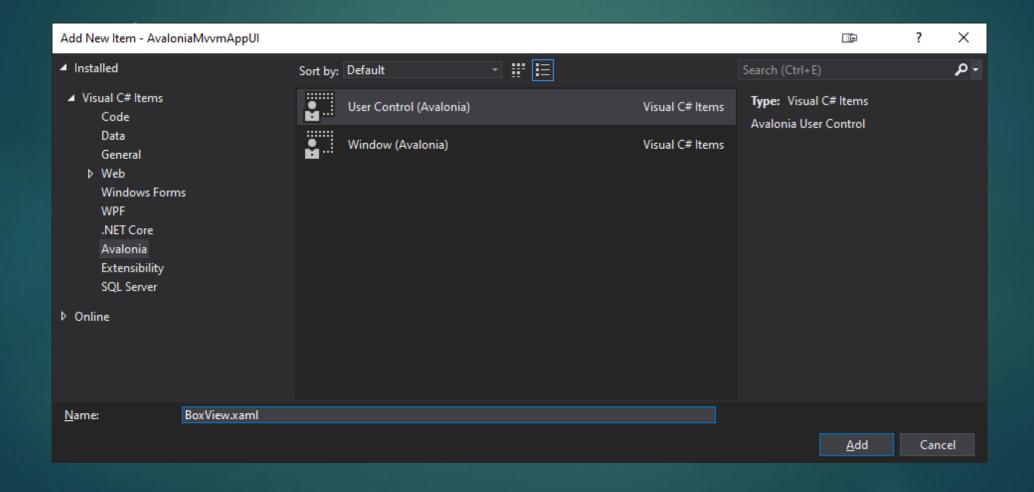
> dotnet new avalonia.mvvm -o AvaloniaMvvmAppUI

Project Structure

- ► References to
 - Avalonia
 - ► Avalonia.Desktop
 - ► Avalonia.ReactiveUl
- ▶ Folders for
 - ▶ Models
 - ▶ ViewModels
 - Views
- ViewLoctaor

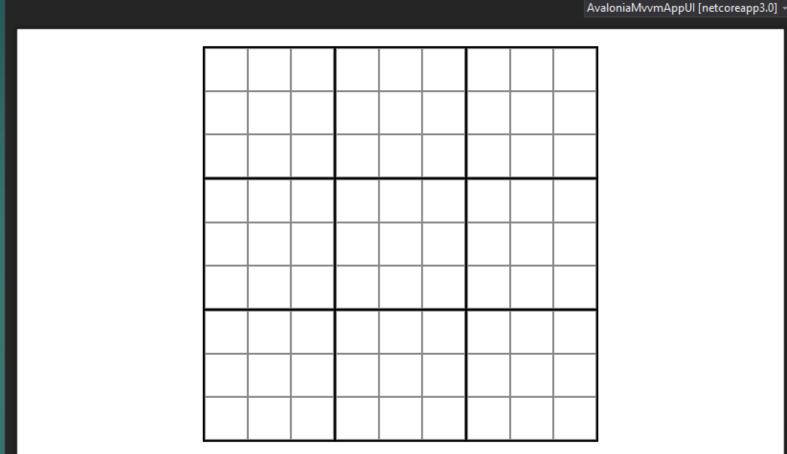
■ 6 C# AvaloniaMvvmAppUI Dependencies ▶ Analyzers ■ Microsoft.NETCore.App Packages Avalonia (0.8.2) Avalonia.Desktop (0.8.2) Avalonia.ReactiveUl (0.8.2) Projects ▶ a Assets ▶ a Converters a Models ViewModels ▶ a Views a 🗋 .gitignore ▶ a ☐ App.xaml a♥ nuget.config ▶ a C# Program.cs 🙃 🔝 puzzle.ico ▶ a C# ViewLocator.cs

Creating the Control (Visual Studio)



Creating the Control (XAML)

- Styles
- Converter
- DataBinding



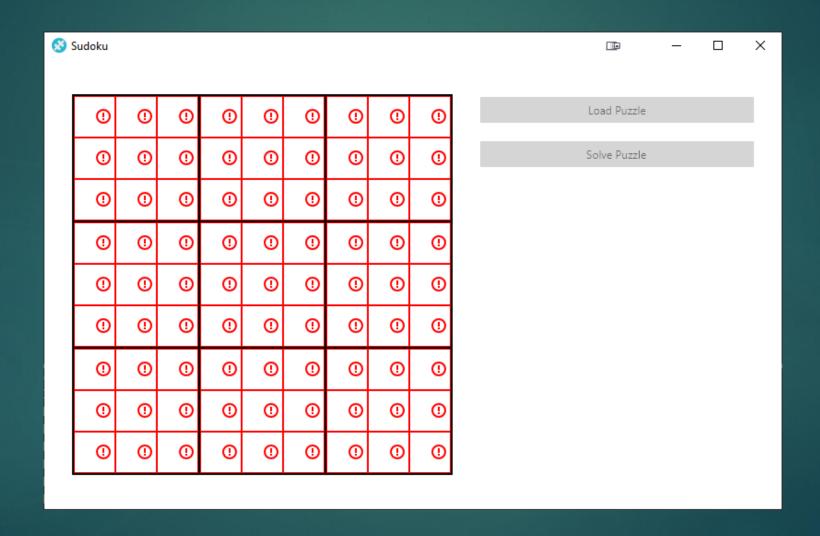
PuzzleViewModel.cs

MainWindowViewModel.cs

App.xaml.cs

PuzzleView.xaml + X MainView.xaml

Data Binding



Command

No RelayCommand necessary

```
...
<Button Command="{Binding LoadPuzzle}" Content="Load Puzzle" ... />
...
```

```
public class MainWindowViewModel : ViewModelBase
{
    public void LoadPuzzle()
    {
        this.PuzzleViewModel.Load(PuzzleProvider.SamplePuzzle1);
    }
    ...
}
```

Load Puzzle

Supported Controls

- Border
- Button
- Calendar
- Canvas
- Carousel
- ▶ CheckBox
- ContentControl
- ▶ ContextMenu
- Decorator
- DockPanel
- Expander
- Grid

- GridSplitter
- Image
- ItemsControl
- LayoutTransformControl
- ListBox
- Menu
- Panel
- ProgressBar
- RadioButton
- RepeatButton
- ScrollViewer
- Separator

- Slider
- StackPanel
- TabControl
- TextBlock
- Textbox
- ▶ ToolTip
- TreeView
- UserControl
- Window
- WrapPanel

Roadmap



Stuff we might want but not need to release 1.0 (Read: up for grabs)

- Ribbon
- DataGrid (see https://github.com/AvaloniaUI/DataGrid/)

Stuff we aren't sure we need

- Universal like support (one app runs on all) IBD
- QML-style markup

Source:

https://github.com/AvaloniaUI/Avalonia/wiki/The-Plan

Conclusion

Pro

- Tutorial
- Very WPF like
- Documentation
- Visual Studio Extensions
- MVVM support
- Debugging (code only)
- Binding to public Method (no Command required)
- Cross Platform

Con

- Not yet ready for comercial usage
- ► Limited auto completion
- No implicit type conversion
- No Triggers
- No DataGrid and other controls
- ▶ No Helper Tools like Snoop
- Controls are limited
- No out of the box Internationalization support

Try it out!

- https://avaloniaui.net
- https://github.com/mmarkovic/SudokuPlayground

