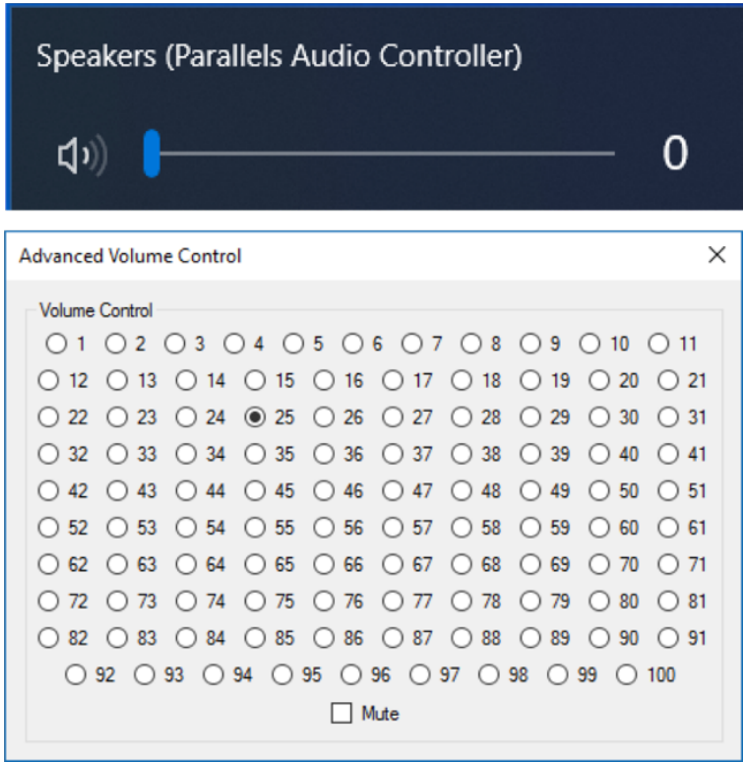
Görsel Programlama

GUI, WinForms, WPF, WinUI

Emir ÖZTÜRK

UI-UX

- UI
  - User Interface
- UX
  - User Experience

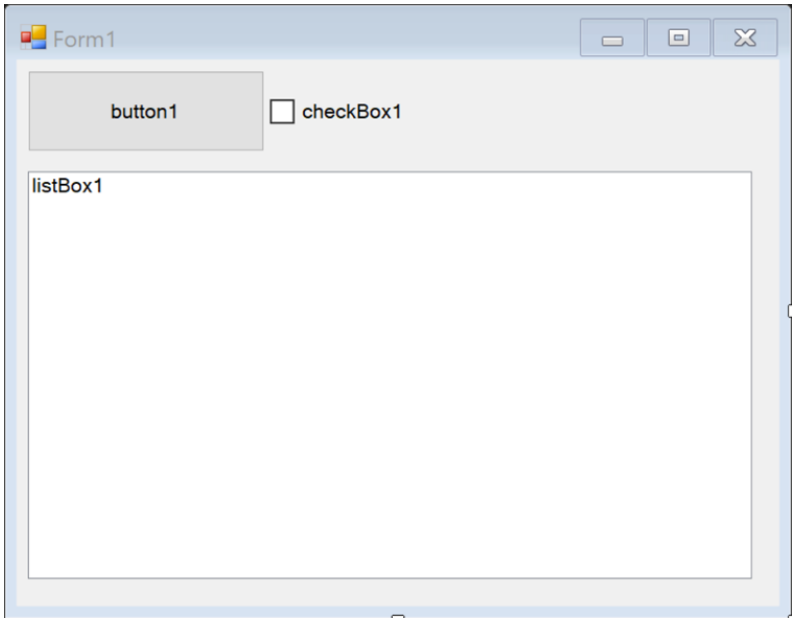


C# ile Görsel Programlama

- Winforms
- Wpf
- Uwp
- WinUI

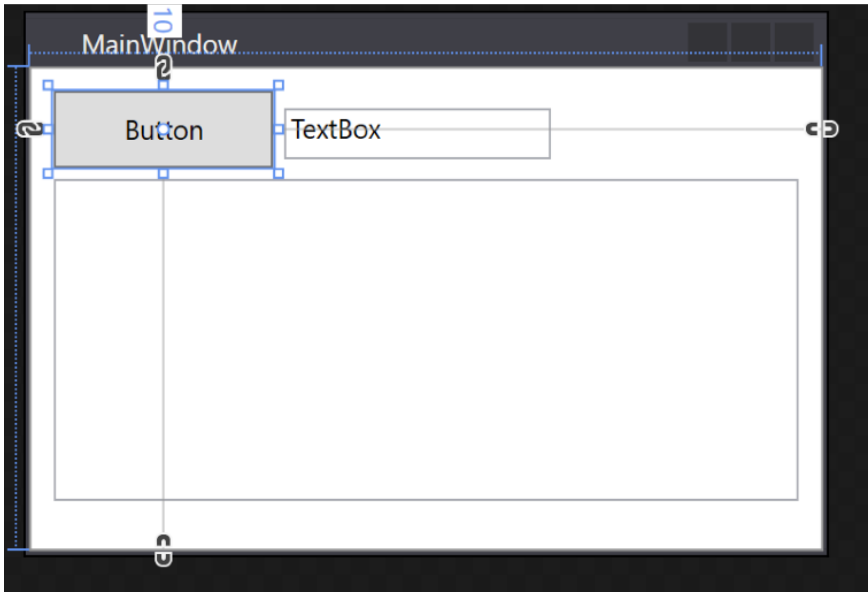
Winforms

- .Net Framework
  - .Net
- Sürükle bırak



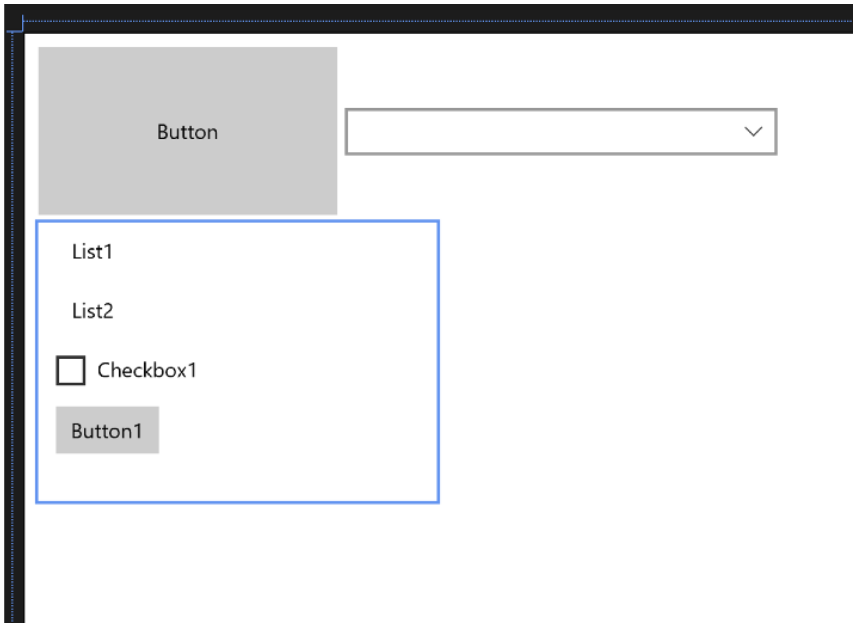
WPF

- .Net Framework
  - .Net
- Xaml
- Özelleştirme
- Grafik ağırlıklı işlem performansı



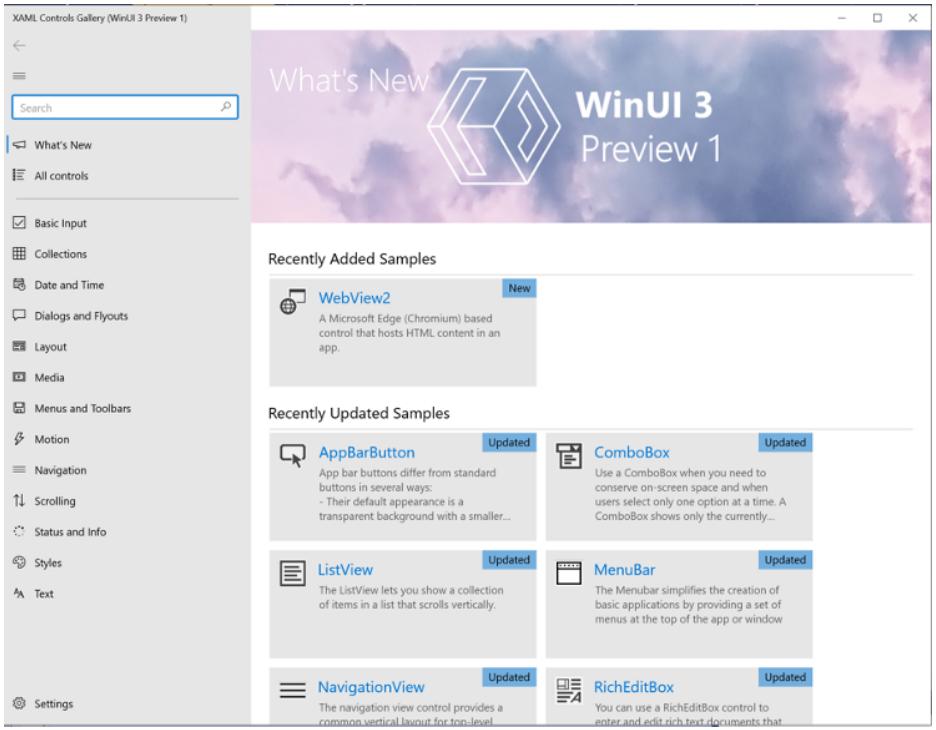
UWP

- Windows 10
- Xbox, Hololens, Surface Hub
- Xaml
- Fluent Design



WinUI

- Bileşen ve stiller
- Fluent Design
- WinUI 2
- WinUI 3



WinUI

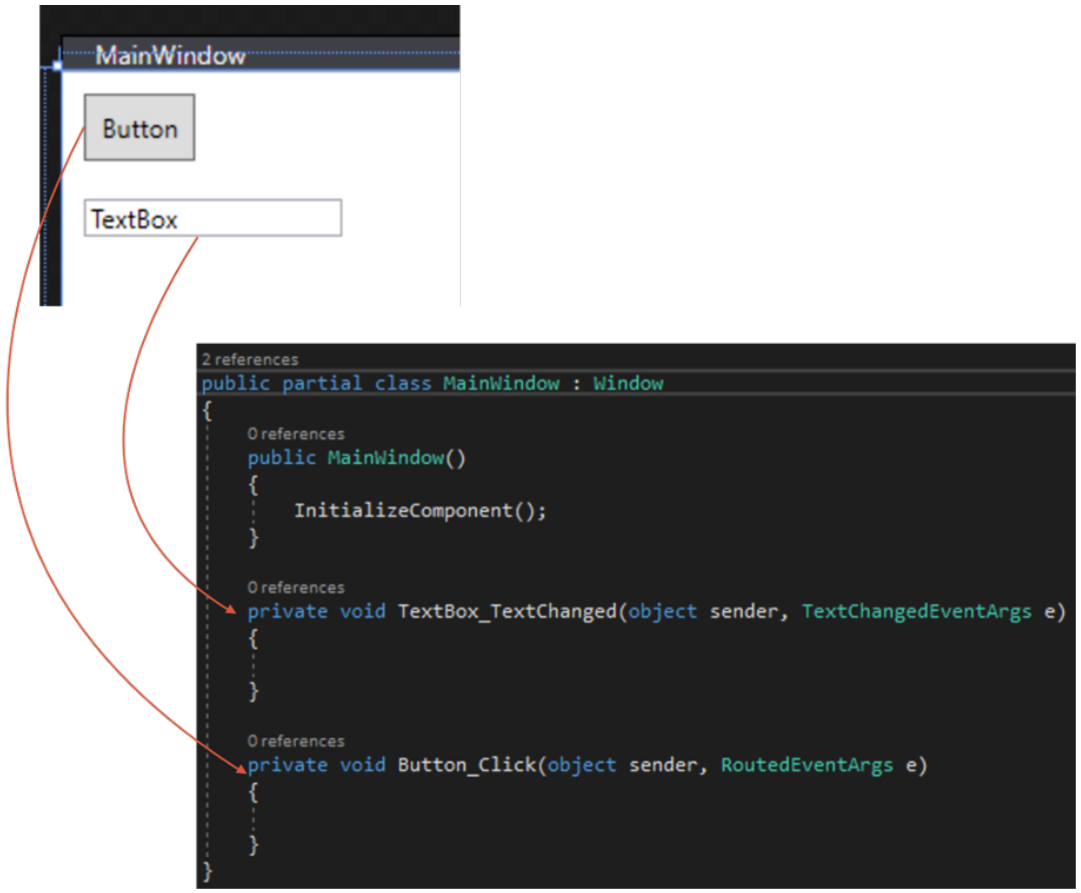
	WinUI 3	UWP XAML & WinUI 2	WPF	WinForms	MFC
Windows app types supported	UWP and Win32	UWP	Win32	Win32	Win32
Windows versions supported	Windows 10 (1803+)	Windows 10 (1703+)	Windows XP or higher	Windows XP or higher	Windows XP or higher
Supported on all Windows device families	✓*	✓			
Native C/C++	✓	✓			✓
.NET 5 Support	✓		✓	✓	
WebView2 (Chromium-based engine)	✓		✓**	✓**	
Built-in Fluent Design controls	✓	✓			
Built-in support for modern input (e.g. touch, pen, gamepad*)	✓	✓			
Uses latest DirectX version for graphics performance	✓	✓			
High performance data binding (x:Bind)	✓	✓			
Input Validation	✓		✓	✓	✓

Olay Tabanlı Programlama

- Event Driven
- Ana döngü
- Kullanıcıdan alınan giriş
- Callback

Olay Tabanlı Programlama

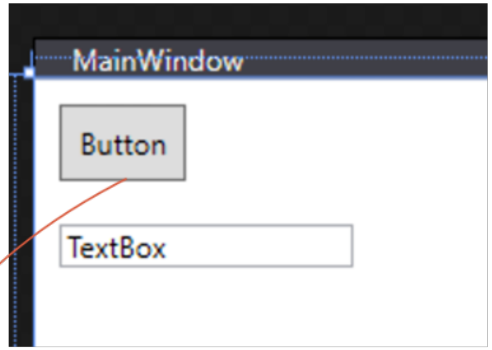
```
public static string Decode(MWIStream Stream)
{
    string[] D1 = (" " + Stream.D1).Split(" ");
    string[] D2 = Stream.D2.Split(" ");
    string[] S3 = Stream.S3.Split(" ");
    int S1Counter, S2Counter, S3Counter, CodeWord;
    StringBuilder Output = new StringBuilder();

    S1Counter = 0;
    S2Counter = 0;
    S3Counter = 0;
    bool[] BV = Stream.BV.SelectMany(GetBits).ToArray();

    for (int i = 0; i < BV.Length - Stream.RedundantBitLength; i++)
    {
        if (!BV[i])
        {
            CodeWord = Stream.S1[S1Counter++];
            if (CodeWord == 0)
                Output.Append(S3[S3Counter++]+ " ");
            else
                Output.Append(D1[CodeWord]);
        }
        else if (BV[i])
        {
            byte[] parca = new byte[2];
            parca[0] = Stream.S2[S2Counter++];
            parca[1] = Stream.S2[S2Counter++];
            CodeWord = BitConverter.ToInt16(parca, 0);
            Output.Append(D2[CodeWord]);
        }
```



Olay Tabanlı Programlama

- Event handler
- Arayüze bağlama
- Event args

Olay Tabanlı Programlama




```
2 references
public partial class MainWindow : Window
{
    0 references
    public MainWindow()
    {
        InitializeComponent();
    }

    0 references
    private void TextBox_TextChanged(object sender, TextChangedEventArgs e)
    {

    }

    0 references
    private void Button_Click(object sender, RoutedEventArgs e)
    {

    }
}
```

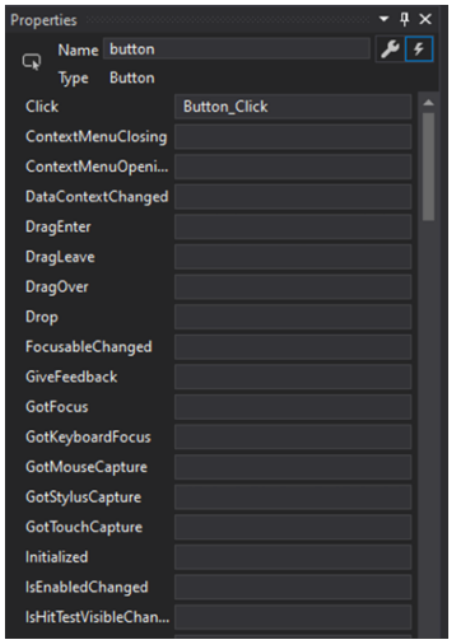
XAML

```
<Button x:Name="button" Content="Button" HorizontalAlignment="Left" Margin="10,10,0,0"
        VerticalAlignment="Top" Height="32" Width="52" Click="Button_Click"/>
```

KOD

```
0 references
public MainWindow()
{
    InitializeComponent();
    button.Click += Button_Click;
}
```

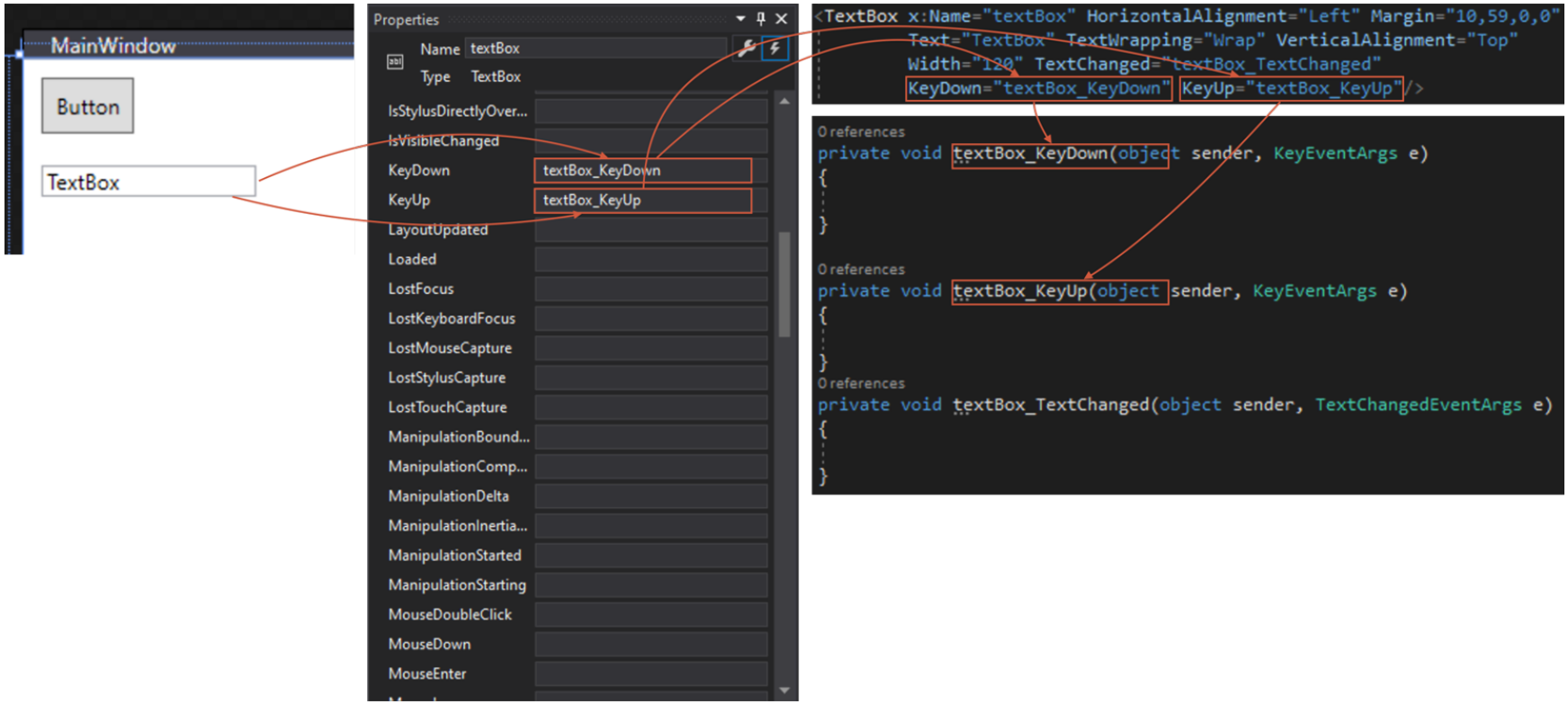
Designer



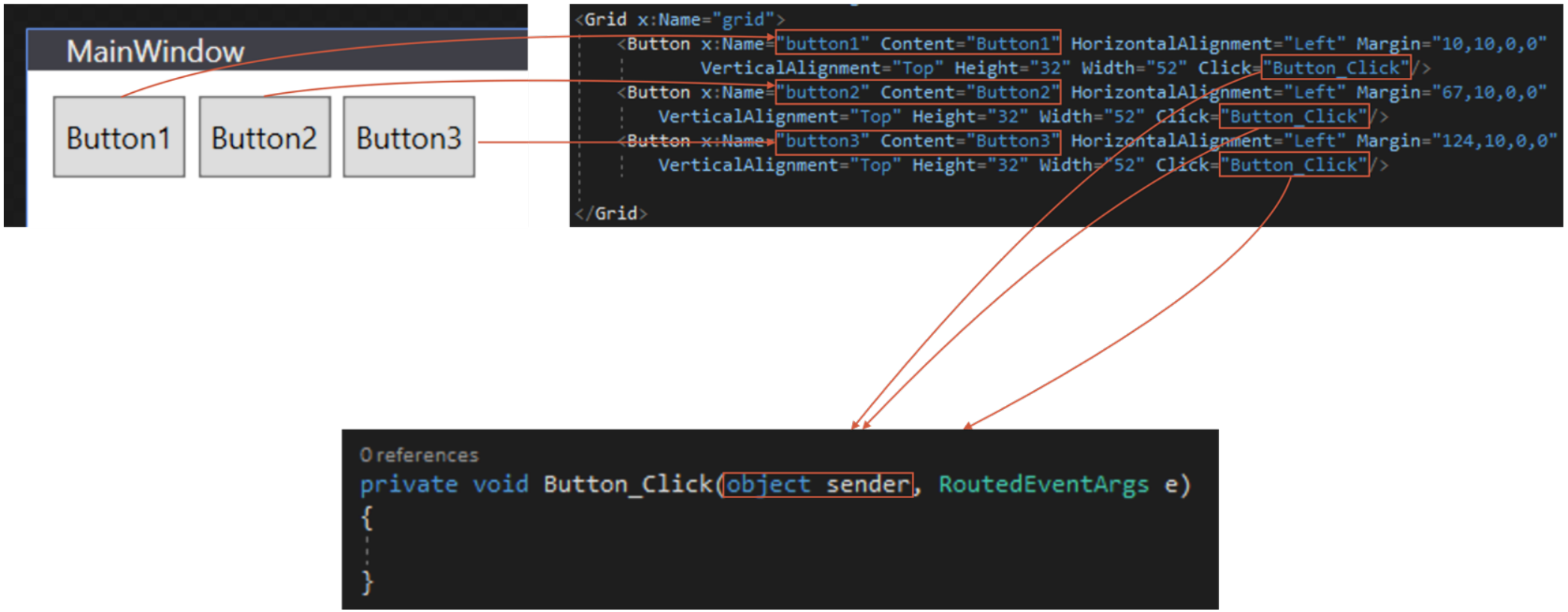
Olay Tabanlı Programlama

- Bir bileşen birden fazla olay
- Bir olay birden fazla bileşen

Olay Tabanlı Programlama

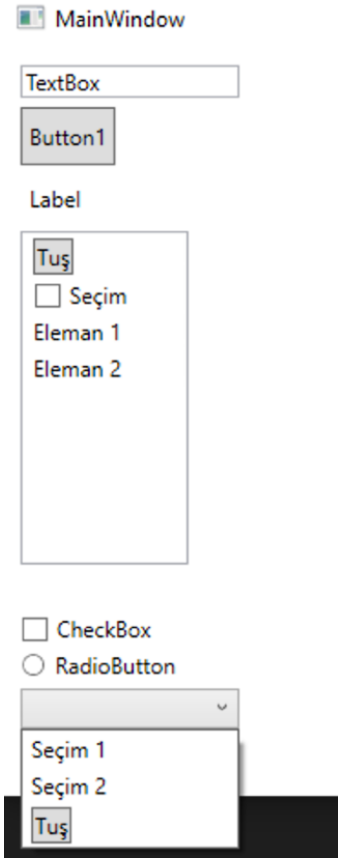


Olay Tabanlı Programlama



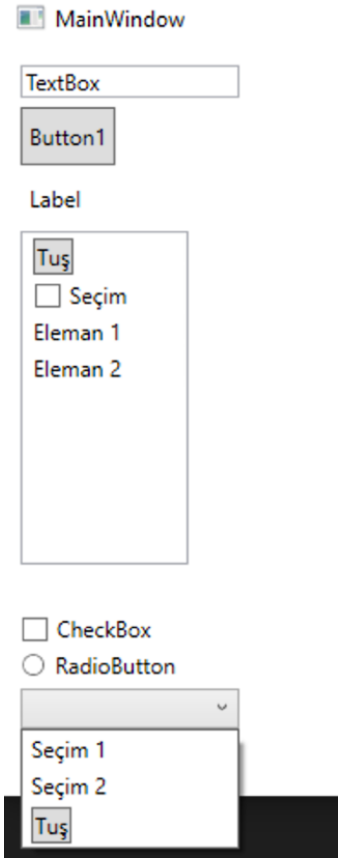
Temel Bileşenler
Textbox

- Özellik
  - Text
- Olay
  - KeyDown
  - KeyPress
  - TextChanged



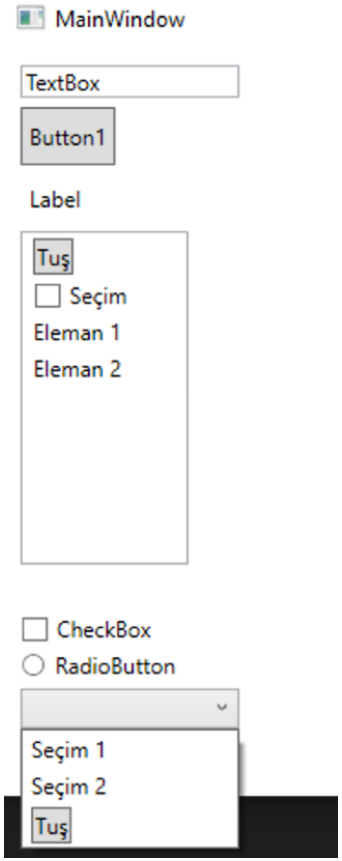
Temel Bileşenler
Button

- Özellik
  - Content
- Olay
  - Click
  - MouseDown
  - MouseUp



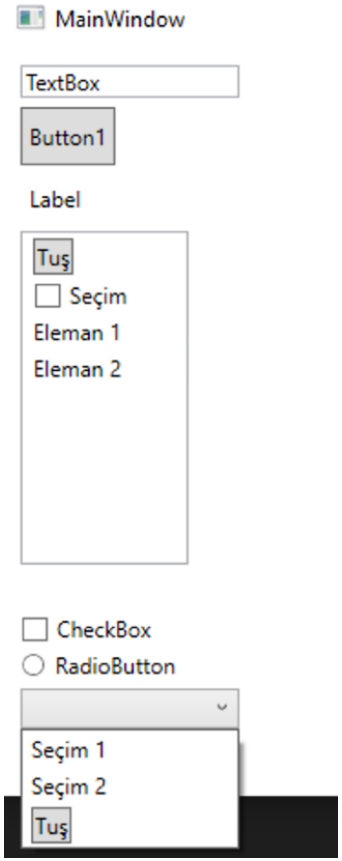
Temel Bileşenler
Label

- Özellik
  - Content
- Olay
  - -



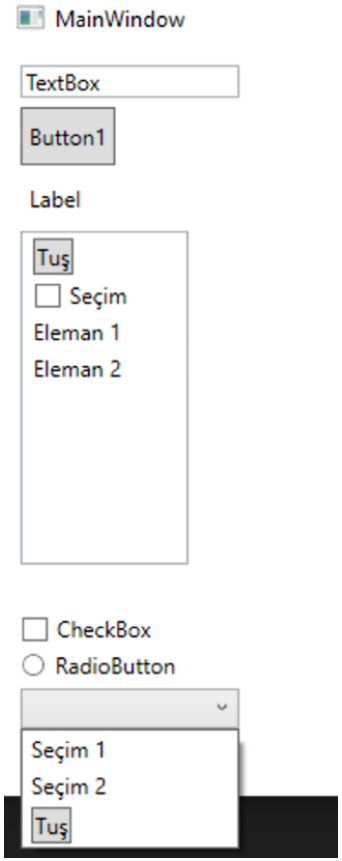
Temel Bileşenler
Listbox

- Özellik
  - Items (ItemSource
  - SelectedIndex
  - SelectedItem
- Olay
  - SelectionChanged



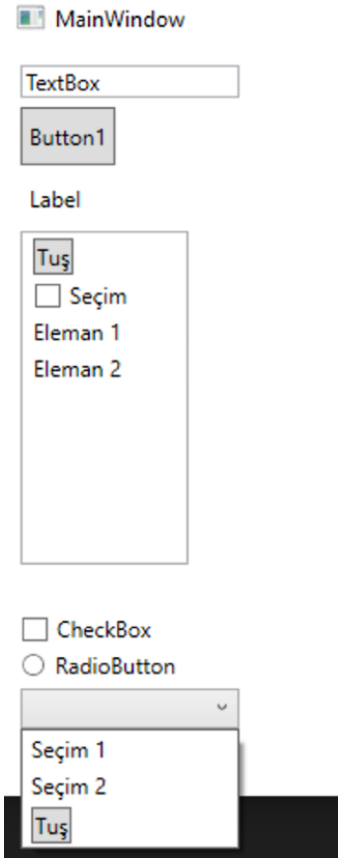
Temel Bileşenler
Checkbox

- Özellik
  - Content
  - IsChecked
- Olay
  - Checked



Temel Bileşenler
RadioButton

- Özellik
  - Content
  - IsChecked
- Olay
  - Checked



Temel Bileşenler
Combobox

- Özellik
  - Items (ItemSource)
  - SelectedItem
  - SelectedIndex
- Olay
  - SelectionChanged