



WPF'e Giriş

Öğr.Gör.Erkan HÜRNALI

Yol Haritamız



Sunum Katmanları
Neydi?
Sunum Katmanları ile
Neler Yapılabiliyordu
Neden Microsoft?

Giriş



WPF Nedir?
VCL Application,
FireMonkey
Application, Windows
Forms Application,
WPF Application
İlişkileri ve
Karşılaştırmaları
.NET Framework
«Merhaba WPF»



Tasarım ve Kodlamanın
Birbirinden Ayrılması

XAML Dili
Microsoft Blend



XBAP Nedir?

«Merhaba
XBAP»



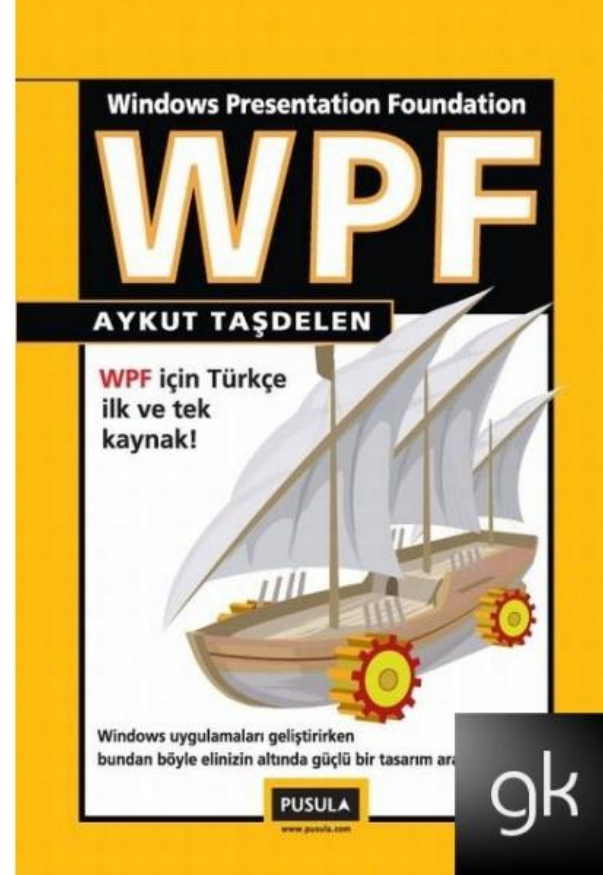
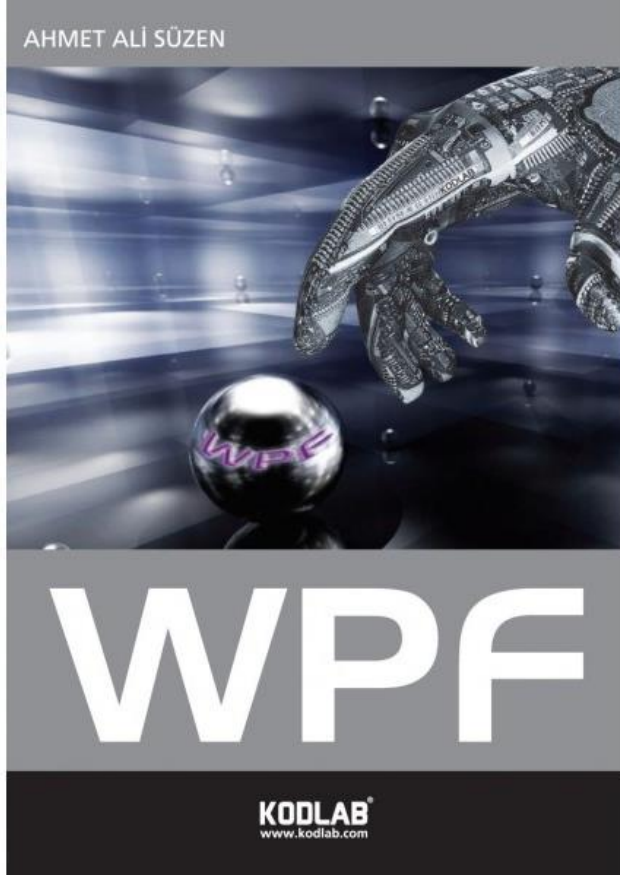
Silverlight Nedir?

«Merhaba
Silverlight»

YOU
ARE
HERE.



Giriş

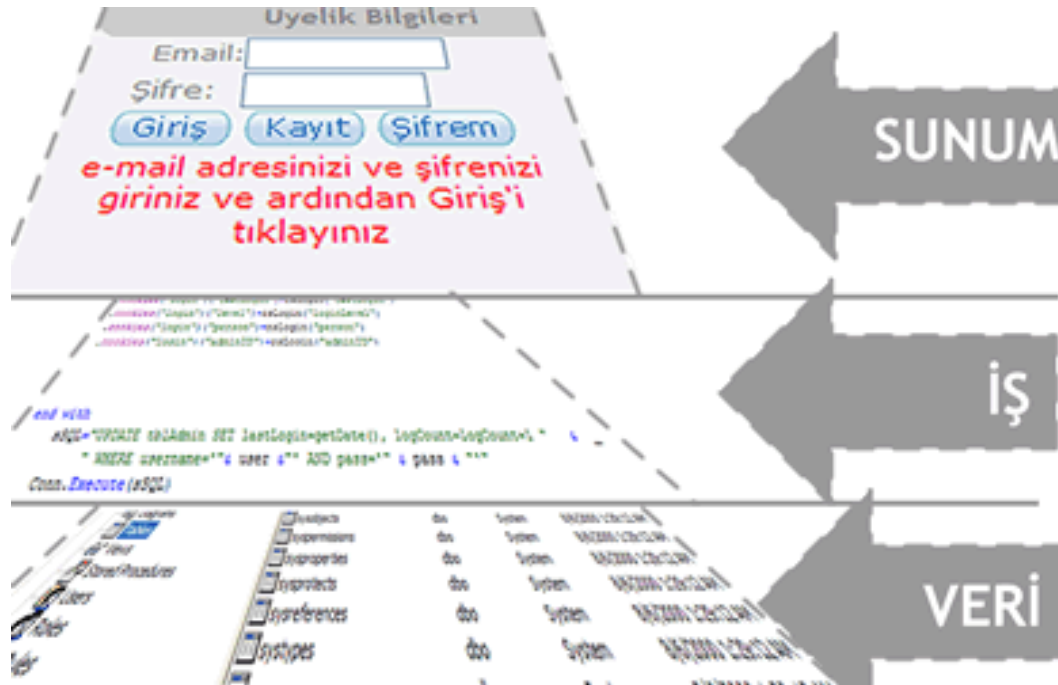


Ayrıca dersin arayüzünde,

- ✓ E-Kitaplar (Maalesef İngilizce)
- ✓ Bloglar ve Öğretici (Tutorials) Bağlantıları

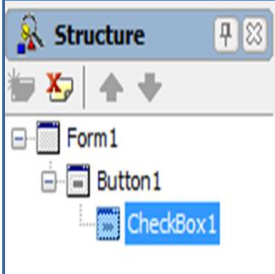
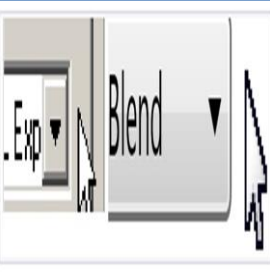
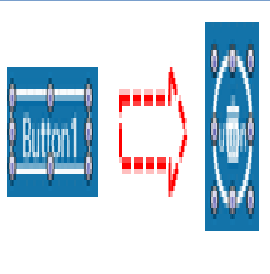


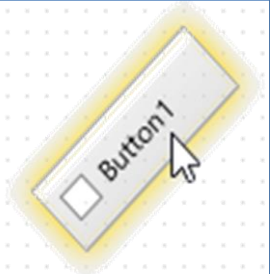
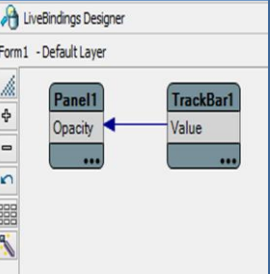
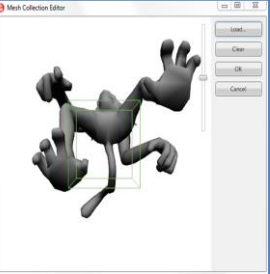
....yer alacaktır.

Sunum Katmanları Neydi?



- Çok katmanlı yazılım mimarisi
- Tasarımcı – Programcı Ayrımı
- Kaynak canavarı olan günümüz uygulamaları
- CPU – GPU (mythbusters 😊)
- Firemonkey, WPF, Silverlight

Sunum Katmanlarıyla Neler Yapılabiliyordu?

							
Nesne Kompozisyonları	Vektörel Çizimler	Stiller	Efektler	Animasyonlar	Tetikleyiciler	Veri Bağlamalar	3D

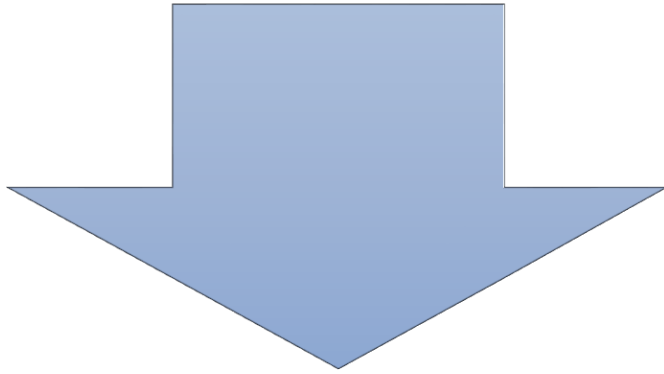
Neden Microsoft?

- Bol Kaynak
- MSDN
- Express Sürümler
- DreamSpark
- Mantar – MVP'ler
- Web'e Bakan Yüzü: XBAP, Silverlight
- Popüler Kültür (!)

WPF Nedir?

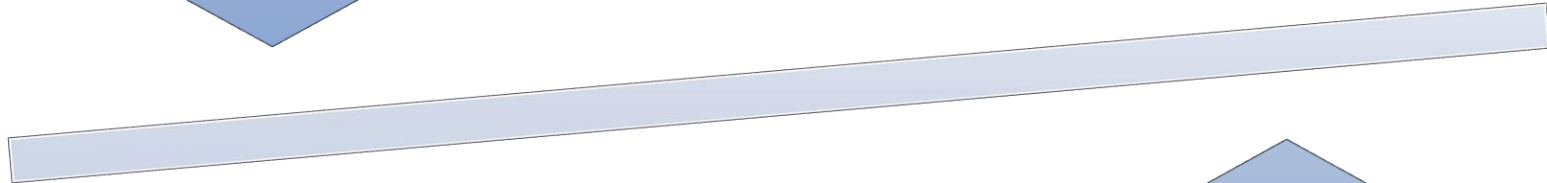
WPF yeni nesil kullanıcı arayüzü geliştirme ve görüntüleme platformudur. Bu yeni platformun sağlamış olduğu yeni özellikler ile görsel olarak daha modern ,kullanıcı ile daha etkileşimli, içerik sunumunda daha esnek, uygulamalarda kullanılan ses ve görüntü lerin daha kolay bir şekilde gösterilmesi ve zengin içerikli uygulamaların kolay ve hızlı bir şekilde geliştirilmesi sağlanmaktadır. WPF'in mimarisinden dolayı çalıştığı sistem üzerindeki donanımı yoğun işlemlerde dahi en etkin biçimde kullanarak performans konusunda tatmin edici sonuçlar vermektedir.

Karşılaştırmalar



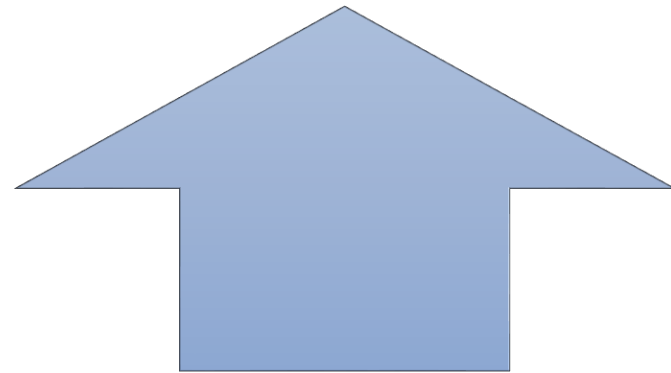
#GPU

- FireMonkey Application
- WPF Application



#CPU

- VCL Application
- Windows Forms



.Net Framework



System.Windows

Style 3.0
Trigger 3.0
UIElement3D **NEW**
Visibility 3.0
Window 3.0

System.Windows.Controls

Border 3.0
Button 3.0
CheckBox 3.0
ColumnDefinition 3.0
ContextMenu 3.0
ControlTemplate 3.0
DockPanel 3.0
FlowDocumentReader 3.0
Frame 3.0
Grid 3.0
Image 3.0
InkCanvas 3.0
ItemCollection 3.0
ItemsPresenter 3.0
ListBox 3.0
ListView 3.0

RowDefinition 3.0

ScrollViewer 3.0
Slider 3.0
SpellCheck 3.0
StackPanel 3.0
TabControl 3.0
TabItem 3.0
TextBlock 3.0
TextBox 3.0
ToolBar 3.0
ToolTip 3.0
TreeView 3.0
UIElementCollection 3.0
ViewBox 3.0
Viewport3D 3.0
VirtualizingStackPanel 3.0
WrapPanel 3.0

System.Windows.Controls.Primitives

Popup 3.0
RepeatButton 3.0
ScrollBar 3.0
StatusBar 3.0
TabPanel 3.0

ObjectDataProvider 3.0

XmlDataProvider 3.0

System.Windows.Documents

Block 3.0
Bold 3.0
Figure 3.0
FixedDocument 3.0
Floater 3.0
FlowDocument 3.0
Hyperlink 3.0
Inline 3.0
Italic 3.0
List 3.0
ListItem 3.0
Paragraph 3.0
Run 3.0
Section 3.0
Span 3.0
Table 3.0
TableCell 3.0
TableColumn 3.0
TableRowGroup 3.0
TextPointer 3.0

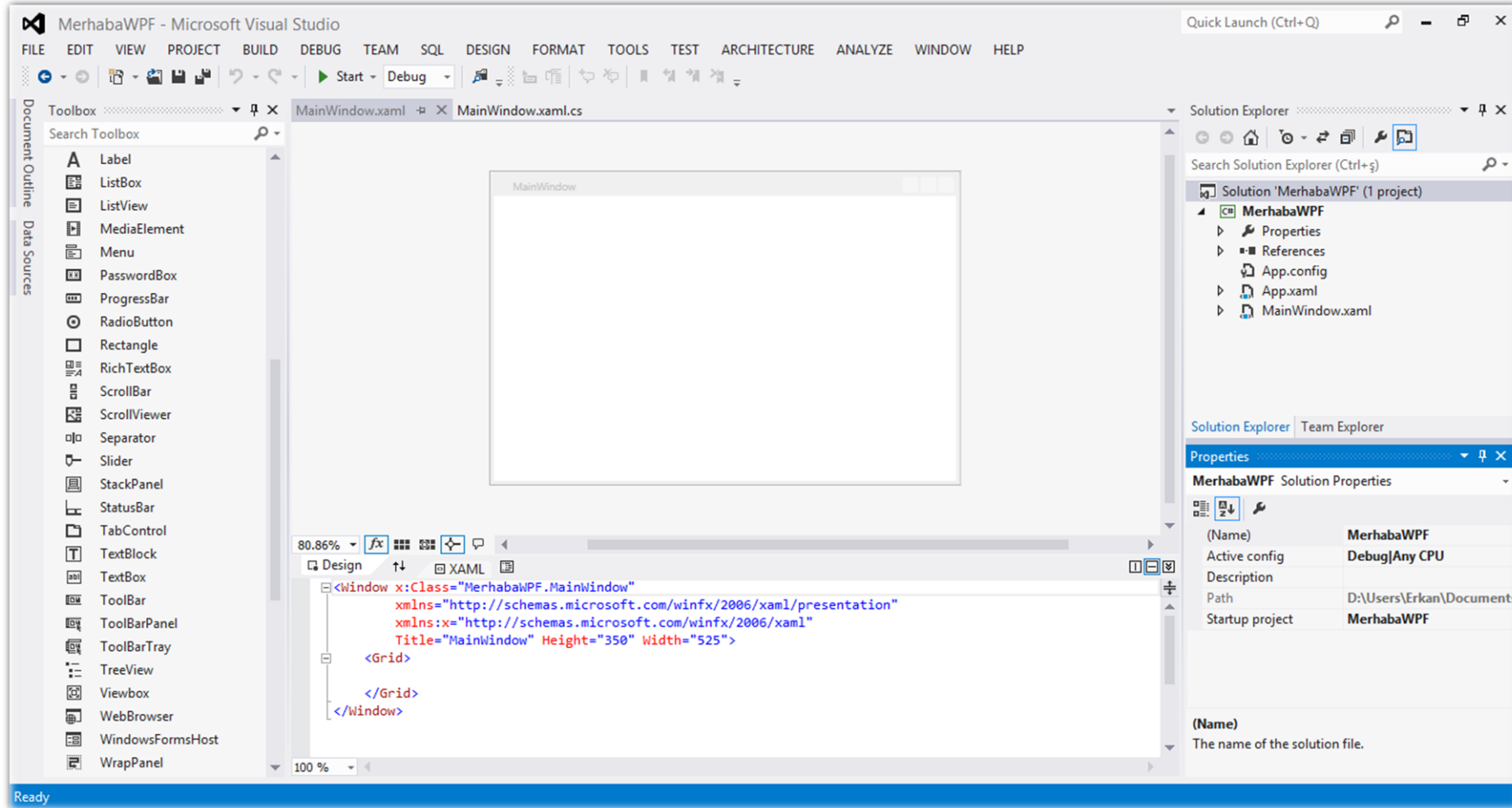
.NET'in Getirdikleri - Götürdükleri

Tartışma Konuları

- Doğal (Native) Kod - Aradil (IL)
- Dağıtılabirlik - Taşınabilirlik
- Performans
- Güvenlik

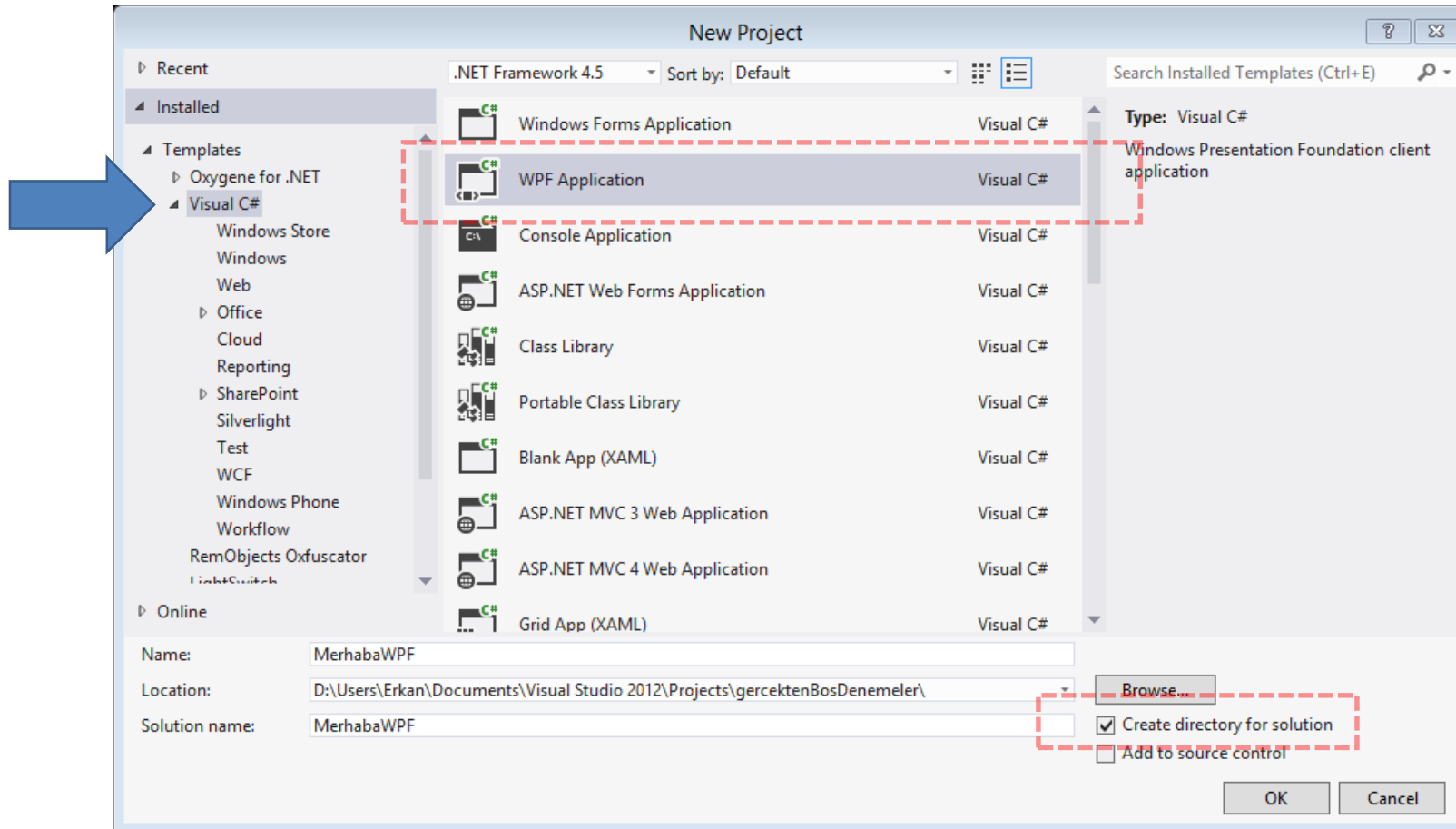


Visual Studio – Gelişmiş Bir IDE



Bi' de hantallığı olmasa...☺

Merhaba WPF – New Project



Merhaba WPF – Genel Görünüm

The image displays the Visual Studio interface for a WPF application named 'MerhabaWPF'. On the left, the Solution Explorer shows the project structure. On the right, two Properties windows are shown, one for the Solution and one for the Project.

Solution Explorer:

- Solution 'MerhabaWPF' (1 project)
- MerhabaWPF
 - Properties
 - References
 - App.config
 - App.xaml
 - MainWindow.xaml

MerhabaWPF Solution Properties:

(Name)	MerhabaWPF
Active config	Debug Any CPU
Description	
Path	D:\Users\Erkan\Documents\Visual Studio 2010\Projects\MerhabaWPF\MerhabaWPF
Startup project	MerhabaWPF

MerhabaWPF Project Properties:

Project File	MerhabaWPF.csproj
Project Folder	D:\Users\Erkan\Documents\Visual Studio 2010\Projects\MerhabaWPF\MerhabaWPF

Project File:
The name of the file containing build, configuration, and other information about the project.

Merhaba WPF – Örneğimiz

- İsmimi yazabileceğim bir yerler olsun

 TextBox

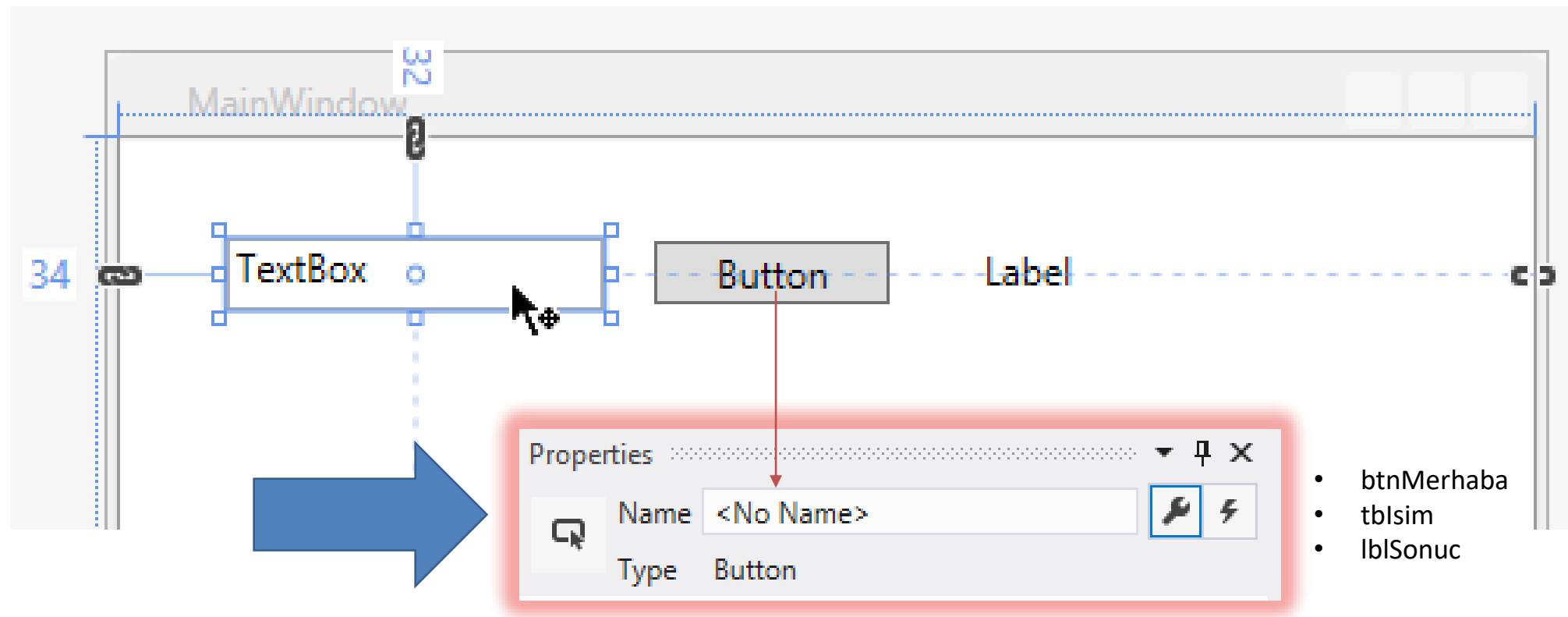
- Karar verdiğimde

 Button

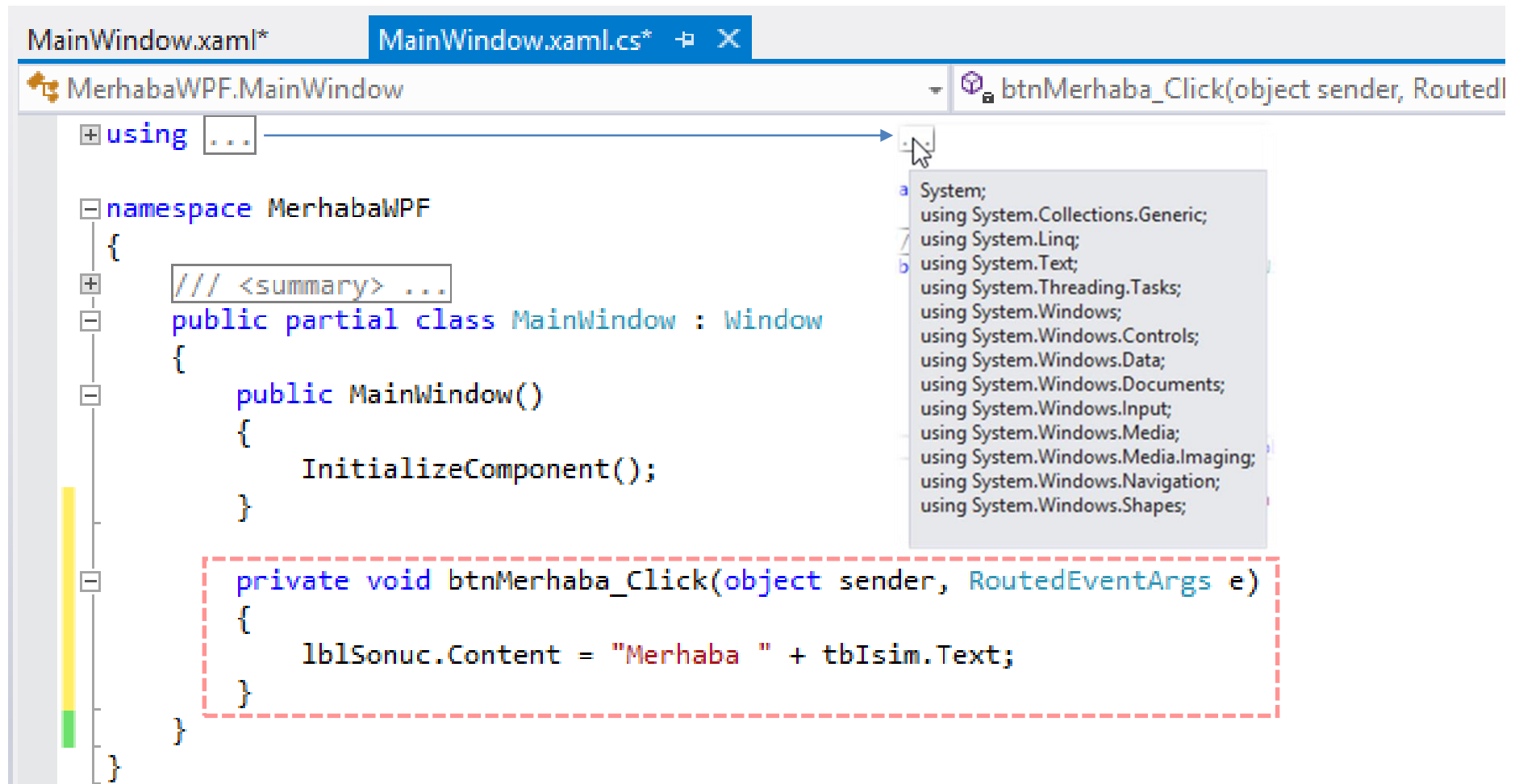
- Bana ismimle hitap ederek «Merhaba» desin 😊

 Label

Merhaba WPF – Tasarım



Merhaba WPF – Kodlama



```
MainWindow.xaml*   MainWindow.xaml.cs*  X
MerhabaWPF.MainWindow
using ...
namespace MerhabaWPF
{
    /// <summary> ...
    public partial class MainWindow : Window
    {
        public MainWindow()
        {
            InitializeComponent();
        }

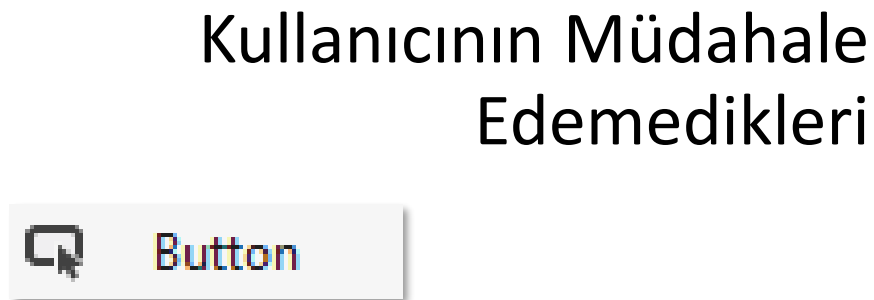
        private void btnMerhaba_Click(object sender, RoutedEventArgs e)
        {
            lblSonuc.Content = "Merhaba " + tbIsim.Text;
        }
    }
}
```

System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

Merhaba WPF – Kodlama



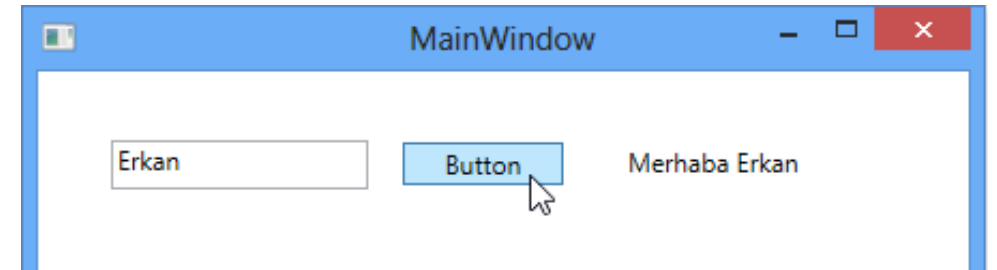
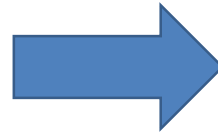
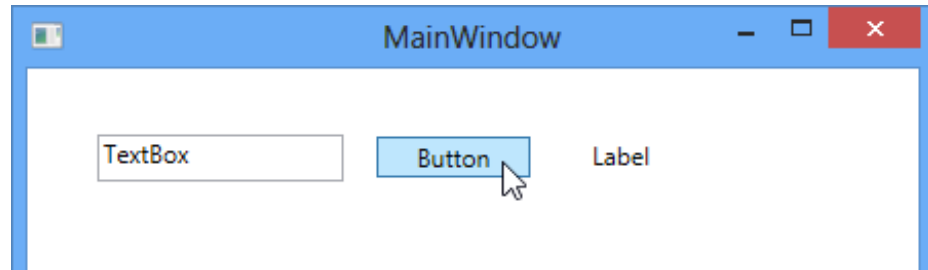
- Text (Delphi)
- Text (C Sharp – Windows Forms)
- Text (C Sharp – WPF)



- Caption (Delphi)
- Text (C Sharp – Windows Forms)
- Content (C Sharp – WPF)

Object

Merhaba WPF – Sonuç

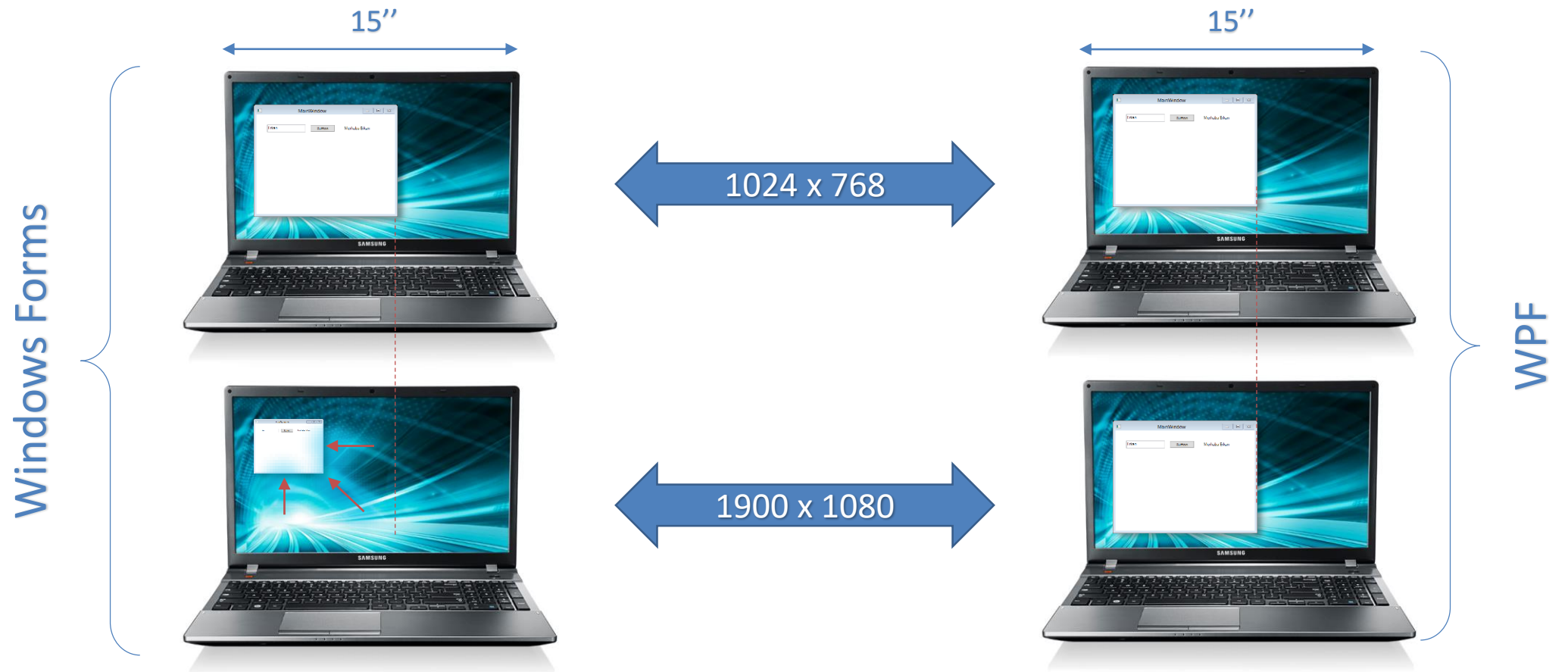


Merhaba WPF – N'oldu!

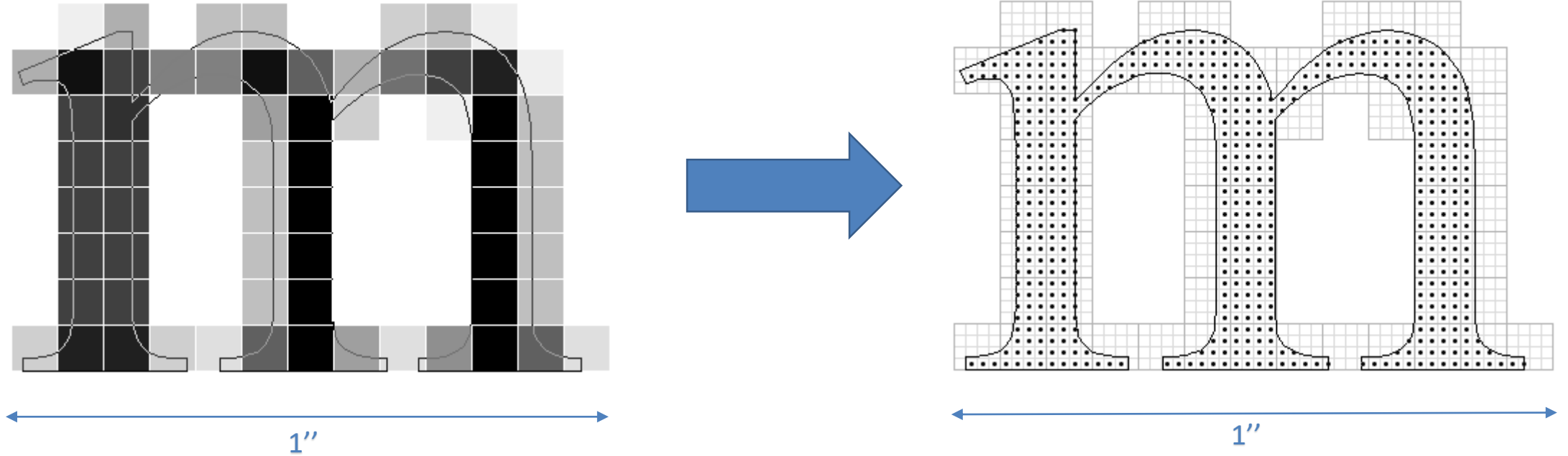


Görsel Programlama III (!) dersinde başımız göğe erdi mi?☺

Merhaba WPF – Hatırlayın: Çözünürlük farkları artık dert değil demıştik!

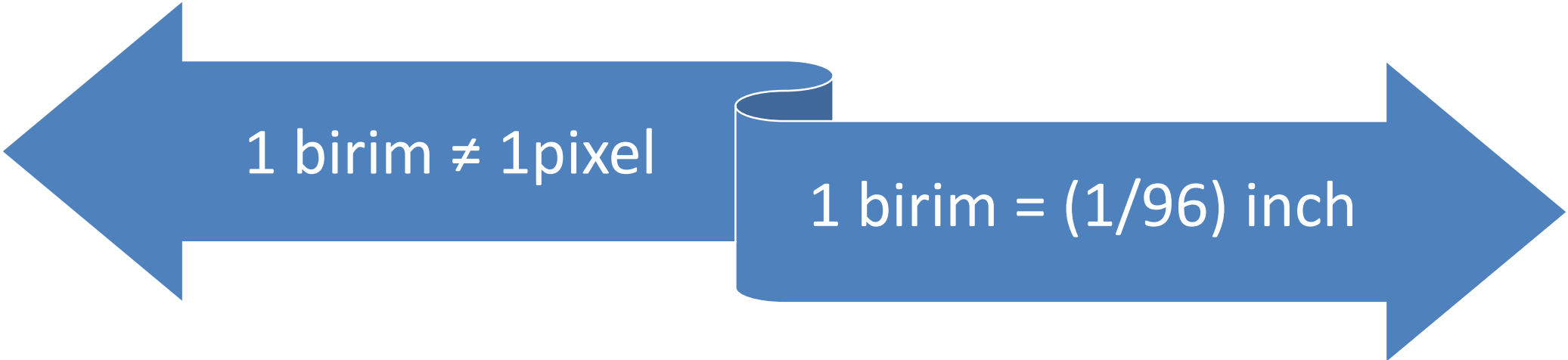


Merhaba WPF – Pekiyi! Ama Nasıl?



Hangisinin dpi'ı daha yüksek ?

Merhaba WPF – O halde...



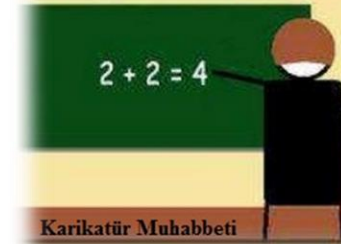
1 birim \neq 1pixel

1 birim = $(1/96)$ inch

Tasarım ve Kodlamanın Birbirinden Ayrılması



Öğretmenin Gördüğü



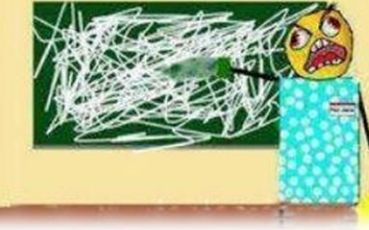
Öğrencinin Gördüğü



Sınavda Çıkan



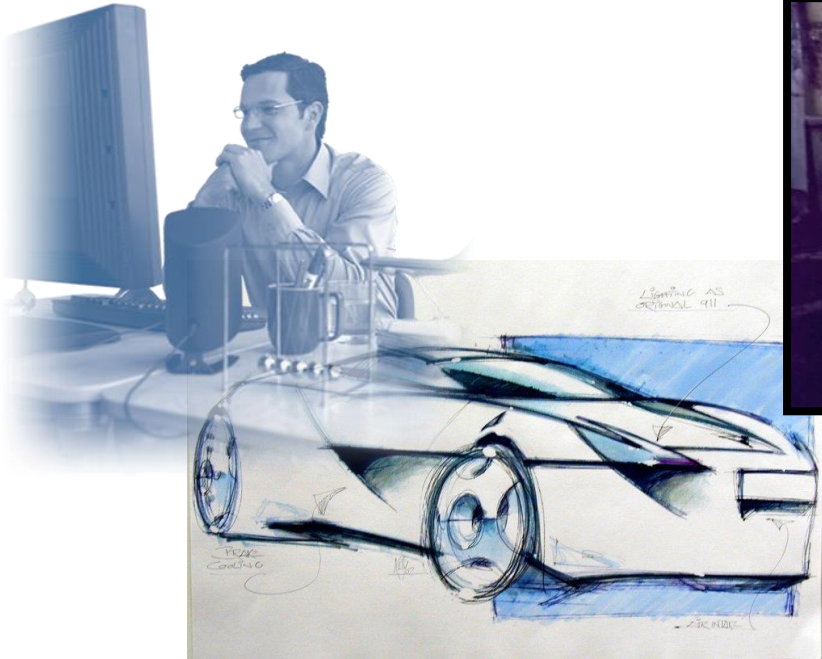
Hademenin Gördüğü



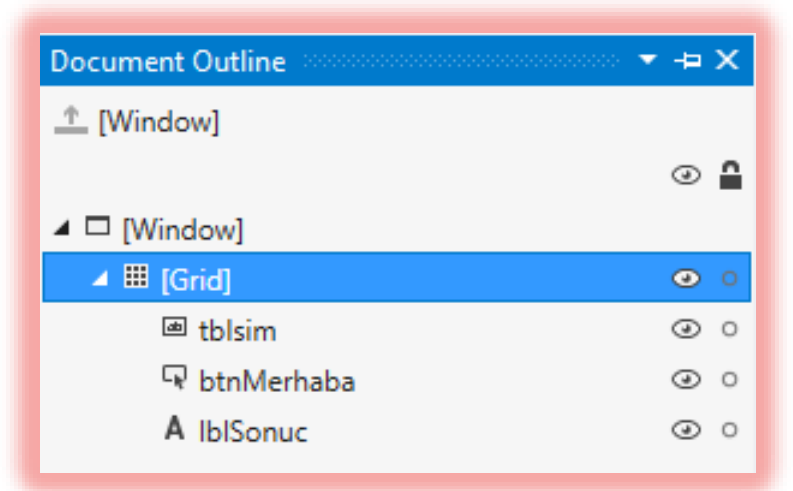
Hademenin Gördüğü... 😊

Tasarımcının Gördüğü... 😊

Gerçekte olan (programcının kodladığı)...



XAML Dili



```
Design XAML
```

```
<Window x:Class="MerhabaWPF.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="450">
    <Grid>
        <TextBox x:Name="tbIsim" HorizontalAlignment="Left" Height="23" Margin="34,32,0,0"
        TextWrapping="Wrap" Text="TextBox" VerticalAlignment="Top" Width="120"/>
        <Button x:Name="btnMerhaba" Content="Button" HorizontalAlignment="Left" Margin="170,33,0,0"
        VerticalAlignment="Top" Width="75" Click="btnMerhaba_Click" />
        <Label x:Name="lblSonuc" Content="Label" HorizontalAlignment="Left" Margin="270,29,0,0"
        VerticalAlignment="Top"/>
    </Grid>
</Window>
```

XAML Dili

XML (eXtensible Markup Language) standart'ları üzerine geliştirilmiş ve eklentileri olan bir işaretleme dilidir. Bu dilin geliştirilme gerekçesi; temelde WPF'te tasarlanan görselliğin bir işaretleme diliyle deklâratif olarak ifade edilebilmesidir. Bu açıdan bakılırsa XAML, WPF'teki nesnelere özel işaretlerle (tag, attribute vb) ifade edilebildiği (object serialization) formatıdır. XAML ile ifade edilen görsel tasarım, WPF'e ilişkin bir parser tarafından çalışma zamanında reflection (yansıma) yoluyla tekrar nesnelere dönüştürülerek kullanılmaktadır.

XAML Dili – XML Dili Standartları Üzerine Geliştirilmiştir



- Hem insanlar hem de bilgi işlem sistemleri tarafından kolayca okunabilecek dokümanlar oluşturmaya yarayan, [W3C](#) tarafından tanımlanmış bir standarttır

XML : Formatı belli olmayan verilerin ifade edilmesinde çok kullanışlıdır

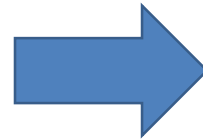
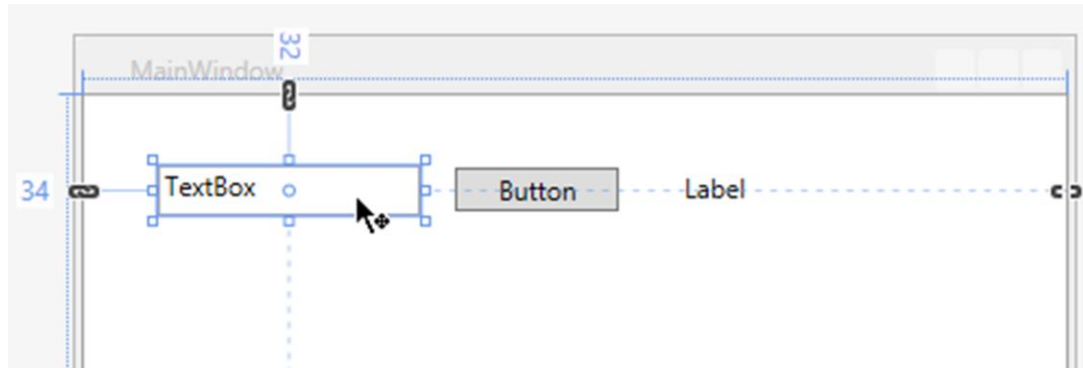
Bize gelen veri: «**175100AliVeli**» olsaydı eğer, Ali'nin numarası «1751» ve sınavdan 00'mi almış yoksa Ali'nin numarası «175» sınavdanda da 100'mü almış...

Tabi ki öncelikle Ali, Ali' mi dir? Yoksa Ali, Veli' mi dir? 😊



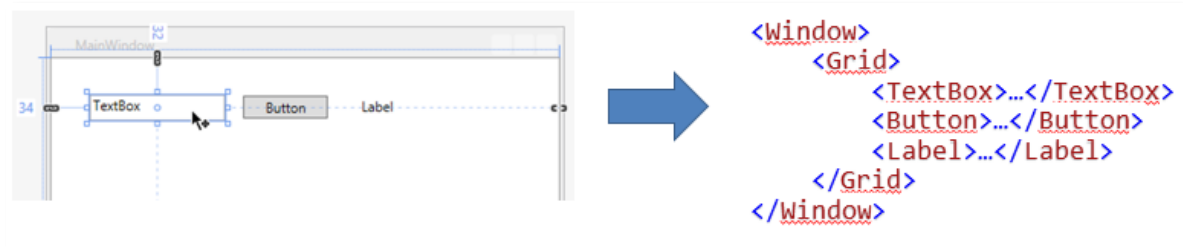
```
<ogrenci>  
  <numarasi>175</numarasi>  
  <notu>100</notu>  
  <adi>Ali</adi>  
  <soyadi>Veli</soyadi>  
</ogrenci>
```

XAML Dili – Tasarımcılar kolaylıkla bu dili kullanabilir



```
<Window>  
  <Grid>  
    <TextBox>...</TextBox>  
    <Button>...</Button>  
    <Label>...</Label>  
  </Grid>  
</Window>
```

Microsoft Blend

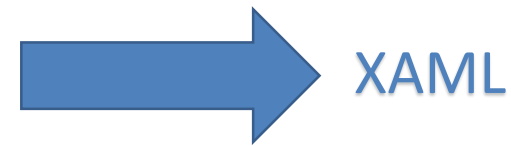
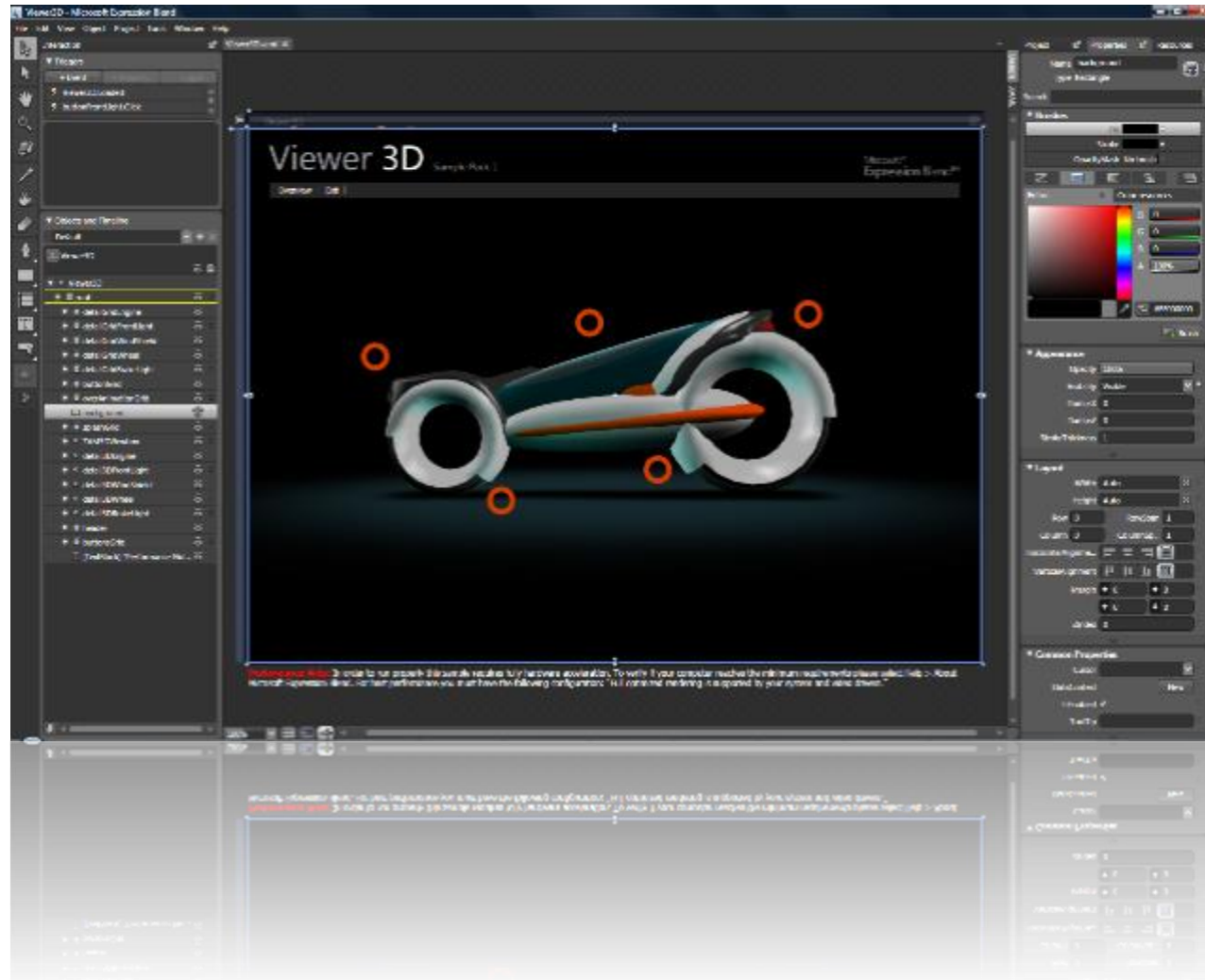


Microsoft'un Gördüğü...

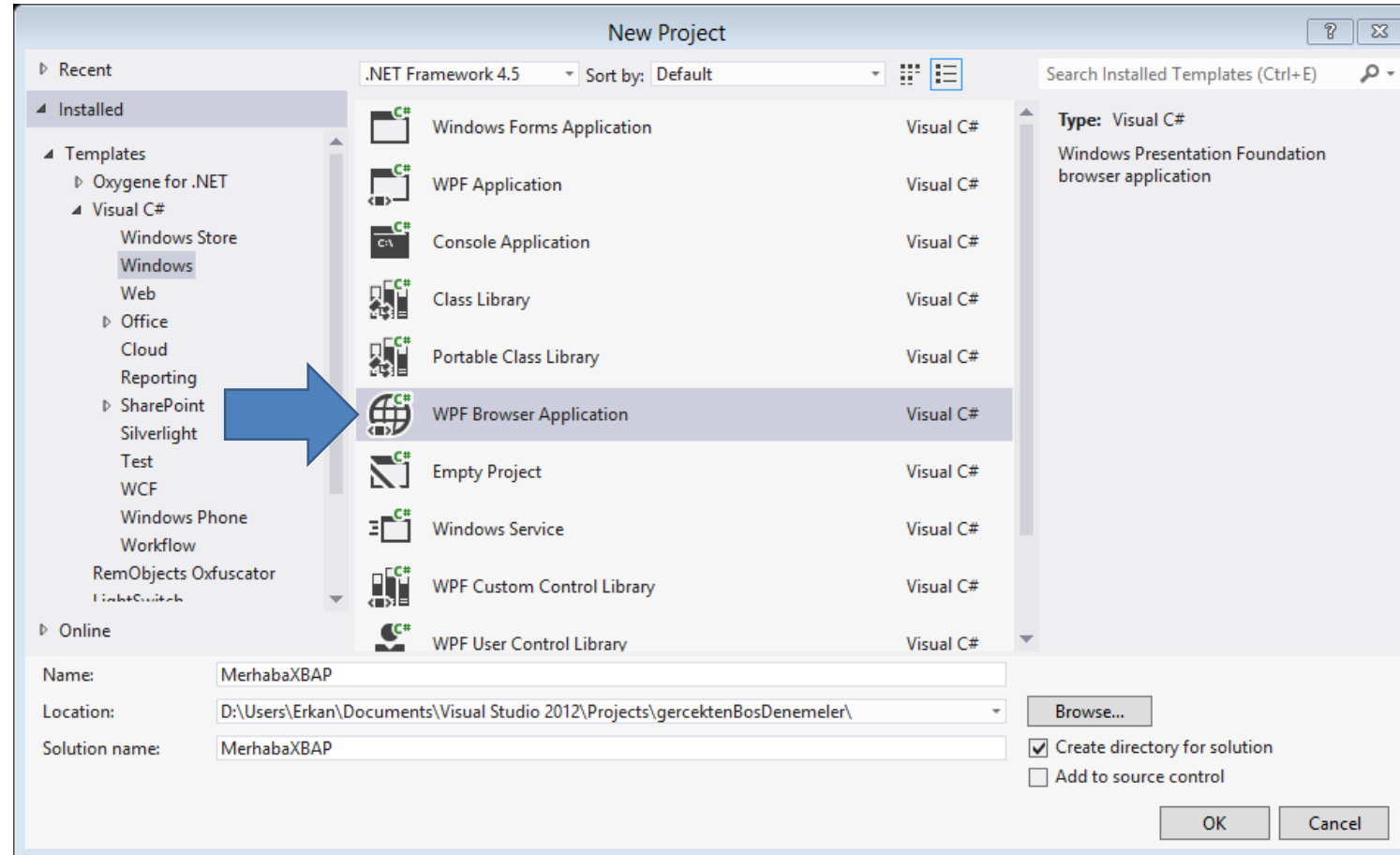
```
Design ↑ XAML
<Window x:Class="MerhabaWPF.MainWindow"
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
  Title="MainWindow" Height="350" Width="450">
  <Grid>
    <TextBox x:Name="tbIsim" HorizontalAlignment="Left" Height="23" Margin="34,32,0,0"
      TextWrapping="Wrap" Text="TextBox" VerticalAlignment="Top" Width="120"/>
    <Button x:Name="btnMerhaba" Content="Button" HorizontalAlignment="Left" Margin="170,33,0,0"
      VerticalAlignment="Top" Width="75" Click="btnMerhaba_Click" />
    <Label x:Name="lblSonuc" Content="Label" HorizontalAlignment="Left" Margin="270,29,0,0"
      VerticalAlignment="Top"/>
  </Grid>
</Window>
```

Gerçekte olan ☹

Microsoft Blend

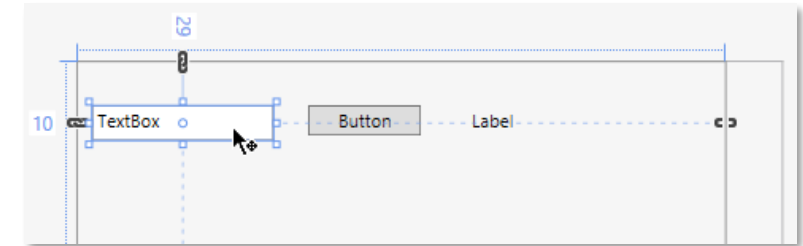


Browser Application (XBAP)



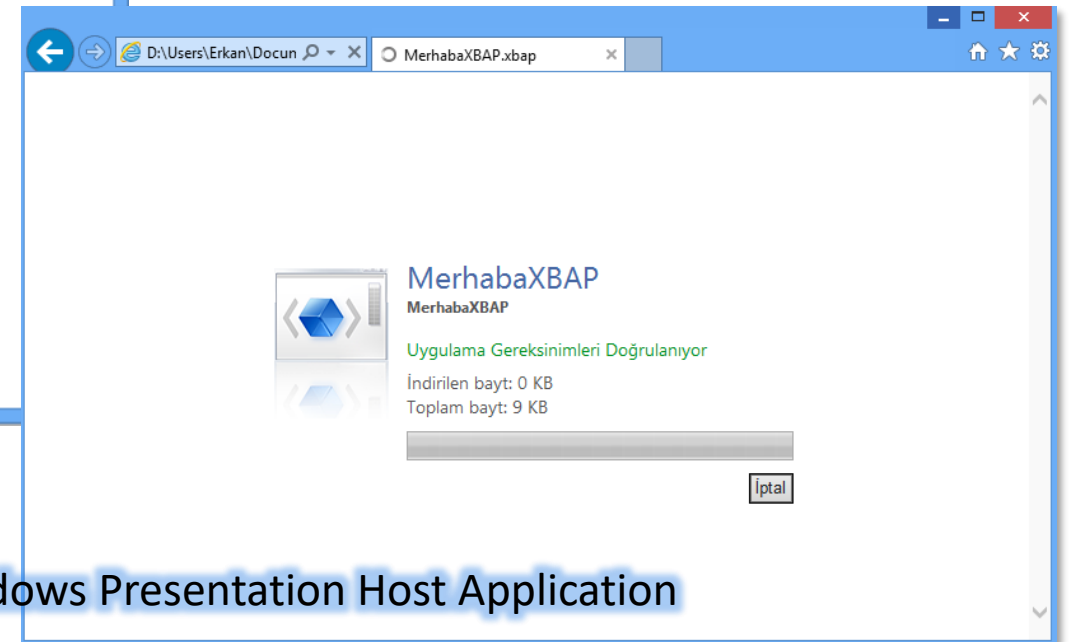
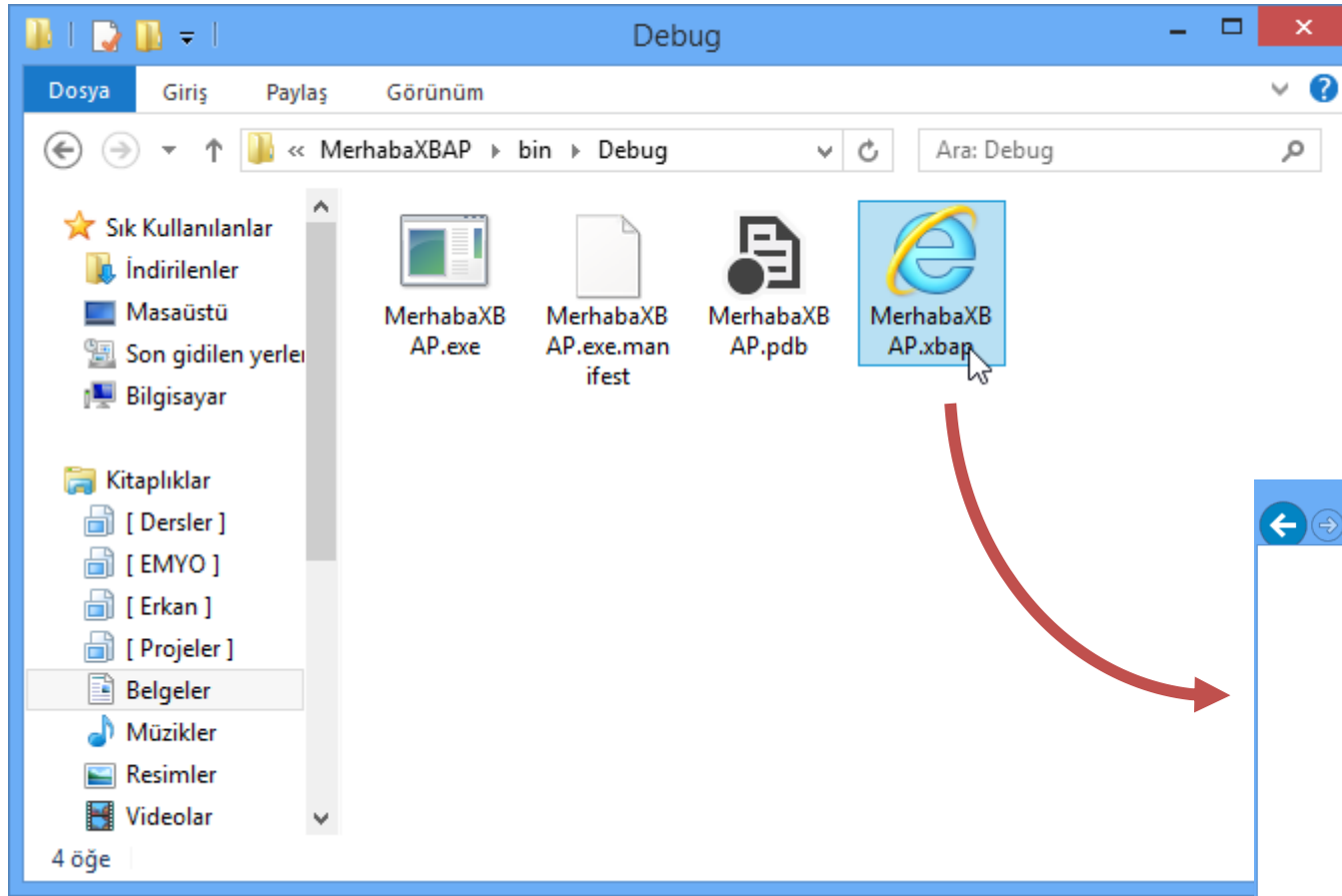
Browser Application (XBAP)

```
Design XAML
<Page x:Class="MerhabaXBAP.Page1"
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
  xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
  xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
  mc:Ignorable="d"
  d:DesignHeight="300"
  Title="Page1" Width="469.611">
  <Grid Margin="0,0,38,10">
    <TextBox x:Name="tbIsim" HorizontalAlignment="Left" Height="23" Margin="10,29,0,0"
      TextWrapping="Wrap" Text="TextBox" VerticalAlignment="Top" Width="120"/>
    <Button x:Name="btnMerhaba" Content="Button" HorizontalAlignment="Left" Margin="154,29,0,0"
      VerticalAlignment="Top" Width="75" Click="btnMerhaba_Click"/>
    <Label x:Name="lblSonuc" Content="Label" HorizontalAlignment="Left" Margin="258,25,0,0"
      VerticalAlignment="Top"/>
  </Grid>
</Page>
```



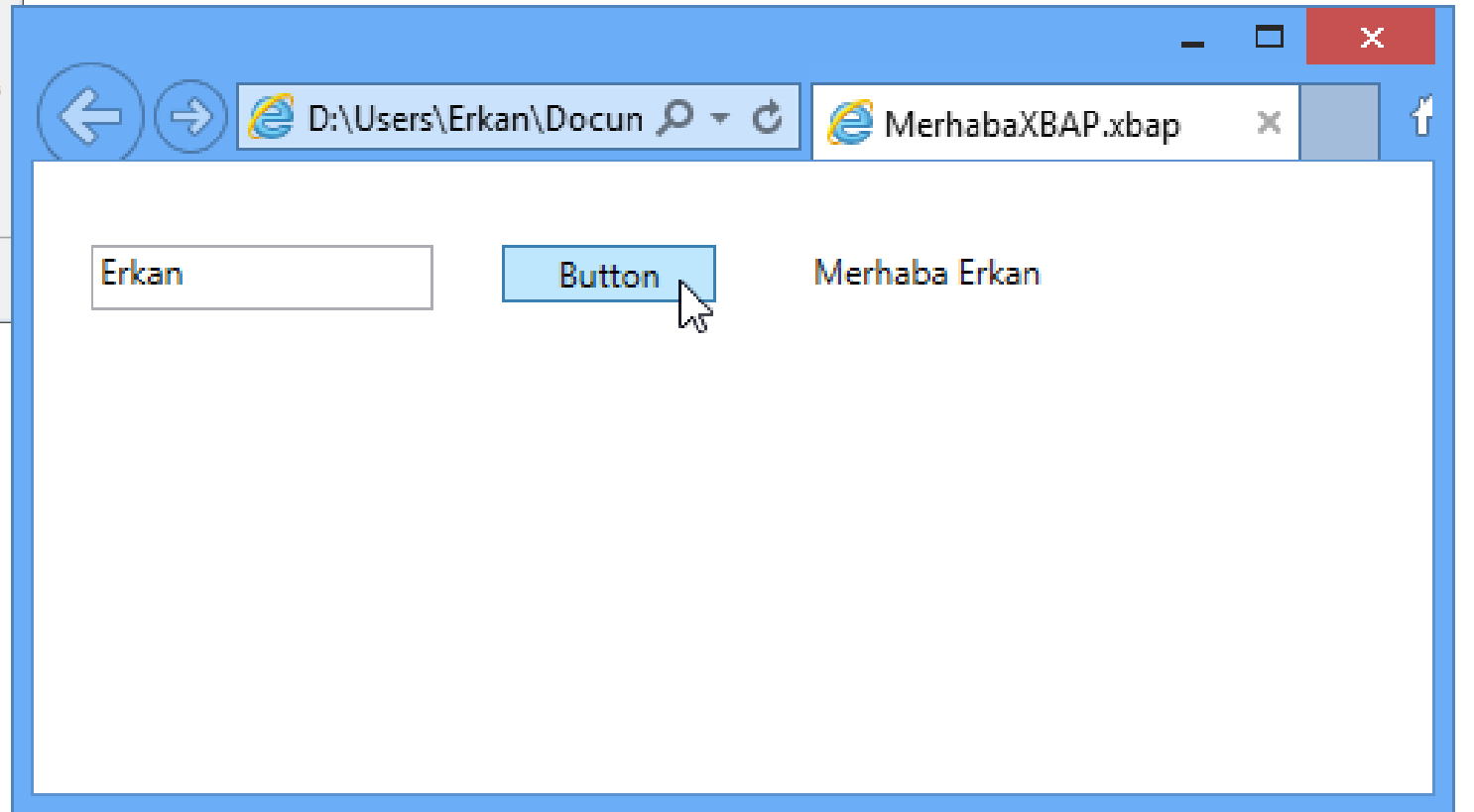
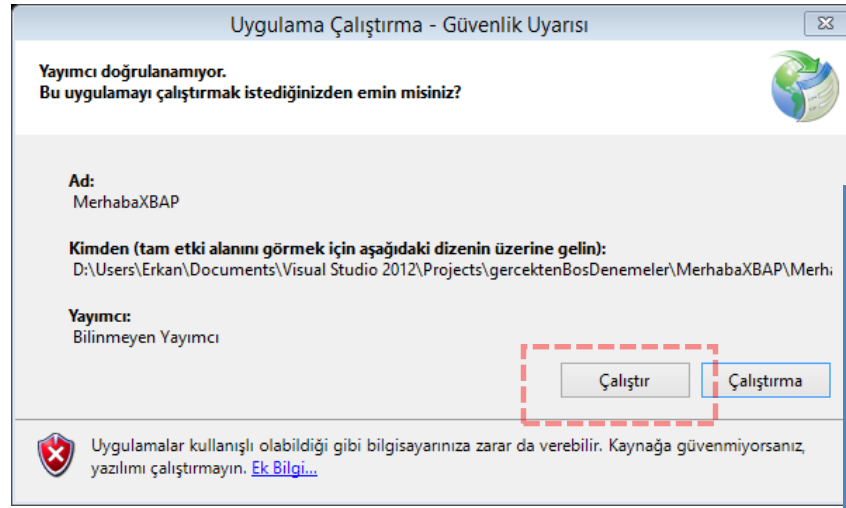
```
private void btnMerhaba_Click(object sender, RoutedEventArgs e)
{
    lblSonuc.Content = "Merhaba " + tbIsim.Text;
}
```

Browser Application (XBAP)



Windows Presentation Host Application

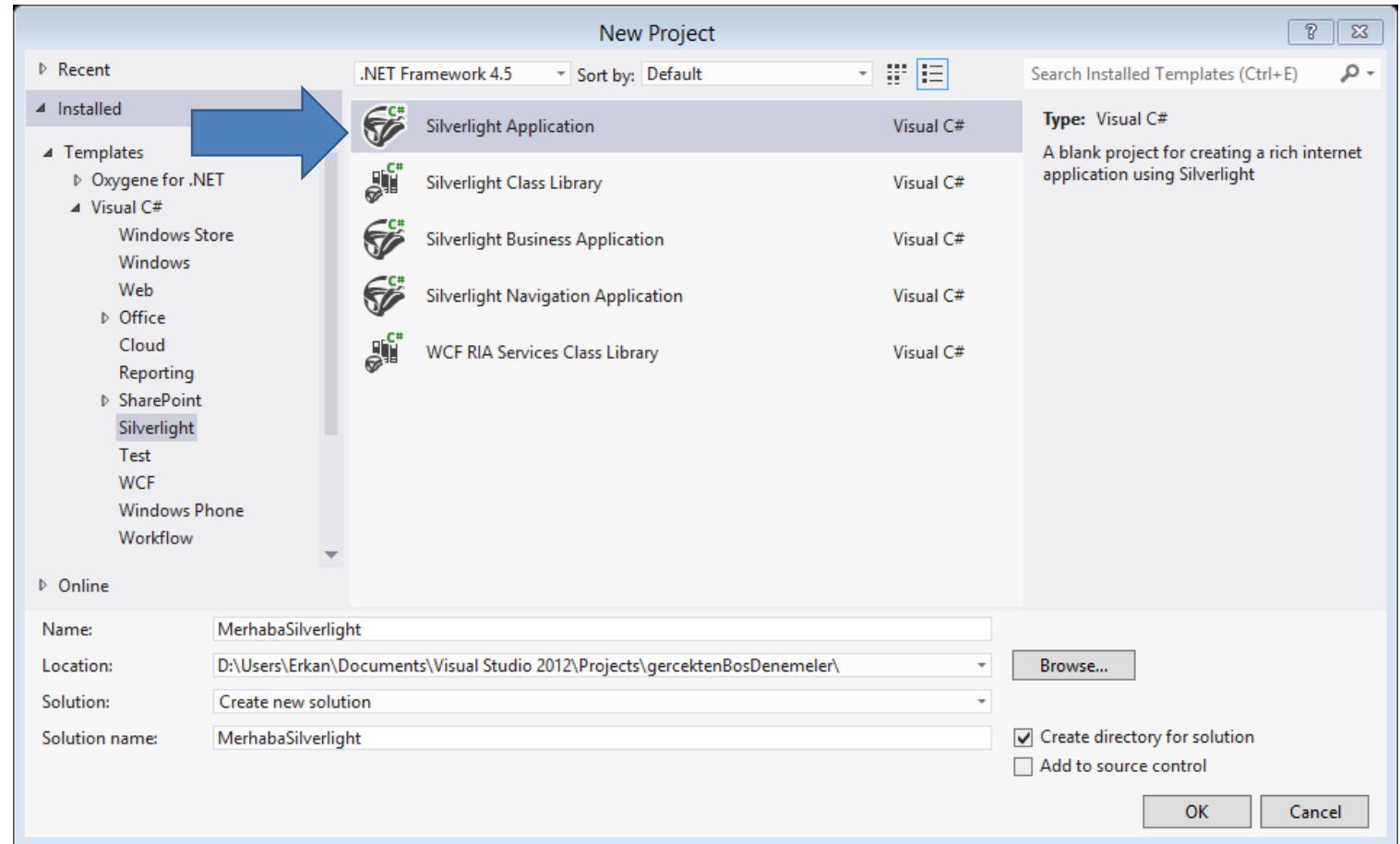
Browser Application (XBAP)



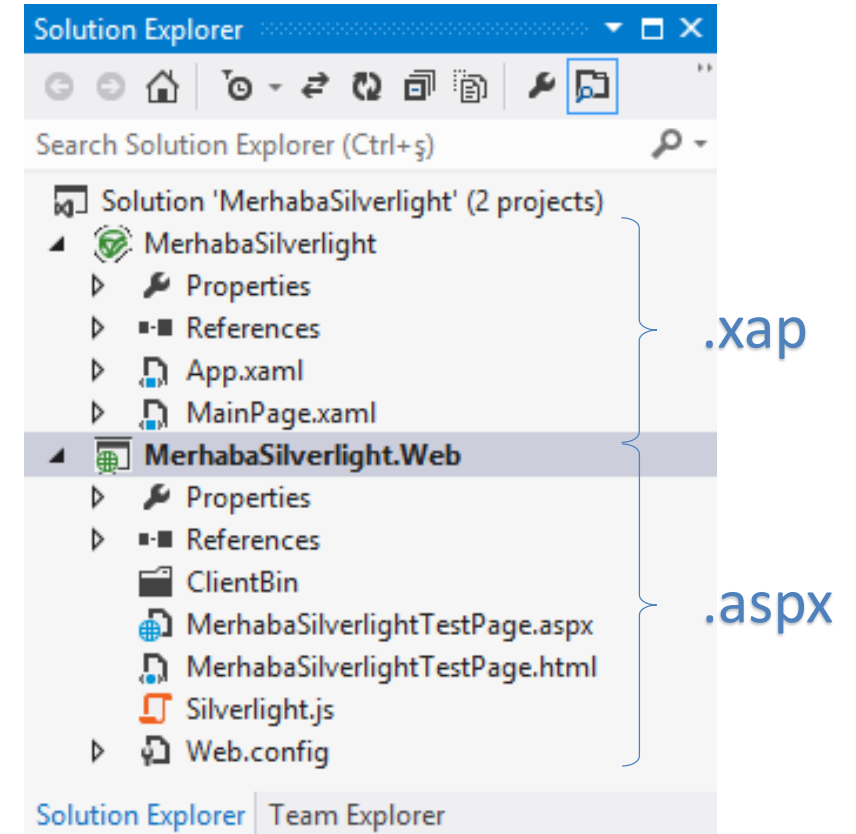
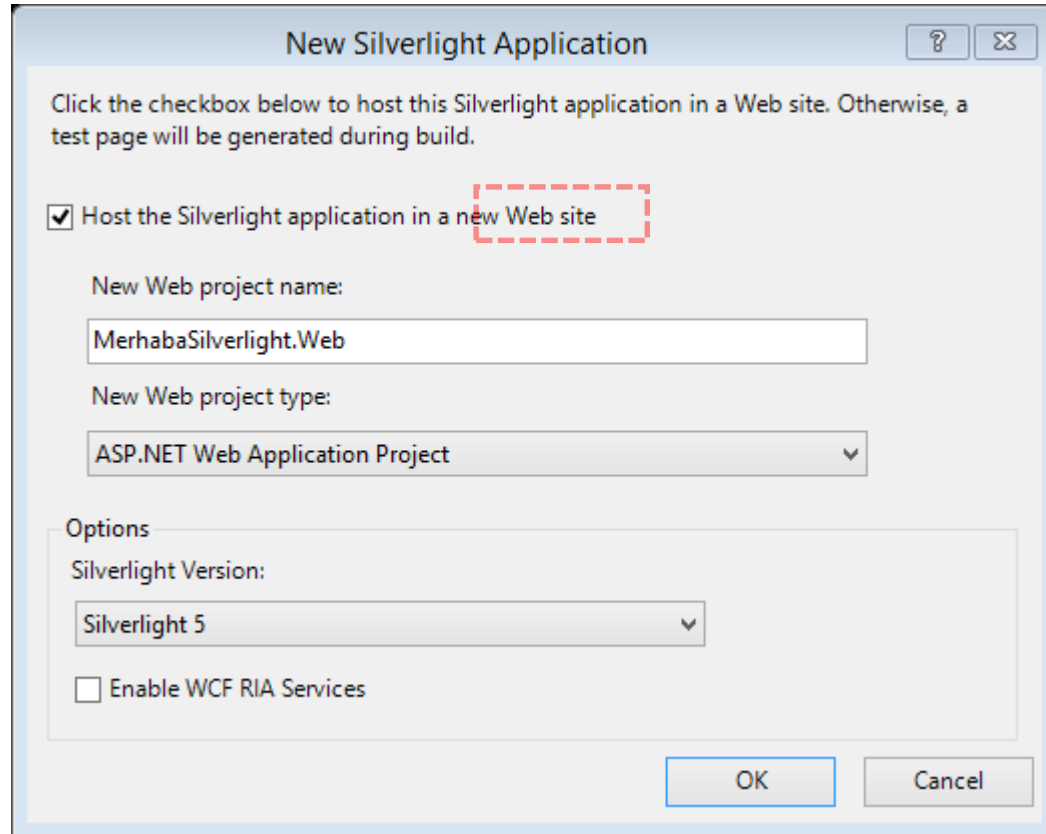
Silverlight Application (XAP)



Microsoft®
Silverlight™



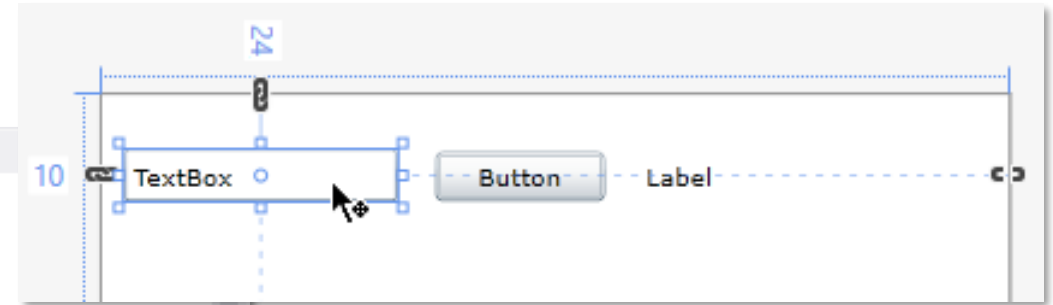
Silverlight Application (XAP)



Silverlight Application (XAP)

```
Design XAML
<UserControl
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
  xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
  xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
  xmlns:sdk="http://schemas.microsoft.com/winfx/2006/xaml/presentation/sdk"
  x:Class="MerhabaSilverlight.MainPage"
  mc:Ignorable="d"
  d:DesignHeight="300" d:DesignWidth="400">

  <Grid x:Name="LayoutRoot" Background="White">
    <TextBox x:Name="tbIsim" HorizontalAlignment="Left" Height="23" Margin="10,24,0,0"
      TextWrapping="Wrap" Text="TextBox" VerticalAlignment="Top" Width="120"/>
    <Button x:Name="btnMerhaba" Content="Button" HorizontalAlignment="Left" Margin="147,25,0,0"
      VerticalAlignment="Top" Width="75"/>
    <sdk:Label x:Name="lblSonuc" HorizontalAlignment="Left" Height="28" Margin="240,28,0,0"
      VerticalAlignment="Top" Width="120"/>
  </Grid>
</UserControl>
```

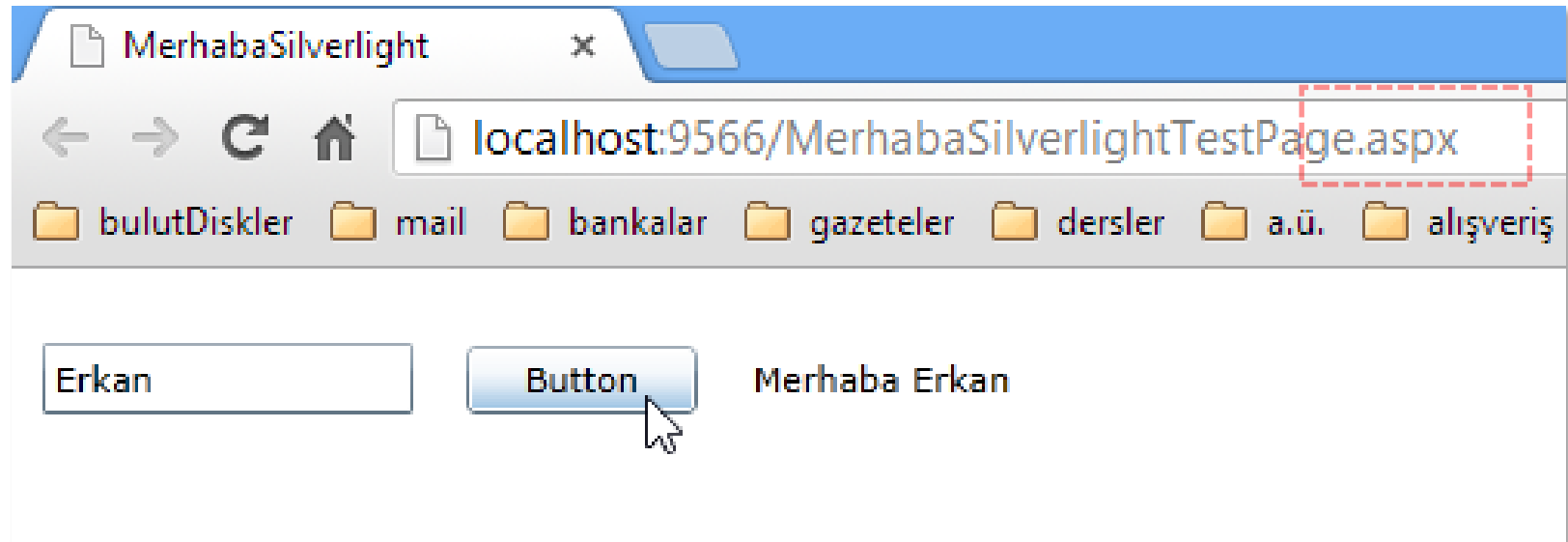
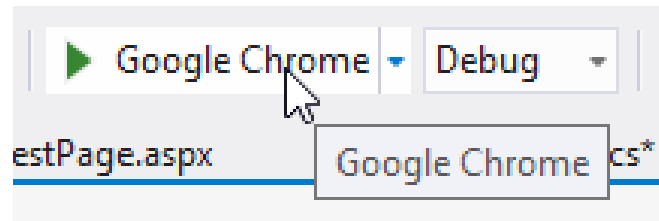


```
private void btnMerhaba_Click(object sender, RoutedEventArgs e)
{
    lblSonuc.Content = "Merhaba " + tbIsim.Text;
}
```

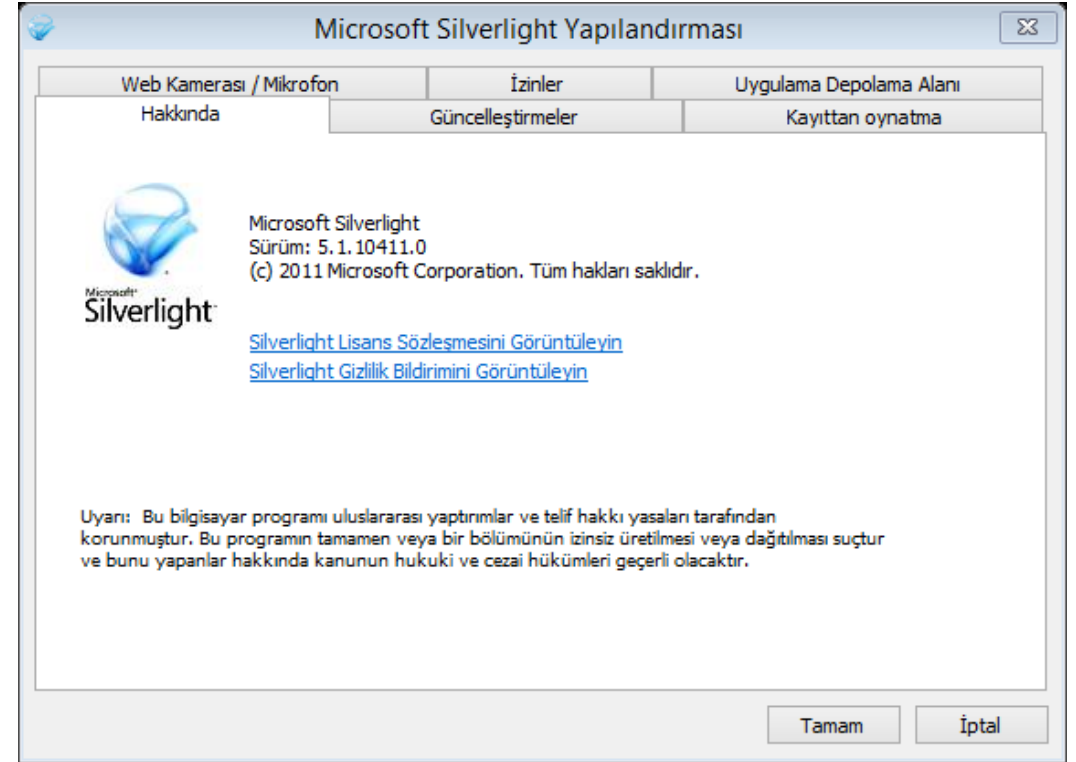
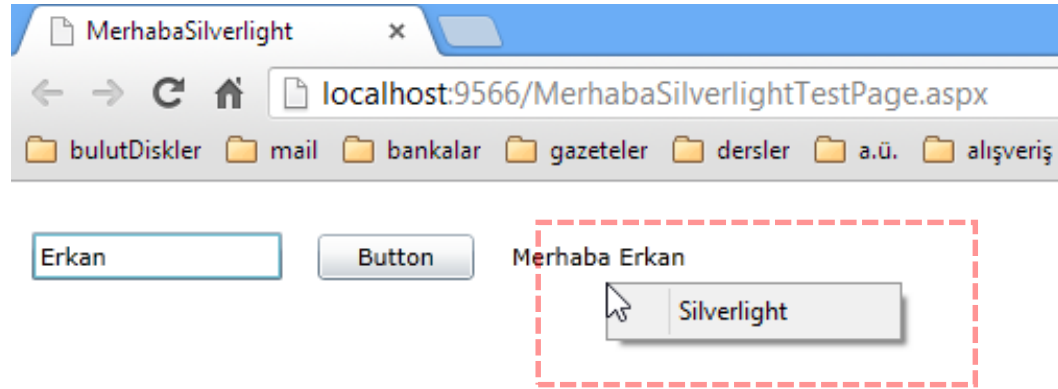
Silverlight Application (XAP)

```
MerhabaSilverlightTestPage.aspx X MainPage.xaml.cs* MainPage.xaml*
Server Objects & Events (No Events)
<%@ Page Language="C#" AutoEventWireup="true" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" >
  <head>...</head>
  <body>
    <form id="form1" runat="server" style="height:100%">
      <div id="silverlightControlHost">
        <object data="data:application/x-silverlight-2," type="application/x-silverlight-2" width="100%" height="100%">
          <param name="source" value="ClientBin/MerhabaSilverlight.xap"/>
          <param name="onError" value="onSilverlightError" />
          <param name="background" value="white" />
          <param name="minRuntimeVersion" value="5.0.61118.0" />
          <param name="autoUpgrade" value="true" />
          <a href="http://go.microsoft.com/fwlink/?LinkID=149156&v=5.0.61118.0" style="text-decoration:none">
            
          </a>
        </object><iframe id="_sl_historyFrame" style="visibility:hidden;height:0px;width:0px;border:0px"></iframe></div>
      </form>
    </body>
  </html>
```

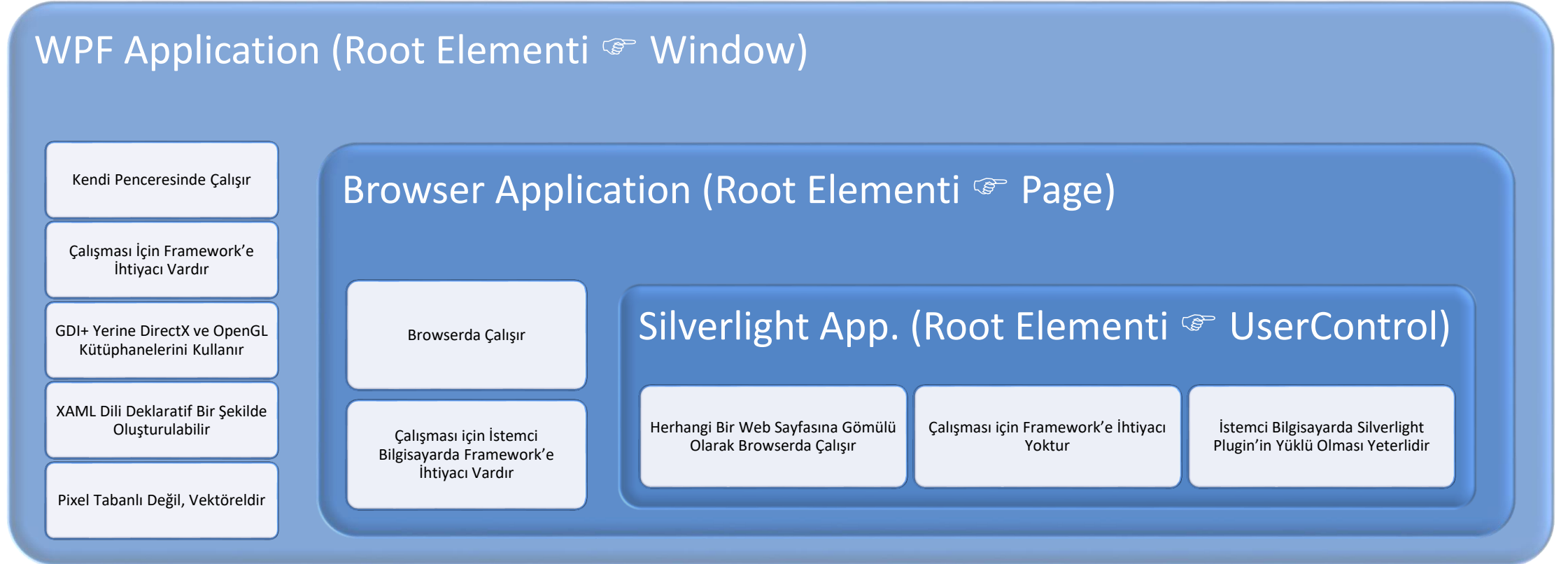
Silverlight Application (XAP)



Silverlight Application (XAP)



Bazıları dađınık sever, fakat biz yine de toparlayalım😊



ASP.NET ?