XAML Navigation Lab - WPF

Perform these labs on your own computer using Visual Studio 2022 or later to ensure you understand the lessons presented in the corresponding videos and lectures.

Lab 1: Create WPF Application and Home View

Start VS 2022 and create a new WPF application named **AdventureWorks.WPF**.

Open the **MainWindow.xaml** file.

Add the **WindowState="Maximized"** attribute.

Set the **Title="Adventure Works"**.

Change the **Width** and **Height** properties to the **d:Width** and **d:Height**.

Add a Loaded event.

```
Loaded="Window_Loaded"
```

Within the <Grid>, add the following code.

```
<Grid.RowDefinitions>
  <RowDefinition Height="Auto" />
  <RowDefinition Height="*" />
</Grid.RowDefinitions>
<Menu Grid.Row="0">
</Menu>
<Grid Grid.Row="1"
      x:Name="ContentArea" />
```

Create a Home Page

Right mouse-click on the project and add a new folder named **Views**.

Right mouse-click on the **Views** folder and select **Add | User Control (WPF)…** from the context-sensitive menu. Set the name of the user control to **HomeView**.

Replace the <Grid> with the following.

```
<StackPanel VerticalAlignment="Center"
            HorizontalAlignment="Stretch">
  <Label FontSize="48"
         HorizontalAlignment="Center">
    Adventure Works
  </Label>
</StackPanel>
```

Navigate to Home Page

Open the **MainWindow.xaml.cs** file and add a using statement.

```
using AdventureWorks.WPF.Views;
```

In the Window_Loaded event, add the following line of code.

```
ContentArea.Children.Add(new HomeView());
```

Try It Out

Run the application and you should see the home page appear.

Lab 2: Create Header User Control

Right mouse-click on the project and add a new folder named **PartialViews**.

Right mouse-click on the **PartialViews** folder and select **Add | User Control (WPF)…** from the context-sensitive menu. Set the name of the user control to **HeaderView**.

Replace the <Grid> with the following.

```
<Grid>
  <Grid.RowDefinitions>
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
  </Grid.RowDefinitions>
  <Label Content="View Title"
         FontSize="20"
         Margin="0"
         Grid.Row="0" />
  <Label Content="View Sub Title"
         FontSize="16"
         Margin="0"
         Grid.Row="1" />
  <Rectangle Grid.Row="2"
             Margin="0,0,0,20"
             Stroke="Black"
             StrokeThickness="2"
             HorizontalAlignment="Stretch" />
</Grid>
```

Lab 3: Create a Login View

Right mouse-click on the **Views** folder and select **Add | User Control (WPF)…** from the context-sensitive menu. Set the name of the user control to **LoginView**.

Add a namespace within the <UserControl...>.

```
xmlns:PartialViews="clr-
namespace:AdventureWorks.WPF.PartialViews"
```

Add the following within the <Grid>.

```
<Grid.RowDefinitions>
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
</Grid.RowDefinitions>
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto" />
  <ColumnDefinition Width="*" />
</Grid.ColumnDefinitions>
<PartialViews:HeaderView Grid.ColumnSpan="2" />
<Label Content="Login ID"
        Grid.Row="1" />
<TextBox Grid.Row="1"
          Grid.Column="1"
          Text="" />
<Label Grid.Row="2"
        Content="Password" />
<PasswordBox Grid.Row="2"
              Grid.Column="1" />
<StackPanel Grid.Row="3"
            Grid.Column="1"
            Orientation="Horizontal">
  <Button Content="Login" />
  <Button Content="Cancel" />
</StackPanel>
```

Add Menu Items

Open the **MainWindow.xaml** file and add the following menus within the <Menu> element.

```
<MenuItem Header="_File">
  <MenuItem Header="E_xit"
            Tag="Exit"
            Click="Menu_Click" />
</MenuItem>
<MenuItem Header="Home"
          Tag="HomeView"
          Click="Menu_Click" />
<MenuItem Header="Login"
          Tag="LoginView"
          Click="Menu_Click" />
```

Create the **Menu_Click** event procedure.

Within the Menu_Click event procedure add the following code.

```
private void Menu_Click(object sender, RoutedEventArgs
e)
{
  MenuItem mnu = ((MenuItem)e.Source);
  string? tag = mnu.Tag == null ? "" : mnu.Tag as
string;

  if (!string.IsNullOrEmpty(tag)) {
    ContentArea.Children.Clear();
    switch (tag.ToLower()) {
      case "homeview":
        ContentArea.Children.Add(new HomeView());
        break;
      case "loginview":
        ContentArea.Children.Add(new LoginView());
        break;
      case "exit":
        this.Close();
        break;
    }
  }
}
```

Try It Out

Run the application and try out each of the menu items.

Lab 4: Create a User Detail View

Right mouse-click on the **Views** folder and add a new Window named **UserDetailView**.

Add a namespace within the <UserControl...>

```
xmlns:PartialViews="clr-
namespace:AdventureWorks.WPF.PartialViews"
```

Add the following within the <Grid>.

```xaml
<Grid.RowDefinitions>
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
</Grid.RowDefinitions>
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto" />
  <ColumnDefinition Width="*" />
</Grid.ColumnDefinitions>
<PartialViews:HeaderView Grid.ColumnSpan="2" />
<Label Content="Login ID"
       Grid.Row="1" />
<TextBox Grid.Column="1"
         Grid.Row="1" />
<Label Content="First Name"
       Grid.Row="2" />
<TextBox Grid.Column="1"
         Grid.Row="2" />
<Label Content="Last Name"
       Grid.Row="3" />
<TextBox Grid.Column="1"
         Grid.Row="3" />
<Label Content="Password"
       Grid.Row="4" />
<PasswordBox Grid.Column="1"
             Grid.Row="4" />
<Label Content="Email Address"
       Grid.Row="5" />
<TextBox Grid.Column="1"
         Grid.Row="5" />
<StackPanel Orientation="Horizontal"
            Grid.Row="6"
            Grid.Column="1">
  <Button Content="Save" />
  <Button Content="Cancel" />
</StackPanel>
```

Add Menu Item

Open the **MainWindow.xaml** file and add a <MenuItem> below the others to call this new view.

```
<MenuItem Header="Users"
          Tag="UserDetailView"
          Click="Menu_Click" />
```

Open the **MainWindow.xaml.cs** file and add a new case statement in the Menu_Click event procedure.

```
case "userdetailview":
  ContentArea.Children.Add(new UserDetailView());
  break;
```

Try It Out

Run the application and try out each of the menu items.

Lab 5: Create a Product View

Right mouse-click on the **Views** folder and add a new Window named **ProductDetailView**.

Add a namespace within the <UserControl...>

```
xmlns:PartialViews="clr-
namespace:AdventureWorks.WPF.PartialViews"
```

Add the following within the <Grid>.

```
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto" />
  <ColumnDefinition Width="*" />
</Grid.ColumnDefinitions>
<Grid.RowDefinitions>
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
</Grid.RowDefinitions>
<PartialViews:HeaderView Grid.ColumnSpan="2" />
<Label Content="Product Name"
        Grid.Row="1" />
<TextBox Grid.Column="1"
         Grid.Row="1" />
<Label Content="Product Number"
        Grid.Row="2" />
<TextBox Grid.Row="2"
         Grid.Column="1" />
<Label Content="Color"
        Grid.Row="3" />
<TextBox Grid.Row="3"
         Grid.Column="1" />
<Label Content="Cost"
        Grid.Row="4" />
<TextBox Grid.Row="4"
         Grid.Column="1" />
<Label Content="Price"
        Grid.Row="5" />
<TextBox Grid.Row="5"
         Grid.Column="1" />
<Label Content="Size"
        Grid.Row="6" />
<TextBox Grid.Row="6"
         Grid.Column="1" />
<Label Content="Weight"
        Grid.Row="7" />
```

```
<TextBox Grid.Row="7"
         Grid.Column="1" />
<Label Content="Category"
       Grid.Row="8" />
<TextBox Grid.Row="8"
         Grid.Column="1" />
<Label Content="Model"
       Grid.Row="9" />
<TextBox Grid.Row="9"
         Grid.Column="1" />
<Label Content="Selling Start Date"
       Grid.Row="10" />
<TextBox Grid.Row="10"
         Grid.Column="1" />
<Label Content="Selling End Date"
       Grid.Row="11" />
<TextBox Grid.Row="11"
         Grid.Column="1" />
<Label Content="Discontinued Date"
       Grid.Row="12" />
<TextBox Grid.Row="12"
         Grid.Column="1" />
<StackPanel Orientation="Horizontal"
            Grid.Row="13"
            Grid.Column="1">
  <Button Content="Save" />
  <Button Content="Cancel" />
</StackPanel>
```

Lab 6: Add Menu Item

Open the **MainWindow.xaml** file and add a <MenuItem> below the others to call this new view.

```
<MenuItem Header="Products"
          Tag="ProductDetailView"
          Click="Menu_Click" />
```

Open the **MainWindow.xaml.cs** file and add a new case statement in the Menu_Click event procedure.

```
case "productdetailview":
  ContentArea.Children.Add(new ProductDetailView());
  break;
```

Try It Out

Run the application and try out each of the menu items.

Lab 7: Create Adventure Works NAV Application

Start VS 2022 and create a new WPF application named **AdventureWorks.WPF.NavWindow**.

Open the **MainWindow.xaml** file and change the <Window> to a <NavigationWindow>.

Add the **WindowState="Maximized"** attribute.

Change the **Title** property to "Adventure Works".

Change the **Width** and **Height** properties to the **d:Width** and **d:Height**.

Remove the <Grid> </Grid> elements.

Add the following **Source** attribute to the NavigationWindow.

```
Source="Views\HomeView.xaml"
```

Open the **MainWindows.xaml.cs** file and change the inheritance from **Window** to **NavigationWindow**.

Create a Home Page

Right mouse-click on the project and add a new folder named **Views**.

Right mouse-click on the **Views** folder and select **Add | Page (WPF)…** from the context-sensitive menu. Set the name of the user control to **HomeView**.

Set the Title="Adventure Works".

Within the <Grid> add the following code.

```
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto" />
  <ColumnDefinition Width="*" />
</Grid.ColumnDefinitions>
<StackPanel Grid.Column="0"
            HorizontalAlignment="Left">
  <Button Content="Home"
          Click="Button_Click"
          Tag="HomeView" />
  <Button Content="Login"
          Click="Button_Click"
          Tag="LoginView" />
  <Button Content="Users"
          Click="Button_Click"
          Tag="UserDetailView" />
  <Button Content="Products"
          Click="Button_Click"
          Tag="ProductDetailView" />
</StackPanel>
<StackPanel Grid.Column="1"
            VerticalAlignment="Center"
            HorizontalAlignment="Stretch">
  <Label FontSize="48"
          HorizontalAlignment="Center">
    Adventure Works
  </Label>
</StackPanel>
```

Create the Button_Click() event procedure.

```
private void Button_Click(object sender, RoutedEventArgs
e) {
  Button btn = ((Button)e.Source);
  string? tag = btn.Tag == null ? "" : btn.Tag as
string;

  if (!string.IsNullOrEmpty(tag)) {
    switch (tag.ToLower()) {
      case "homeview":
        this.NavigationService.Navigate(new HomeView());
        break;
      case "loginview":
        this.NavigationService.Navigate(new
LoginView());
        break;
    }
  }
}
```

Try It Out

Run the application and you should see the home page appear.

Lab 8: Create Header User Control

Right mouse-click on the project and add a new folder named **PartialViews**.

Right mouse-click on the **PartialViews** folder and select **Add | User Control (WPF)…** from the context-sensitive menu. Set the name of the user control to **HeaderView**.

Replace the <Grid> with the following.

```
<Grid>
  <Grid.RowDefinitions>
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
  </Grid.RowDefinitions>
  <Label Content="View Title"
         FontSize="20"
         Margin="0"
         Grid.Row="0" />
  <Label Content="View Sub Title"
         FontSize="16"
         Margin="0"
         Grid.Row="1" />
  <Rectangle Grid.Row="2"
             Margin="0,0,0,20"
             Stroke="Black"
             StrokeThickness="2"
             HorizontalAlignment="Stretch" />
</Grid>
```

Lab 9: Create a Login Page

Right mouse-click on the **Views** folder and select **Add | Page (WPF)…** from the context-sensitive menu. Set the name of the user control to **LoginView**.

Set the **Title="Login"**.

Add a namespace within the <UserControl...>.

```
xmlns:PartialViews="clr-
namespace:AdventureWorks.WPF.NavWindow.PartialViews"
```

Add the following within the <Grid>.

```
<Grid.RowDefinitions>
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
  <RowDefinition Height="Auto" />
</Grid.RowDefinitions>
<Grid.ColumnDefinitions>
  <ColumnDefinition Width="Auto" />
  <ColumnDefinition Width="*" />
</Grid.ColumnDefinitions>
<PartialViews:HeaderView Grid.ColumnSpan="2" />
<Label Content="Login ID"
       Grid.Row="1" />
<TextBox Grid.Row="1"
         Grid.Column="1"
         Text="" />
<Label Grid.Row="2"
       Content="Password" />
<PasswordBox Grid.Row="2"
             Grid.Column="1" />
<StackPanel Grid.Row="3"
            Grid.Column="1"
            Orientation="Horizontal">
  <Button Content="Login" />
  <Button Content="Cancel" />
</StackPanel>
```

Try It Out

Run the application and you should see the home page appear.

Click on the Login button to see the Login page.

Click on the back button.