XAML UI Controls Lab - MAUI

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: Check Box

Open the **Views\UserDetailView.xaml** file.

In the top <Grid> control add a ",Auto" to the **RowDefinitions** attribute.

Change the <HorizontalStackLayout> element to use Grid.Row="**7**".

Insert the following code before the <HorizontalStackLayout> element.

```
<Label Text="Employee Perks"
        Grid.Row="6" />
<FlexLayout Grid.Row="6"
            Grid.Column="1"
            Wrap="Wrap"
            Direction="Row">
  <HorizontalStackLayout>
    <Label Text="401k" />
    <CheckBox />
  </HorizontalStackLayout>
  <HorizontalStackLayout>
    <Label Text="Health Care" />
    <CheckBox />
  </HorizontalStackLayout>
  <HorizontalStackLayout>
    <Label Text="HSA" />
    <CheckBox />
  </HorizontalStackLayout>
  <HorizontalStackLayout>
    <Label Text="Flex-Time" />
    <CheckBox />
  </HorizontalStackLayout>
</FlexLayout>
```

Open the **Resources\Styles\Styles.xaml** file and modify the CheckBox style to be BasedOn the **BaseControlStyle** keyed style.

```
<Style TargetType="CheckBox"
       BasedOn="{StaticResource BaseControlStyle}">
  ... SETTERS HERE
</Style>
```

Try It Out

Run the application and click on the **Users** menu to view the results.

Lab 2: Radio Button

Open the **Views\UserDetailView.xaml** file

In the top <Grid> control add a ",Auto" to the **RowDefinitions** attribute.

Change the <HorizontalStackLayout> element to use Grid.Row="8".

Insert the following code before the <HorizontalStackLayout> element.

```
<Label Text="Still Employed?"
        Grid.Row="7" />
<FlexLayout Grid.Row="7"
            Grid.Column="1"
            Wrap="Wrap"
            Direction="Row">
  <HorizontalStackLayout>
    <Label Text="Yes" />
    <RadioButton GroupName="StillEmployed" />
  </HorizontalStackLayout>
  <HorizontalStackLayout>
    <Label Text="No" />
    <RadioButton GroupName="StillEmployed" />
  </HorizontalStackLayout>
</FlexLayout>
```

Open the **Resources\Styles\Styles.xaml** file and modify the RadioButton style to be BasedOn the **BaseControlStyle** keyed style.

```
<Style TargetType="RadioButton"
       BasedOn="{StaticResource BaseControlStyle}">
  ... SETTERS HERE
</Style>
```

Try It Out

Run the application and click on the **Users** menu to view the results.

Lab 3: Picker (Drop-Down List)

Open the **Views\UserDetailView.xaml** file.

In the top <Grid> control add a ",Auto" to the **RowDefinitions** attribute.

Change the <HorizontalStackLayout> element to use Grid.Row="9".

Insert the following code before the <HorizontalStackLayout> element.

```
<Label Text="Phone"
        Grid.Row="8" />
<FlexLayout Grid.Row="8"
            Grid.Column="1">
  <HorizontalStackLayout>
    <Entry Grid.Column="0"
           MinimumWidthRequest="120" />
    <Picker Grid.Column="1">
      <Picker.ItemsSource>
        <x:Array Type="{x:Type x:String}">
          <x:String>Home</x:String>
          <x:String>Mobile</x:String>
          <x:String>Other</x:String>
        </x:Array>
      </Picker.ItemsSource>
    </Picker>
  </HorizontalStackLayout>
</FlexLayout>
```

Open the **Resources\Styles\Styles.xaml** file and modify the Picker style to be BasedOn the **BaseControlStyle** keyed style.

```
<Style TargetType="Picker"
       BasedOn="{StaticResource BaseControlStyle}">
  ... SETTERS HERE
</Style>
```

Try It Out

Run the application and click on the **Users** menu to view the results.

Lab 4: Date Picker

Open the **Views\UserDetailView.xaml** file.

In the top <Grid> control add a ",Auto" to the **RowDefinitions** attribute.

Change the <HorizontalStackLayout> element to use Grid.Row="10".

Insert the following code before the <HorizontalStackLayout> element.

```
<Label Text="Birth Date"
        Grid.Row="9" />
<DatePicker Grid.Row="9"
            Grid.Column="1"
            HorizontalOptions="Start" />
```

Open the **Resources\Styles\Styles.xaml** file and modify the DatePicker style to be BasedOn the **BaseControlStyle** keyed style.

```
<Style TargetType="DatePicker"
       BasedOn="{StaticResource BaseControlStyle}">
  ... SETTERS HERE
</Style>
```

Try It Out

Run the application and click on the **Users** menu to view the results.

Lab 5: Border

Open the **MainPage.xaml** file and add a <Border> around the <Label>.

```
<Border Stroke="Black"
        StrokeThickness="2"
        HorizontalOptions="Center"
        VerticalOptions="Center"
        Padding="10">
  <Label Text="{StaticResource ApplicationTitle}"
         FontSize="Large"
         VerticalOptions="Center"
         HorizontalOptions="Center" />
</Border>
```

Try It Out

Run the application and view the border around the application title.

Lab 6: Add a Border Around all Views

Let's adjust all the views so they look more like a normal screen.

Open the **StandardStyles.xaml** file and add a new **keyed** style.

```
<Style TargetType="Border"
       x:Key="Screen.Border">
  <Setter Property="Stroke"
          Value="Black" />
  <Setter Property="StrokeThickness"
          Value="2" />
  <Setter Property="Margin"
          Value="5" />
  <Setter Property="HorizontalOptions"
          Value="Start" />
  <Setter Property="VerticalOptions"
          Value="Start" />
</Style>
```

Open the **Views\LoginView.xaml** file and wrap a <Border> around the <Grid>.

```
<Border Style="{StaticResource Screen.Border}">
```

Open the **Views\ProductDetail.xaml** file and wrap a <Border> around the <Grid>.

```
<Border Style="{StaticResource Screen.Border}">
```

Open the **Views\UserDetailView.xaml** file and wrap a <Border> around the <Grid>.

```
<Border Style="{StaticResource Screen.Border}">
```

Try It Out

Run the application and click on each menu item to view the border around each screen.

Lab 7: ScrollView

Run the application and click on the **Products** menu.

Reduce the main window to show how the screen gets cut off.

Stop the application.

Open the **Views\ProductDetailView.xaml** file and wrap a <ScrollView> control around the <Border> and the <Grid> elements.

```
<ScrollView>
  <Border Style="{StaticResource Screen.Border}">
    <Grid …>
    </Grid>
   </Border>
</ScrollView>
```

Open the **Views\UserDetailView.xaml** file and wrap a <ScrollView> control around the <Border> and the <Grid> elements.

```
<ScrollView>
  <Border Style="{StaticResource Screen.Border}">
    <Grid …>
    </Grid>
   </Border>
</ScrollView>
```

Try It Out

Run the application and click on the **Products** menu, reduce the main window size to show that it now displays a scroll bar.

Lab 8: Frame

Open the **Views\ProductDetailView.xaml** file.

Locate the **Start Selling Date** <Label> control.

Delete the <Label> and <TextBox> controls for Selling Start Date, Selling End Date, and the Discontinued Date fields.

Add the following code where this row is.

```
<Frame Grid.Row="10"
        Grid.ColumnSpan="2"
        BorderColor="Black">
  <Grid RowDefinitions="Auto,Auto,Auto,Auto"
        ColumnDefinitions="Auto,*">
    <Label Grid.Row="0"
           Grid.ColumnSpan="2"
           FontAttributes="Bold"
           HorizontalOptions="Center"
           Text="Product Dates" />
    <Label Grid.Row="1"
           Text="Selling Start Date" />
    <Entry Grid.Row="1"
           Grid.Column="1" />
    <Label Text="Selling End Date"
           Grid.Row="2" />
    <Entry Grid.Row="2"
           Grid.Column="1" />
    <Label Text="Discontinued Date"
           Grid.Row="3" />
    <Entry Grid.Row="3"
           Grid.Column="1" />
  </Grid>
</Frame>
```

Change the Grid.Row property on the <HorizontalStackLayout> following the </Frame> to the number "11".

You can now remove two ",Auto,Auto" from the RowDefinition attribute on the top <Grid>.

Open the **Resources\Styles\Styles.xaml** file and modify the Frame style to be BasedOn the **BaseControlStyle** keyed style.

```
<Style TargetType="Frame"
       BasedOn="{StaticResource BaseControl}">
</Style>
```

Try It Out

Run the application and click on the **Products** menu to view the result.