

CUI
Comsats University Islamabad (Vehari Campus)



Academic Year 22-27
Department: CS

Topic of Lab Assignment 2:

" Employee Registration Form"

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Subject:

Visual Programming

Batch: "19"

Teacher Name:

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1.Main Window.xaml.cs:

```
using System.Windows;

namespace lab_assignment_2
{
    public partial class MainWindow : Window
    {
        public EmployeeViewModel ViewModel { get; set; }
        public MainWindow()
        {
            InitializeComponent();
            ViewModel = new EmployeeViewModel();
            this.DataContext = ViewModel;
        }
    }
}
```

2.Binding with EmployeeViewModel.cs:

```
using System.ComponentModel;
using System.Text.RegularExpressions;

namespace lab_assignment_2
{
    public class EmployeeViewModel : INotifyPropertyChanged, IDataErrorInfo
    {
        private string name;
        private int age;
        private string email;
        private string department;
        public string Name
        {
            get => name;
            set { name = value; OnPropertyChanged(nameof(Name)); }
        }
        public int Age
        {
            get => age;
            set { age = value; OnPropertyChanged(nameof(Age)); }
        }
        public string Email
        {
            get => email;
            set { email = value; OnPropertyChanged(nameof(Email)); }
        }
        public string Department
        {
            get => department;
        }
    }
}
```

```

        set { department = value; OnPropertyChanged(nameof(Department)); }
    }
    public string this[string columnName]
    {
        get
        {
            string error = string.Empty;
            switch (columnName)
            {
                case nameof(Name):
                    if (string.IsNullOrEmpty(Name)) error = "Name is required.";
                    break;
                case nameof(Age):
                    if (Age < 18 || Age > 60) error = "Age must be between 18 and 60.";
                    break;
                case nameof(Email):
                    if (!Regex.IsMatch(Email ?? "", @"^[^@\s]+@^[^@\s]+\.[^@\s]+$"))
                        error = "Invalid email format.";
                    break;
            }
            return error;
        }
    }
    public string Error => null;
    public event PropertyChangedEventHandler? PropertyChanged;
    protected void OnPropertyChanged(string prop) =>
        PropertyChanged?.Invoke(this, new PropertyChangedEventArgs(prop));
}
}

```

3.Main Window.xaml:

```

<Window x:Class="lab_assignment_2.MainWindow"
        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:local="clr-namespace:lab_assignment_2"
        xmlns:sys="clr-namespace:System;assembly=mscorlib"
        mc:Ignorable="d"
        Title="Employee Registration" Height="550" Width="500" WindowStartupLocation="CenterScreen"
        Background="#f5f7fa">

    <Window.Resources>
        <!-- Style for Label -->
        <Style TargetType="Label">
            <Setter Property="FontWeight" Value="SemiBold"/>
            <Setter Property="Margin" Value="5,10,5,0"/>
            <Setter Property="FontSize" Value="14"/>
        </Style>
        <!-- Style for TextBox -->
        <Style TargetType="TextBox" x:Key="HintTextBox">
            <Setter Property="Margin" Value="5"/>
            <Setter Property="Padding" Value="6"/>
            <Setter Property="BorderBrush" Value="#ccc"/>
            <Setter Property="BorderThickness" Value="1"/>
            <Setter Property="Background" Value="White"/>
            <Setter Property="FontSize" Value="14"/>
        </Style>
        <!-- Button Style -->
        <Style TargetType="Button">
            <Setter Property="Template">

```

```

        <Setter.Value>
            <ControlTemplate TargetType="Button">
                <Border x:Name="border" Background="#0078D7" CornerRadius="8" Padding="10">
                    <ContentPresenter HorizontalAlignment="Center" VerticalAlignment="Center"/>
                </Border>
                <ControlTemplate.Triggers>
                    <Trigger Property="IsMouseOver" Value="True">
                        <Setter TargetName="border" Property="Background" Value="#005A9E"/>
                    </Trigger>
                </ControlTemplate.Triggers>
            </ControlTemplate>
        </Setter.Value>
    </Setter>
    <Setter Property="Foreground" Value="White"/>
    <Setter Property="Margin" Value="10"/>
    <Setter Property="FontSize" Value="15"/>
</Style>
<!-- Departments -->
<x:Array x:Key="Departments" Type="{x:Type sys:String}">
    <sys:String>HR</sys:String>
    <sys:String>Finance</sys:String>
    <sys:String>Engineering</sys:String>
    <sys:String>Marketing</sys:String>
</x:Array>
<!-- Validation Template -->
<ControlTemplate x:Key="ValidationTemplate">
    <DockPanel LastChildFill="True">
        <TextBlock Foreground="Red" DockPanel.Dock="Bottom" FontSize="12"
            Text="{Binding [0].ErrorContent}" Margin="5,0,5,2"/>
        <AdornedElementPlaceholder/>
    </DockPanel>
</ControlTemplate>
</Window.Resources>
<ScrollViewer VerticalScrollBarVisibility="Auto">
    <StackPanel Margin="30">
        <!-- Header -->
        <TextBlock Text="Employee Registration" FontSize="26" FontWeight="Bold"
            HorizontalAlignment="Center" Margin="0,10,0,20" Foreground="#2c3e50"/>
        <!-- Name -->
        <Label Content="Full Name"/>
        <TextBox Style="{StaticResource HintTextBox}"
            Text="{Binding Name, UpdateSourceTrigger=PropertyChanged, ValidatesOnDataErrors=True}"
            ToolTip="Enter full name"
            Validation.ErrorTemplate="{StaticResource ValidationTemplate}" />
        <!-- Age -->
        <Label Content="Age"/>
        <TextBox Style="{StaticResource HintTextBox}"
            Text="{Binding Age, UpdateSourceTrigger=PropertyChanged, ValidatesOnDataErrors=True}"
            ToolTip="Enter age between 18 and 60"
            Validation.ErrorTemplate="{StaticResource ValidationTemplate}" />
        <!-- Email -->
        <Label Content="Email Address"/>
        <TextBox Style="{StaticResource HintTextBox}"
            Text="{Binding Email, UpdateSourceTrigger=PropertyChanged, ValidatesOnDataErrors=True}"
            ToolTip="Enter a valid email"
            Validation.ErrorTemplate="{StaticResource ValidationTemplate}" />
        <!-- Department -->
        <Label Content="Department"/>
        <ComboBox ItemsSource="{StaticResource Departments}"
            SelectedItem="{Binding Department}"
            Margin="5" FontSize="14" Padding="4"
            ToolTip="Select a department"/>
        <!-- Submit Button -->
        <Button Content="Register" Width="150" Height="40" HorizontalAlignment="Center"/>
        <!-- Animated Rectangle -->
        <Rectangle Height="25" Margin="0,30,0,0">
            <Rectangle.Fill>
                <SolidColorBrush Color="#bdc3c7"/>
            </Rectangle.Fill>
            <Rectangle.Triggers>

```

```

        <EventTrigger RoutedEvent="Mouse.MouseEnter">
            <BeginStoryboard>
                <Storyboard>
                    <ColorAnimation To="#95a5a6" Duration="0:0:0.4"
                                   Storyboard.TargetProperty="(Rectangle.Fill).(SolidColorBrush.Color)"/>
                </Storyboard>
            </BeginStoryboard>
        </EventTrigger>
        <EventTrigger RoutedEvent="Mouse.MouseLeave">
            <BeginStoryboard>
                <Storyboard>
                    <ColorAnimation To="#bdc3c7" Duration="0:0:0.4"
                                   Storyboard.TargetProperty="(Rectangle.Fill).(SolidColorBrush.Color)"/>
                </Storyboard>
            </BeginStoryboard>
        </EventTrigger>
    </Rectangle.Triggers>
</Rectangle>
</StackPanel>
</ScrollView>
</Window>

```

4. Outputs:

Employee Registration

Full Name

Name is required.

Age

Age must be between 18 and 60.

Enter age between 18 and 60

Email Address

Invalid email format.

Department

Register

Employee Registration

Employee Registration

Full Name

Asadullah

Age

20

Email Address

asadullahkamboh11@gmail.com

Invalid email format.

Department

Finance

Select a department

Register

Employee Registration

Employee Registration

Full Name

Asadullah

Age

20

Email Address

asadullahkamboh111@gmail.com

Department

Finance

Register