

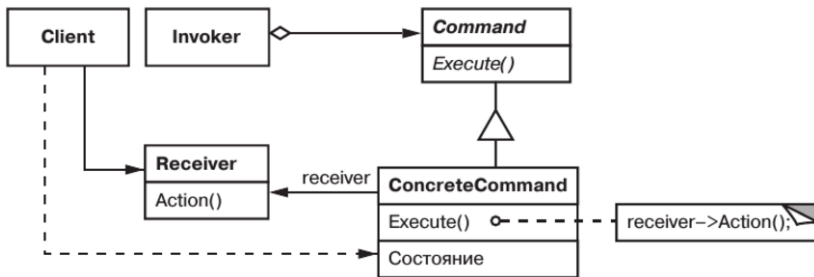
GUI на WPF

Часть 2

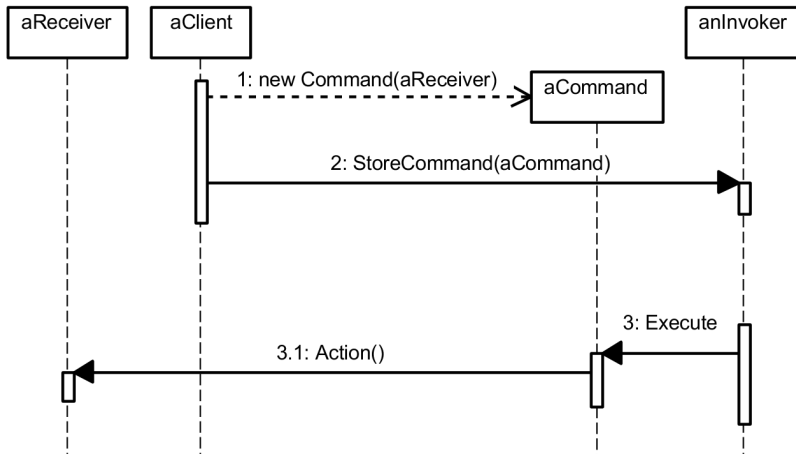
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Паттерн “Команда”



Взаимодействие объектов



Команды

- ▶ Интерфейс ICommand:
 - ▶ Execute
 - ▶ CanExecute
 - ▶ CanExecuteChanged
- ▶ Свойство Command
- ▶ Большой набор встроенных команд
- ▶ Класс CommandBinding

<Window.CommandBindings>

<CommandBinding Command="Help"

CanExecute="HelpCanExecute" Executed="HelpExecuted"/>

</Window.CommandBindings>

...

<Button MinWidth="75" Margin="10" Command="Help" Content=

"{Binding RelativeSource={RelativeSource Self}, Path=Command.Text}"/>

Валидация

```
public class JpgValidationRule : ValidationRule
{
    public override ValidationResult Validate(object value, CultureInfo cultureInfo)
    {
        string filename = value.ToString();
        if (!File.Exists(filename))
            return new ValidationResult(false, "Value is not a valid file.");
        if (!filename.EndsWith(".jpg", StringComparison.InvariantCultureIgnoreCase))
            return new ValidationResult(false, "Value is not a .jpg file.");
        return new ValidationResult(true, null);
    }
}
```

```
<TextBox>
  <TextBox.Text>
    <Binding ...>
      <Binding.ValidationRules>
        <local:JpgValidationRule/>
      </Binding.ValidationRules>
    </Binding>
  </TextBox.Text>
</TextBox>
```

Стили

```

<StackPanel Orientation="Horizontal">
  <StackPanel.Resources>
    <Style x:Key="buttonStyle">
      <Setter Property="Button.FontSize" Value="22"/>
      <Setter Property="Button.Background" Value="Purple"/>
      <Setter Property="Button.Foreground" Value="White"/>
      <Setter Property="Button.Height" Value="50"/>
      <Setter Property="Button.Width" Value="50"/>
      <Setter Property="Button.RenderTransformOrigin" Value=".5,.5"/>
      <Setter Property="Button.RenderTransform">
        <Setter.Value>
          <RotateTransform Angle="10"/>
        </Setter.Value>
      </Setter>
    </Style>
  </StackPanel.Resources>
  <Button Style="{StaticResource buttonStyle}">1</Button>
  <Button Style="{StaticResource buttonStyle}">2</Button>
  <Button Style="{StaticResource buttonStyle}">3</Button>
</StackPanel>

```



Неявное применение стиля

```
<Application ...>
  <Application.Resources>
    <Style TargetType="{x:Type Button}">
      <Setter Property="FontSize" Value="22"/>
      <Setter Property="Background" Value="Purple"/>
      <Setter Property="Foreground" Value="White"/>
      <Setter Property="Height" Value="50"/>
      <Setter Property="Width" Value="50"/>
      <Setter Property="RenderTransformOrigin" Value=".5,.5"/>
      <Setter Property="RenderTransform">
        <Setter.Value>
          <RotateTransform Angle="10"/>
        </Setter.Value>
      </Setter>
    </Style>
  </Application.Resources>
</Application>
```

Триггеры

```
<Style x:Key="buttonStyle" TargetType="{x:Type Button}">
  <Style.Triggers>
    <Trigger Property="IsMouseOver" Value="True">
      <Setter Property="RenderTransform">
        <Setter.Value>
          <RotateTransform Angle="10"/>
        </Setter.Value>
      </Setter>
      <Setter Property="Foreground" Value="Black"/>
    </Trigger>
  </Style.Triggers>
  <Setter Property="FontSize" Value="22"/>
  <Setter Property="Background" Value="Purple"/>
  <Setter Property="Foreground" Value="White"/>
  <Setter Property="Height" Value="50"/>
  <Setter Property="Width" Value="50"/>
  <Setter Property="RenderTransformOrigin" Value=".5,.5"/>
</Style>
```



Триггеры на значения свойств

Data Triggers

```

<StackPanel Width="200">
  <StackPanel.Resources>
    <Style TargetType="{x:Type TextBox}">
      <Style.Triggers>
        <DataTrigger
          Binding="{Binding RelativeSource={RelativeSource Self}, Path=Text}"
          Value="disabled">
            <Setter Property="IsEnabled" Value="False"/>
          </DataTrigger>
      </Style.Triggers>
      <Setter Property="Background"
        Value="{Binding RelativeSource={RelativeSource Self}, Path=Text}"/>
    </Style>
  </StackPanel.Resources>
  <TextBox Margin="3"/>
</StackPanel>

```

limegreen

yellow

not a color

disabled

Шаблоны

Templates

```

<Grid>
  <Grid.Resources>
    <ControlTemplate x:Key="buttonTemplate">
      <Grid>
        <Ellipse Width="100" Height="100">
          <Ellipse.Fill>
            <LinearGradientBrush StartPoint="0,0" EndPoint="0,1">
              <GradientStop Offset="0" Color="Blue"/>
              <GradientStop Offset="1" Color="Red"/>
            </LinearGradientBrush>
          </Ellipse.Fill>
        </Ellipse>
        <Ellipse Width="80" Height="80">
          <Ellipse.Fill>
            <LinearGradientBrush StartPoint="0,0" EndPoint="0,1">
              <GradientStop Offset="0" Color="White"/>
              <GradientStop Offset="1" Color="Transparent"/>
            </LinearGradientBrush>
          </Ellipse.Fill>
        </Ellipse>
      </Grid>
    </ControlTemplate>
  </Grid.Resources>
  <Button Template="{StaticResource buttonTemplate}">OK</Button>
</Grid>

```



Сохранение свойств элемента

```
<Viewbox>
  <ContentControl Margin="20" Content="{TemplateBinding Content}"/>
</Viewbox>

...
<LinearGradientBrush StartPoint="0,0" EndPoint="0,1">
  <GradientStop Offset="0"
    Color="{Binding RelativeSource={RelativeSource TemplatedParent},
      Path=Background.Color}"/>
  <GradientStop Offset="1" Color="Red"/>
</LinearGradientBrush>
```

Ресурсы

```

<Window ...>
  <Window.Resources>
    <SolidColorBrush x:Key="backgroundBrush">Yellow</SolidColorBrush>
    <SolidColorBrush x:Key="borderBrush">Red</SolidColorBrush>
  </Window.Resources>
  <Window.Background>
    <StaticResource ResourceKey="backgroundBrush"/>
  </Window.Background>
  <DockPanel>
    <StackPanel DockPanel.Dock="Bottom" Orientation="Horizontal"
      HorizontalAlignment="Center">
      <Button Background="{StaticResource backgroundBrush}"
        BorderBrush="{StaticResource borderBrush}" Margin="5">
        <Image Height="21" Source="zoom.gif"/>
      </Button>
    </StackPanel>
  </DockPanel>
</Window>

```

Задача

GUI для клиента VK

- ▶ Поле для ввода имени или id пользователя
- ▶ Поля, куда выводится имя/фамилия пользователя, полученные из VK
- ▶ Бонусное задание: Список, куда выводятся имена/фамилии из списка контактов пользователя
 - ▶ Супербонусное задание: показывать статус (онлайн/оффлайн)
- ▶ Кнопка “Получить”, которая запускает процесс общения с сервером
 - ▶ Бонусное задание: показывать данные по мере получения
- ▶ Использовать паттерн MVVM и Command

Grid Layout

```
<Grid x:Name="mainGrid">  
  <Grid.ColumnDefinitions>  
    <ColumnDefinition Width="300"/>  
    <ColumnDefinition Width="300"/>  
  </Grid.ColumnDefinitions>  
  <Grid.RowDefinitions>  
    <RowDefinition Height="200"/>  
  </Grid.RowDefinitions>  
  
  <TextBox Grid.Row="0" Grid.Column="0" Margin="40, 5"/>  
  <Button Grid.Row="0" Grid.Column="1" />  
</Grid>
```