

ДОДАТОК А

ТЕСТОВІ ЗОБРАЖЕННЯ

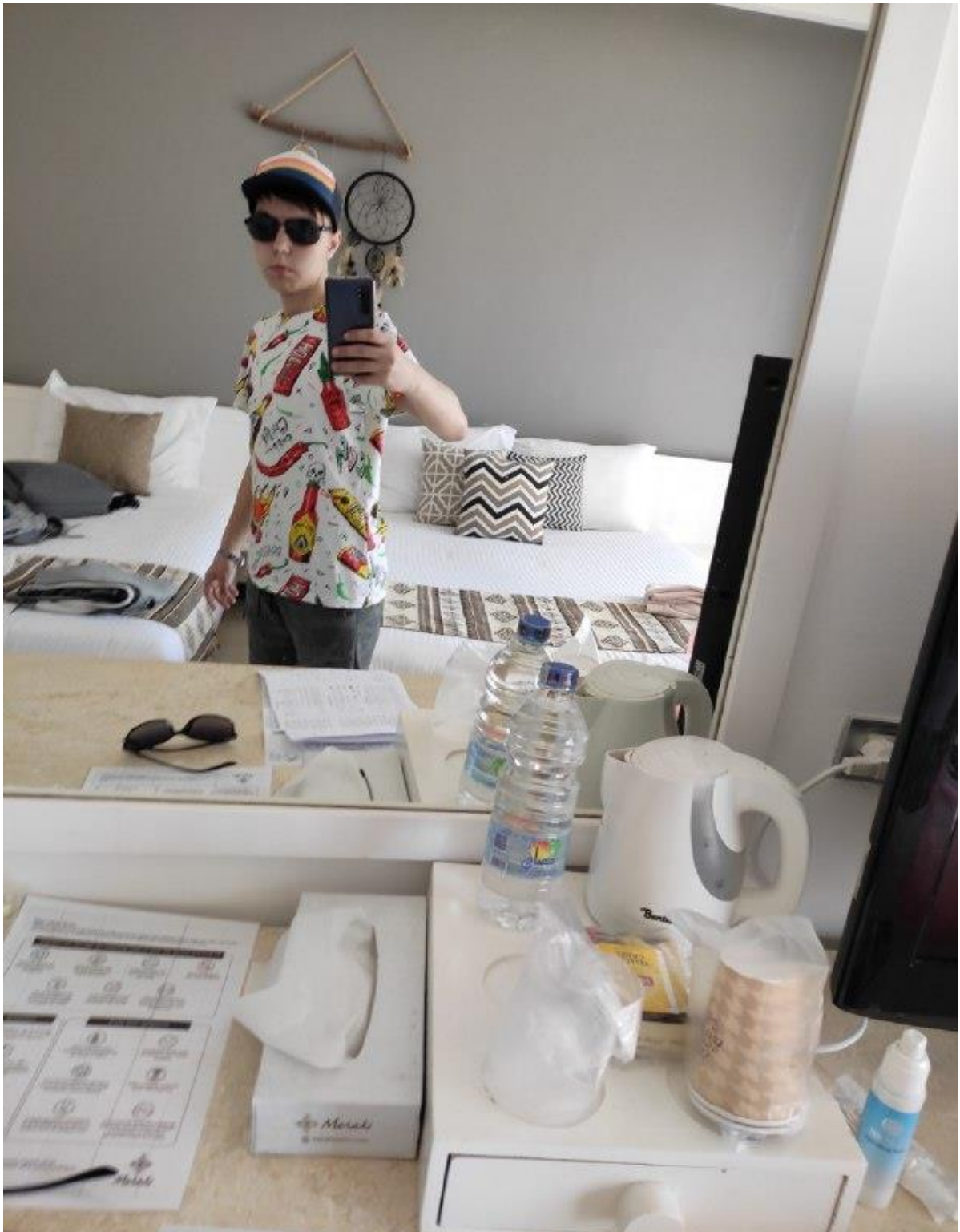


Рисунок А.1 – Зображення для обробки



Рисунок А.2 – Зображення для обробки

ДОДАТОК Б

ВИХІДНИЙ КОД ЗАСТОСУНКУ

```

<Window x:Class="Segmentia.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:Segmentia"
  mc:Ignorable="d"
  Title="MainWindow" Height="450" Width="800">
<Grid>
  <Canvas Name="canDraw"
    VerticalAlignment="Top" HorizontalAlignment="Left">
    <Image x:Name="Pic" Width="620" Height="400"
  Margin="150,10,0,0"></Image>
  </Canvas>
  <Button Width="100" Height="30" Content="Choose Image"
  Click="Button_Click" HorizontalAlignment="Left" VerticalAlignment="Top"
  Margin="7,13,0,0"></Button>
  <Button x:Name="select" Width="100" Height="30" Content="Area
  Selection" HorizontalAlignment="Left" VerticalAlignment="Top"
  Margin="9,58,0,0" Click="select_Click"/>
  <Button x:Name="Sgm" Content="Segmentation"
  HorizontalAlignment="Left" Margin="10,100,0,0" VerticalAlignment="Top"
  Height="30" Width="100" Click="Sgm_Click"/>
</Grid>
</Window>

```

Лістинг Б.1 - xaml код робочого вікна

```

using System;
using System.Windows;
using Microsoft.Win32;
using System.Windows.Controls;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Shapes;

```

```

using IronPython.Hosting;
using Microsoft.Scripting;

public partial class MainWindow : Window
{
    private Rectangle DragRectangle = null;
    private Point StartPoint, LastPoint;
    private bool selectingDisabled = true;
    BitmapImage bitmap = new BitmapImage();
    public MainWindow()
    {
        InitializeComponent();
    }

    private void Button_Click(object sender, RoutedEventArgs e)
    {
        OpenFileDialog ofd = new OpenFileDialog();
        ofd.ShowDialog();
        string path = ofd.FileName;
        //Image img = Image.FromFile(path);
        bitmap.BeginInit();
        bitmap.UriSource = new Uri(path);
        bitmap.EndInit();
        Pic.Source = bitmap;
        Pic.Width = bitmap.Width;
        Pic.Height = bitmap.Height;
        this.Width = bitmap.Width;
        this.Height = bitmap.Height;
    }

    private void canDraw_MouseDown(object sender, MouseButtonEventArgs e)
    {
        canDraw.Children.Remove(DragRectangle);
        StartPoint = Mouse.GetPosition(canDraw);
        LastPoint = StartPoint;
        DragRectangle = new Rectangle();
        DragRectangle.Width = 1;
        DragRectangle.Height = 1;
        DragRectangle.Stroke = Brushes.Red;
        DragRectangle.StrokeThickness = 1;
        DragRectangle.Cursor = Cursors.Cross;

        canDraw.Children.Add(DragRectangle);
        Canvas.SetLeft(DragRectangle, StartPoint.X);
    }
}

```

```

Canvas.SetTop(DragRectangle, StartPoint.Y);

canDraw.MouseMove += canDraw_MouseMove;
canDraw.MouseUp += canDraw_MouseUp;
canDraw.CaptureMouse();
}

private void canDraw_MouseMove(object sender, MouseEventArgs e)
{
    LastPoint = Mouse.GetPosition(canDraw);
    DragRectangle.Width = Math.Abs(LastPoint.X - StartPoint.X);
    DragRectangle.Height = Math.Abs(LastPoint.Y - StartPoint.Y);
    Canvas.SetLeft(DragRectangle, Math.Min(LastPoint.X, StartPoint.X));
    Canvas.SetTop(DragRectangle, Math.Min(LastPoint.Y, StartPoint.Y));
}

private void select_Click(object sender, RoutedEventArgs e)
{
    if (selectingDisabled)
        canDraw.MouseDown += canDraw_MouseDown;
    else
        canDraw.MouseDown -= canDraw_MouseDown;
    selectingDisabled = !selectingDisabled;
}

private void Sgm_Click(object sender, RoutedEventArgs e)
{
    if (DragRectangle.IsLoaded)
    {
        int x = (int)Math.Min(LastPoint.X, StartPoint.X);
        int y = (int)Math.Min(LastPoint.Y, StartPoint.Y);
        int width = (int)Math.Abs(LastPoint.X - StartPoint.X) + 1;
        int height = (int)Math.Abs(LastPoint.Y - StartPoint.Y) + 1;
        string script = ""; // TODO - get Iron Python script
        var engine = Python.CreateEngine();
        var scope = engine.CreateScope();
        var source = engine.CreateScriptSourceFromString(script,
SourceCodeKind.Statements);
        var compiled = source.Compile();
        var result = compiled.Execute(scope);
    }
}

```

```

private void canDraw_MouseUp(object sender, MouseButtonEventArgs e)
{
    canDraw.ReleaseMouseCapture();
    canDraw.MouseMove -= canDraw_MouseMove;
    canDraw.MouseUp -= canDraw_MouseUp;
    // canDraw.Children.Remove(DragRectangle);

    if (LastPoint.X < 0) LastPoint.X = 0;
    if (LastPoint.X >= canDraw.Width) LastPoint.X = canDraw.Width - 1;
    if (LastPoint.Y < 0) LastPoint.Y = 0;
    if (LastPoint.Y >= canDraw.Height) LastPoint.Y = canDraw.Height - 1;

    int x = (int)Math.Min(LastPoint.X, StartPoint.X);
    int y = (int)Math.Min(LastPoint.Y, StartPoint.Y);
    int width = (int)Math.Abs(LastPoint.X - StartPoint.X) + 1;
    int height = (int)Math.Abs(LastPoint.Y - StartPoint.Y) + 1;

    // Note that the CroppedBitmap object's SourceRect
    // is immutable so we must create a new CroppedBitmap.
    //BitmapSource bms = (BitmapSource)Pic.Source;
    // CroppedBitmap cropped_bitmap =
    //     new CroppedBitmap(bms, new Int32Rect(x, y, width, height));
    // Pic.Source = cropped_bitmap;

    //DragRectangle = null;
}
}

```

Лістинг Б.2 - Робочик C# код застосунку