Swinburne University of Technology

COS20007 Object Oriented Programming

2.3P - Drawing Program - A Basic Shape

PDF generated at 18:20 on Wednesday 8th March, 2023

```
using System;
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Program
    {
        public static void Main()
        {
            Window window = new Window("Shape Drawer", 800, 600);

            Shape myShape = new Shape();

            do
            {
                SplashKit.ProcessEvents();
                SplashKit.ClearScreen();

                if (SplashKit.MouseClicked(MouseButton.LeftButton))
                {
                    myShape.X = SplashKit.MouseX();
                    myShape.Y = SplashKit.MouseY();
                }

                if (myShape.IsAt(SplashKit.MousePosition()))
                {
                    if (SplashKit.KeyTyped(KeyCode.SpaceKey))
                    {
                        myShape.Color = Color.RandomRGB(255);
                    }
                }

                myShape.Draw();

                SplashKit.RefreshScreen();

            } while (!window.CloseRequested);
        }
    }
}
```

```
using System;
using SplashKitSDK;

namespace ShapeDrawer
{
    public class Shape
    {
        // local variables
        private Color _color;
        private float _x;
        private float _y;
        private int _width;
        private int _height;

        // constructor
        public Shape()
        {
            _color = Color.Green;
            _x = 0;
            _y = 0;
            _width = 100;
            _height = 100;
        }

        // properties
        public Color Color
        {
            get
            {
                return _color;
            }
            set
            {
                _color = value;
            }
        }

        public float X
        {
            get
            {
                return _x;
            }
            set
            {
                _x = value;
            }
        }
        public float Y
        {
            get
            {
                return _y;
```

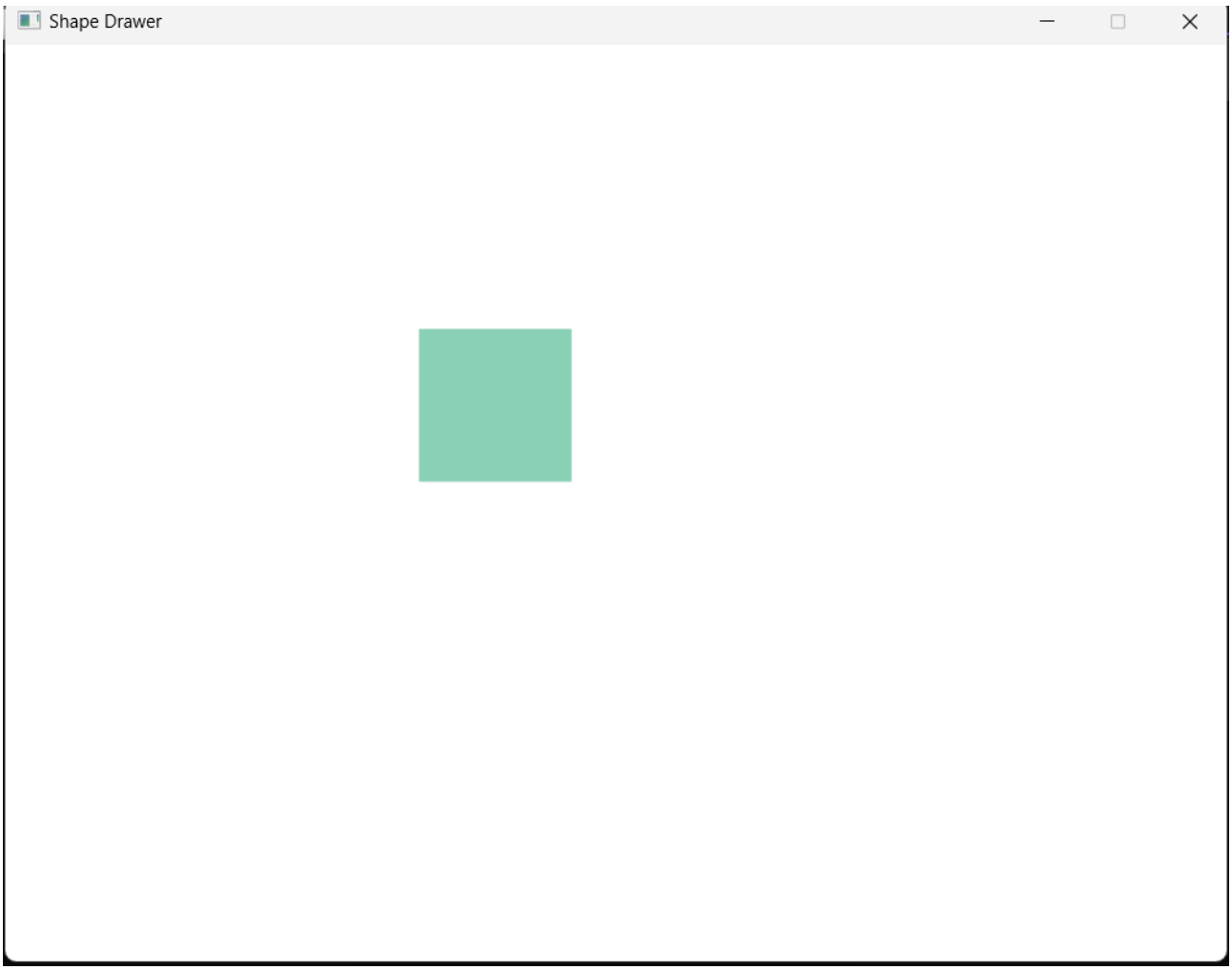
```
            }
            set
            {
                _y = value;
            }
        }

        public int Width
        {
            get
            {
                return _width;
            }
            set
            {
                _width = value;
            }
        }
        public int Height
        {
            get
            {
                return _height;
            }
            set
            {
                _height = value;
            }
        }

        // methods
        public void Draw()
        {
            SplashKit.FillRectangle(_color, _x, _y, _width, _height);
        }

        public bool IsAt(Point2D pt)
        {
            if ((pt.X > _x) && (pt.Y > _y))
            {
                if ((pt.X < _x + _width) && (pt.Y < _y + _height))
                {
                    return true;
                }
                else
                {
                    return false;
                }
            }
            else
            {
                return false;
            }
```

```
107
108             }
109
110
111         }
112
113 }
```


Shape Drawer