

COS20007 – Object Oriented Programming

Pass Task 2.3: Drawing Program – A Basic Shape

Show Wai Yan/105293041

Shape.cs

```
using SplashKitSDK;

namespace ShapeDrawer
{
    class Shape
    {
        private Color _color;
        private float _x;
        private float _y;
        private int _width;
        private int _height;

        public Shape(int param)
        {
            _color = Color.Chocolate;
            _x = 0.0f; _y = 0.0f;
            _width = param; _height = param;
        }

        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; }
        }

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

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

Program.cs

```
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(141);

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

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

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

                myShape.Draw();

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

Screenshot of the Splashkit Window showing the drawing

