



## CPE13 Object Oriented Programming

### Activity 10: Images (Image Icon and Buffer Image)

Name: REIMARC G. CORPUZ

Date: DECEMBER 5, 2022

Section: BSCPE 3GF

Score: \_\_\_\_\_

#### 1.1 Introduction

Many Java components, including buttons and labels, have an icon property that can be set to place an image on the component. This property is of type `Icon`. The `getIcon` and `setIcon` methods use values that implement the `Icon` interface. The easiest way to get an object that implements `Icon` is to create an object of type `ImageIcon`. The `ImageIcon` constructor accepts a `String` parameter that represents the image file to load. The image is a file on your hard disk, such as a GIF, JPG, or PNG image. Place your image files in the same folder as your program files.

Another way to create an icon besides loading a file containing the icon is to draw an icon yourself. You can create a blank image buffer by using a `BufferedImage`. `BufferedImage` is a class in the `java.awt.image` package, so if you want to use it, you must import the package.

#### 1.2 Objective

- To use Java programming language to create a program that uses Images.
- To conceptualize the process and manipulate the program
- To distinguish different parts of GUI Creation particularly the creation of Image and its properties.

#### Sample Program:

```
import javax.swing.*;
import java.awt.image.*;
import java.awt.*;

public class SampleA10 {

    public static void main(String[] args){
        JFrame frame = new JFrame(); //creation of frame

        frame.setLayout(new FlowLayout()); // layout manager (flow layout)

        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); // terminate the GUI
after close
        frame.setLocation(10,50); //set initial location
        frame.setSize(300,1500); // set horizontal, vertical length
        frame.setTitle("Frame Name"); //the name of the frame

        JButton button1 = new JButton("Button1"); // creation of button
        button1.setIcon(new ImageIcon("C:\\Users\\Dean
Adrian\\workspace\\Dean\\src\\Close.png"));
        button1.setBackground(Color.YELLOW); //set color
        frame.add(button1); //add button to the frame
    }
}
```

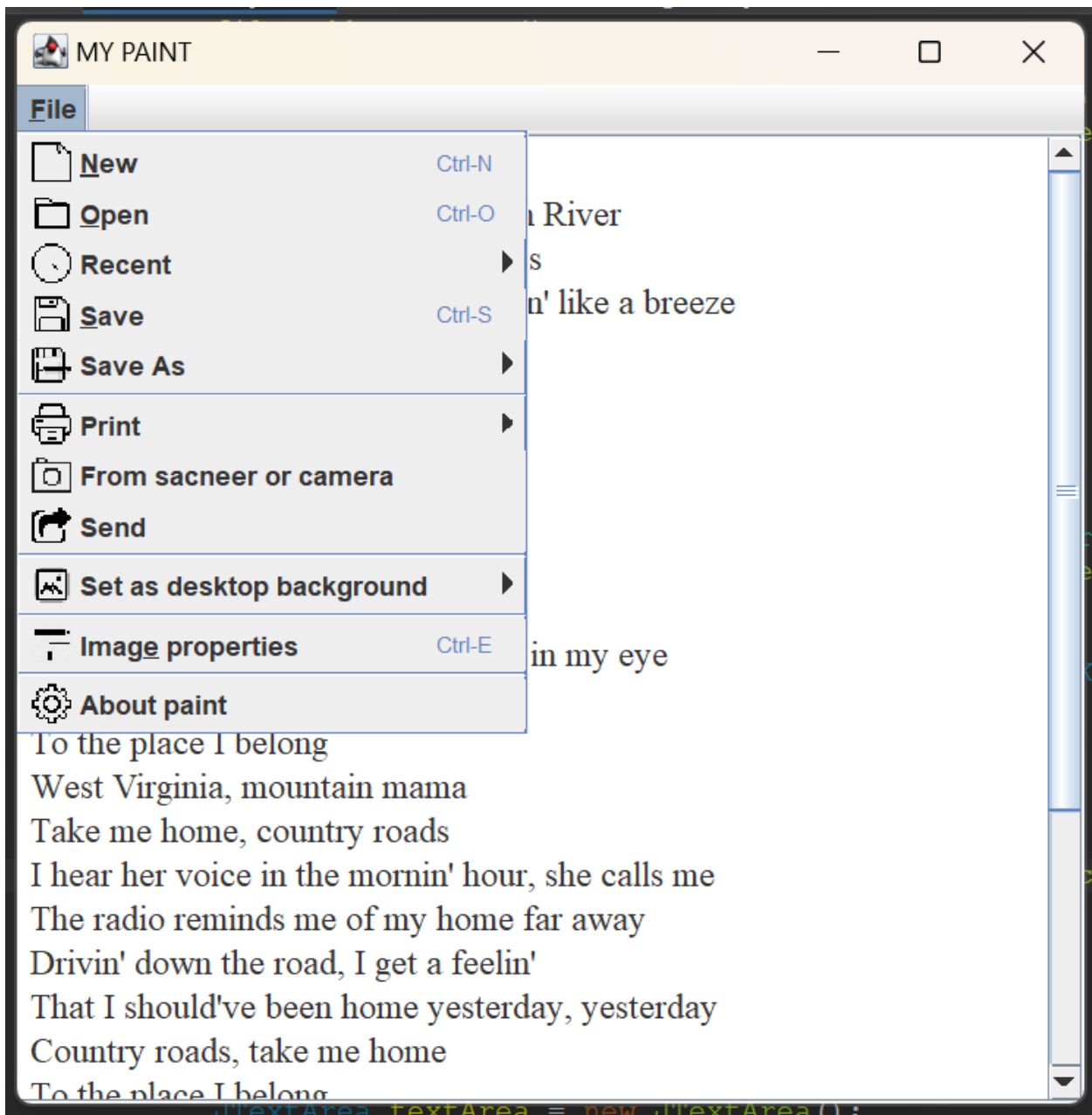
```
JButton button2 = new JButton("Button2"); // creation of button
    BufferedImage image = new BufferedImage(100, 100, BufferedImage.TYPE_INT_ARGB);
    Graphics g = image.getGraphics();
    g.setColor(Color.YELLOW);
    g.fillRect(10, 20, 80, 70);
    g.setColor(Color.RED);
    g.fillOval(40, 50, 25, 25);
    ImageIcon icon = new ImageIcon(image);
    button2.setIcon(icon);
    button2.setBackground(Color.GREEN); // set color
    frame.add(button2); // add button to frame

    frame.pack();// make the frame compact
    frame.setVisible(true); //set visibility
}
```

1.3 Problem

Write a program of a layout of a painting. Create the MenuBar “File” only and incorporate images for different Menu and MenuItem. Use a text area with a scroll for the body. (Note: you can crop images from the paint itself and make sure to save it to your chosen folder.)

Output of the Program: SS



1.4 Questions

1. What do images do in a GUI?

A command or function on your devices, such as tabs, buttons, scroll bars, menus, icons, pointers, and windows, can be opened by clicking or pointing to a small image, known as an icon or widget, through the GUI process. Today, user-centered design for software application programming is the norm. Small images representing activities or functions are created by the application, which then waits for user interaction. When and how they are utilized are within the user's control. Depending on the device, users can choose functions using a keyboard, pointing device, like a mouse, touchpad, or touchscreen.

2. Is it important to include images in a GUI? Why or why not?


Yes. *“When designers know how to work with imagery, they are better able to manipulate the emotional reactions of an audience. Product designs can rise or fall on the quality of their user experience images—which is why it’s vital to get it right.” Rian Dutra*

If designers apply images with a deeper understanding of human psychology, the product will be more useful in real life and will receive higher user acceptance. Because we are primarily visual beings, humans, pictures not only catch our attention but also elicit strong emotions in us. Because of this, there is a greater likelihood that visitors will view and click on your website if it includes engaging graphics. Images on a website may enhance the user experience and make it easier for visitors to understand crucial information.

3. Enumerate at least 3 Computer, Smartphone or any console applications where images are evidently used. Give a brief discussion and screenshot of each Application.

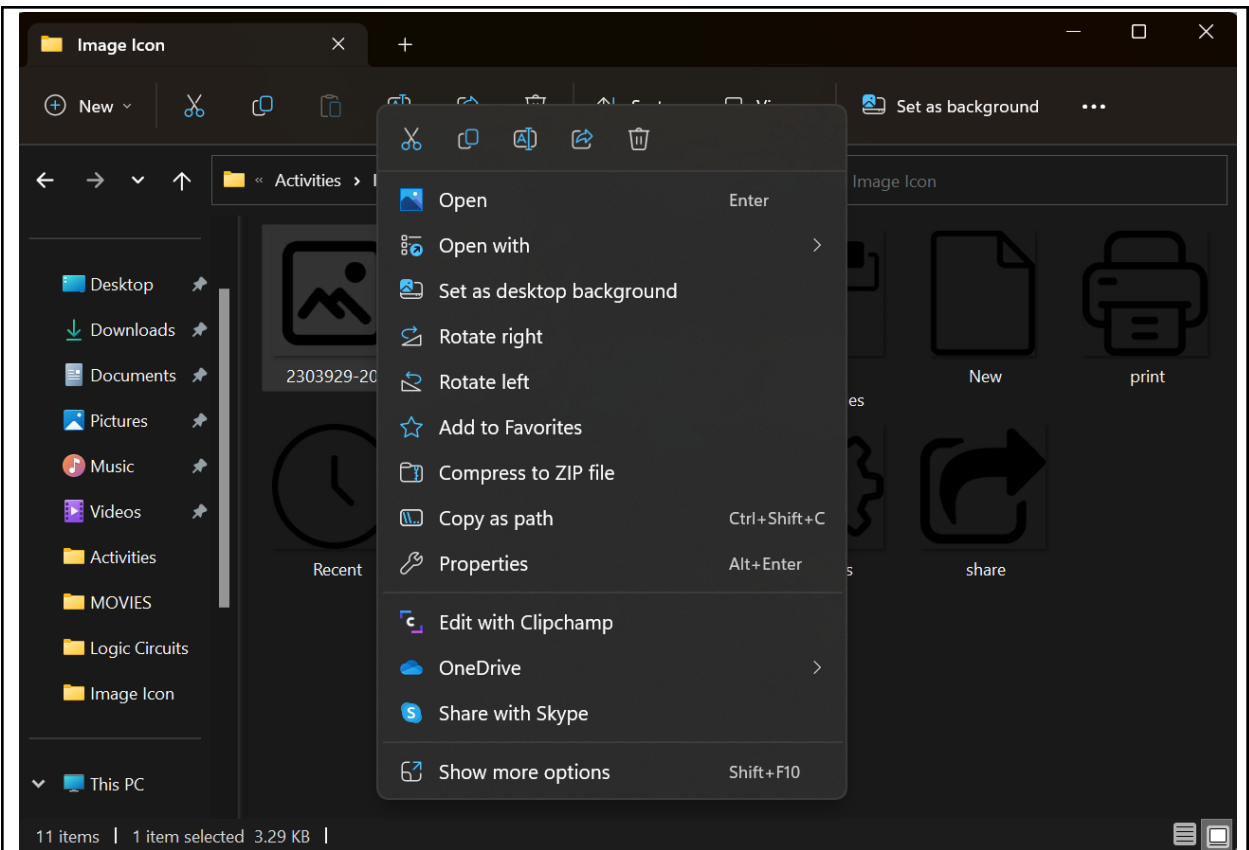
1. Task bar of a computer or laptop.

- Task bar is a shortcut to easily open the most used application in your computer. We can easily determine the different icons included in the taskbar even though it doesn't have a name description.



2. File Manager Icon

- We are familiar with the icon of new, copy, paste, save, and save as in our file manager, because of its icon. And this icon is always used in any software app.



3. Application Logo on Smartphone.
- In smartphones we always see the application logo or icon before its name. Because of the widescreen of the smartphone it is better to see immediately the image for more visual design and more attractive for the user.



## **1.5 Conclusion**

The most common proverb we use to convey the significance of a picture is "an image says a thousand words." The use of imagery in UI design is the addition of an interactive element in the form of a picture to help people relate to a brand and its goods. A literary device known as imagery engages one or more of our five senses. By reducing difficult ideas to visual representations, the usage of images improves the user experience. Images are processed by the human brain over 50,000 times quicker than words. You should utilize engaging, instructive visuals. Above all, it must give the user the intended message. When using images in UI design, there are a number of considerations that need to be made.