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Semester Project Milestone

6 April 2017

Abstract:

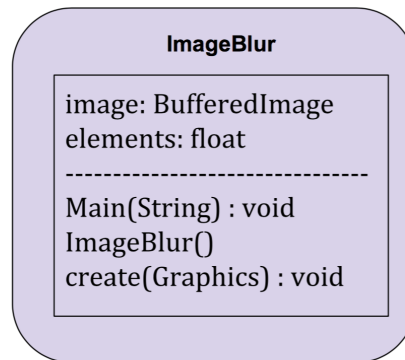
The goal of this project is to develop an image processing Java code that will apply a blur filter to an image. The code will use a variety of Java classes and methods from the `java.awt` package. Image Expression allows the user to create his or her own unique blurred image with a variety of features and options the program will include. Some of the features include loading the image of their choice, a text of the user's choice which will appear on the image, and a feature that asks the user how much blur they would like their image to have. These options and features will be applied through the user's input in the terminal once the program runs.

Introduction:

What is a Blur? By definition, blurring means to make hazy or indistinct in appearance. Blurring an image is a distortion of the pixels in the image, which . From a mathematical standpoint, an array kernel of numbers is being shifted across the image and each is multiplied by each of the pixels of the image. Then each multiplication result is added together to create the new pixel value (which creates the blurring effect). Java includes many packages with classes and different methods to assist in producing code that will blur an image, draw a frame, and personalized attributes such as text and background color.

Detailed System Description:

UML Class Diagram



Code Requirements:

The java source code will have three methods. In the main method, an object will call different methods to set the frame of the image, such as the frame's dimensions and its visibility status. It will also ask the user to input the dimensions of their image. `ImageBlur()` will be used to load the original image onto the program. It will ask the user to input the file name of their image, then it will call methods to obtain the image dimensions. This will enable the image to be placed alongside of the blurred image. `Create()` will be used to load the blurred image and apply the blur effect/how much blur is wanted. It will also ask for user input on what text they would like to place onto the image. It will consist of a variety of methods from the Graphics class which is part of the java.awt package.

User Manual: This contains a list of guidelines to help the user run Image Expression efficiently

- When setting the dimensions of the image for the frame size, they must be the exact dimensions of the image itself
- The user must enter the filename of the image they would like to use including the .jpg

Ex: “ocean.jpg”

*More guidelines will be established once final code is produced

Conclusion:

Blurring is one of the many image processing filters that can be developed with java code. Image Expression allows the user to enter his or her own input to create their desired blurred image. The user has the freedom to design a unique blurred image that can be different every time they run the program.