**Design Document**

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**Image processing**

**Data**

Displaying the image- 2D array of int (Whatever size of image)

set brightness- pointer

Exiting the program- Bool

Saving image- FILE pointer

Editing new image- Call to newly made image

**Function**

The image is uploaded to the file. The file is opened in the program, and an option of how the user would like to edit the photo is given. If crop is chosen, the user will be able to select an area to remove from the photo. If dim is chosen, the user can choose a brightness lower than the current brightness. If brighten is chosen, the brightness will be raised above what it is currently at. If rotate is chosen, the image will be rotated 90 degrees. Once the user is done editing the image, they may select to exit the program.

**Functions**

main()

**Data:** Reading the image and giving the option to exit the program

**Functionality:** Take an image from the file and display the exit message for the program and to make menu operation occur.

edit()

**Data:** int choice

**Output:** choice to edit

**Functionality:** This will let the user choose if they would like to edit the photo presented to them in the file.

menu()

**Data:** int option

**Output:** Option

**Functionality:** Display the menu to the user and to read the user’s choice. The choice made will be sent to the main function, which will choose what to do based on what the menu function sends back.

displayImage()

**Data:** Access file, send info to file, alter file

**Output:** None

**Functionality:** Send the current image back to the file after edits to be saved.

crop()

**Data:** 2D array, array (rows), array (columns)

**Output:** None

**Functionality:** The user will be able to input what part of the image they want removed, and it will be removed and saved.

dim()

**Data:** 2D array, int brightness, int lessen, iteration

**Output:** None

**Functionality:** Lower the image's brightness to the user’s liking and send the final image back to the file.

brighten()

**Data:** 2D array, int brightness, int raise, iteration

**Output:** None

**Functionality:** Raise the brightness of the image to the user’s liking and send it back to the file.

rotate()

**Data:** 2D array, iteration

**Output:** None

**Functionality:** Rotate the image 90 degrees. Using this function multiple times will rotate it however many degrees the user wants.