Design Document
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Erinstagram

Data

Dis – 2D array of characters (rows x columns)

Store – 2D array of integers (rows x columns)

Rows, columns - pointers

Rows - int

Columns – int

Ext – int

Img - FILE

Actions

This program performs a multitude of actions to an image. First, it asks the user to choose to load an image. Then the program asks the user if they would like to display this image or edit the image or exit. If the user chooses display then it will be displayed using the corresponding characters. If the user chooses edit, they will then be prompted to edit the image by cropping, dimming, or brightening the image. After these edits are done to the image the program asks the user if they would like the image saved. If so then it asks the user what they would like the file to be named. After choosing a name, the user will be prompted with the first menu and will be repeated until the user chooses to exit.

Functions

main()

Data: Arrays for image dimensions, variables for exit, load, display, and edit .

Functionality: Prompt user to choose from a menu to load, display, or edit an image. If the user chooses to edit the image then another menu is displayed asking if you would like to crop, dim, or brighten the image. After changes are made, prompt the user to save the image to a file and if yes then prompt asking for file name then return to first menu. When exit is entered, exit program

loadImg()

Input Parameters: int* rows, int* columns

Returned Output: Img FILE

Functionality: attempts to read the contents of an image of any size from a file name provided by the user. Also determines the rows and columns of the new image.

convertImg()

Input Parameters: "store" int 2D array, int rows, int columns

Returned Output: char 2D array

Functionality: Convert the values 0-4 into the corresponding character values.

displayImg()

Input Parameters: "dis" char 2D array, int rows, int columns

Returned Output: none

Functionality: print char 2D array, using the corresponding characters 0,O,o,., and " ".

cropImg()

Input Parameters: int* rows, int* columns

Returned Output: none

Functionality: subtract from rows and columns depending on the direction the user wants to crop.

dimImg()

Input Parameters: int 2D array, int* rows, int* columns

Returned Output: none

Functionality: subtract the integer in each position by one, making the image dimmer. If the brightness value is already 0, then do not subtract 1.

brightImg()

Input Parameters: int 2D array, int* rows, int* columns

Returned Output: none

Functionality: add one to each integer, making the image brighter. If the brightness value is already 4 then do not add 1