Design Document

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Image Processing

Data:

-2D array of Image size

-File IO, to save and read images

-User menu to display, edit, and exit

-Another user menu for editing purposes

-Read – 2D array of int?

-Display – void

-editMenu – void

-editProcess – 2D arrays of int

-crop – 2D array

-dim – 2D array

-brighten – 2D array

-save –

Process:

User sees main menu. User has 4 options, load, display, edit, and exit. If user chooses load or display, the program does that and brings user back to main menu. If user chooses edit, they are brought to the edit menu. User has 3 options, crop, dim, and brighten. Crop will allow user to cut the image into a smaller portion. Dim will allow user to dim each pixel by 1. Brighten will allow user to brighten each pixel by 1. After each option is completed, User is prompted to save their image to a nameable file. User is then sent to the main menu, where they can repeat or exit the program.

Functions:

main()

Data: Format IO

Functionality: Acts as a gateway to the other functions the program will have. Allows the user to choose what to do, and exit. Calls editMenu, display.

Display()

Data: A 2D array. Format IO. File IO.

Function: Reads a image from a file, and displays it to the user.

EditMenu():

Data: Format IO

Function: Called from main(). A menu for 3 other functions, crop, dim, and brighten. Calls them.

Crop():

Data: Format IO, 2D array

Function: called from editMenu(). Gives the User a mini-menu to crop image. Calls display() to display newly cropped image. Calls save() to ask User if they would like to save.

Dim(): 2D array, expressions

Function: Called from editMenu(). Dims the image by removing 1 value from all pixels. Calls save() to ask User if they would like to save. Calls from and to display().

Brighten():

Data: 2D array, expressions

Function(): Called from editMenu(). Brightens the image by adding 1 value from all pixels. Calls save() to ask User if they would like to save. Calls from and to display().

Save():

Data: File IO, 2D array

Function: Saves images for the user and ask user what the file should be named.