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CS-4050

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User Manual

User Manual

* This is a simple implementation of the Haar Wave Algorithm. One demo image is placed in the src directory.
* If you wish to test other images, simply place them in the src directory, and change the path in *Demo.java* to:
  + **File file = new File(“yourImageName.jpg”)**.
* In order to compile all java files at once, run this in terminal in the project directory:
  + **javac $(find . -name "\*.java")**
* Then run this command to execute the transformation:
  + **java demo**
* The transformed image will appear in the src directory, named:
  + **output.png**.

Description

The program starts by reading in the file using java’s *File* and *Buffered Image* libraries. I then chose to transform the image into a 2-D matrix, where I use the *Color* library to convert the values to integer pixels (8-bit accuracy). Once the new matrix is created, I can transform the data using my custom class *HaarWavelet2D* which contains some useful instance methods for processing and transposing the image. After that work is complete, the array is sent back to another converter, which converts the array back into an image by multiplying each RGB value by 255 and dividing by 40. Finally, the new image is created, and passed back to the *Buffered Image* library, where a new image is created and placed in the src directory.