

Ala-Too International University

**Color changer with JavaFX**

**HueU**

<https://github.com/DOSLAN/HueU>

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Beside from my lecturer, I like to thank my other classmates for helping to understand the assignment related questions more clearly. They gave their best for completing this report on time. I thank them for their efforts.

INTRODUCTION

First time when I use program named Blender I loved the User interface of Node Editor (where you can edit textures). It was convenient to invent, construct something. I mean buy. It can be used to every type of editors, constructors. So I decide to develop Color editor.

You can divide png, jpg files to red, green and blue colors and with them make some mathematical expressions to make new image file. It is comfortable to make mono chrome, contrast, brightness and other filters, and understand filters algorithms.

This assignment is based on developing an Color changer using “Java Programming Language”. For that I used JavaFX in this development so that it will become more users friendly to interact.

EXPLANATIONS

In this documentation we have given explanations of how to interact successfully with this Color changer. We have explained here step by step so that it will surely help users to become more user friendly with it. Below are our explanations:

**First Things First:**

Before execute this program users need to do some works so that it will run properly into their system. First they need to make sure their system is having “JDK”. If they don’t have it then they can download from this below link:

http://www.oracle.com/technetwork/java/javase/downloads/jdk7-downloads-1880260.html

Depending on their system (Windows 64bit/32bit) they need to download and install. Then they need to add the “JAVA” files to their system “PATH” so that the system can run the program from CMD (Command Prompt). The path will show something like this “C:\Program Files (x86)\Java\jre1.8.0\_25\bin;”. Now just add the address besides the current path directory and save it.

The other way they can execute this program in to download the IDE (Integrated Development Environment) on their system. They can download IntelIJ, ECLIPSE or NETBEANS depending on the windows (32bit/64bit). I highly recommend IntelIJ, because I developed it by IntelIJ, and files are hard to be accustomed to other IDE’s. Below is the links:

IntelIJ:

<https://www.jetbrains.com/idea/download/>

NETBEANS:

https://netbeans.org/downloads/

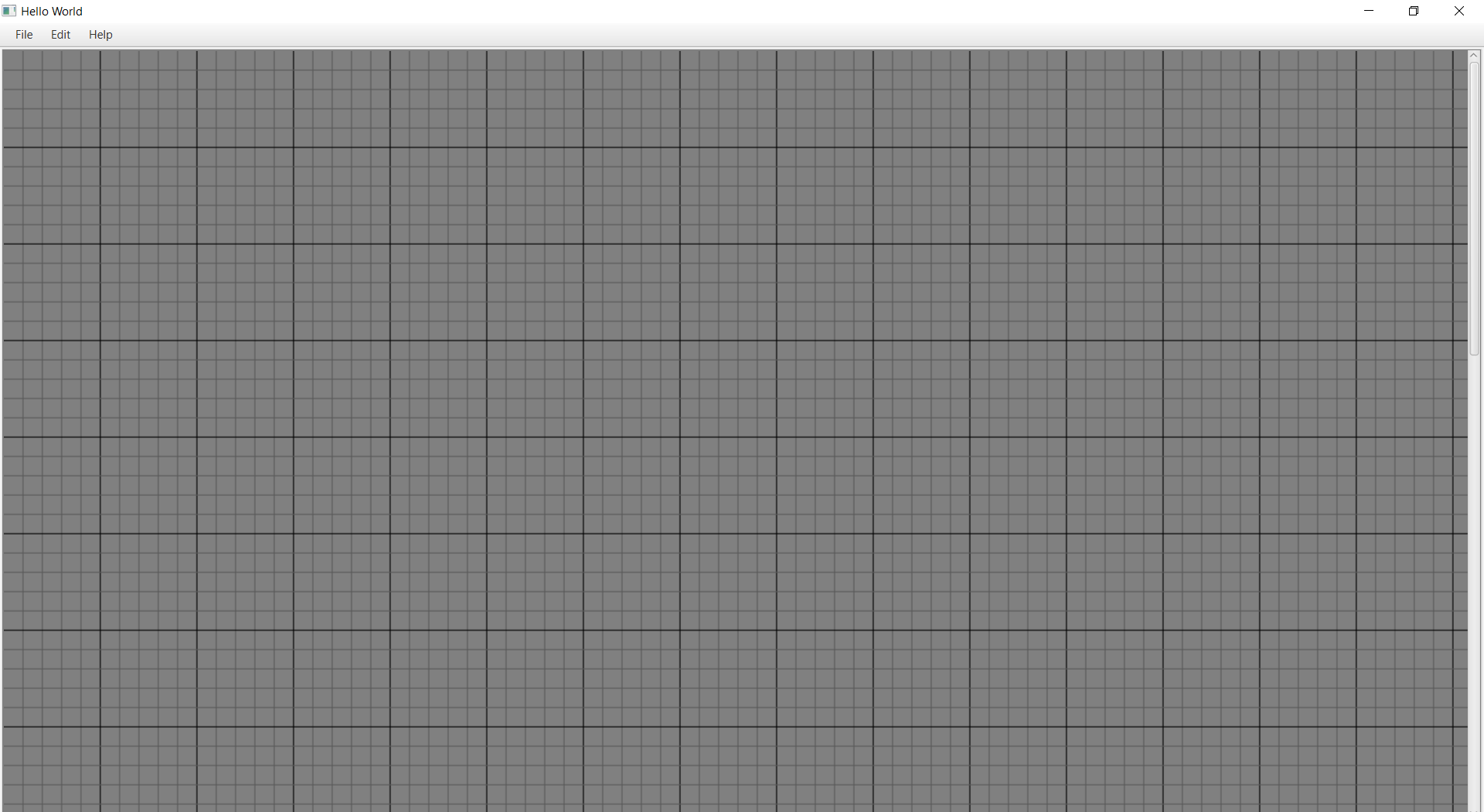
ECLIPSE:

http://www.eclipse.org/downloads/

I developed this program using “IntelIJ”.

**Execution Procedures:**

When user executes this program it will show area where you can edit your photo:



User need to go Edit >> Add >> one of the nodes. I named they “node”. Nodes are what user will work. Program do everything via nodes. Nodes helps to user add image, edit colors and save it.

All types of nodes:

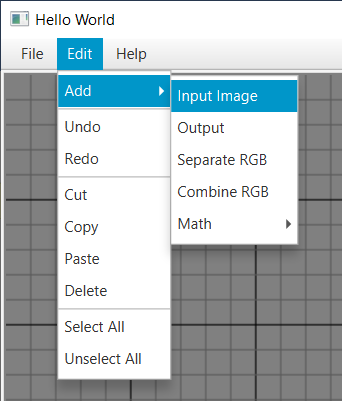
* + Input Image
  + Output
  + Separate RGB
  + Combine RGB
  + Add
  + Subtract
  + Multiply
  + Divide
  + Formatter

Nodes have points (red circles). Via them user can connect to another nodes. It is like you will edit by creating diagram of editing. For connecting user needs to drag this point to the point which user wants. Points which inputs can connected to the only one point, if user will try first connecter would be deleted.

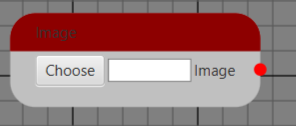
WARNING!!!: Be sure that colors connected to only colors and images connected to only images.

**Node (Input Image):**

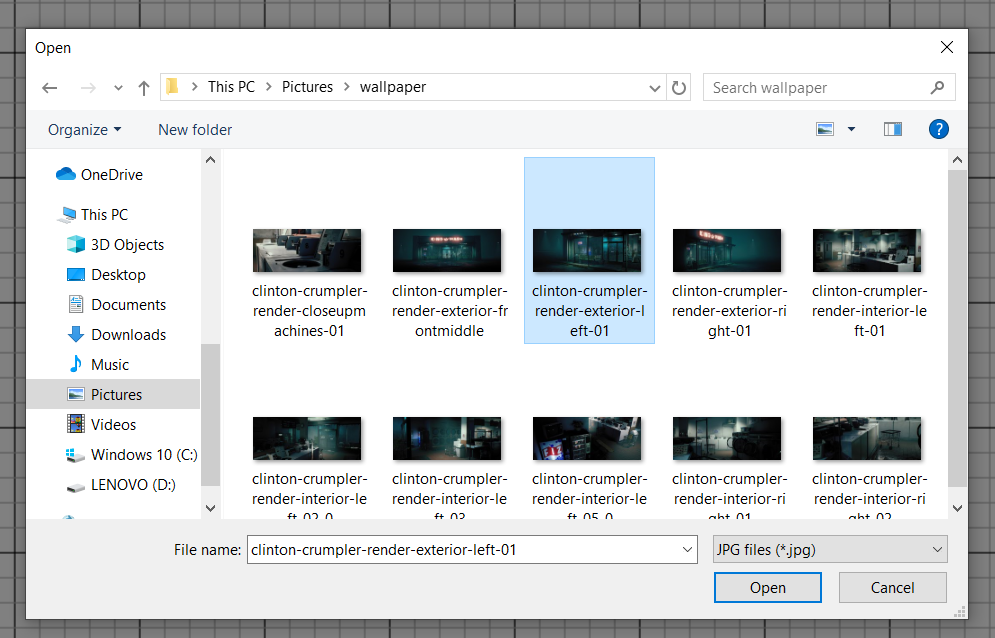
If user want to use this node, he must go to Edit>>Add>>Input Image.



Input Image:



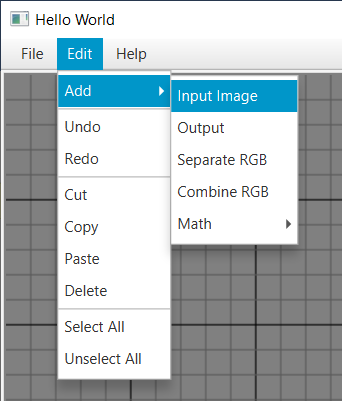
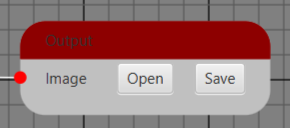
When user click the button “choose” there would appear new window:



where user can choose photo for editing.

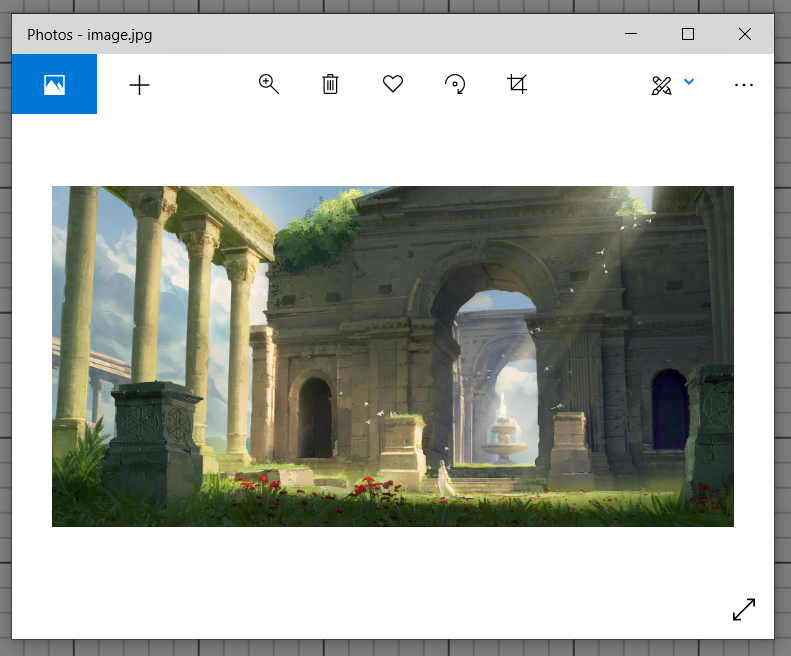
**Node (Output):**

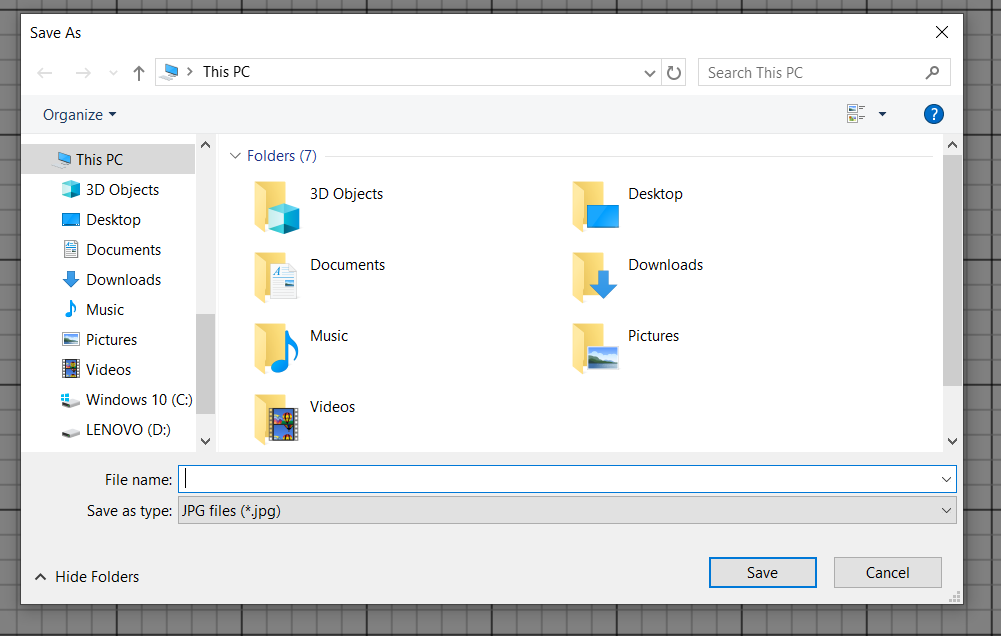
If user want to use this node, he must go to Edit>>Add>>Output. Than will appear Output.

After completing your work user can see the result by clicking the button “Open” and save it by clicking the button “Save” and showing the path where he wants to save:

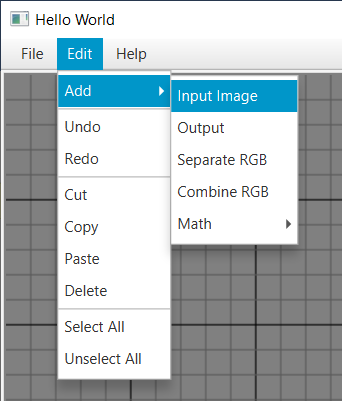
Open:



Save:

**Node (Separate RGB):**

If user want to use this node, he must go to Edit>>Add>>Separate RGB. Than will appear Separate RGB:

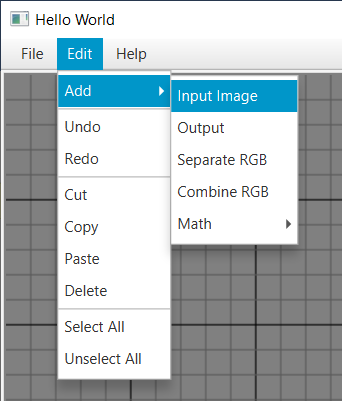
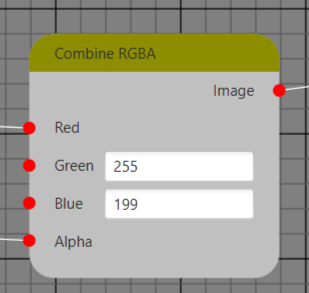


By this node you can separate your image to colors.

WARNING!!!: Be sure that colors connected to only colors and images connected to only images.

**Node (Combine RGB):**

If user want to use this node, he must go to Edit>>Add>>Combine RGB. Than will appear the node:

There is text fields where you can write only Integers. For every color value (Red, Green, Blue, Alpha) would be set the value which is connected by point if there is no connected value color would get the entered value to the text field.

**Nodes (Add, Subtract, Multiply, Divide)**

If user want to use this nodes, he must go to Edit>>Add>>Math>> and the name of node. Than will appear a node.

These nodes helps to user add, subtract, multiply and divide colors values each other or by entered value.

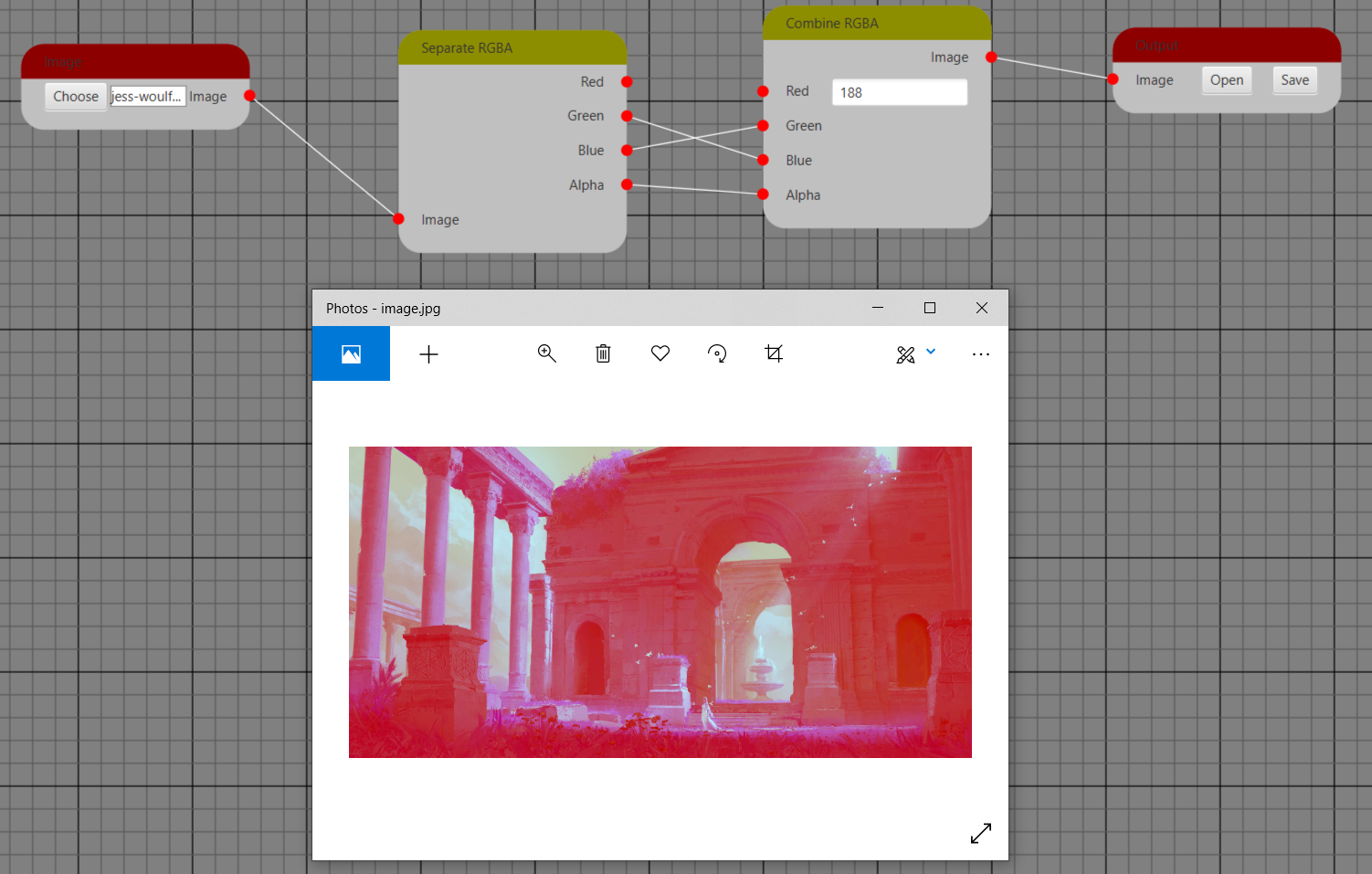
**Node (Formatter)**

If user want to use this nodes, he must go to Edit>>Add>>Math>> Formatter. Than will appear a node.

This node helps to format the value to color format a.e value between 0 and 255.

It will calculate it by defining maximum and minimum possible values and scaling the value so that minimum value equals to 0 and maximum value equals to 255. After scaling of course value would be between 0 and 255.

**Example**



**REFERENCE**

JavaFx Tutorials from oracle:

<https://docs.oracle.com/javafx/2/>

Javafx Oracle Documantations:

<https://docs.oracle.com/javase/8/javafx/api/toc.htm>

StackOverFlow:

<https://stackoverflow.com/>

GeeksforGeeks Image processing:

<https://www.geeksforgeeks.org/image-processing-java-set-1-read-write/>