Anggota Kelompok :

* Bernardinus Ansell Meidityawan Wicaksono (1103164181)
* Muhammad Faiz Azhari (1103162224)

Total pixel = 82944000 pixel

Total value red = **7282388893**

Total value green = **6970645575**

Total value blue = **7303596159**

Source code :

import os

import re

from PIL import Image

from os import listdir

import datetime

def imageprocess(image\_path):

img = Image.open(image\_path).convert('RGB')

width, height = img.size

x=0

y=0

z=0

# The RGB values we will "snap" to

colors = [255, 223, 191, 159, 127, 95, 63, 31, 0]

original\_color\_count = {}

color\_count = {}

# Loop through every pixel in the image and modify it

for w in range(width):

for h in range(height):

current\_color = img.getpixel((w, h))

if current\_color in original\_color\_count:

original\_color\_count[current\_color] += 1

else:

original\_color\_count[current\_color] = 1

r, g, b = current\_color

r\_set = False

g\_set = False

b\_set = False

# Loop through our allowed values and find the closest value to snap to

for i in range(len(colors)):

color\_one = colors[i]

color\_two = colors[i + 1]

if not r\_set:

if color\_one >= r >= color\_two:

distance\_one = color\_one - r

distance\_two = r - color\_two

r = color\_one if distance\_one <= distance\_two else color\_two

r\_set = True

if not g\_set:

if color\_one >= g >= color\_two:

distance\_one = color\_one - g

distance\_two = g - color\_two

g = color\_one if distance\_one <= distance\_two else color\_two

g\_set = True

if not b\_set:

if color\_one >= b >= color\_two:

distance\_one = color\_one - b

distance\_two = b - color\_two

b = color\_one if distance\_one <= distance\_two else color\_two

b\_set = True

if all((r\_set, g\_set, b\_set)):

break

# Set our new pixel back on the image to see the difference

new\_rgb = (r, g, b)

x = x+r

y = y+g

z = z+b

img.putpixel((w, h), new\_rgb)

if new\_rgb in color\_count:

color\_count[new\_rgb] += 1

else:

color\_count[new\_rgb] = 1

print("red : %2d"%(x))

print("green : %2d"%(y))

print("red : %2d"%(z))

# Count and sort the colors

all\_colors = color\_count.items()

all\_colors = sorted(all\_colors, key=lambda tup: tup[1], reverse=True)

try:

# Print out the colors

for i in range(5):

try:

print(all\_colors[i])

except:

print("out of range")

# Remove black, white and gray

filtered\_colors = [color for color in all\_colors if not color[0][0] == color[0][1] == color[0][2]]

z = 0

for i in range(10):

try:

print(filtered\_colors[i])

except:

print("out of range")

print("")

original\_color\_count = len(original\_color\_count)

new\_color\_count = len(color\_count)

color\_diff = original\_color\_count - new\_color\_count

print("Hasil Hitung: {}".format(color\_diff))

except Exception as e:

print(e)

print(os.getcwd())

# Open image and get data

def printMS(time):

secs = time.microseconds / 1000

return secs

def timeFromInt(msint):

time = ""

hour = 1-1

menit = 1-1

detik = 1-1

msmilidetik = 1-1

if msint>1000:

detik = msint/1000

milidetik = msint % 1000

if detik > 60:

min = detik / 60

sec = detik % 60

if min > 60:

hour = min / 60

min = min % 60

time = str(hour) + "hr, " +str(menit)+"min, "+str(detik)+"sec, "+str(milidetik)+"ms"

return time

def logging(timeToWrite, number):

f= open("Logs.txt","a+")

f.write("\ntotal waktu:\t"+timeToWrite +"\t:\t"+number)

f.close

def logging\_file(namafile, timetowrite):

f= open("Output.txt","a+")

f.write("\nnama file:\t"+namafile +"\twaktu:\t"+timetowrite)

f.close

folder = "gambar"

totalTime = 0

startcounter = 0

counter = 0

for filename in os.listdir(folder):

if (filename.endswith(".jpg") or filename.endswith(".png")):

if filename.endswith("\_new.png"):

print ("skip "+filename)

continue

if counter < startcounter:

counter +=1

continue

counter += 1

path = folder+os.sep+filename

startTime = datetime.datetime.now()

imageprocess(path)

EndTIme = datetime.datetime.now()

diffTime = EndTIme-startTime

print("waktu untuk "+path+" adalah = "+str(printMS(diffTime))+"ms")

totalTime+=printMS(diffTime)

logging(str(totalTime), str(counter))

logging\_file(filename, str(printMS(diffTime)))

continue

else:

continue

try:

print("\n\ntotal waktu eksekusi adalah = ")+timeFromInt(totalTime)

print("done")

except:

print("done")

Screenshoot

