Autumn Dillard

Completed



Originals






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from mediaComp import *
#setMediaFolder()
#Autumn Dillard 10-20-26

def collage():
    pic=makeEmptyPicture(1000,736,white)
    pic2=makePicture(getMediaFolder("beach.jpg"))
    height1=getHeight(pic)
    width1=getWidth(pic)
    pic2=newScale(pic2,1.5625)
    copyMain(pic2,pic,width1,height1)
    pic5Safe=makePicture(getMediaFolder("msg.jpg"))
    pic5=pic5Safe
    chromakeyRev(pic5,pic,300,50)
    pic5=pic5Safe
    chromakeyRev(pic5,pic,315,55)
    pic5=pic5Safe
    chromakeyRev(pic5,pic,330,60)
    pic3=makePicture(getMediaFolder("mScary.jpg"))
    chromakey(pic3,pic,760,395)
    copyPicture(pic3,pic,760,395)
    pic4=makePicture(getMediaFolder("mRight.jpg"))
    copyPicture(pic4,pic,325,410)
    chromakey(pic4,pic,235,375)
    poster(pic4)
    copyPicture(pic4,pic,235,375)
    pic4=makePicture(getMediaFolder("mRight.jpg"))
    picRot=rotate(pic4)
    chromakey(picRot,pic,440,545)
    copyPicture(picRot,pic,440,545)
    picEdge=edgeDetect(pic4,5,white,blue)
    chromakey(picEdge,pic,650,400)
    copyPicture(picEdge,pic,650,400)
    pic4=makePicture(getMediaFolder("mRight.jpg"))
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    picScale=newScale(pic4,0.20)
    chromakey(picScale,pic,805,355)
    copyPicture(picScale,pic,805,355)
    picSig=makePicture(getMediaFolder("signature.jpg"))
    picSig=newScale(picSig,0.35)
    chromakeyRev(picSig,pic,875,465)
    show(pic)

def chromakey(source, background,xStart,yStart):
    widthS=getWidth(source)
    heightS=getHeight(source)
    for source_pixel in getPixels(source):
        x = getX(source_pixel)
        y = getY(source_pixel)
        if getRed(source_pixel) < 20 and getGreen(source_pixel) < 60 and getBlue(source_pixel) > 50:
            background_pixel = getPixelAt(background, xStart+x, yStart+y)
            background_color = getColor(background_pixel)
            setColor(source_pixel, background_color)

def newScale(source_picture,scaleFactor):
    new_width = getWidth(source_picture) * scaleFactor
    new_height = getHeight(source_picture) * scaleFactor
    new_picture = makeEmptyPicture(new_width, new_height)
    source_x = 0
    for new_x in range(0,getWidth(new_picture)):
        source_y = 0
        for new_y in range(0,getHeight(new_picture)):
            color = getColor(getPixelAt(source_picture, int(source_x), int(source_y)))
            setColor(getPixelAt(new_picture, new_x, new_y), color)
            source_y = source_y + 1/scaleFactor
        source_x = source_x + 1/scaleFactor
    return new_picture

def copyMain(pic2,pic,width1,height1):
    for x in range(width1):
        for y in range(height1):
            pixelsNew=getPixelAt(pic2,x,y)
            pixelsOld=getPixelAt(pic,x,y)
            color=getColor(pixelsNew)
            setColor(pixelsOld,color)

def copyPicture(picture_in, picture_out,xStart,yStart):
    targetX=xStart
    width=getWidth(picture_in)
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    for x in range(width):
        targetY=yStart
        for y in range(getHeight(picture_in)):
            pixel_in=getPixelAt(picture_in,x,y)
            pixel_out=getPixelAt(picture_out,targetX,targetY)
            color=getColor(pixel_in)
            setColor(pixel_out,color)
            targetY=targetY+1
        targetX=targetX+1

    return picture_out

def poster(picture):
    for pixel in getPixels(picture):
        red_value = getRed(pixel)
        green_value = getGreen(pixel)
        blue_value = getBlue(pixel)
        luminance = (red_value + green_value + blue_value) // 3
        if luminance < 50:
            setColor(pixel, black)
        elif luminance <=150:
            setColor(pixel, darkGray)
        elif luminance <=200:
            setColor(pixel, lightGray)
        else:
            setColor(pixel, white)
    return

def rotate(pic):
    widthr=getWidth(pic)
    heightr=getHeight(pic)
    picRot=makeEmptyPicture(heightr,widthr,white)
    for x in range(widthr):
        for y in range(heightr):
            originPix=getPixelAt(pic,x,y)
            finalPix=getPixelAt(picRot,y,x)
            oriColor=getColor(originPix)
            setColor(finalPix,oriColor)
    return picRot

def luminance(pixel):
    red_value = getRed(pixel)
    green_value = getGreen(pixel)
    blue_value = getBlue(pixel)
    return (red_value + green_value + blue_value) // 3
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def edgeDetect(picture,threshold,color1,color2):
    for pixel in getPixels(picture):
        x = getX(pixel)
        y = getY(pixel)
        if y < getHeight(picture) - 1 and x < getWidth(picture) - 1:
            bottom_right_pixel = getPixelAt(picture, x+1, y+1)
            this_luminance = luminance(pixel)
            bottom_right_luminance = luminance(bottom_right_pixel)
            if abs(bottom_right_luminance - this_luminance) > threshold:
                setColor(pixel, color1)
            else:
                setColor(pixel, color2)
    return picture

def chromakeyRev(source, background,xStart,yStart):
    widthS=getWidth(source)
    heightS=getHeight(source)
    for source_pixel in getPixels(source):
        x = getX(source_pixel)
        y = getY(source_pixel)
        source_color = getColor(source_pixel)
        if distance(source_color,white)>1:
        #if not(getRed(source_pixel) > 254 and getGreen(source_pixel) >254 and getBlue(source_pixel) >254):
            background_pixel = getPixelAt(background, x+xStart, y+yStart)
            setColor(background_pixel,source_color)
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