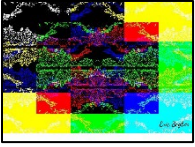# Eric Segbor

Completed   Originals


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def collage():
 picture = makePicture(getMediaPath("beach.jpg"))
 #picture2 = makePicture(getMediaPath("blueMotorcycle.jpg"))
 signing = makePicture(getMediaPath("Esignature.jpg"))
 factor = 0.7
 canvas = makeEmptyPicture(1000,736)
# addText(canvas,870,670,"Eric Segbor")
 picHold = makeEmptyPicture(int(getWidth(signing) * 0.20), int(getHeight(signing)*
0.20))
 pictureH = scale2(signing, picHold, 0.20)
 edgedetect(picture)
 negative(picture)
 mirrorVertical(picture)
 mirrorHalf(picture)
 scale(picture, canvas, factor)
 copy(picture,0,0,getWidth(picture),getHeight(picture),canvas,0,0)
 #copy(picture2,0,0,getWidth(picture2),getHeight(picture2),canvas,100,0)

 addSignature(canvas,pictureH,836,642,black)
 explore(canvas)
 show(canvas)

def addSignature(target, signing, toX, toY, color):
  toYStart = toY
  for x in range(0, getWidth(signing)):
    toY = toYStart
    for y in range(0, getHeight(signing)):
      p = getPixel(signing, x, y)
      if(getRed(p) < 225 and getGreen(p) < 225 and getBlue(p) < 225):
        setColor(getPixel(target, toX, toY), color)
      toY = toY + 1
    toX = toX + 1
  return target

def copy(source,srcX,srcY,srcXb,srcYb,canvas,canXb,canYb):
  targetX = 0
  for x in range (srcX,srcXb):
    targetY = 0
    for y in range (srcY,srcYb):
      px = getPixel(source,x,y)
      targetPx = getPixel(canvas,targetX,targetY)
      setColor(targetPx,getColor(px))
      targetY = targetY + 1
    targetX = targetX + 1

  targetX = 360
  for x in range (srcX,srcXb):
    targetY = 210
    for y in range (srcY,srcYb):
      px = getPixel(source,x,y)
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        targetPx = getPixel(canvas,targetX,targetY)
        setRed(targetPx,getRed(px))
        targetY = targetY + 1
      targetX = targetX + 1

  targetX = 180
  for x in range (srcX,srcXb):
    targetY = 110
    for y in range (srcY,srcYb):
      px = getPixel(source,x,y)
        targetPx = getPixel(canvas,targetX,targetY)
        setGreen(targetPx,getGreen(px))
        targetY = targetY + 1
      targetX = targetX + 1

  targetX = 360
  for x in range (srcX,srcXb):
    targetY = 0
    for y in range (srcY,srcYb):
      px = getPixel(source,x,y)
        targetPx = getPixel(canvas,targetX,targetY)
        setBlue(targetPx,getBlue(px))
        targetY = targetY + 1
      targetX = targetX + 1

  targetX = 0
  for x in range (srcX,srcXb):
    targetY = 210
    for y in range (srcY,srcYb):
      px = getPixel(source,x,y)
        targetPx = getPixel(canvas,targetX,targetY)
        setBlue(targetPx,getBlue(px))
        targetY = targetY + 1
      targetX = targetX + 1

def scale(picture_in, picture_out, factor):
  in_x = 0
  for out_x in range(0, int(getWidth(picture_in) * factor)):
    in_y = 0
    for out_y in range(0, int(getHeight(picture_in) * factor)):
      color = getColor(getPixel(picture_in, int(in_x), int(in_y)))
      setColor(getPixel(picture_out, out_x, out_y), color)
      in_y = in_y + 1.0 / factor
    in_x = in_x + 1.0 / factor

def scale2(picture_in, picture_out, factor):
  in_x = 0
  for out_x in range(0, int(getWidth(picture_in) * factor)):
    in_y = 0
    for out_y in range(0, int(getHeight(picture_in) * factor)):
      color = getColor(getPixel(picture_in, int(in_x), int(in_y)))
      setColor(getPixel(picture_out, out_x, out_y), color)
      in_y = in_y + 1.0 / factor
    in_x = in_x + 1.0 / factor
  return picture_out

def negative(picture):
  for px in getPixels(picture):
    red = getRed(px)
    green = getGreen(px)
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    blue = getBlue(px)
    negColor = makeColor(255-red, 255-green, 255-blue)
    setColor(px,negColor)

def mirrorVertical(picture):
  mirrorPoint = getWidth(picture)/2
  width = getWidth(picture)
  for y in range(0,getHeight(picture)):
    for x in range(0,mirrorPoint):
      leftPixel = getPixel(picture,x,y)
      rightPixel = getPixel(picture,width - x -1,y)
      color = getColor(leftPixel)
      setColor(rightPixel,color)

def mirrorHalf(picture):
  pixels = getPixels(picture)
  target = len(pixels) - 1
  for index in range(0,len(pixels)/2):
    pixel1 = pixels[index]
    color1 = getColor(pixel1)
    pixel2 = pixels[target]
    setColor(pixel2,color1)
    target = target - 1

def luminance(pixel):
  r = getRed(pixel)
  g = getGreen(pixel)
  b = getBlue(pixel)
  return (r+g+b)/3

def edgedetect(picture):
  for px in getPixels(picture):
    x = getX(px)
    y = getY(px)
    if y < getHeight(picture)-1 and x < getWidth(picture)-1:
      botrt = getPixel(picture,x+1,y+1)
      thislum = luminance(px)
      brlum = luminance(botrt)
      if abs(brlum-thislum) > 20:
        setColor(px,black)
      if abs(brlum-thislum) <= 20:
        setColor(px,white)
```