#import libraries

import numpy as np

import cv2

import picamera

import time

#take a realtime image

with picamera.PiCamera() as camera:

camera.resolution = (512,512)

camera.start\_preview()

time.sleep(5)

camera.capture("/home/pi/Desktop/microscope/rtimg.jpg")

#make a copy of the original image

img = cv2.imread('rtimg.jpg', cv2.IMREAD\_UNCHANGED)

cv2.imwrite('rtimg2.jpg', img)

while True:

#read image

im = cv2.imread('rtimg2.jpg',cv2.IMREAD\_UNCHANGED)

#select ROI

r = cv2.selectROI(im)

#crop

imCrop = im[int(r[1]):int(r[1]+r[3]),int(r[0]):int(r[0]+r[2])]

#zoom

scale\_percent = 400

#scale\_percent = int(input ("enter : "))

width = int(imCrop.shape[1] \*scale\_percent / 100)

height = int(imCrop.shape[0] \*scale\_percent / 100)

dim =(width,height)

imZoom = cv2.resize(imCrop,dim,interpolation = cv2.INTER\_AREA)

#save cropped

cv2.imwrite('rtimg2.jpg', imZoom)

#ask for continuation

def click\_and\_crop(event, x, y, flags, param):

if event == cv2.EVENT\_LBUTTONDOWN:

refPt = [(x, y)]

cropping = True

elif event == cv2.EVENT\_LBUTTONUP:

refPt.append((x, y))

cropping = False

cv2.rectangle(image, refPt[0], refPt[1], (0, 255, 0), 2)

cv2.imshow("image", image)

#show zoomed image

img = cv2.imread('rtimg2.jpg'.jpg')

cv2.imshow('image', img)

cv2.waitKey(0)

cv2.destroyAllWindows()