#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()