mport RPi.GPIO as gpio  
import picamera  
import time

m11=17  
m12=27  
led=5  
buz=26

button=19

RS =18  
EN =23  
D4 =24  
D5 =16  
D6 =20  
D7 =21

HIGH=1  
LOW=0

gpio.setwarnings(False)  
gpio.setmode(gpio.BCM)  
gpio.setup(RS, gpio.OUT)  
gpio.setup(EN, gpio.OUT)  
gpio.setup(D4, gpio.OUT)  
gpio.setup(D5, gpio.OUT)  
gpio.setup(D6, gpio.OUT)  
gpio.setup(D7, gpio.OUT)  
gpio.setup(led, gpio.OUT)  
gpio.setup(buz, gpio.OUT)  
gpio.setup(m11, gpio.OUT)  
gpio.setup(m12, gpio.OUT)  
gpio.setup(button, gpio.IN)  
gpio.output(led , 0)  
gpio.output(buz , 0)  
gpio.output(m11 , 0)  
gpio.output(m12 , 0)  
data=""

def capture\_image():  
    lcdcmd(0x01)  
    lcdprint("Please Wait..");  
    data= time.strftime("%d\_%b\_%Y\%H:%M:%S")  
    camera.start\_preview()  
    time.sleep(5)  
    print data  
    camera.capture('/home/pi/Desktop/Visitors/%s.jpg'%data)  
    camera.stop\_preview()  
    lcdcmd(0x01)  
    lcdprint("Image Captured")  
    lcdcmd(0xc0)  
    lcdprint(" Successfully ")  
    time.sleep(2)

def gate():  
            lcdcmd(0x01)  
            lcdprint("    Welcome  ")  
            gpio.output(m11, 1)  
            gpio.output(m12, 0)  
            time.sleep(1.5)  
            gpio.output(m11, 0)  
            gpio.output(m12, 0)  
            time.sleep(3)  
            gpio.output(m11, 0)  
            gpio.output(m12, 1)  
            time.sleep(1.5)  
            gpio.output(m11, 0)  
            gpio.output(m12, 0)  
            lcdcmd(0x01);  
            lcdprint("  Thank You  ")  
            time.sleep(2)

def begin():  
  lcdcmd(0x33)   
  lcdcmd(0x32)   
  lcdcmd(0x06)  
  lcdcmd(0x0C)   
  lcdcmd(0x28)   
  lcdcmd(0x01)   
  time.sleep(0.0005)  
   
def lcdcmd(ch):   
  gpio.output(RS, 0)  
  gpio.output(D4, 0)  
  gpio.output(D5, 0)  
  gpio.output(D6, 0)  
  gpio.output(D7, 0)  
  if ch&0x10==0x10:  
    gpio.output(D4, 1)  
  if ch&0x20==0x20:  
    gpio.output(D5, 1)  
  if ch&0x40==0x40:  
    gpio.output(D6, 1)  
  if ch&0x80==0x80:  
    gpio.output(D7, 1)  
  gpio.output(EN, 1)  
  time.sleep(0.005)  
  gpio.output(EN, 0)

  # Low bits  
  gpio.output(D4, 0)  
  gpio.output(D5, 0)  
  gpio.output(D6, 0)  
  gpio.output(D7, 0)  
  if ch&0x01==0x01:  
    gpio.output(D4, 1)  
  if ch&0x02==0x02:  
    gpio.output(D5, 1)  
  if ch&0x04==0x04:  
    gpio.output(D6, 1)  
  if ch&0x08==0x08:  
    gpio.output(D7, 1)  
  gpio.output(EN, 1)  
  time.sleep(0.005)  
  gpio.output(EN, 0)  
    
def lcdwrite(ch):   
  gpio.output(RS, 1)  
  gpio.output(D4, 0)  
  gpio.output(D5, 0)  
  gpio.output(D6, 0)  
  gpio.output(D7, 0)  
  if ch&0x10==0x10:  
    gpio.output(D4, 1)  
  if ch&0x20==0x20:  
    gpio.output(D5, 1)  
  if ch&0x40==0x40:  
    gpio.output(D6, 1)  
  if ch&0x80==0x80:  
    gpio.output(D7, 1)  
  gpio.output(EN, 1)  
  time.sleep(0.005)  
  gpio.output(EN, 0)

  # Low bits  
  gpio.output(D4, 0)  
  gpio.output(D5, 0)  
  gpio.output(D6, 0)  
  gpio.output(D7, 0)  
  if ch&0x01==0x01:  
    gpio.output(D4, 1)  
  if ch&0x02==0x02:  
    gpio.output(D5, 1)  
  if ch&0x04==0x04:  
    gpio.output(D6, 1)  
  if ch&0x08==0x08:  
    gpio.output(D7, 1)  
  gpio.output(EN, 1)  
  time.sleep(0.005)  
  gpio.output(EN, 0)  
   
def lcdprint(Str):  
  l=0;  
  l=len(Str)  
  for i in range(l):  
    lcdwrite(ord(Str[i]))

begin()  
lcdcmd(0x01)  
lcdprint("Visitor Monitoring")  
lcdcmd(0xc0)  
lcdprint("    Using RPI     ")  
time.sleep(3)  
lcdcmd(0x01)  
lcdprint("Circuit Digest")  
lcdcmd(0xc0)  
lcdprint("Saddam Khan")  
time.sleep(3)  
lcdcmd(0x01)  
camera = picamera.PiCamera()  
camera.rotation=180  
camera.awb\_mode= 'auto'  
camera.brightness=55  
lcdcmd(0x01)  
lcdprint(" Please Press ")  
lcdcmd(0xc0)  
lcdprint("    Button      ")  
time.sleep(2)  
while 1:

        d= time.strftime("%d %b %Y")  
        t= time.strftime("%H:%M:%S")  
        lcdcmd(0x80)  
        lcdprint("Time: %s"%t)  
        lcdcmd(0xc0)  
        lcdprint("Date:%s"%d)  
        gpio.output(led, 1)  
        if gpio.input(button)==0:  
            gpio.output(buz, 1)  
            gpio.output(led, 0)  
            time.sleep(0.5)  
            gpio.output(buz, 0)  
            capture\_image()  
            gate()  
        time.sleep(0.5)