**HOME SECURITY SYSTEM USING RASPBERRY PI WITH IOT**

import smtplib,email,os

from email.mime.base import MIMEBase

from email.mime.multipart import MIMEMultipart from email.mime.text import MIMEText

from email import encoders from picamera import PiCamera import RPi.GPIO as GPIO import datetime

from time import sleep #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* GPIO setup

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* GPIO.setwarnings(False)

GPIO.setmode(GPIO.BCM) GPIO.setup(17,GPIO.OUT) servo1=GPIO.PWM(17,50)

piezor=20 piezol=16

GPIO.setup(piezor,[GPIO.IN](http://gpio.in/)) GPIO.setup(piezol,[GPIO.IN](http://gpio.in/))

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Email parameters

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* subject='Security Alert'

bodyText1="Hi,\nA motion has been detected" SMTP\_SERVER='[smtp.gmail.com'](http://smtp.gmail.com/) SMTP\_PORT=587

USERNAME='[weirddoberman@gmail.com'](mailto:weirddoberman@gmail.com) PASSWORD='czomcanbbkiqflqj' RECIEVER\_EMAIL='[arushguptaga@gmail.com'](mailto:arushguptaga@gmail.com)

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Video finename and path \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* filename\_part1="security\_system"

file\_ext=".jpg"

now = datetime.datetime.now()

current\_datetime = now.strftime("%d-%m-%Y\_%H:%M:%S") filename=filename\_part1+"\_"+current\_datetime+file\_ext filepath="/home/pi/Pictures"

def send\_email1(): message=MIMEMultipart() message["From"]=USERNAME message["To"]=RECIEVER\_EMAIL message["Subject"]=subject

message.attach(MIMEText(bodyText1, 'plain')) attachment=open(filepath+filename, "rb")

mimeBase=MIMEBase('application','octet-stream') mimeBase.set\_payload((attachment).read())

encoders.encode\_base64(mimeBase) mimeBase.add\_header('Content-Disposition', "attachment; filename=

" +filename)

message.attach(mimeBase) text=message.as\_string()

session=smtplib.SMTP(SMTP\_SERVER, SMTP\_PORT) session.ehlo()

session.starttls() session.ehlo()

session.login(USERNAME, PASSWORD) session.sendmail(USERNAME, RECIEVER\_EMAIL, text) session.quit

print("Email sent")

def capture\_video(): camera.start\_preview()

camera.start\_recording('/home/pi/Pictures/pic.jpg') camera.wait\_recording(10) camera.stop\_recording()

camera.stop\_preview()

def capture\_pic(): camera.start\_preview() sleep(2)

camera.capture('/home/pi/Pictures/pic.jpg')

def remove\_file():

if os.path.exists("/home/pi/Pictures/pic.jpg"): os.remove("/home/pi/Pictures/pic.jpg")

else:

print("file does not exist") #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Initiate pi Camera

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\* camera=PiCamera()

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Main code for method call

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while True: piezoinr=GPIO.input(piezor) piezoinl=GPIO.input(piezol)

print("Piezo sensor left ",piezoinr)

print("Piezo sensor right ",piezoinl) servo1.start(7)

print("Waiting 2 sec") sleep(2)

if piezoinr==1: print("Motion Detected")

servo1.ChangeDutyCycle(5) sleep(2)

#capture\_video() capture\_pic() sleep(2)

servo1.ChangeDutyCycle(7) sleep(0.5) servo1.ChangeDutyCycle(0)

res=os.system("MP4Box -add /home/pi/Pictures/pic.jpg") os.system("mv /home/pi/Pictures/pic.jpg "+filepath+filename)

send\_email1() sleep(2) remove\_file()

elif piezoinl==1:

print("Motion Detected") servo1.ChangeDutyCycle(9) sleep(2)

#capture\_video() capture\_pic() sleep(2)

servo1.ChangeDutyCycle(7)

sleep(0.5) servo1.ChangeDutyCycle(0)

res=os.system("MP4Box -add /home/pi/Pictures/pic.jpg") os.system("mv /home/pi/Pictures/pic.jpg "+filepath+filename)

send\_email1() sleep(2) remove\_file()

else:

print("Safe Home")