import pyrebase

import board

import adafruit\_dht

import RPi.GPIO as GPIO

import time

from mfrc522 import SimpleMFRC522

from signal import signal, SIGTERM, SIGHUP, pause

from rpi\_lcd import LCD

#setting API firebase

config = {

"apiKey": "AIzaSyBIxLGjEx5RJyiYgcCsWrj2leXziEUJEHQ",

"authDomain": "cobarelay-b71bf.firebaseapp.com",

"databaseURL": "https://cobarelay-b71bf-default-rtdb.firebaseio.com",

"projectId": "cobarelay-b71bf",

"storageBucket": "cobarelay-b71bf.appspot.com",

"messagingSenderId": "318516627224",

"appId": "1:318516627224:web:4e92bb0d831c8e25cac06d",

"measurementId": "G-0WMLKJSNSH"

};

firebase = pyrebase.initialize\_app(config)

storage = firebase.storage()

database = firebase.database()

GPIO.setmode(GPIO.BCM)

GPIO.setwarnings(False)

reader=SimpleMFRC522()

dhtDevice = adafruit\_dht.DHT11(board.D18, use\_pulseio=False)

lcd = LCD()

def safe\_exit(signum, frame):

exit(1)

GPIO\_L1=24

GPIO\_L2=12

GPIO\_L3=16

GPIO\_SC1=20

GPIO\_SC2=21

GPIO\_drlock=27

GPIO\_drsw=17

GPIO\_flame=22

GPIO\_motion=23

GPIO\_alarm=26

GPIO\_BTN1=5

GPIO\_BTN2=6

GPIO\_BTN3=13

GPIO.setup(GPIO\_L1, GPIO.OUT)

GPIO.setup(GPIO\_L2, GPIO.OUT)

GPIO.setup(GPIO\_L3, GPIO.OUT)

GPIO.setup(GPIO\_SC1, GPIO.OUT)

GPIO.setup(GPIO\_SC2, GPIO.OUT)

GPIO.setup(GPIO\_alarm, GPIO.OUT)

GPIO.setup(GPIO\_drlock, GPIO.OUT)

GPIO.setup(GPIO\_drsw, GPIO.IN,pull\_up\_down=GPIO.PUD\_UP)

GPIO.setup(GPIO\_flame, GPIO.IN,pull\_up\_down=GPIO.PUD\_UP)

GPIO.setup(GPIO\_motion, GPIO.IN)

GPIO.setup(GPIO\_BTN1, GPIO.IN,pull\_up\_down=GPIO.PUD\_UP)

GPIO.setup(GPIO\_BTN2, GPIO.IN,pull\_up\_down=GPIO.PUD\_UP)

GPIO.setup(GPIO\_BTN3, GPIO.IN,pull\_up\_down=GPIO.PUD\_UP)

GPIO.output(GPIO\_L1, 1)

GPIO.output(GPIO\_L2, 1)

GPIO.output(GPIO\_L3, 1)

GPIO.output(GPIO\_SC1, 1)

GPIO.output(GPIO\_SC2, 1)

GPIO.output(GPIO\_alarm, 1)

GPIO.output(GPIO\_drlock, 0)

lamp1=0

lamp2=0

lamp3=0

tb\_lamp=0

kipas=0

tb\_kipas=0

alarm=0

doorsw=0

nama=""

senflame=0

masuk=0

suhu=0

sw1=0

sw2=0

sw3=0

ln1="Tempelkan Kartu"

ln2=" Disini !"

#fungsi baca\_tombol

def baca\_tombol():

global sw1,sw2,tb\_kipas,alarm,tb\_lamp

#-----------Tombol 1-------------------

if GPIO.input(GPIO\_BTN1)==0 and sw1==0:

sw1=1

if GPIO.input(GPIO\_BTN1)!=0 and sw1==1:

if tb\_lamp==0:

tb\_lamp=1

lampu(1)

database.child("SMC").update({"lamp1": 1})

database.child("SMC").update({"lamp2": 1})

database.child("SMC").update({"lamp3": 1})

elif tb\_lamp==1:

tb\_lamp=0

lampu(0)

database.child("SMC").update({"lamp1": 0})

database.child("SMC").update({"lamp2": 0})

database.child("SMC").update({"lamp3": 0})

sw1=0

#-----------Tombol 2--------------

if GPIO.input(GPIO\_BTN2)==0 and sw2==0:

sw2=1

if GPIO.input(GPIO\_BTN2)!=0 and sw2==1:

if tb\_kipas==0:

tb\_kipas=1

kipase(1)

database.child("SMC").update({"kipas": 1})

elif tb\_kipas==1:

tb\_kipas=0

kipase(0)

database.child("SMC").update({"kipas": 0})

sw2=0

#--------------tombol 3---------------

if GPIO.input(GPIO\_BTN3)==0 and alarm==1:

GPIO.output(GPIO\_SC2, 1)

alarm=0

database.child("SMC").update({"alarm": alarm})

#fungsi nyalakan lampu

def lampu(x):

if x==1:

GPIO.output(GPIO\_L1, 0)

GPIO.output(GPIO\_L2, 0)

GPIO.output(GPIO\_L3, 0)

else:

GPIO.output(GPIO\_L1, 1)

GPIO.output(GPIO\_L2, 1)

GPIO.output(GPIO\_L3, 1)

#fungsi nyala kipas

def kipase(x):

if x==1:

GPIO.output(GPIO\_SC1, 0)

else:

GPIO.output(GPIO\_SC1, 1)

#fungsi baca RFID

def baca\_rfid():

global nama,ln1,ln2,masuk,id

id=reader.read\_id()

if (id==289103918677 and masuk==0):

nama="Pak\_Danu"

lcd.clear()

ln1="Selamat Datang"

ln2=" "+nama

database.child("SMC").update({"nama": nama})

masuk=1

elif (id==289103918677 and masuk==1):

masuk=0

nama=""

lcd.clear()

ln1="Tempelkan Kartu"

ln2=" Disini !"

GPIO.output(GPIO\_drlock, 1)

database.child("SMC").update({"nama": ""})

#time.sleep(3)

elif (id==621510271202 and masuk==0):

nama="Pak\_Arif"

lcd.clear()

ln1="Selamat Datang"

ln2=" "+nama

database.child("SMC").update({"nama": nama})

masuk=1

elif (id==621510271202 and masuk==1):

masuk=0

nama=""

lcd.clear()

ln1="Tempelkan Kartu"

ln2=" Disini !"

database.child("SMC").update({"nama": ""})

GPIO.output(GPIO\_drlock, 1)

#time.sleep(3)

# fungsi baca sensor

def baca\_sensor():

global doorsw,senflame,alarm

if GPIO.input(GPIO\_drsw) !=0:

doorsw=1

database.child("SMC").update({"doorsw": 1})

else:

doorsw=0

database.child("SMC").update({"doorsw": 0})

if GPIO.input(GPIO\_flame)==0:

alarm=1

senflame=1

GPIO.output(GPIO\_SC2, 0)

database.child("SMC").update({"senflame": senflame})

database.child("SMC").update({"alarm": alarm})

else:

senflame=0

database.child("SMC").update({"senflame": senflame})

def aksi():

global lamp1,lamp2,lamp3,kipas,tb\_lamp

if lamp1|lamp2|lamp3:

tb\_lamp=1

else:

tb\_lamp=0

if lamp1==1:

GPIO.output(GPIO\_L1, 0)

else :

GPIO.output(GPIO\_L1, 1)

if lamp2==1:

GPIO.output(GPIO\_L2, 0)

else :

GPIO.output(GPIO\_L2, 1)

if lamp3==1:

GPIO.output(GPIO\_L3, 0)

else :

GPIO.output(GPIO\_L3, 1)

if kipas==1:

tb\_kipas=1

kipase(1)

else :

tb\_kipas=0

kipase(0)

database.child("SMC")

data = {"Temp":suhu,

"lamp1":lamp1 ,

"lamp2":lamp2 ,

"lamp3":lamp3 ,

"kipas":kipas ,

"alarm":alarm ,

"doorsw":doorsw ,

"nama": nama,

"senflame":senflame }

database.set(data)

while True:

signal(SIGTERM, safe\_exit)

signal(SIGHUP, safe\_exit)

lcd.text(ln1, 1)

lcd.text(ln2, 2)

baca\_tombol()

#-------baca data dari firebase------------------

dtlamp1=database.child("SMC").child("lamp1").get()

dtlamp2=database.child("SMC").child("lamp2").get()

dtlamp3=database.child("SMC").child("lamp3").get()

dtkipas=database.child("SMC").child("kipas").get()

dtalarm=database.child("SMC").child("alarm").get()

lamp1=int (dtlamp1.val())

lamp2=int (dtlamp2.val())

lamp3=int (dtlamp3.val())

kipas=int (dtkipas.val())

baca\_rfid()

baca\_sensor()

aksi()

try:

suhu=dhtDevice.temperature

#print(suhu)

time.sleep(0.2)

database.child("SMC").update({"Temp": suhu})

except RuntimeError as error:

# Errors happen fairly often, DHT's are hard to read, just keep going

#print(error.args[0])

#time.sleep(2.0)

continue