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## sudo apt-get install python-bluez

import Adafruit_CharLCD as LCD
import RPi.GPIO as GPIO
from espeak import espeak

import os
import bluetooth # use 115200 baudrate for communication
import time
from datetime import datetime
##https://learn.pi-supply.com/make/fix-raspberry-pi-3-bluetooth-issues/
reset =18
##restart=18

lcd_rs        = 21  # Note this might need to be changed to 21 for older revision Pi's.
lcd_en        = 20
lcd_d4        = 12
lcd_d5        = 7
lcd_d6        = 8
lcd_d7        = 25
##lcd_backlight = 8

# Define LCD column and row size for 16x2 LCD.
lcd_columns = 16
lcd_rows    = 2

lcd = LCD.Adafruit_CharLCD(lcd_rs, lcd_en, lcd_d4, lcd_d5, lcd_d6, lcd_d7,lcd_columns, lc
d_rows)
GPIO.setup(reset, GPIO.IN, pull_up_down = GPIO.PUD_UP)
main=True
err=0

lcd.clear()
lcd.show_cursor(False)
lcd.message('Speaking System   ')
lcd.set_cursor(0,1)
lcd.message('for Mute Person')
time.sleep(3)
t1 = datetime.now()
while GPIO.input(reset) == False:
        t2 = datetime.now()
        delta = t2 - t1
        time_elapse = delta.total_seconds()
        if time_elapse > 5:
                  restart = False
                  main = False
                  break
while main:
        restart=True

        print('hi')

        try:
                device_found=False
                lcd.clear()
                lcd.message('Scanning...')
                while device_found==False:
                        devices = bluetooth.discover_devices()
                        print (devices)
                        for index in range(len(devices)):

                                print ('bd_addr:', devices[index])
                                bd_addr = devices[index]
                                print ("bd_addr" + str(bd_addr))
                                if devices[index]==bd_addr:
                                        device_found=True

                lcd.clear()
                lcd.message('connecting device')
        ##        time.sleep(2)
                port = 1
                sock = bluetooth.BluetoothSocket (bluetooth.RFCOMM)
                sock.connect((bd_addr,port))



                while restart == True:

                        try:
                                string=''
                                lcd.clear()
                                lcd.message('no input..')
                ##                        data = sock.recv(1)
                ##                        print "data" + str(data)
                                while restart == True:
                                        if GPIO.input(reset) == False:
                                                restart = False
                                                sock.disconnect((bd_addr,port))
                                                break
                ##                          print 'in'
                                        data = sock.recv(1)
                                        data = data.decode()

                                        print(type(data))
                                        print ("data: " + str(data))
                                        if data == '#':
                                                lcd.clear()
                                                break
                                        if data == 'a' or data == 'b' or data == 'c' or d
ata == 'd' or data == '1' or data == '2' or data == '3' :
                                                  string+= data
                                                  print('String' + str(string))
                                        data = ''

                                print ("data=",string)
                                if (string == "1a") and err==0:
                                        print("workimg")
                                        print ("thank you",string)
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                        espeak.synth("thank you")
                        lcd.message(' thank you')
                        t1 = datetime.now()
                        err==1
                elif (string == "1b") and err==0:
                        print ("sorry",string)
                        espeak.synth("sorry")
                        lcd.message('sorry')
                        t1 = datetime.now()
                        err==1
                elif (string == "1c") and err==0:
                        print ("please",string)
                        espeak.synth("please")
                        lcd.message('please ')
                        t1 = datetime.now()
                        err==1
                elif (string == "1d") and err==0:
                        print ("excuse me",string)
                        espeak.synth("excuse me")
                        lcd.message('excuse me')
                        t1 = datetime.now()
                        err==1

                elif (string == "2a") and err==0:
                        print ("pardon me",string)
                        espeak.synth("pardon me")
                        lcd.message('pardon me')
                        t1 = datetime.now()
                        err==1
                elif (string == "2b") and err==0:
                        print ("hello",string)
                        espeak.synth("hello")
                        lcd.message('hello')
                        t1 = datetime.now()
                        err==1
                elif (string == "2c") and err==0:
                        print ("bye",string)
                        espeak.synth("bye")
                        lcd.message('bye')
                        t1 = datetime.now()
                        err==1

                elif (string == "2d") and err==0:
                        print ("need help",string)
                        espeak.synth("need help")
                        lcd.message('need help')
                        t1 = datetime.now()
                        err==1

                elif (string == "3a") and err==0:
                        print ("greetings",string)
                        espeak.synth("greetings")
                        lcd.message('greetings')
                        t1 = datetime.now()
                        err==1
                elif (string == "3b") and err==0:
                        print ("how are you?",string)
                        espeak.synth("how are  you?")
                        lcd.message('how are you?')
                        t1 = datetime.now()
                        err==1
                elif (string == "3c") and err==0:
                        print ("i am fine",string)
                        espeak.synth("i am fine")
                        lcd.message('i am fine')
                        t1 = datetime.now()
                        err==1

                elif (string == "3d") and err==0:
                        print ("see you soon",string)
                        espeak.synth("see you soon")
                        lcd.message('see you soon')
                        t1 = datetime.now()
                        err==1

                time.sleep(2)
                t2 = datetime.now()
                delta = t2 - t1
                time_elapse = delta.total_seconds()
                if time_elapse > 6:
                                err==0
                string=''
                data = ''

        except:
                sock.close()
                while restart==True:
                        lcd.clear()
                        lcd.message('connection lost.')
                        GPIO.wait_for_edge(reset, GPIO.FALLING)
                        restart=False
    except:
            lcd.clear()
            lcd.message("got Error!!!")
            time.sleep(2)
            while GPIO.input(reset) == True:
                    lcd.clear()
                    lcd.message("Press Reset...")
                    time.sleep(1)
##
print ("end")
##os.system("tvservice -p; fbset -depth 8; fbset -depth 16")
lcd.clear()
lcd.message('Program terminated')
time.sleep(6)
GPIO.cleanup()
```