

APPENDIX

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// library i2c dev

#include "I2Cdev.h"
// library mpu6050
#include "MPU6050.h"

// jika menggunakan i2c dev maka menggunakan library
"Wire.h"

#if I2CDEV_IMPLEMENTATION == I2CDEV_ARDUINO_WIRE
    #include "Wire.h"
#endif

// konfigurasi mpu6050 dengan nama object accelgyro dengan
alamat i2c 0x68
MPU6050 accelgyro(0x68);

int16_t ax, ay, az; // variable accelero
int16_t gx, gy, gz; // variable gyro
int16_t peak_ax, peak_ay; // variable nilai puncak accelero
int16_t peak_gx, peak_gy; // variable nilai puncak gyro

#define buzzer 12 // konfigurasi pin buzzer

void setup() {
    Serial.begin(9600); // inisialisasi serial port dengan
baudrate 9600 bit/seconds

    // join I2C bus (I2Cdev library doesn't do this
automatically)
    #if I2CDEV_IMPLEMENTATION == I2CDEV_ARDUINO_WIRE
        Wire.begin();
    #elif I2CDEV_IMPLEMENTATION == I2CDEV_BUILTIN_FASTWIRE
        Fastwire::setup(400, true);
    #endif
    // inisialisasi accelgyro
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    accelgyro.initialize();

    Serial.println("READY"); // tampilan ready

    pinMode(buzzer,OUTPUT); // inisialisasi buzzer
    digitalWrite(buzzer,HIGH); // buzzer on
    delay(500); // jeda 0.5 detik
    digitalWrite(buzzer,LOW); // buzzer off
}

    unsigned long previousMillis = 0; // variabel penampung
timer untuk mengambil nilai puncak sensor
    unsigned long previous Millis 1.0; // variabel penampung
timer untuk pengolah algoritma output
    int set_timer=5; // set lamanya buzzer on
    int timer=set_timer; // variable timer untuk buzzer

void loop() {

    aX = (float)(aX0 + (-1*a))/16384.00;
    aY = (float)(aY0 + (-1*b))/16384.00;
    //if(c > 16384) {aZ0 =aZ0 + (c - 16384);}
    //if(c < 16384) {aZ0 =aZ0 + ( 16384 - c);}
    aZ = (float)(aZ0 + (16384 - c))/16384.00;
    accPitch = atan2(aY,aZ)* 57.2958;
    accRoll = atan2(aX,aZ)* 57.2958;

    for (int i =0 ; i<N1 ; i++)
    {
        dt = (millis() - t)/1000.00;
        bacaByte(0x68,0x43,6);
        gX0 = Wire.read() << 8 | Wire.read();
        gY0 = Wire.read() << 8 | Wire.read();
        gZ0 = Wire.read() << 8 | Wire.read();
        gX = (float)(gX0 + (-1*d))/131.00;

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gY = (float)(gY0 + (-1*e))/131.00;
gZ = (float)(gZ0 + (-1*f))/131.00;

carRoll += gY*dt;
gyro Pitch += gX*dt;
if(i==N-1)
{
    gyroll = (carRoll/N)*57.2958;
    gyro Pitch = (gyro Pitch/N)*57.2958;
    break;
}
}
/**COMPLEMENTARY FILTER**/
roll = (accRoll * W1 + gyrRoll*W2)/(W1+W2);
pitch = accPitch *W1 + gyro Pitch*W2/(W1+W2);

accelgyro.getAcceleration(&ax, &ay, &az); // baca sensor
accelero
gyro
    accelgyro.getRotation(&gt, &gx, &gz); // baca sensor

unsigned long currentMillis = millis(); // running timer

if (currentMillis - previousMillis1 >= 1000) { //
kondisi timer 1000ms
    previousMillis1 = currentMillis; // tampung timer
    // nilai puncak ax dan ay adalah di rentang -16000
sd 16000
    // nilai puncak gx dan gy adalah di rentang -32000
sd 32000

    if(peak_ax>15000||peak_ax<-15000){ // kondisi
terdeteksi kemiringan ke depan / belakang

    if(peak_ax>15000) { // jika miring ke belakang

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        if(peak_gx<-25000) {Serial.print("Terjatuh
");digitalWrite(buzzer,HIGH);timer=0;} // kondisi jika terdeteksi
terjatuh akan menyalakan buzzer dan menampilkan kondisi terjatuh
serta mereset timer buzzer

        Serial.print("Berbaring"); // output berbaring
    }
    if(peak_ax<-15000) { // jika miring ke depan
        if(peak_gx>25000) {Serial.print("Terjatuh
");digitalWrite(buzzer,HIGH);timer=0;} // kondisi jika terdeteksi
terjatuh akan menyalakan buzzer dan menampilkan kondisi terjatuh
serta mereset timer buzzer

        Serial.print("Tengkurap"); // output tengkurap
    }
}

    if(peak_ay>15000||peak_ay<-15000){ // kondisi
terdeteksi kemiringan ke kanan / kiri

        if(peak_ay>15000) { // jika miring ke kanan
            if(peak_gy>25000) {Serial.print("Terjatuh
");digitalWrite(buzzer,HIGH);timer=0;} // kondisi jika terdeteksi
terjatuh akan menyalakan buzzer dan menampilkan kondisi terjatuh
serta mereset timer buzzer

            Serial.print("Miring Kanan"); // output kanan
        }
        if(peak_ay<-15000) { // jika miring ke kiri
            if(peak_gy<-25000) {Serial.print("Terjatuh
");digitalWrite(buzzer,HIGH);timer=0;} // kondisi jika terdeteksi
terjatuh akan menyalakan buzzer dan menampilkan kondisi terjatuh
serta mereset timer buzzer

            Serial.print("Miring Kiri"); // output kiri
        }
    }

    // reset semua nilai puncak
    peak_ax=0;
    peak_ay=0;
    peak_gx=0;

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        peak_gy=0;

        if(timer<set_timer) timer; // timer buzzer
menghitung
        else digitalWrite(buzzer,LOW); // jika timer
terpenuhi buzzer off

    }

    if (currentMillis - previousMillis >= 1) { // kondisi
timer 1000ms
        previousMillis = currentMillis;// tampung timer

        if(ax>=0){ // jika lebih dari atau sama dengan 0
            if(peak_ax<ax)peak_ax=ax; // ambil nilai puncak ax
        }

        if(ax<0){ // jika lebih kecil dari 0
            if(peak_ax>ax)peak_ax=ax; // ambil nilai puncak
-ax
        }

        if(ay>=0){// jika lebih dari atau sama dengan 0
            if(peak_ay<ay)peak_ay=ay; // ambil nilai puncak ay
        }

        if(ay<0){ //jika lebih kecil dari 0
            if(peak_ay>ay)peak_ay=ay; // ambil nilai puncak
-ay
        }

        if(gx>20000||gx<-20000){ // kondisi gika terdeteksi
nilai gd naik drastis
            if(peak_gx<gx)peak_gx=gx; // ambil nilai puncak
-gx

            if(peak_gx>gx)peak_gx=gx; // ambil nilai puncak gx

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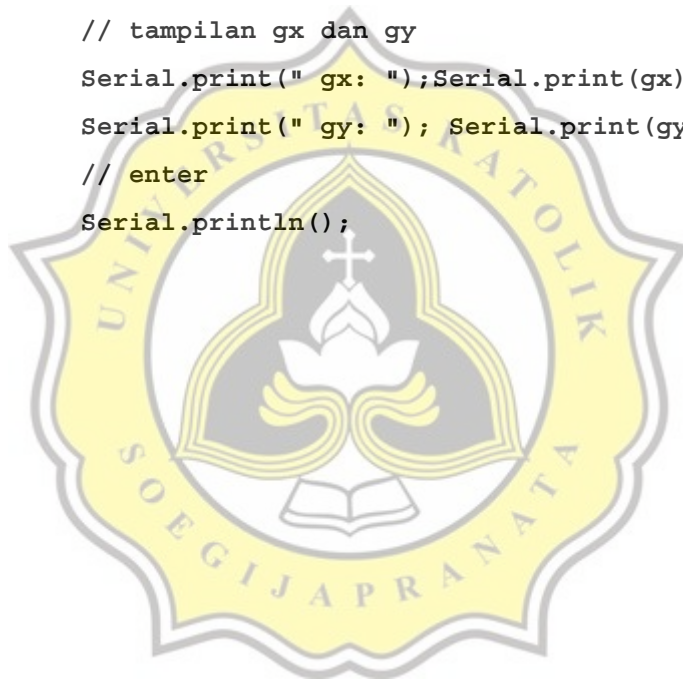
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    }

    if(gy>20000||by<-20000){ // kondisi jika terdeteksi
nilai gd naik drastis
        if(peak_gy<gy)peak_gy=gy; // ambil nilai puncak
-gy

        if(peak_gy>gy)peak_gy=gy; // ambil nilai puncak gy
    }
    // tampilan ax dan ay
    Serial.print("ax: ");Serial.print(ax);
    Serial.print(" ay: "); Serial.print(ay);
    // tampilan gx dan gy
    Serial.print(" gx: ");Serial.print(gx);
    Serial.print(" gy: "); Serial.print(gy);
    // enter
    Serial.println();
}
}

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5.38% PLAGIARISM
APPROXIMATELY

Report #13357361

Cover Introduction Background Falling on the older is something that each old individual doesn't need. Yet, it can't be rejected that this is a debacle or an absence of oversight in the old. In the event that there is legitimate management and brief activity in taking care of falls, they can be forestalled or decreased Along these lines, we join two sensors, in particular the accelerometer and spinner sensors, what capacity to get information from the article, then, at that point cycle it whether the information from x, y, z that is gotten surpasses the predetermined upper and lower edges. In the event that it meets the conditions, there is a bell that will sound and give a sign when the old individual falls, which we trust there will be first precautionary measures or help so the old's condition doesn't deteriorate. Eventually, the exceptionally lethal result of falling is demise. To diminish and forestall this demise rate, fall discovery frameworks in the older are vital and can't be thought of. The