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#include "MeOrion.h"
#include <Arduino.h>
#include <SoftwareSerial.h>
#include <Wire.h>
#include "MatrixGraphics.h"

MeDCMotor MotorL1(M1);
MeDCMotor MotorR1(M2);
MeDCMotor MotorL2(PORT_1);
MeDCMotor MotorR2(PORT_2);
MePort port(PORT_3);
MeRGBLed led(PORT_8);
MeInfraredReceiver infraredReceiverDecode(PORT_6);
MeUltrasonicSensor ultraSensor(PORT_7);

int range= 0;
int moveSpeed = 200;
int minSpeed = 55;
int factor = 23;
int r1,r2,f1,f2,l1,l2=0; // xx = 0 no detection ... xx = 1 detected
object
Servo myservol;
int16_t servolpin = port.pin1();
//int sonararray [2][4]= { {r1,f1,l1}, // array to hold flags
                          {r2,f2,l2} }; // to be used later...

void setup()
{
  myservol.attach(servolpin);
  myservol.write(90);
  infraredReceiverDecode.begin();
}

void loop()
{
  Forward();
  LookFront();
  if (f2==1)
  {
    Stop();
    LookRight();
    delay(100);
    LookLeft();
    delay(100);
    if (r2==1)
    {
      BackTurnLeft();
      delay(2000);
    }
    else if (l2==1)
    {
      BackTurnRight();
      delay(2000);
    }
  }
}

void LookRight()
{

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myservo1.write(30);
delay(200);
range=ultraSensor.distanceCm();
delay(200);

if (range<40)
{
    r2=1;
}
else
{
    r2=0;
}
}

void LookFront()
{
    myservo1.write(90);
    delay(200);
    range=ultraSensor.distanceCm();
    delay(200);

    if (range<40)
    {
        f2=1;
    }
    else
    {
        f2=0;
    }
}

void LookLeft()
{
    myservo1.write(130);
    delay(200);
    range=ultraSensor.distanceCm();
    delay(200);

    if (range<40)
    {
        l2=1;
    }
    else
    {
        l2=0;
    }
}

void TurnRight()
{
    MotorL1.run(moveSpeed);
    MotorL2.run(moveSpeed);
    MotorR1.run(moveSpeed);
    MotorR2.run(moveSpeed);
}

void TurnLeft()

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```

{
  MotorL1.run(-moveSpeed);
  MotorL2.run(-moveSpeed);
  MotorR1.run(-moveSpeed);
  MotorR2.run(-moveSpeed);
}

void BackTurnRight()
{
  MotorL1.run(moveSpeed/3); // divide motors on one side by 3 to make a
smooth turn.
  MotorL2.run(moveSpeed/3);
  MotorR1.run(-moveSpeed);
  MotorR2.run(-moveSpeed);
}

void BackTurnLeft()
{
  MotorL1.run(moveSpeed);
  MotorL2.run(moveSpeed);
  MotorR1.run(-moveSpeed/3); // divide motors on one side by 3 to make a
smooth turn.
  MotorR2.run(-moveSpeed/3);
}

void Forward()
{
  MotorL1.run(-moveSpeed);
  MotorL2.run(-moveSpeed);
  MotorR1.run(moveSpeed);
  MotorR2.run(moveSpeed);
}
void Backward()
{
  MotorL1.run(moveSpeed);
  MotorL2.run(moveSpeed);
  MotorR1.run(-moveSpeed);
  MotorR2.run(-moveSpeed);
}
void Stop()
{
  MotorL1.run(0);
  MotorL2.run(0);
  MotorR1.run(0);
  MotorR2.run(0);
}

```