

File "/test_lidar/main.cpp" printed from os.mbed.com on 04/06/2021

```
1  /* mbed Microcontroller Library
2   * Copyright (c) 2019 ARM Limited
3   * SPDX-License-Identifier: Apache-2.0
4   */
5
6  #include "mbed.h"
7  #include "rplidar.h"
8
9  #define BLINKING_RATE_MS      500
10 #define NB_DATA_MAX          20
11 #define AFF_DATA              0
12
13 int          bestAngle;
14 char        pc_debug_data[128];
15 char        received_data[64];
16 int         data_nb = 0;
17 int         data_scan_nb = 0;
18 char        mode = LIDAR_MODE_STOP;
19 char        scan_ok = 0;
20 int         distance_scan[360] = {0};
21 int         distance_scan_old[360] = {0};
22 char        tour_ok = 0;
23 char        trame_ok = 0;
24
25 Serial      pc(USBTX, USBRX, 115200);
26 DigitalOut  led(LED1);
27 DigitalOut  debug_data(D10);
28 DigitalOut  debug_tour(D9);
29 DigitalOut  debug_out(D7);
30 DigitalOut  data_ok(D5);
31 DigitalOut  data_ok_q(D4);
32
33 Serial      lidar(A0, A1, 115200);
34 PwmOut      rotation(D14);
35 PwmOut      speed(PC_9);
36 PwmOut      rotation_car(PB_13);
37 struct lidar_data ld_current;
38
39
40 /** MAIN FUNCTION
41  */
42
43 int main(){
44     speed.period_ms(20);
45     speed.pulsewidth_us(1550);
46     rotation_car.period_ms(20);
47     rotation_car.pulsewidth_us(1500);
48
49     int nb_tour = 0;
50     wait_s(3.0);
51     rotation.period(1/25000.0);
52     rotation.write(0.4);
53     wait_s(2.0);
54     pc.printf("\r\nLIDAR Testing\r\n");
55     lidar.attach(&IT_lidar);
56     wait_s(1.0);
57     pc.printf("\r\nLIDAR OK\r\n");
58 }
```

```

59     getHealthLidar();
60     getInfoLidar();
61     getSampleRate();
62     // Start a new scan
63     startScan();
64     // Infinite Loop
65     while (true) {
66         if(trame_ok){
67             debug_tour = !debug_tour;
68         }
69
70         if(tour_ok == 2){
71             int maxDistance, maxAngle, ang45,ang315;
72             tour_ok = 0;
73             findMax(distance_scan_old, 360, &maxDistance, &maxAngle, &ang45, &ang315);
74             print_int("A", maxAngle);
75             bestAngle=maxAngle;
76
77             if(ang45<300 and ang45>1){
78                 speed.pulsewidth_us(1660);
79                 rotation_car.pulsewidth_us(1100);}
80             if(ang315<300 and ang315>1){
81                 speed.pulsewidth_us(1660);
82                 rotation_car.pulsewidth_us(1700);}
83             else{
84                 if ((bestAngle<10) || (bestAngle >350)){
85                     speed.pulsewidth_us(1680);
86                     rotation_car.pulsewidth_us(1300);}
87                 else{
88                     if ((bestAngle>=10) && (bestAngle<=70)){
89                         speed.pulsewidth_us(1660);
90                         rotation_car.pulsewidth_us(1700);}
91                     else{
92                         speed.pulsewidth_us(1660);
93                         rotation_car.pulsewidth_us(1100);}}
94                 }
95             }
96
97
98
99     }
100 }
101

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