

```

1  #include "mbed.h"
2  #include "pinout.h"
3  #include "hardware.h"
4  #include "to_7seg.h"
5  #include "range_finder.h"
6  #include "switch.h"
7  #include "display.h"
8  #include "control.h"
9
10 int main (void) {
11
12     hw_init();
13
14     // initialize the range finder FSM
15     rf_init(&g_trg, &g_ech);
16
17     // initialize the middle switch FSM
18     swm_init(&g_swm);
19
20     // initialize the display FSM
21     display_init(&g_dsl,&g_dsr,&g_seven_seg);
22
23     //initialize control FSM
24     control_init(&g_leds,&g_lit);
25
26
27     // -----
28     for (;;) {
29
30         // the range finder FSM
31         rf_fsm();
32
33         // the middle switch FSM
34         swm_fsm();
35
36         // the display FSM
37         display_fsm();
38
39         //the control FSM
40         control_fsm();
41
42
43         // sleep
44         __disable_irq();
45         if (gb_rf_can_sleep && gb_swm_can_sleep && gb_display_can_sleep &&
gb_control_can_sleep) {
46             __WFI();
47         }
48         __enable_irq();
49     } // forever
50 } // main()
51
52

```