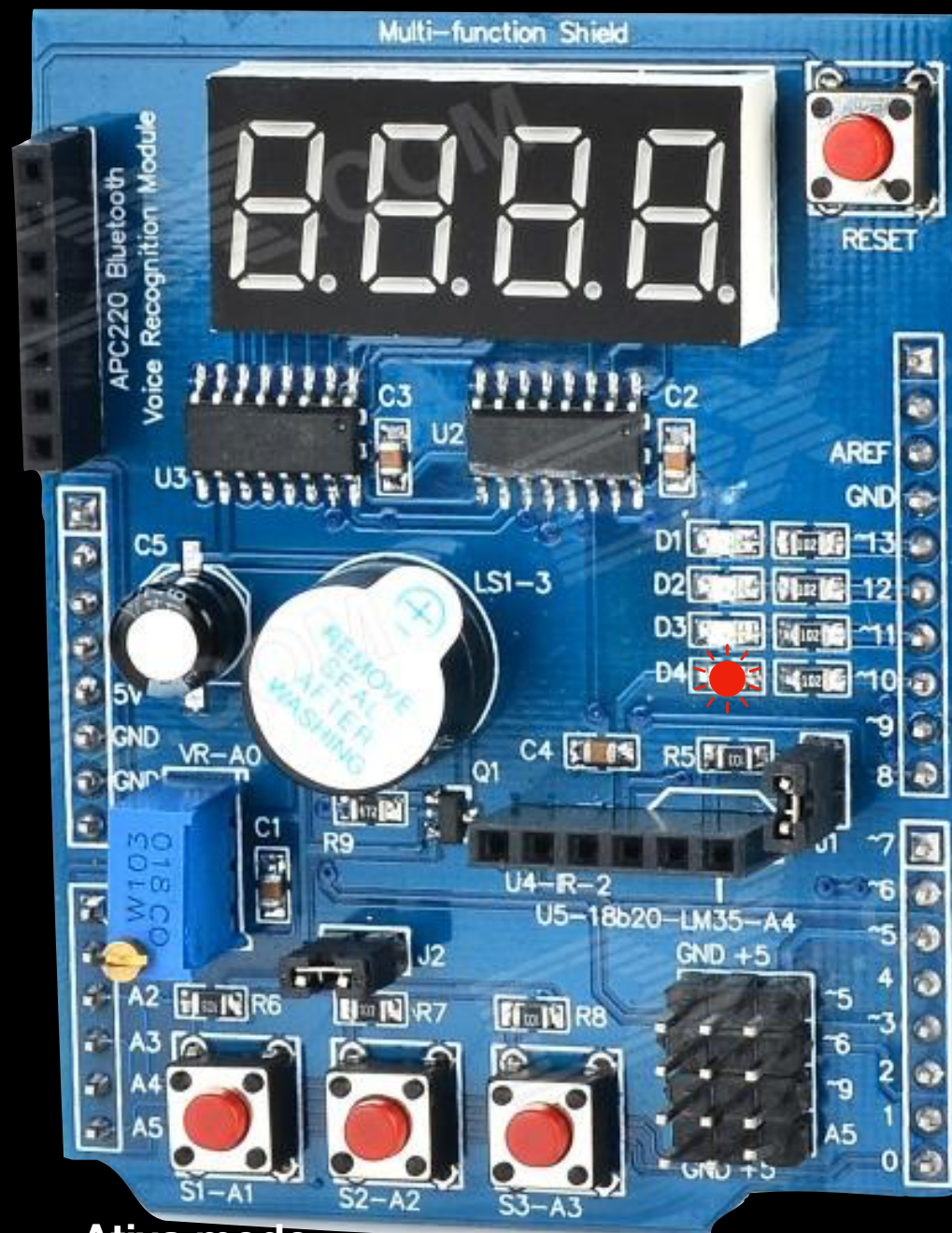




MiniProjeto I - Relógio Despertador

INF1805 - Sistemas Reativos
Victor Meira Pinto

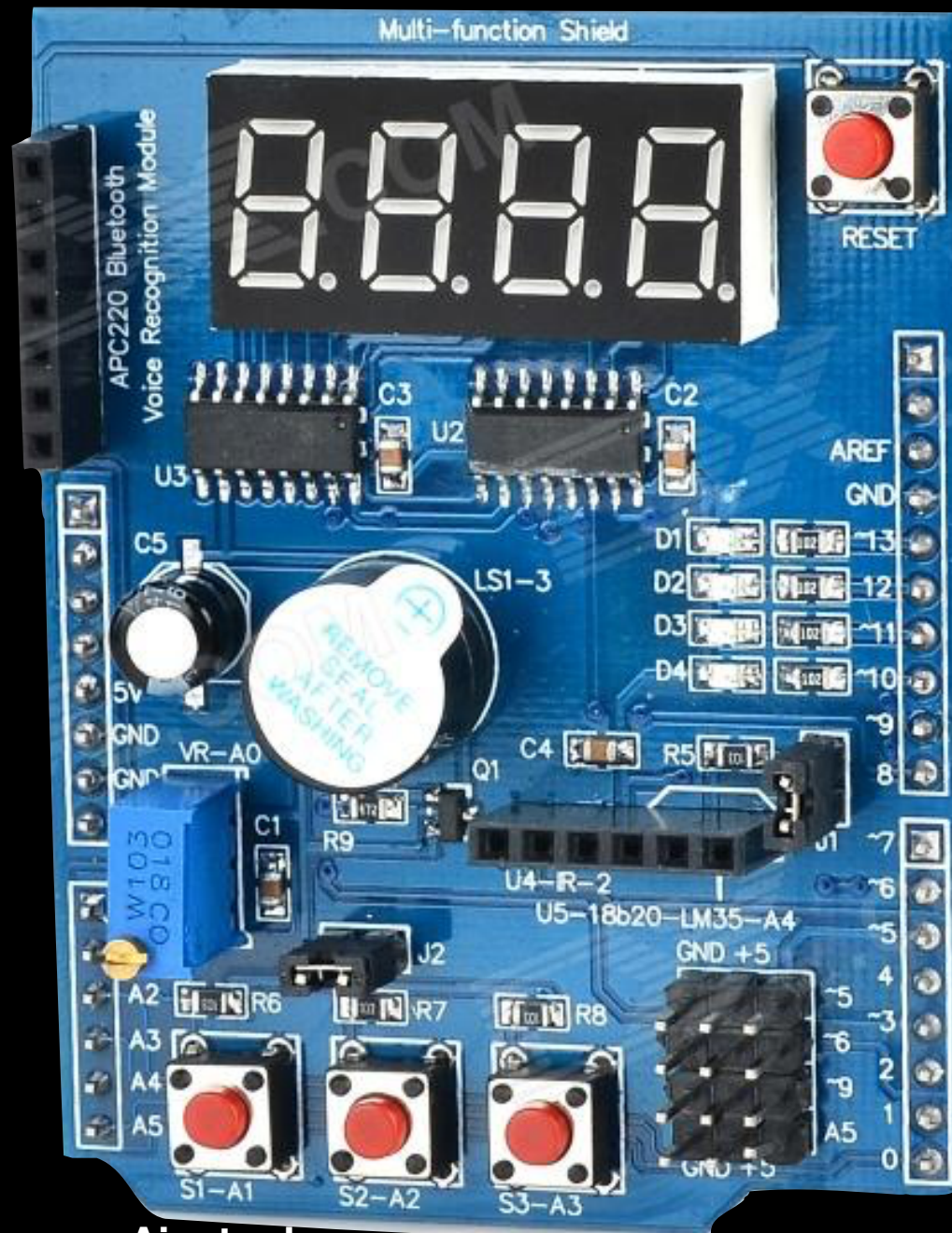
Funcionamento



Alarme
ativado

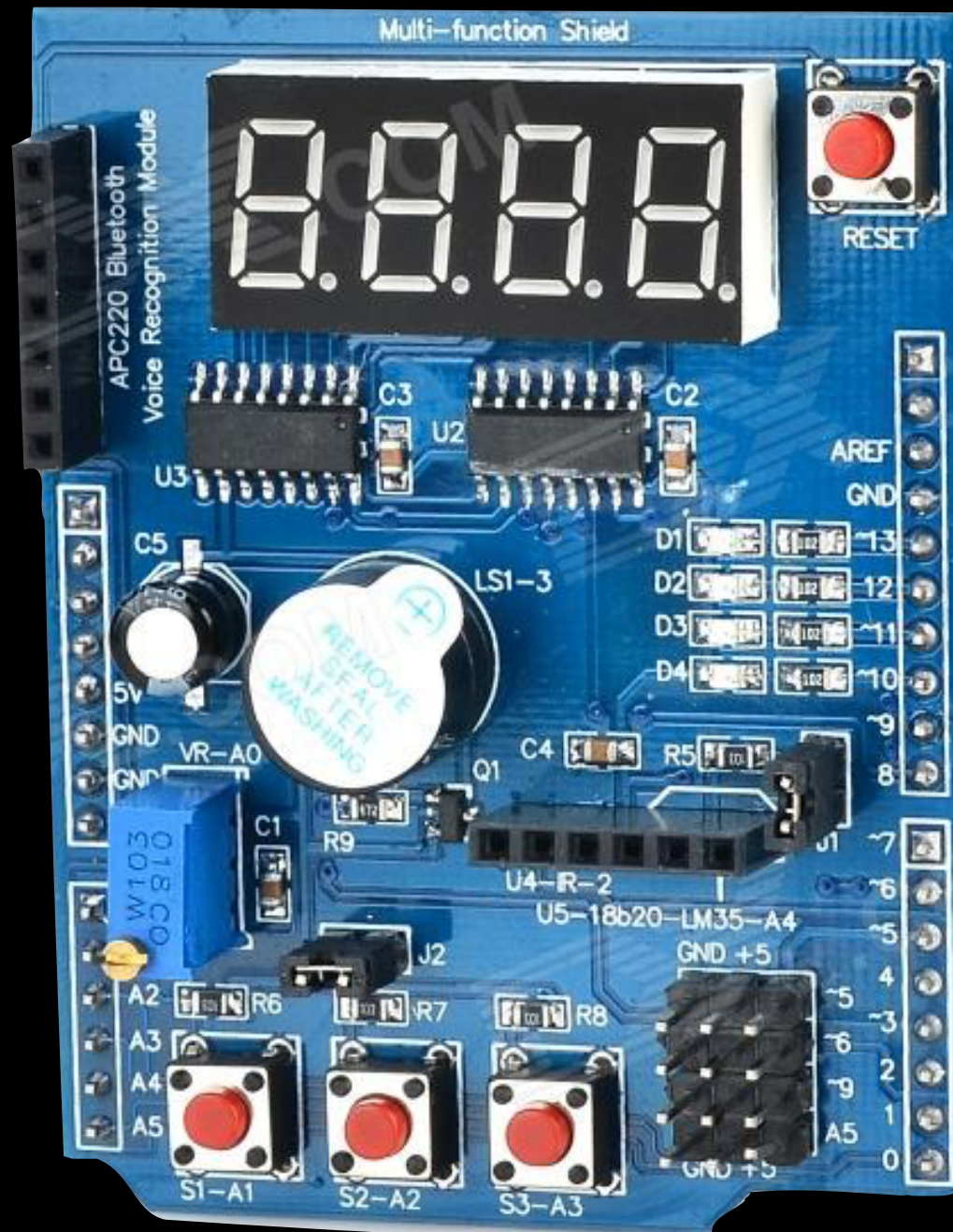
Ativa modo
Soneca
Ativa
alarme
Mostra
horário
do alarme

Funcionamento



Ajuste do tempo +Hora +Minuto

Funcionamento



+Hora +Minuto Ajuste do
alarme

Implementação

```
bool but1_prev_state = 0, but2_prev_state = 0, but3_prev_state = 0;
...

void loop(void){
...
    /* current state of the buttons, 1 pressed, 0 not pressed */
    bool but1_state = !digitalRead(KEY1);
    bool but2_state = !digitalRead(KEY2);
    bool but3_state = !digitalRead(KEY3);
    ...
    /* button 1 state changed */
    if(but1_state != but1_prev_state){
        ...
    }
    /* button 2 state changed */
    if(but2_state != but2_prev_state){
        ...
    }
    /* button 3 state changed */
    if(but3_state != but3_prev_state){
        ...
    }
}
```

Implementação

```
/* Declares what mode the alarm is, 0 is off, 1 is on and waiting,  
2 is on and playing, 3 is on and turned off by user */  
int alarm_mode = 0;  
  
void loop(void){  
...  
    /* Alarm is on and the time has arrived*/  
    if(clock_time == alarm_time && alarm_mode == 1)  
        alarm_mode = 2;  
  
    /* Resets alarm that has stopped playing */  
    if(clock_time != alarm_time && alarm_mode == 3){  
        alarm_mode = 1;  
        alarm_time = snooze_time;  
    }  
  
    /* Alarm is on */  
    if(alarm_mode == 1)  
        digitalWrite(LED1, LOW);  
    else  
        digitalWrite(LED1, HIGH);  
  
    /* Alarm is playing */  
    if(alarm_mode == 2)  
        /* Alternate Buzzer state */  
}
```

Principais Dificuldades

- Implementação do “beep” do buzzer
- Implementação da mudança de estado dos botões enquanto outros estão pressionados
- Implementação do avanço dos horários (não implementado)