CCLab Midterm

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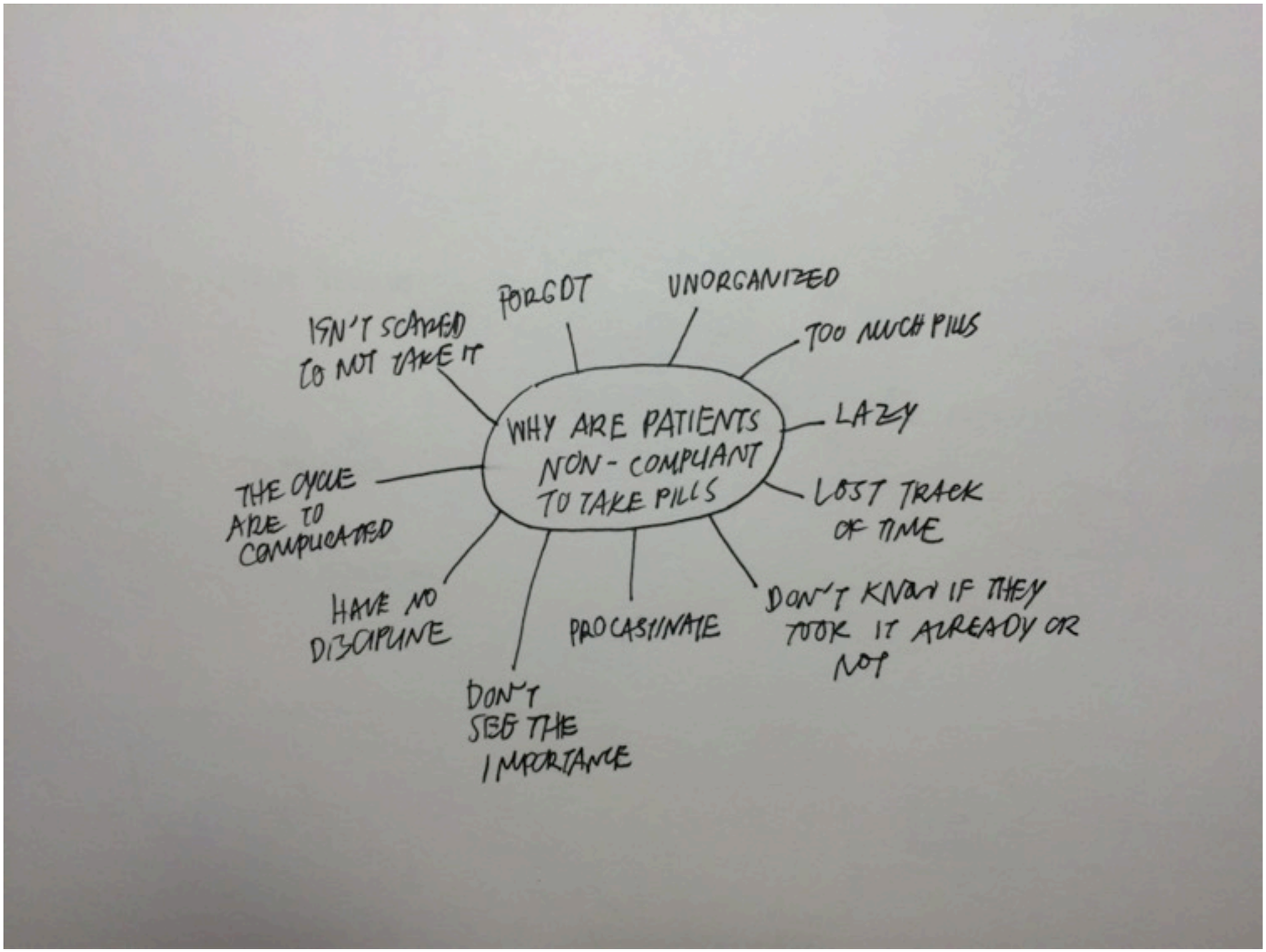
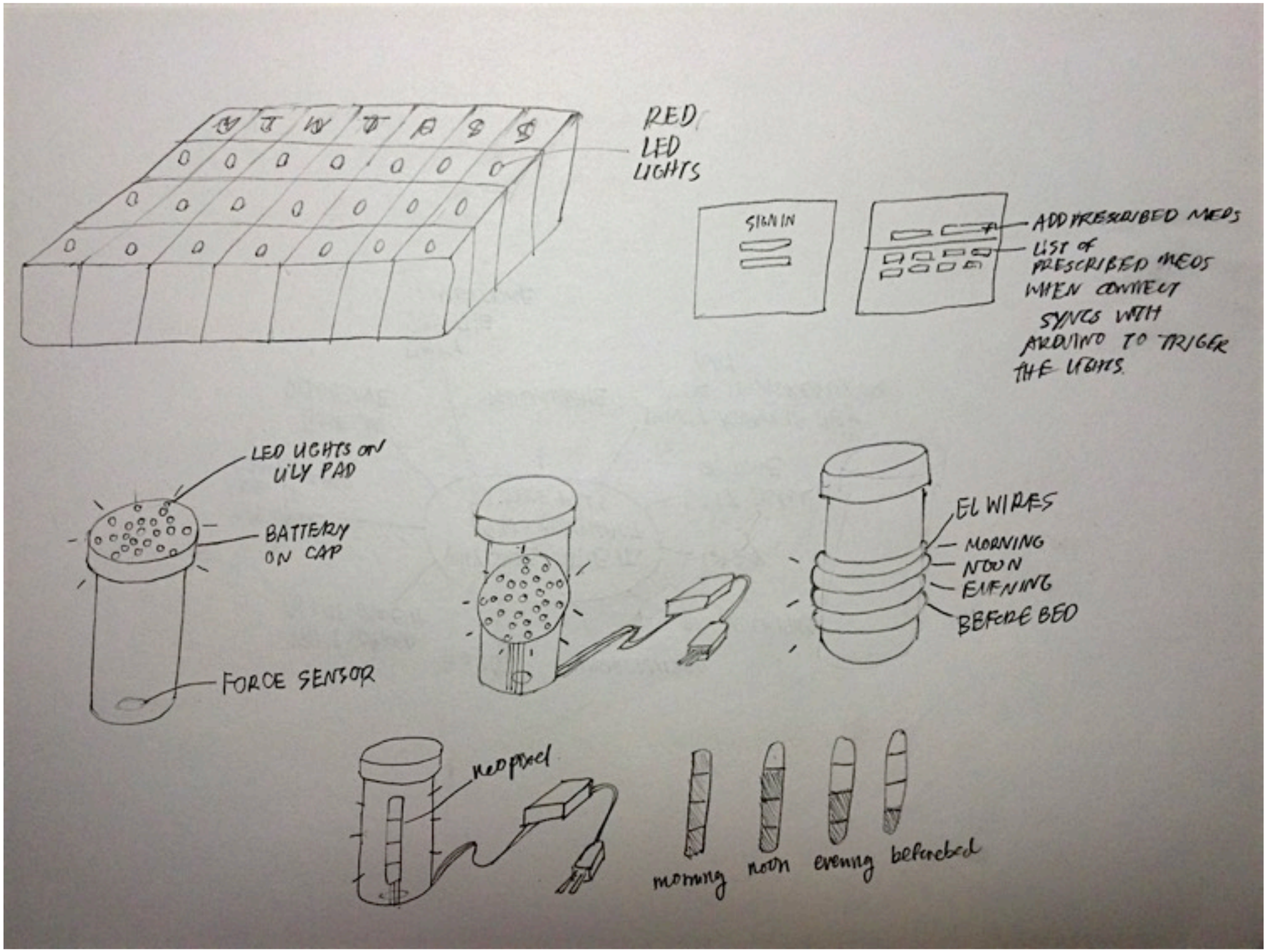
According to Medscape

- In the United States, some 3.8 billion prescriptions are written every year, yet over 50% of them are taken incorrectly or not at all.

- In a survey of 1000 patients, nearly 75% admitted to not always taking their medications as directed.

I am studying on the reasons patients are non compliant to their prescribed medicine in order to find a solution to help organize their medicine taking routine.


WHY ARE PATIENTS NON-COMPLIANT TO TAKE PILLS
ISN'T SCARED TO NOT TAKE IT
FORGOT
UNORGANIZED
TOO MUCH PILLS
LAZY
LOST TRACK OF TIME
DON'T KNOW IF THEY TOOK IT ALREADY OR NOT
PROCASTINATE
DON'T SEE THE IMPORTANCE
HAVE NO DISCIPLINE
THE CYCLE ARE TO COMPLICATED

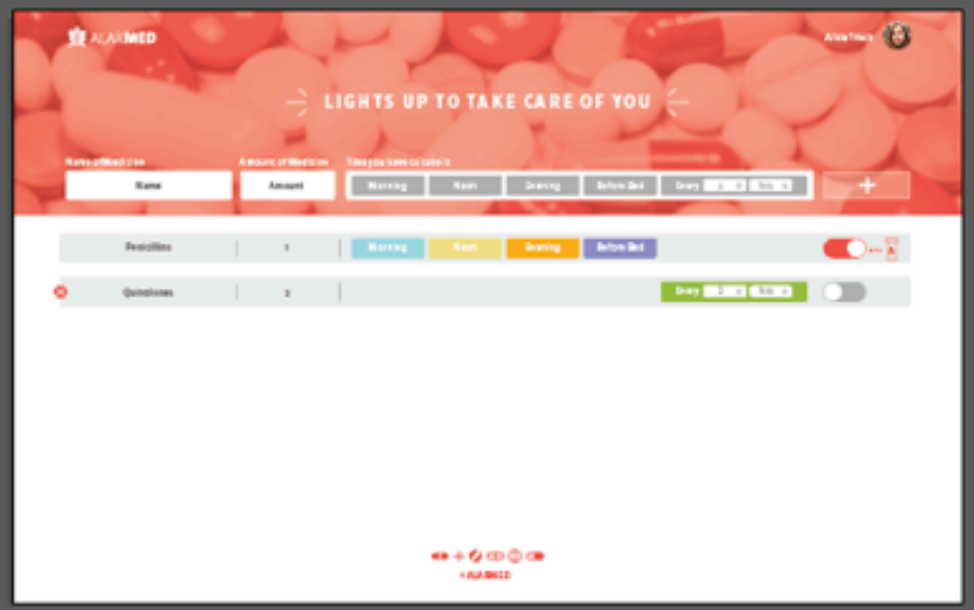

RED LED LIGHTS
SIGN IN
ADD PRESCRIBED MEDS
LIST OF PRESCRIBED MEDS WHEN CONNECT
SYNCS WITH ARDUINO TO TRIGGR THE LIGHTS
LED LIGHTS ON LILY PAD
BATTERY ON CAP
FORCE SENSOR
EL WIRES
MORNING
NOON
EVENING
BEFORE BED
neopixel
morning
noon
evening
beforebed

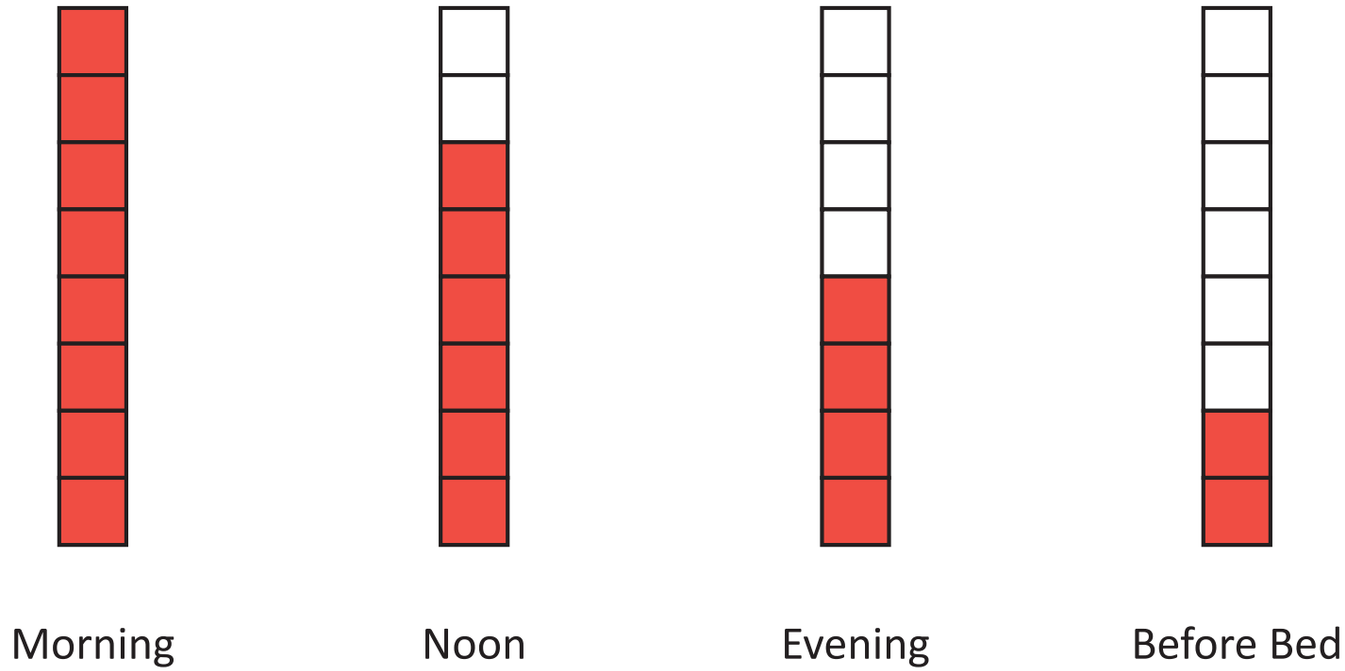
Precedents


Next Alert
Next Alert
Med-
SET
Tu
W
Th
F

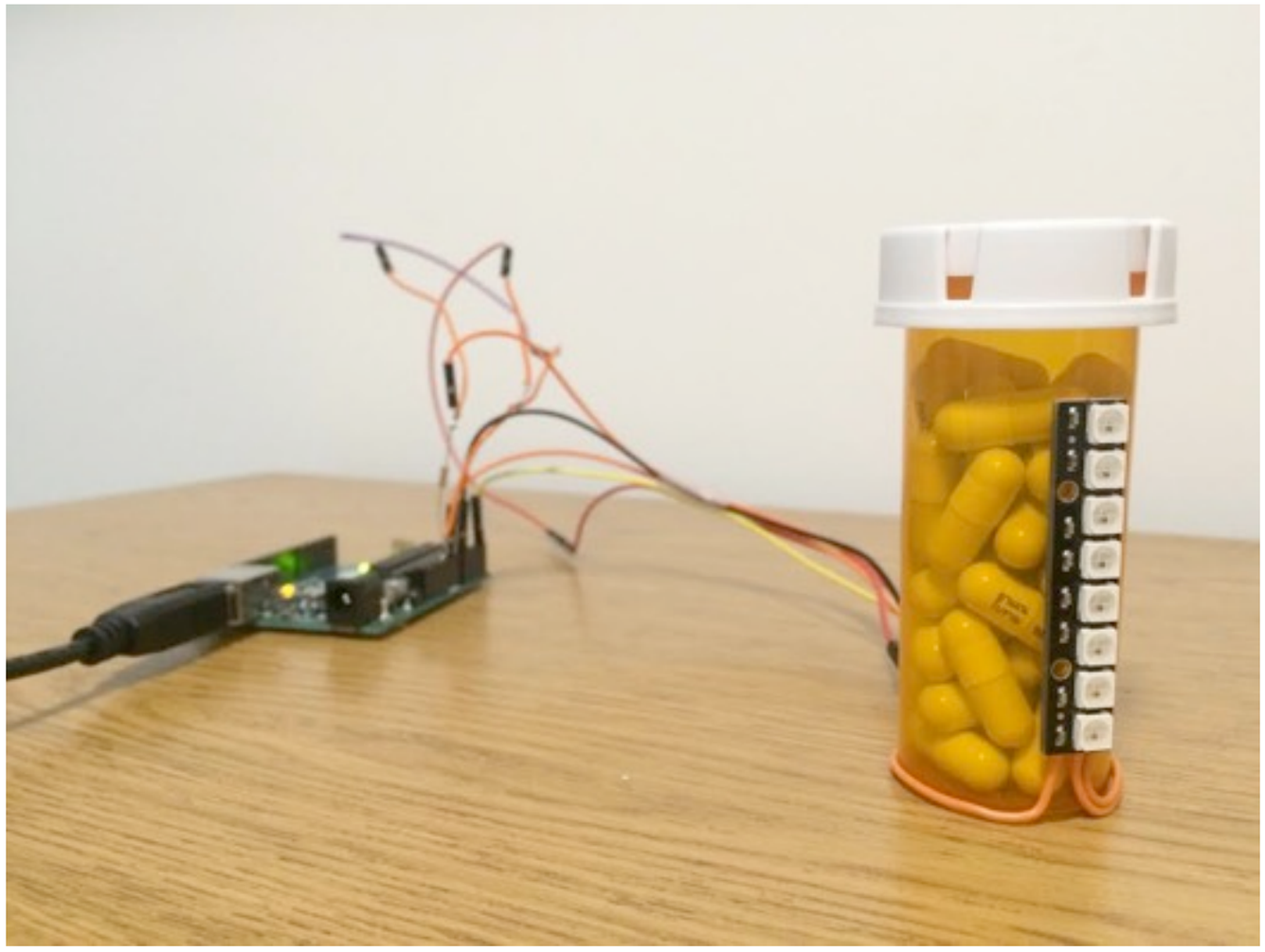

24:00
DOSE-ALERT
PILL REMINDER
START
RESET
www.epill.com
1-800-549-0095


WELCOME TO ALARMED,
Sign in to your account!
SIGN IN


ALARMED
LIGHTS UP TO TAKE CARE OF YOU
Name
Amount


Morning
Noon
Evening
Before Bed

Assembling the Arduino



Pseudo Code

1. Time triggers Neopixel to light up at different time of the day
2. If weight of ‘amount of pill’ is decreased, the Neopixel will turn off
3. The light combination won’t turn off if patient didn’t take the pill at that time yet

Code (Connecting Neopixel with Time)

ALARMED_Time_Neopixel | Arduino 1.6.11

ALARMED_Time_Neopixel

```
// Note that for older NeoPixel strips you might need to change the t
// example for more information on possible values.
Adafruit_NeoPixel pixels = Adafruit_NeoPixel(NUMPIXELS, PIN, NEO_GRB

int delayval = 500; // delay for half a second

void setup() {
  Serial.begin(9600);
  while (!Serial) ; // wait for Arduino Serial Monitor

  setTime(8,29,0,1,1,11); // set time to Saturday 8:29:00am Jan 1 20

  // create the alarms, to trigger at specific times
  Alarm.alarmRepeat(9,00,00, MorningAlarm);
  Alarm.alarmRepeat(12,00,0,NoonAlarm);
  Alarm.alarmRepeat(18,00,0,EveningAlarm);
  Alarm.alarmRepeat(22,00,0,BeforeBedAlarm);
  pinMode(WEIGHT_PIN, INPUT);
  pinMode(PIN, OUTPUT);
  pixels.begin(); // This initializes the NeoPixel library.
}
```

Done Saving.

```
Sketch uses 7,272 bytes (22%) of program storage space. Maximum is 32,2
Global variables use 338 bytes (16%) of dynamic memory, leaving 1,710 by
```

54 Arduino/Genuino Uno on /dev/cu.usbmodem1411

ALARMED_Time_Neopixel | Arduino 1.6.11

ALARMED_Time_Neopixel

```
void MorningAlarm() {
    pixels.setPixelColor(0, pixels.Color(255,0,0));
    pixels.setPixelColor(1, pixels.Color(255,0,0));
    pixels.setPixelColor(2, pixels.Color(255,0,0));
    pixels.setPixelColor(3, pixels.Color(255,0,0));
    pixels.setPixelColor(4, pixels.Color(255,0,0));
    pixels.setPixelColor(5, pixels.Color(255,0,0));
    pixels.setPixelColor(6, pixels.Color(255,0,0));
    pixels.setPixelColor(7, pixels.Color(255,0,0));
    pixels.show();
    delay(8000);
    pixels.setPixelColor(0, pixels.Color(0,0,0));
    pixels.setPixelColor(1, pixels.Color(0,0,0));
    pixels.setPixelColor(2, pixels.Color(0,0,0));
    pixels.setPixelColor(3, pixels.Color(0,0,0));
    pixels.setPixelColor(4, pixels.Color(0,0,0));
    pixels.setPixelColor(5, pixels.Color(0,0,0));
    pixels.setPixelColor(6, pixels.Color(0,0,0));
    pixels.setPixelColor(7, pixels.Color(0,0,0));
    pixels.show();
}
```

Done Saving.

```
Sketch uses 7,272 bytes (22%) of program storage space. Maximum is 32,2
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Code (Attempts adding force sensor to the code)

CCLAB_MIDTERM_led_and_time_sensor1 | Arduino 1.6.11

CCLAB_MIDTERM_led_and_time_sensor1

```
AlarmId id;

#include <Adafruit_NeoPixel.h>
#ifdef __AVR__
  #include <avr/power.h>
#endif

// Which pin on the Arduino is connected to the NeoPixels?
// On a Trinket or Gemma we suggest changing this to 1
#define PIN            A5

// How many NeoPixels are attached to the Arduino?
#define NUMPIXELS      8

#define SENSOR_LOW  0         //these numbers will change the sensit
#define SENSOR_HIGH  10

const int WEIGHT_PIN = A0;  // Analog input pin that the force sensi
int sensorValue = 0;

// When we setup the NeoPixel library, we tell it how many pixels, a
```

Arduino/Genuino Uno on /dev/cu.usbmodem1411

CCLAB_MIDTERM_led_and_time_sensor1 | Arduino 1.6.11

CCLAB_MIDTERM_led_and_time_sensor1

```
void MorningAlarm() {
    if (sensorValue > SENSOR_HIGH){
    pixels.setPixelColor(0, pixels.Color(255,0,0));
    pixels.setPixelColor(1, pixels.Color(255,0,0));
    pixels.setPixelColor(2, pixels.Color(255,0,0));
    pixels.setPixelColor(3, pixels.Color(255,0,0));
    pixels.setPixelColor(4, pixels.Color(255,0,0));
    pixels.setPixelColor(5, pixels.Color(255,0,0));
    pixels.setPixelColor(6, pixels.Color(255,0,0));
    pixels.setPixelColor(7, pixels.Color(255,0,0));
    pixels.show();
    }
    else {
    pixels.setPixelColor(0, pixels.Color(0,0,0));
    pixels.setPixelColor(1, pixels.Color(0,0,0));
    pixels.setPixelColor(2, pixels.Color(0,0,0));
    pixels.setPixelColor(3, pixels.Color(0,0,0));
    pixels.setPixelColor(4, pixels.Color(0,0,0));
    pixels.setPixelColor(5, pixels.Color(0,0,0));
    pixels.setPixelColor(6, pixels.Color(0,0,0));
    pixels.setPixelColor(7, pixels.Color(0,0,0));
```

Arduino/Genuino Uno on /dev/cu.usbmodem1411

Thank you