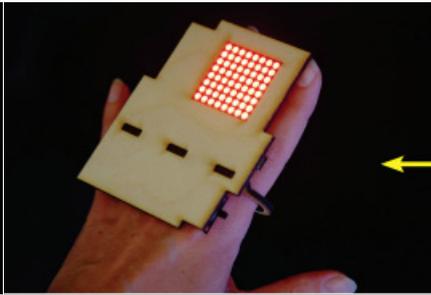


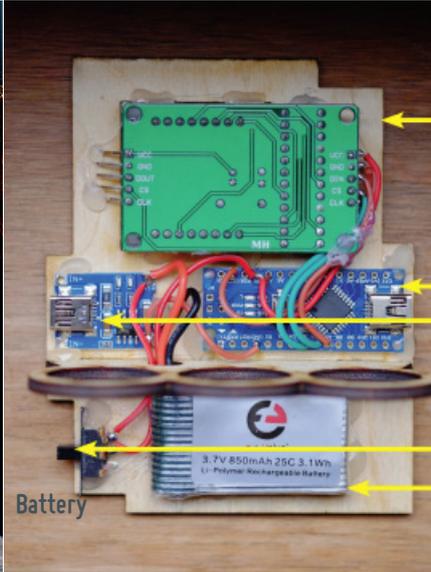
talc. ART PACK

LED Matrix Animation workshop 14+

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LED Matrix for your animations
& plywood wearable for you to decorate



LED Matrix (back)

Arduino Microcontroller
Battery Charger

On/Off switch

Battery

STEP 1 To use the Arduino, install the Arduino software www.arduino.cc and install the LED Matrix Display Library: github.com/wayoda/LedControl as well as a WCH USB arduino driver: www.wch.cn/download/CH341SER_ZIP.html You may need to charge the battery by using the usb port on the smaller blue circuit board. If the Battery charger shows “red” it is charging, if it shows “green”, it is charged.

STEP 2 To create your LED animation, go to: <https://xantorohara.github.io/led-matrix-editor/> Draw your animation frames by clicking into the grey LED area (only one colour possible). Add your frames by pressing the “Insert” button. You can also “delete” or “update” your frames. For a preview of your animation press the “play” button next to the playback speed “ms.”.

STEP 3 After you created your animation, copy the code displayed at the right hand side from your LED-matrix editor.

STEP 4 Create a new arduino document and replace the code in it with the template code (available to copy on the talc. website and on facebook @talctarbert). Insert the code from the matrix editor website as indicated into the template code. If you wish to change the speed of your animation, change the figure in brackets after: delay(100).

STEP 5 Connect the Arduino to the computer via the mini-usb port on the larger blue circuit board on the right hand side to upload your animation.

STEP 6 Open your Arduino software, select Tools —> Board: Arduino Nano and Processor: ATmega328 —> Select Port:/dev/cu.wchusbserial 14430 (this number can be different). In your arduino software, press “upload”.

—> if you wish to use it as a stand-alone wearable (without connection to a computer), switch the battery on.

—> You can decorate your plywood wearable with paint. Tracing paper on top of your LEDs can help to soften the light.

PLEASE TAKE PHOTOS OR LITTLE VIDEOS OF YOUR ARTWORK AND SEND THEM TO TALC.!

Arduino/C code As byte arrays

```
const uint64_t IMAGES[] = {  
    0x0000000000000000  
};  
const int IMAGES_LEN =  
sizeof(IMAGES)/8;
```



This art pack is created for talc.'s project *dust*, funded by Creative Scotland Open Fund.



ALBA | CHRUTHACHAIL

Here is the sample code for the LED Matrix Animation to copy:

```
#include <LedControl.h>
const int DIN_PIN = 7;
const int CS_PIN = 6;
const int CLK_PIN = 5;

////////////////////////////////////
//
// insert the code from the matrix editor website below
////////////////////////////////////
//

LedControl display = LedControl(DIN_PIN, CLK_PIN, CS_
PIN);

void setup() {
display.clearDisplay(0);
display.shutdown(0, false);
display.setIntensity(0, 10);
}

void displayImage(uint64_t image) {
for (int i = 0; i < 8; i++) {
byte row = (image >> i * 8) & 0xFF;
for (int j = 0; j < 8; j++) {
display.setLed(0, i, j, bitRead(row, j));
}
}
}

int i = 0;

void loop() {
displayImage(IMAGES[i]);
if (++i >= IMAGES_LEN ) {
i = 0;
}
delay(100);
}displayImage(IMAGES[i]);
if (++i >= IMAGES_LEN ) {
i = 0;
}
delay(100);
}
```