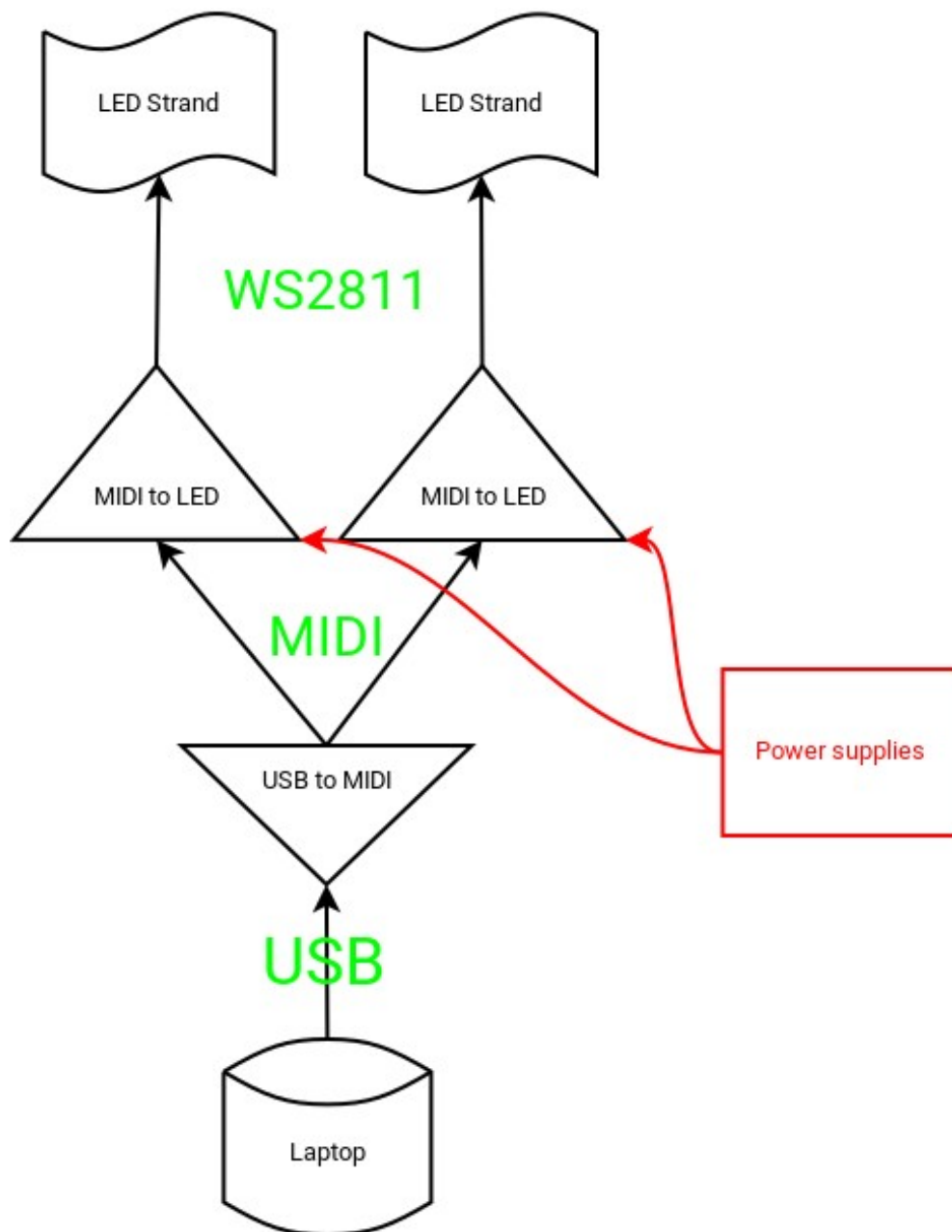


Circle Of Light Architecture

The purpose of the circle of light installations is to visualize light patterns controlled by Wiimotes. The system consists of following components in series: A laptop, USB to MIDI transmitter, MIDI to WS8211 receiver and LED-strands. The following paragraphs will explain the function of those components. But first a diagram of how it is all connected:



The Laptop

The laptop acts as a bluetooth hub to the Wiimotes and provides controller events (like button presses and accelerometer data) to the visuals. The visuals run on the laptop as well and hand their data to a midi encoder that translates the images to the appropriate midi messages. We chose a laptop because we wanted ample of computational power for visuals.

The USB to MIDI transmitter (short: UM-Board)

The UM-board is connected to the laptop via usb and poses as a midi output device. The laptop writes midi messages to the UM-Board and it converts those messages to a electronic midi signal which we can send over the cables. Transmitting MIDI signal makes very long cables possible.

The MIDI to WS2811 receiver (short: MW-Board)

The WM-board receives the MIDI signals sent by the UM-Board and translates them to the WS2811 LED-protocol and therefor makes the LEDs blink.

The Power Supplies

Provide 5V power to the LED-strands and MW-Board. The UM-Board is powered via USB and the laptop might run on battery if there is no convenient power socket available.

The LED-strands

A bunch of WS2811 LEDs in series.