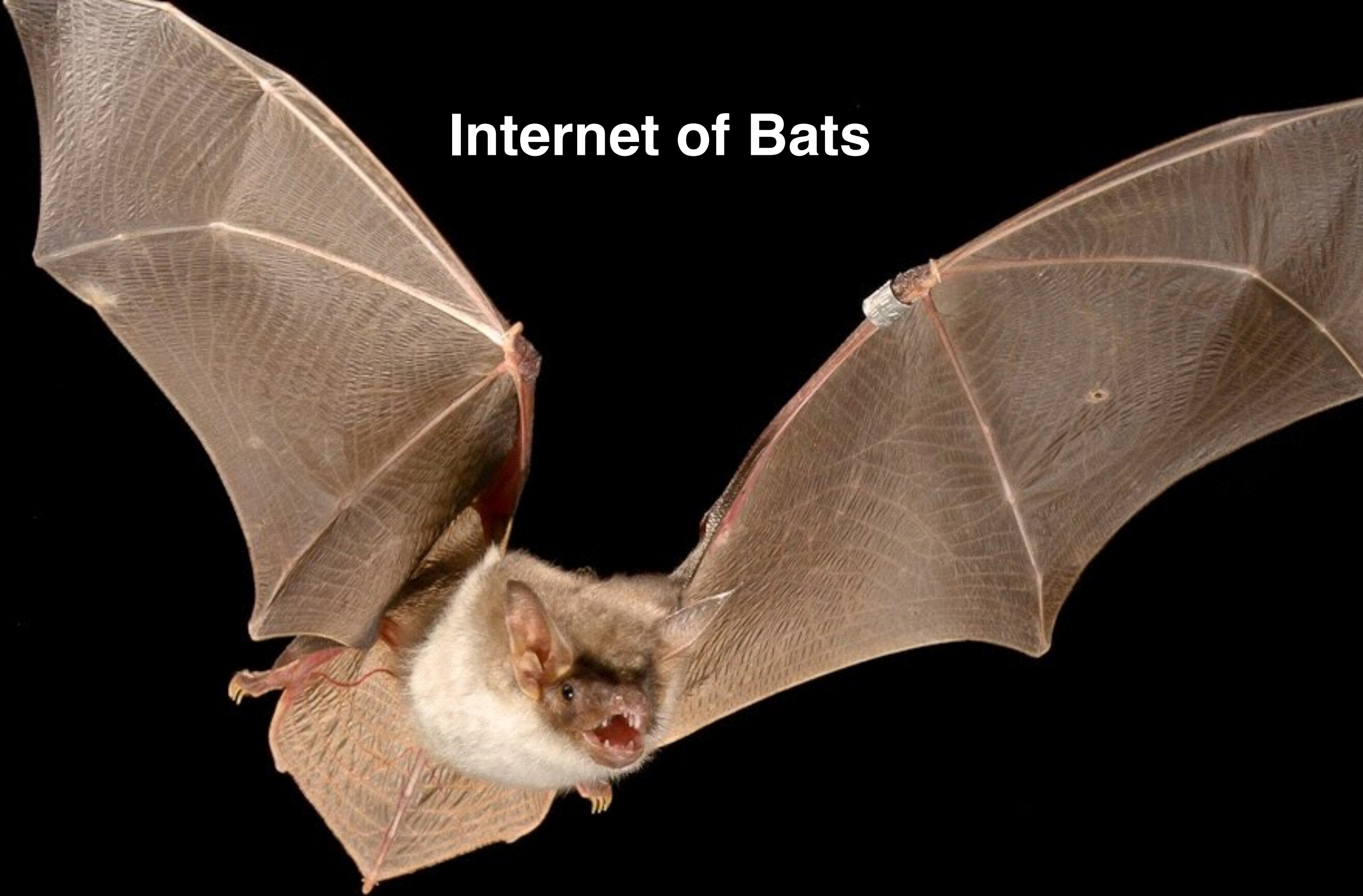


Internet of Bats



Lukas Schauer

- Student, 23 Jahre alt
- Dinge mit Soft- und Hardware
 - letsencrypt.sh
 - DIY IP-KVM
 - Internet of Bats
- Manchmal finde ich versehentlich Sicherheitslücken:
 - u.a. bei Apple, Ubiquiti, Ubospace, auf Plasteroutern, usw.
ㄟ(ゝ)/



Dieser Vortrag

Vorgeschichte

Internet of Bats

- Lichtschranken
- Ultraschall-Recorder
- Triangulation über SDR

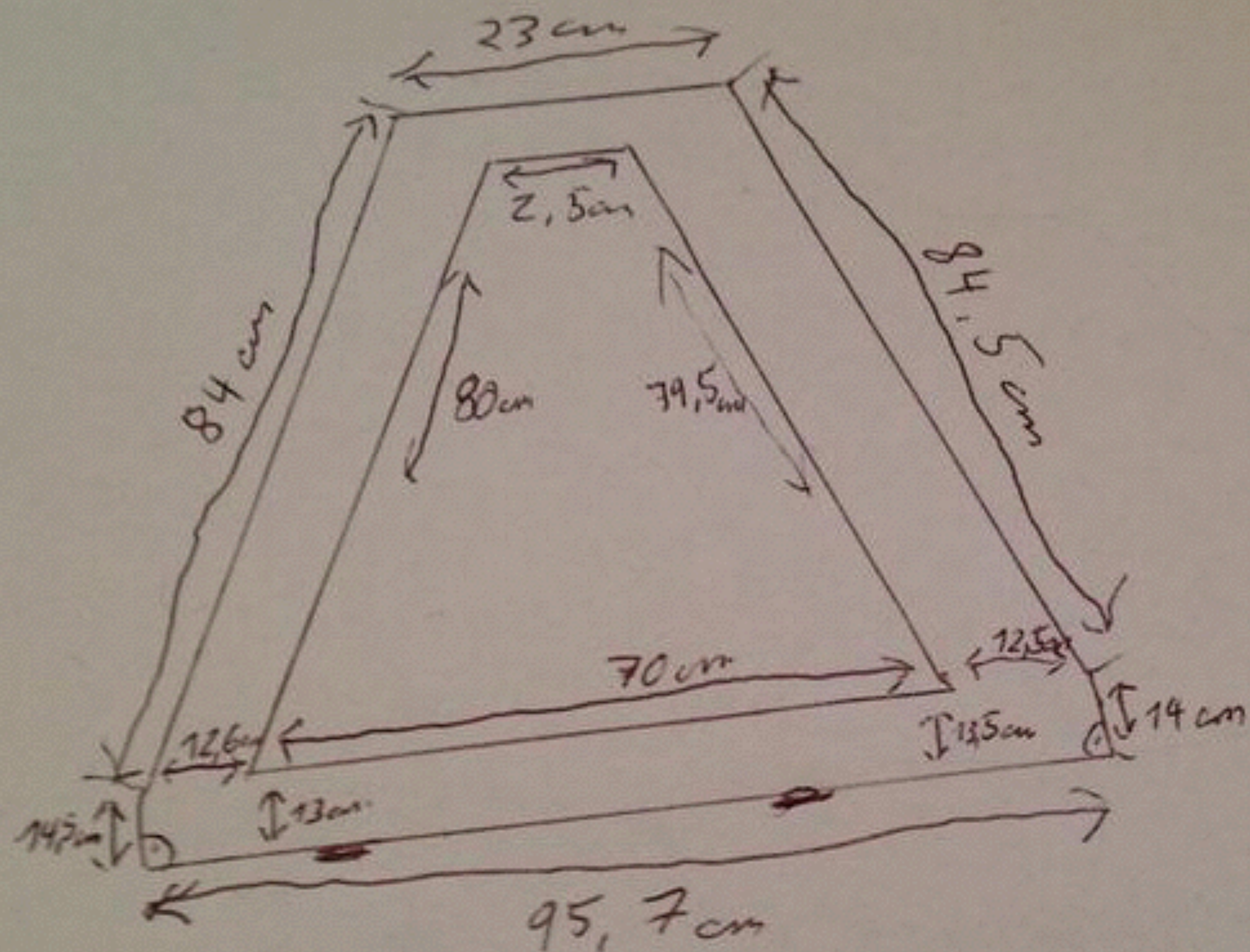
Wer?

- Martin
- Peter
- Simon
- Ich

Warum?

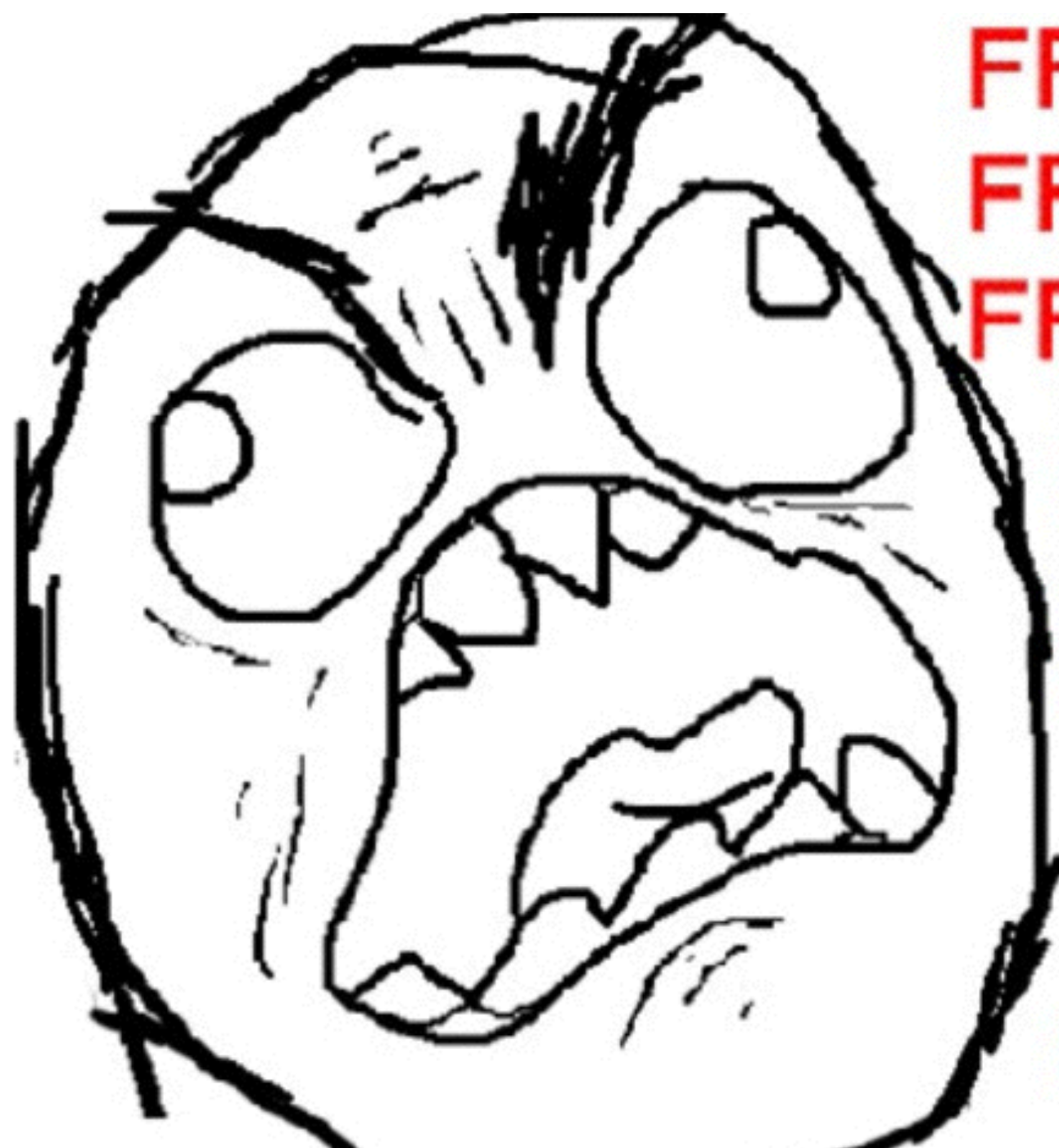
Fertige Produkte?

Lichtschranken









FFFFFFFFF

FFFFFFFFF

FFFFFFFFF

FFFFFFF

FFFFFFF

FFFFFFF

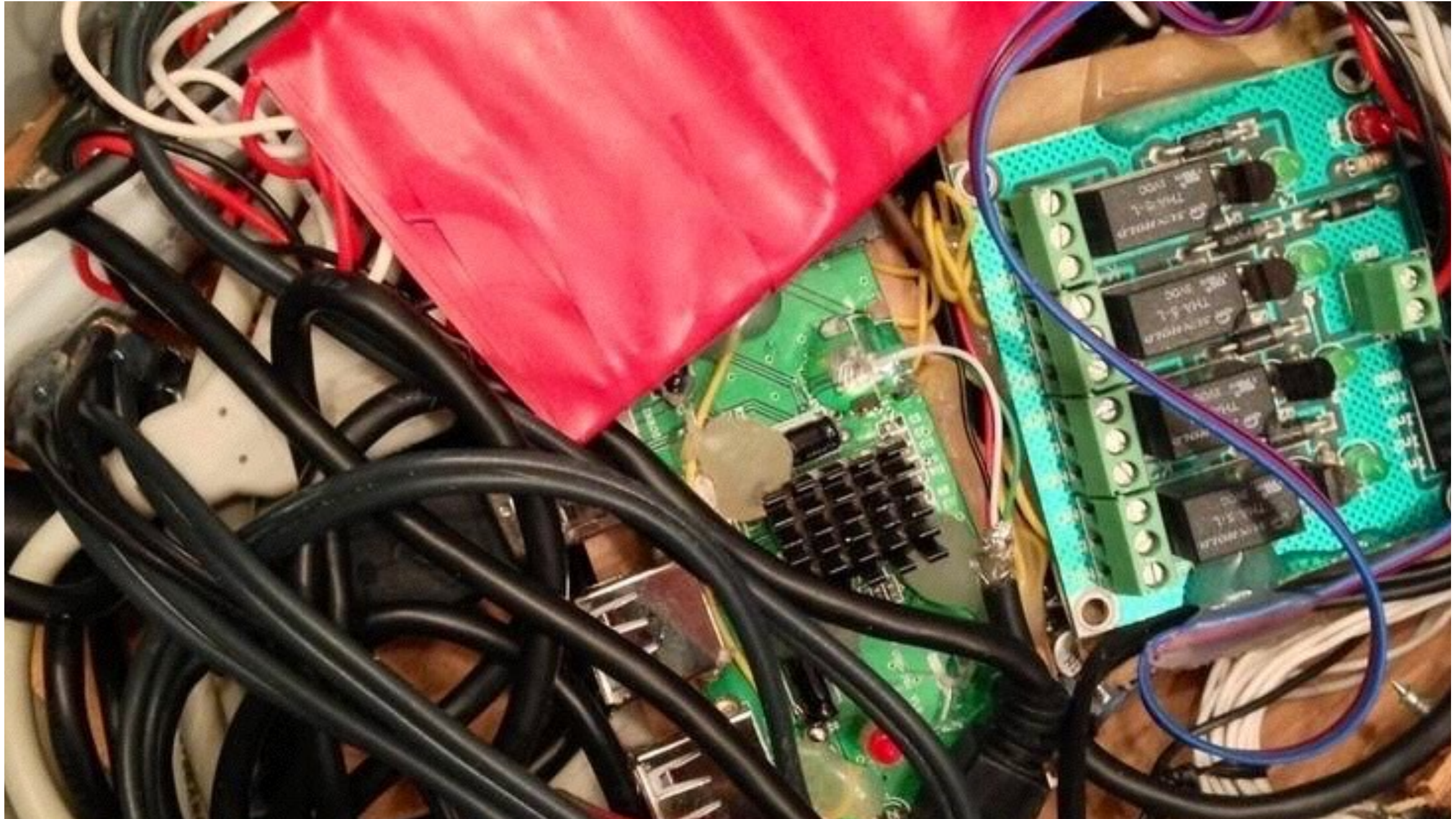
UUUUU

UUUUU

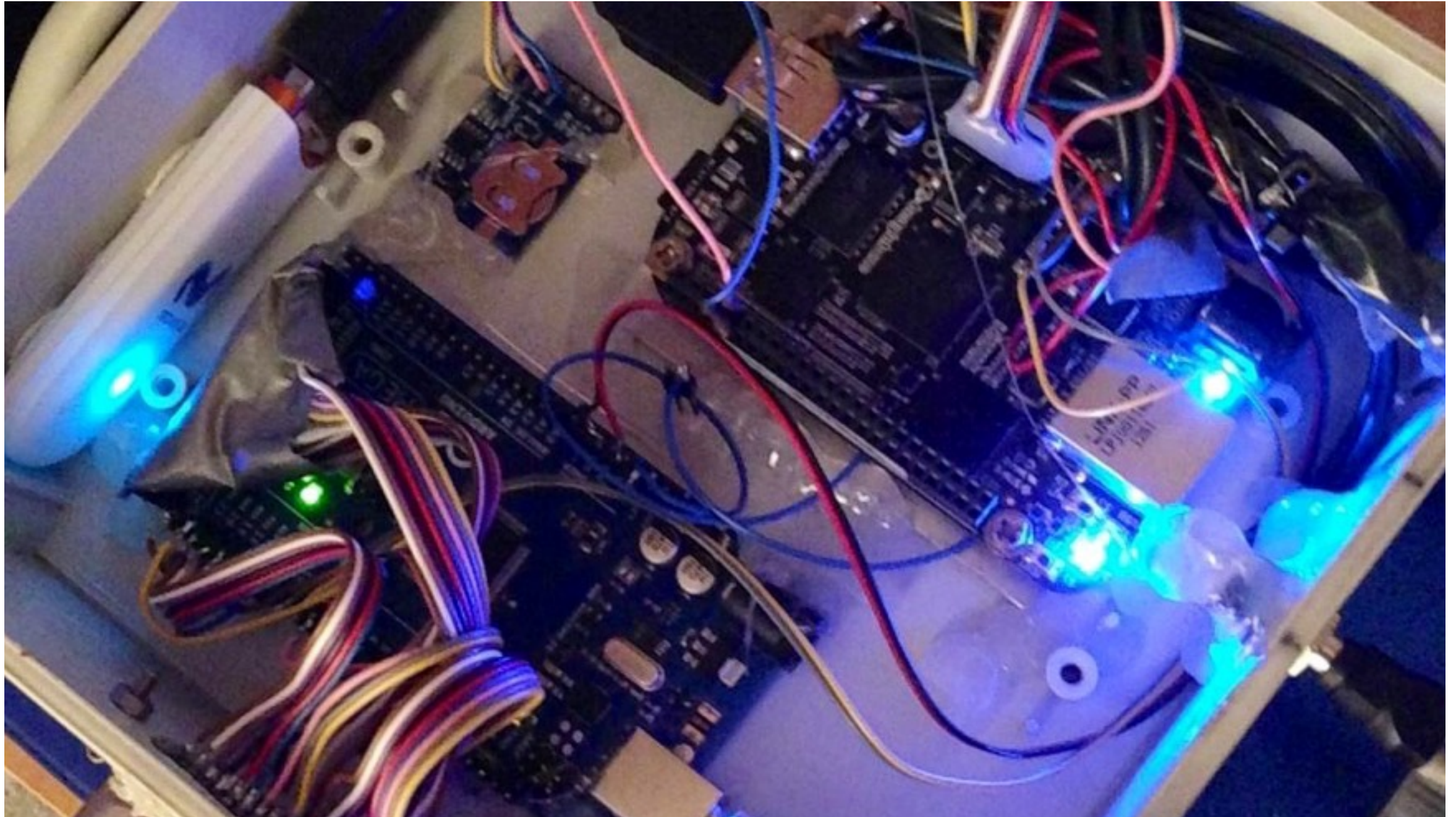
UUUUU-

Elektronik

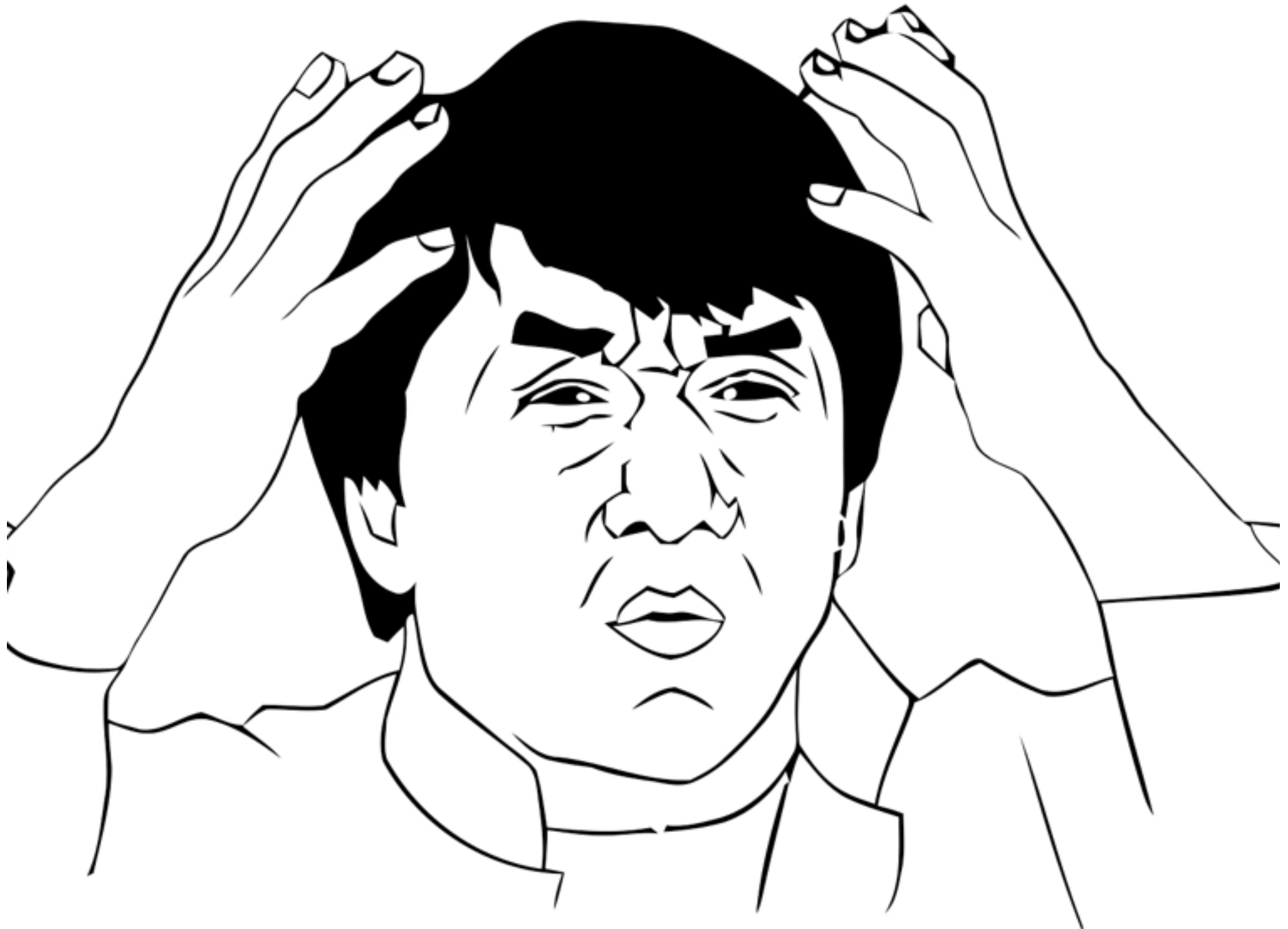
Wieder Probleme...



Elektronik v2.0



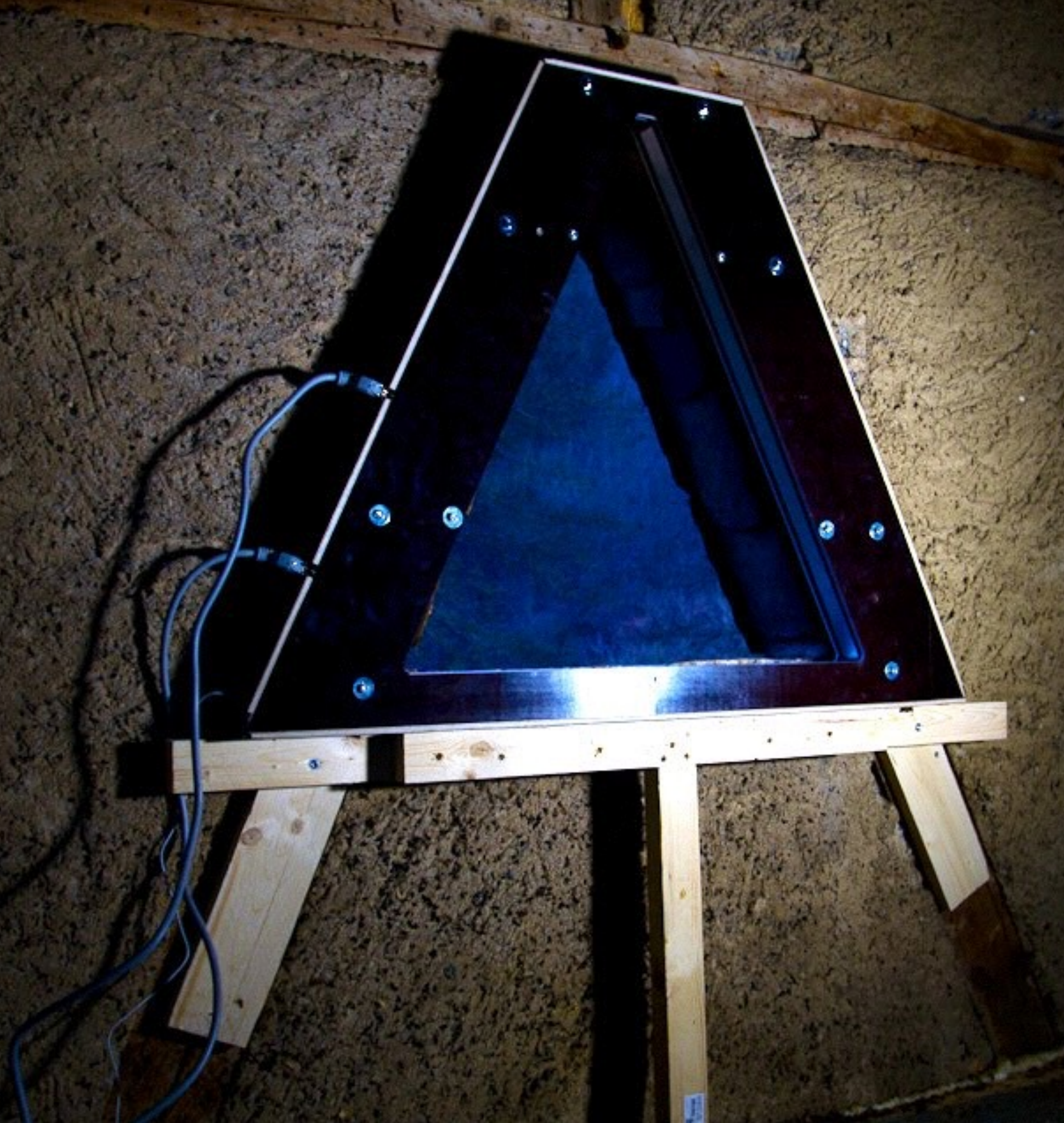
Und wieder Probleme...



Software

- Logging: Python Scripts zum lesen der Lichtschranken- und Wetter-Daten
- Datenübertragung: UMTSkeeper, Sakis3g, OpenVPN, OpenSSH, rsync
- SMS: Logger (Provider-SMS...), "wakeupcall" (Sendet SMS nach boot)
- Sonstiges: Kleines (Flask-basierendes) Webinterface zur Logansicht, Debug-LED-Blink-Scripts





Flippy Bits: A04, A07, A12, A14, A16, B17
A -> B: 33
B -> A: 34
?????: 6

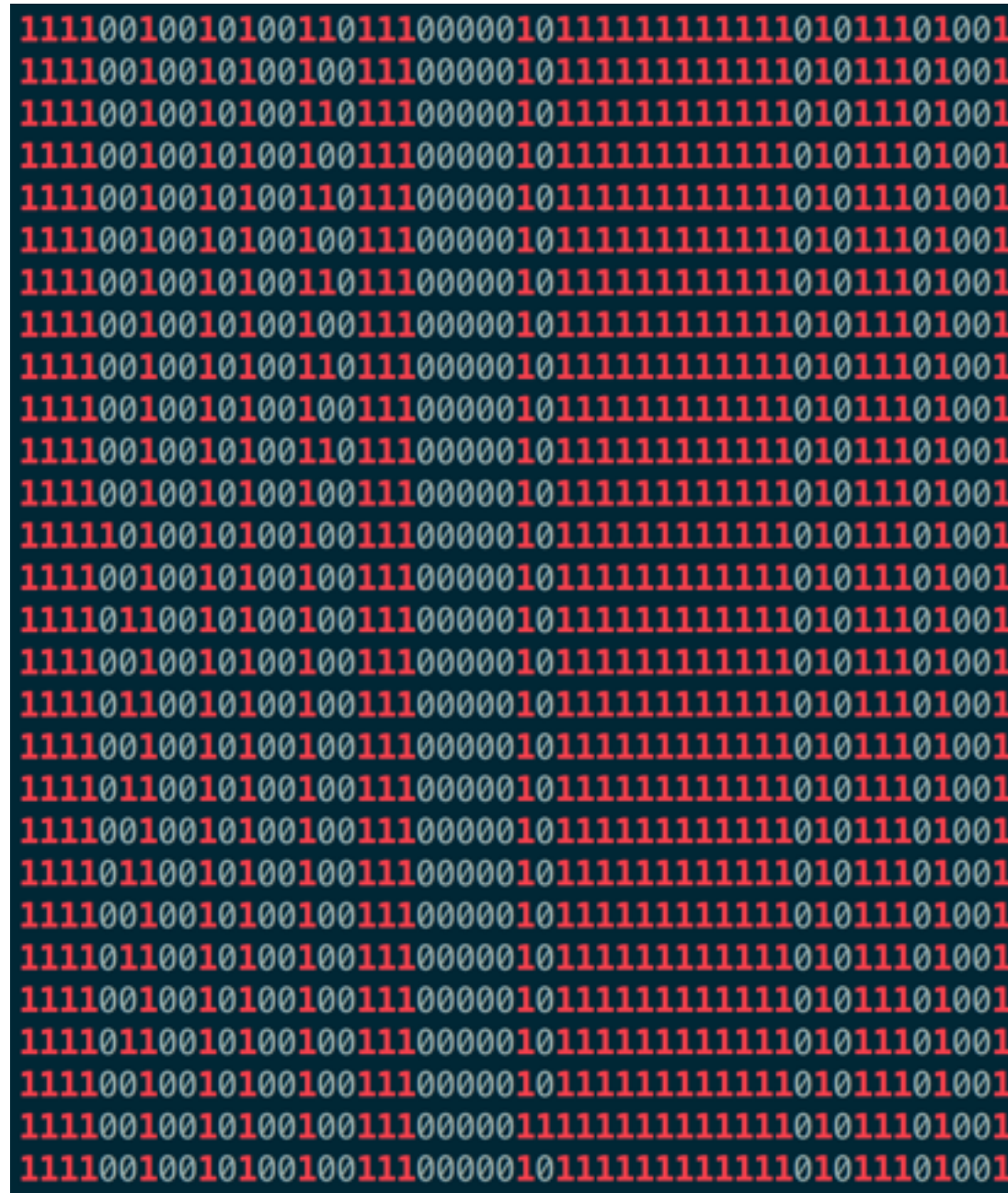
Sonnenuntergang: 2014-03-15 17:33:46

Sonnenaufgang: 2014-03-16 05:46:47

Rohdaten herunterladen

					Innen (A)	Außen (B)
2014-03-15	19:17:02,609	-	T	1394907421920400	000000010100000000000000	0000000000000000000000
2014-03-15	19:17:02,617	-	T	1394907421920484	000000110101110000000000	0000000000000000000000
2014-03-15	19:17:02,623	-	T	1394907421920564	000000110111110000000000	0000000000000000000000
2014-03-15	19:17:02,630	-	T	1394907421921408	000000110111111100000000	0000000000000000000000
2014-03-15	19:17:02,643	-	T	1394907421922672	000000111111111100000000	0000000000000000000000
2014-03-15	19:17:02,656	-	T	1394907421931724	000000111111111100000000	0000000000001000000000
2014-03-15	19:17:02,663	-	T	1394907421931808	000000111111111100000000	0000000000001100000000
2014-03-15	19:17:02,670	-	T	1394907421932144	000000111111111100000000	0000000000101100000000
2014-03-15	19:17:02,674	-	T	1394907421932616	000000111111111100000000	0000000000101110000000
2014-03-15	19:17:02,678	-	T	1394907421933780	000000111111111100000000	0000000001101110000000
2014-03-15	19:17:02,685	-	T	1394907421934352	000000111111111100000000	0000000011101110000000
2014-03-15	19:17:02,689	-	T	1394907421934492	000000111111111100000000	0000000011101111100000
2014-03-15	19:17:02,693	-	T	1394907421935136	000000111111111100000000	0000000011111111100000
2014-03-15	19:17:02,697	-	T	1394907421935748	000000001111111100000000	0000000011111111100000
2014-03-15	19:17:02,700	-	T	1394907421935832	000000001111011100000000	0000000011111111100000
2014-03-15	19:17:02,704	-	T	1394907421937620	000000001111011100000000	0000000011111101100000
2014-03-15	19:17:02,708	-	T	1394907421939364	000000001111000000000000	0000000011111101100000
2014-03-15	19:17:02,712	-	T	1394907421941188	000000001111000000000000	0000000011111001100000
2014-03-15	19:17:02,715	-	T	1394907421941272	000000001111000000000000	0000000011111000000000
2014-03-15	19:17:02,719	-	T	1394907421941884	000000001111000000000000	0000000011110000000000
2014-03-15	19:17:02,723	-	T	1394907421942556	000000000110000000000000	0000000011110000000000
2014-03-15	19:17:02,727	-	T	1394907421949892	000000000110000000000000	0000000001110000000000
2014-03-15	19:17:02,730	-	T	1394907421954888	000000000010000000000000	0000000001110000000000
2014-03-15	19:17:02,734	-	T	1394907421954984	000000000010000000000000	0000000001100000000000
2014-03-15	19:17:02,738	-	T	1394907421955568	000000000000000000000000	0000000001100000000000
2014-03-15	19:17:02,742	-	T	1394907421967952	000000000000000000000000	0000000001110000000000
2014-03-15	19:17:02,745	-	T	1394907421968540	000000000000000000000000	0000000000110000000000

Und wieder...



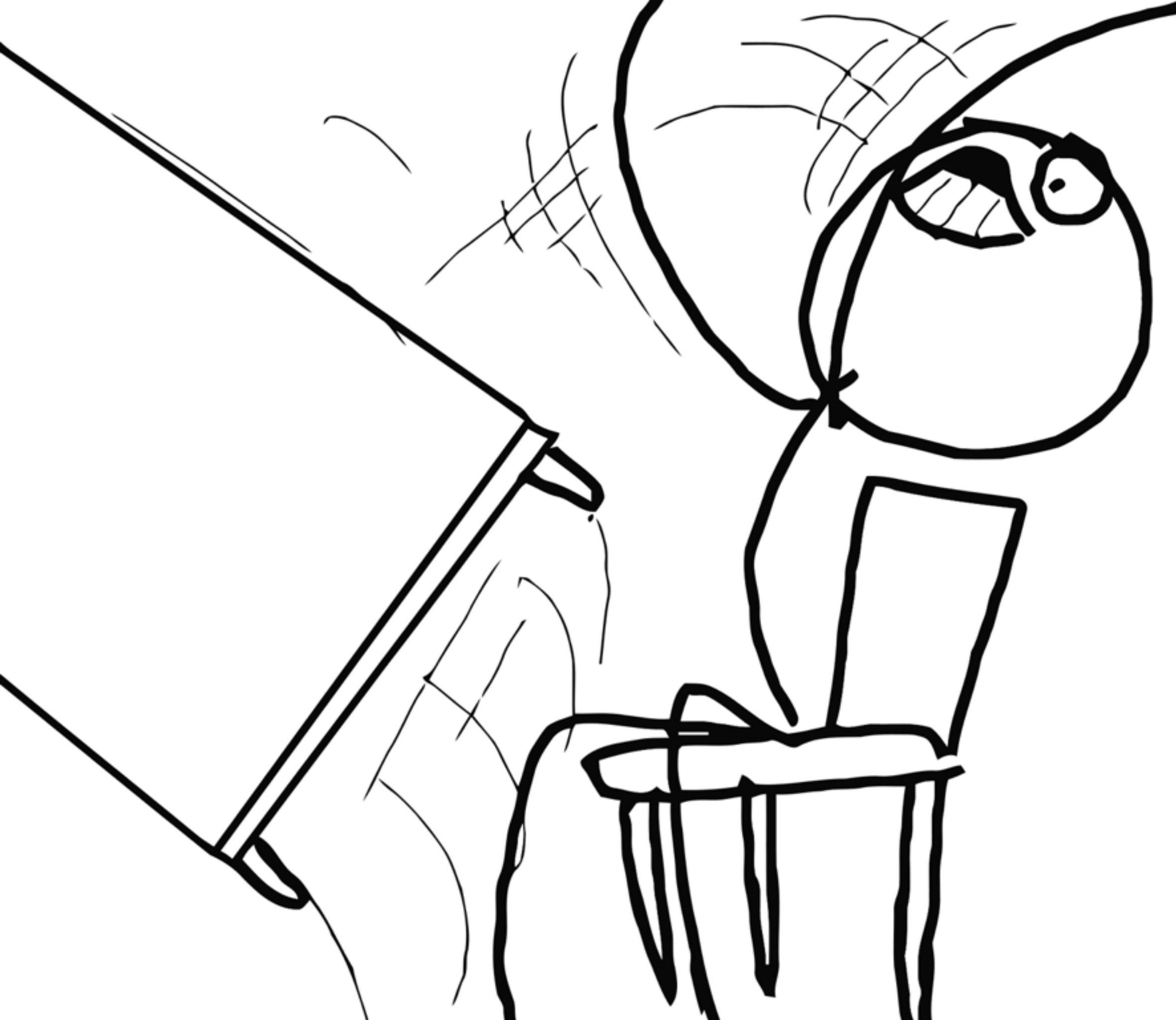
A 32x32 grid of binary code (0s and 1s) in red and blue on a black background, forming a square shape. The code is arranged in a repeating pattern of 1s and 0s, with some variations in the sequence of digits across the rows and columns.

Wildbienen...

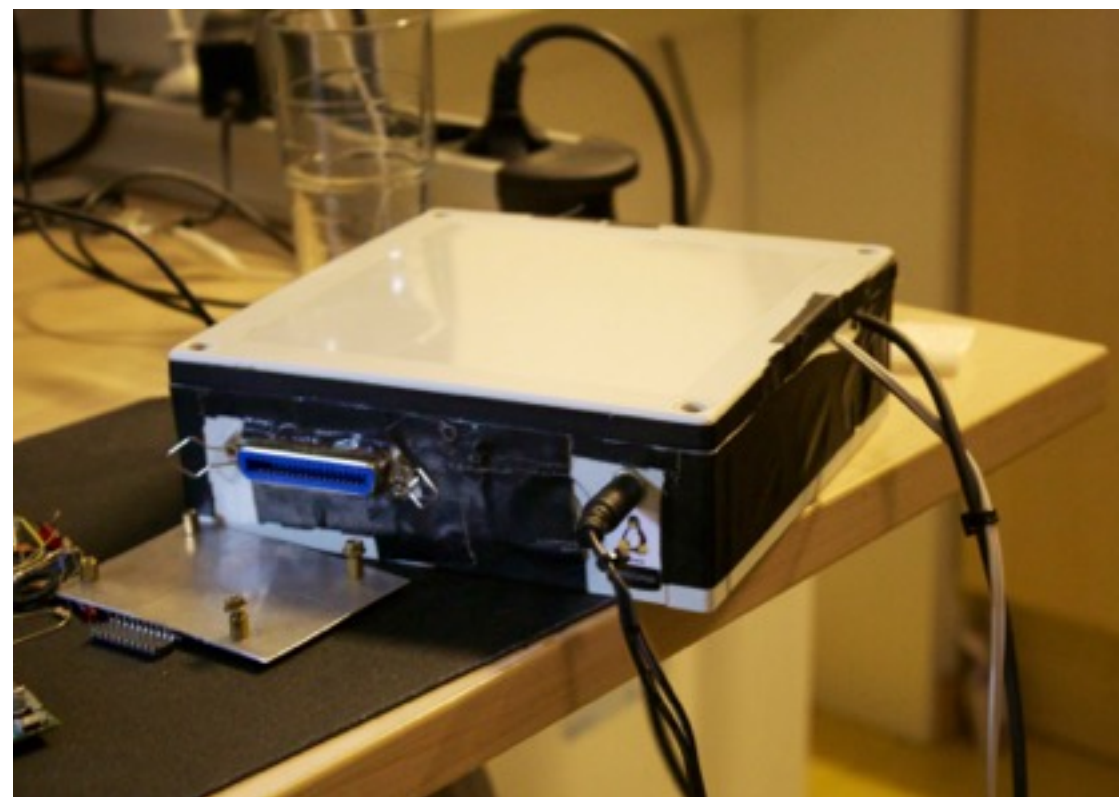
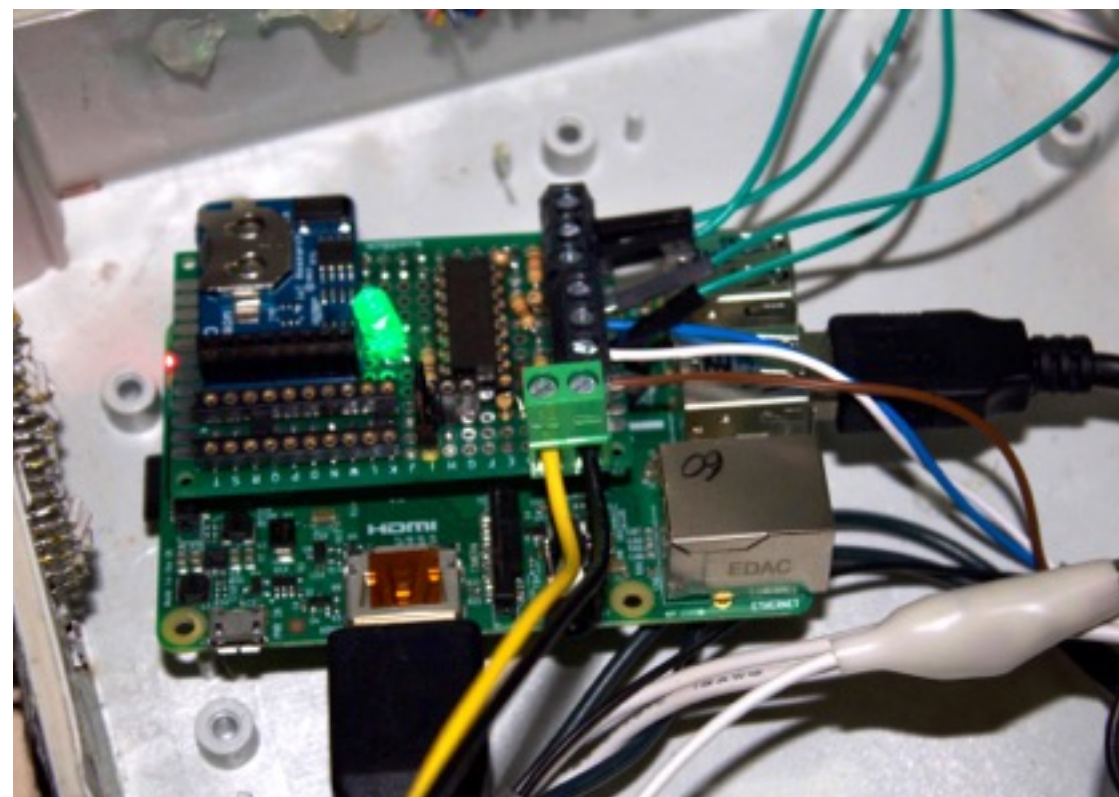
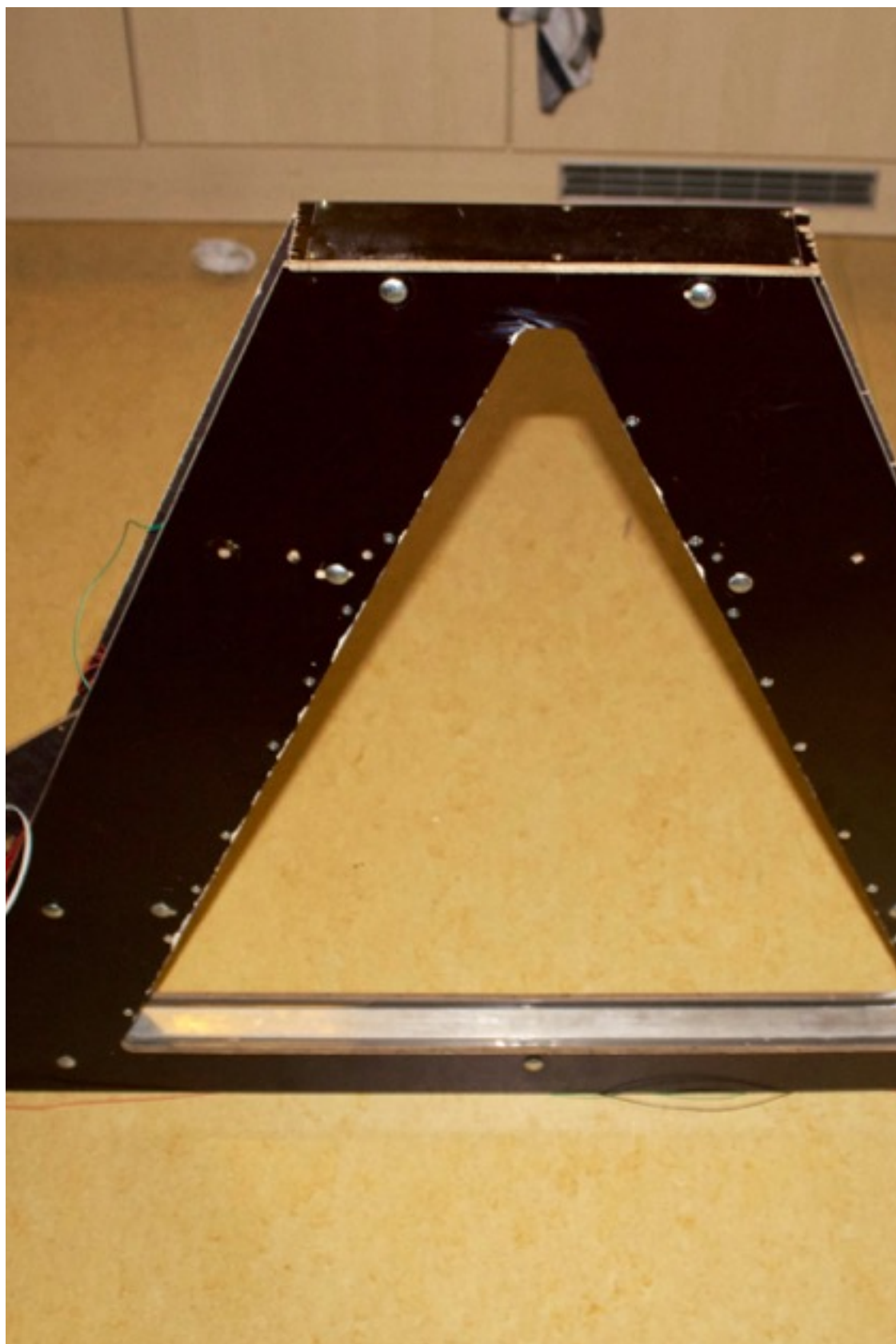


Lichtschranke 2





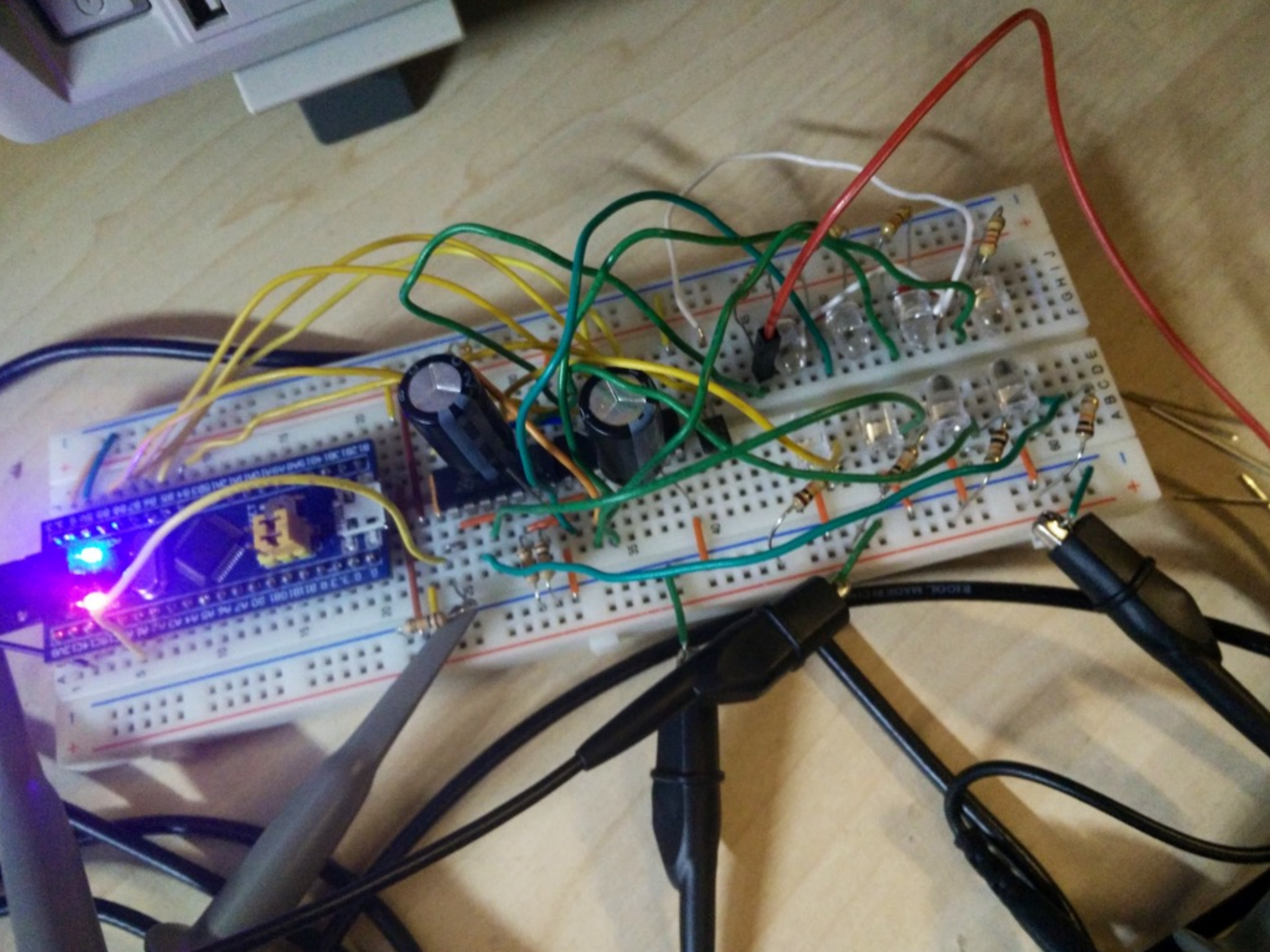
Lichtschranke 3

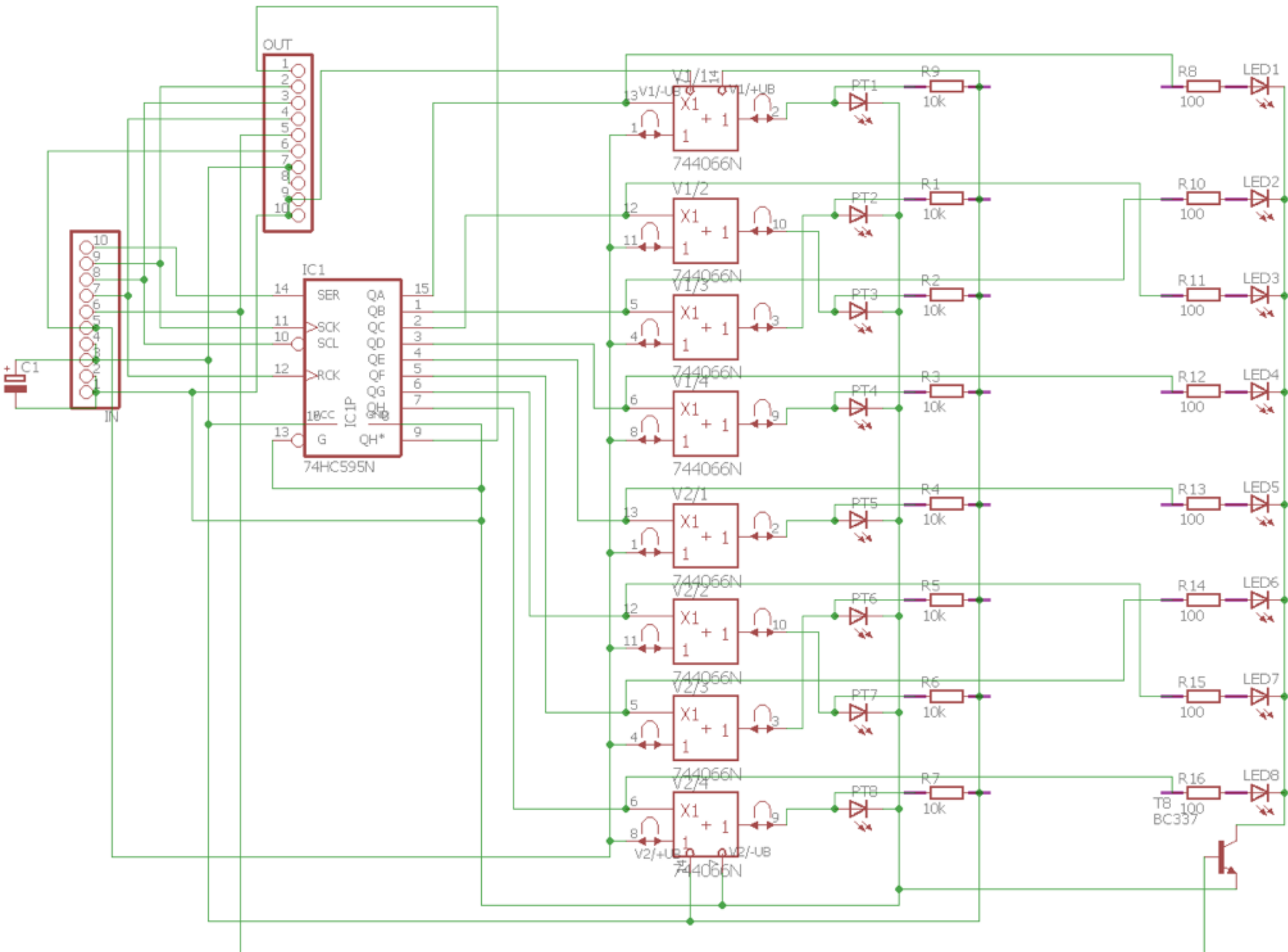


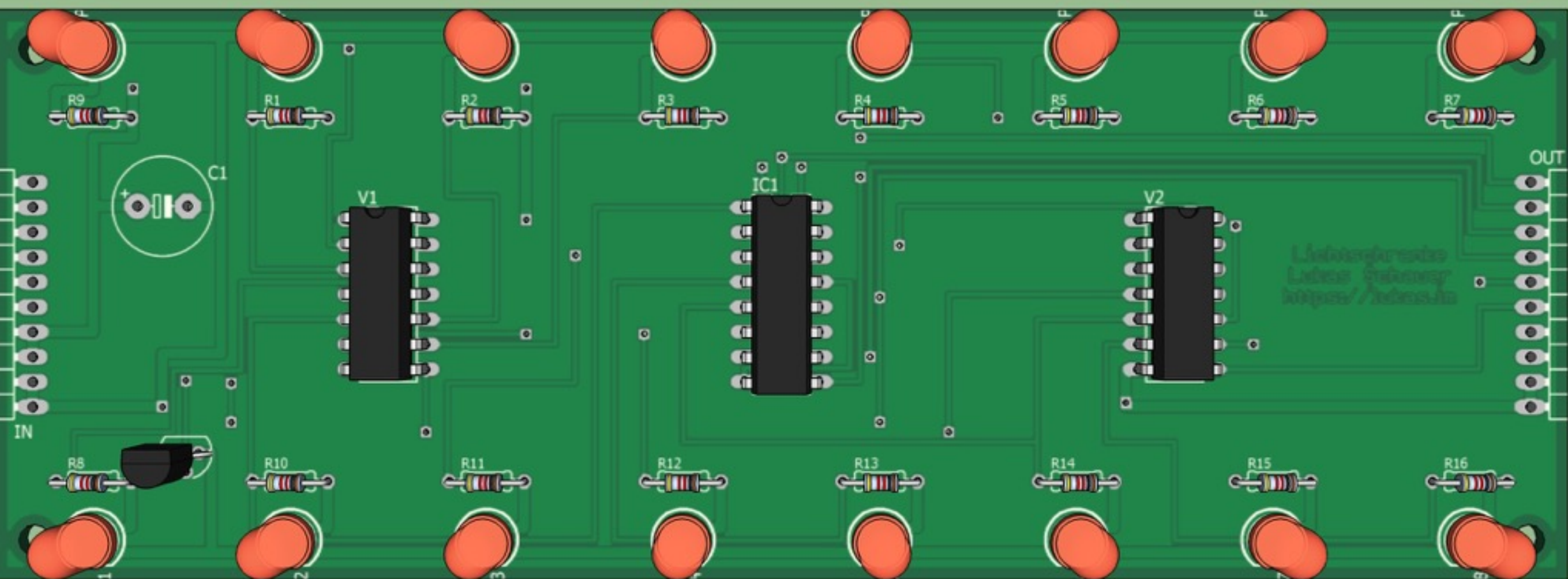
Das kannst du schon so...



Lichtschranke 4







Ultraschall-Recorder

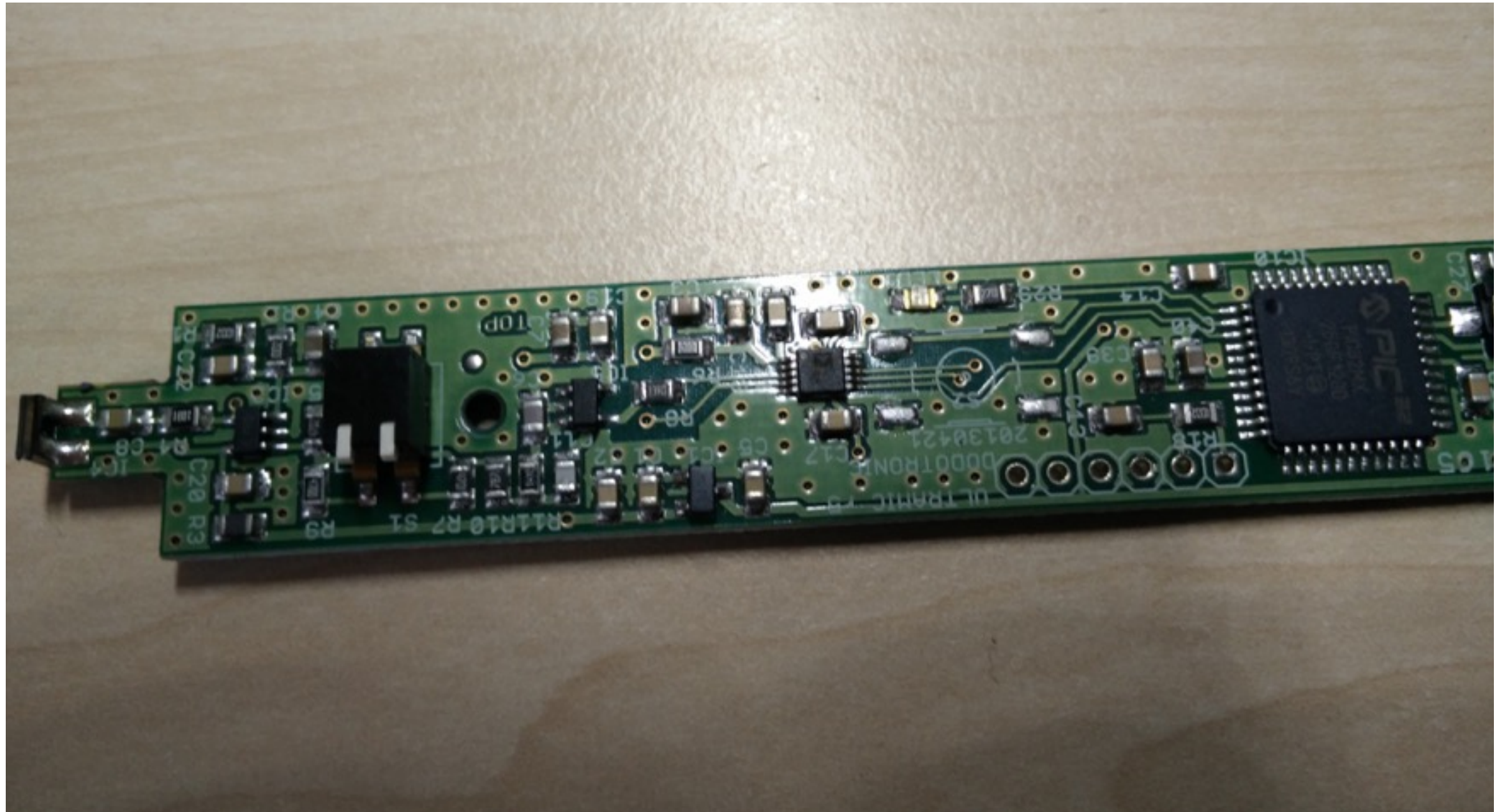
Idee

Dauer-Rekorder

Kombination mit
Lichtschranke

DIY-Mikrofone

Dodotronic Ultramic



SDR-Triangulation



Sonstiges

Strom

Weitere Ideen

Kontakt / Fragen?

- Web: <https://lukas.im>
- Twitter: @lukas2511
- IRC (freenode, hackint, paranode, ...): lukas2511
- GitHub: <https://github.com/lukas2511>