Twitter Thread by Dashiell Bark-Huss

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A Thread: Results of testing my Dream Phone.

The Dream Phone is my device that allows a sleeping subject to communicate from a dream.

This iteration-Dream Phone SD- induces lucid dreams, detects morse code eye messages from the lucid dreamer, and stores them on an SD card.



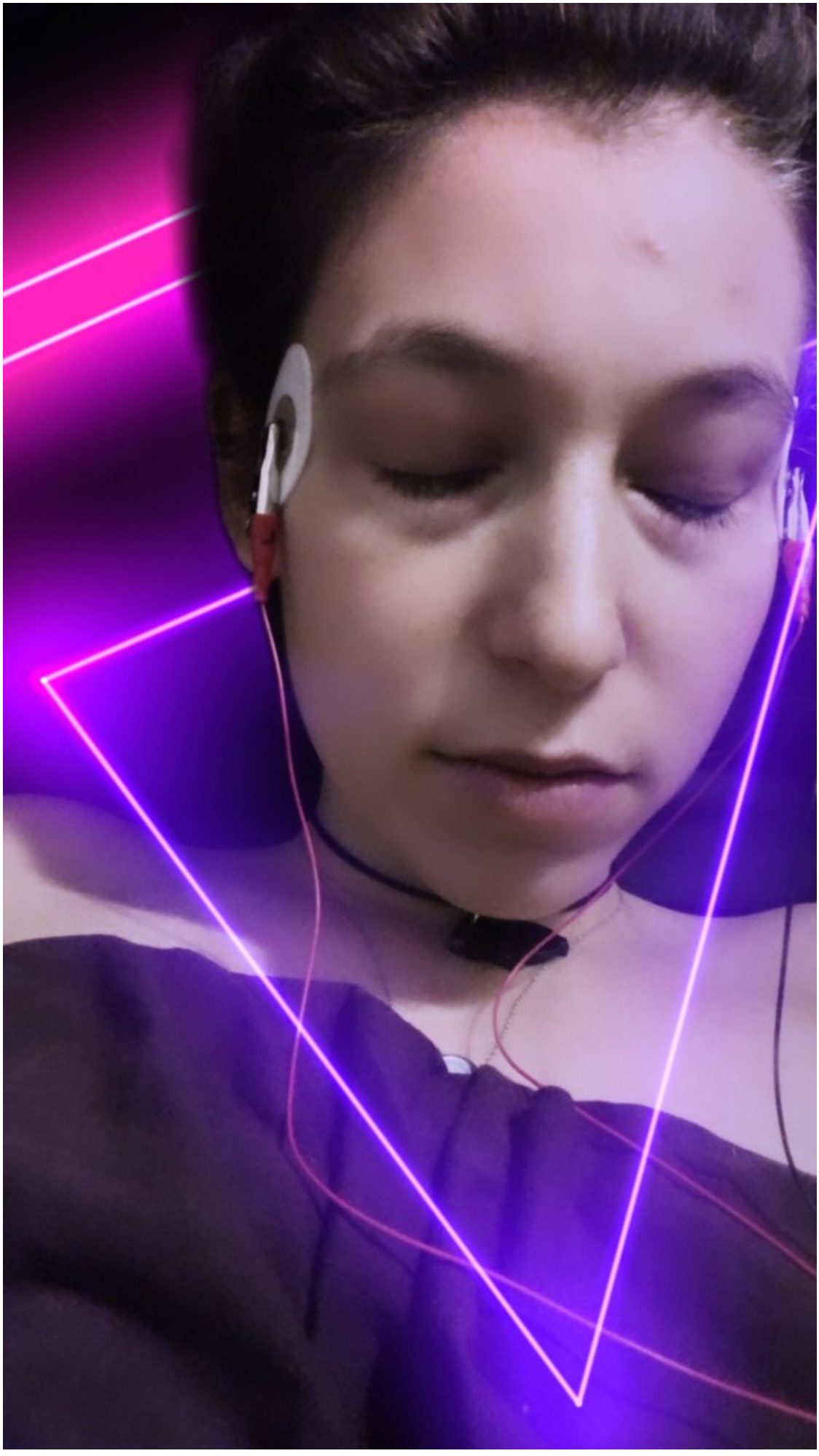
Dream Phone SD Test

Night 1

Turned off by itself. Think needs new 9v battery. Took it off at 1:48am.

Until that point, had trouble sleeping because of hyper awareness, desire to fall asleep.

LEDs detached from board, need to reattach.



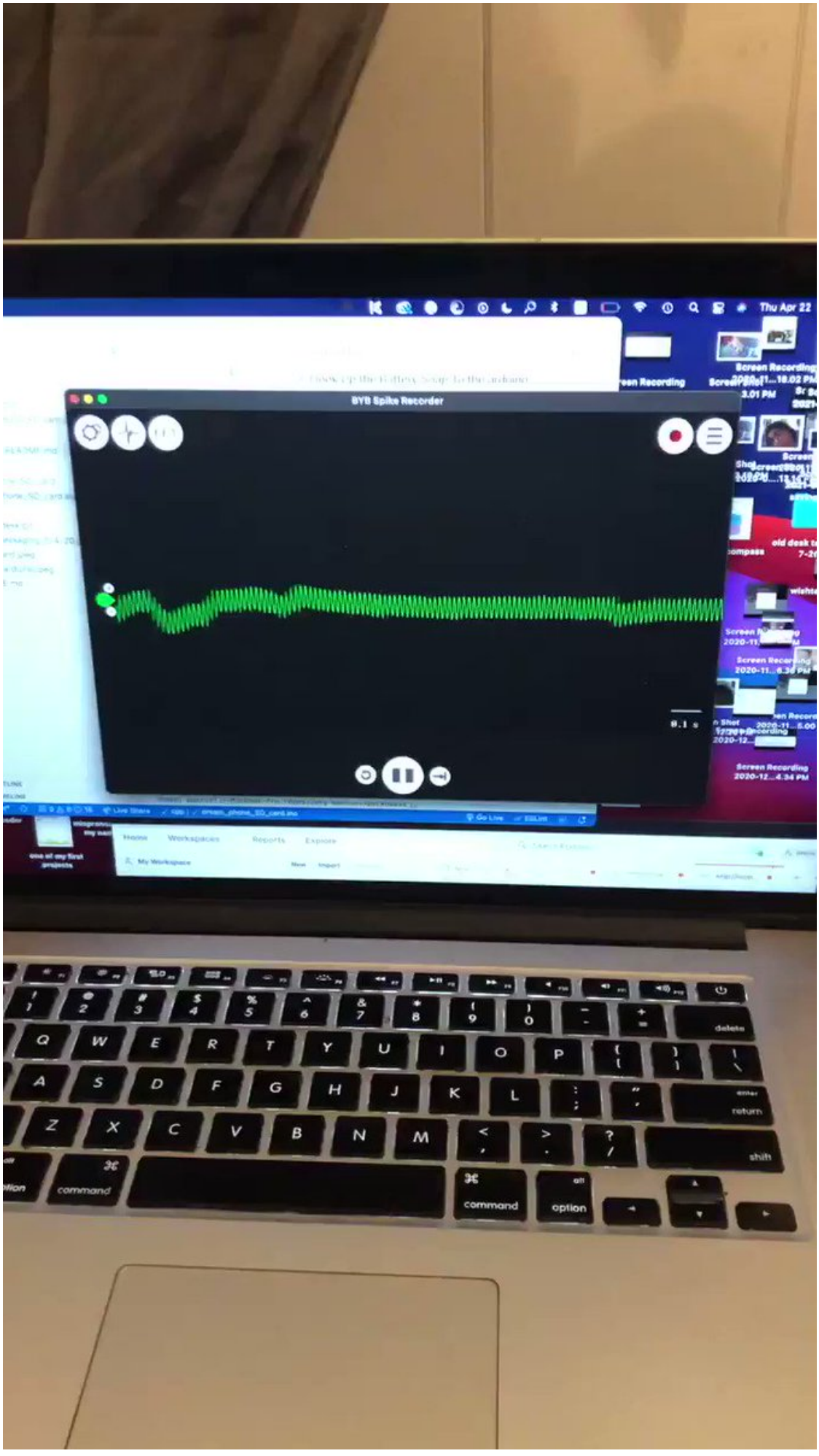
Dream Phone SD
Night 2

Trigger lights went off while I was awake. So need to lengthen the machine's WAIT_FOR_SLEEP time.

Also need to test the machine's location for electrical noise, because it went off when my eyes weren't moving much. It's sitting on top of a power strip.

An EMG electrode on my chin sensing muscle tone could eliminate the need for a WAIT_FOR_SLEEP time. But I would have to switch to another biosensor kit to add that electrode channel because @BackyardBrains discontinued their biosensor shield.

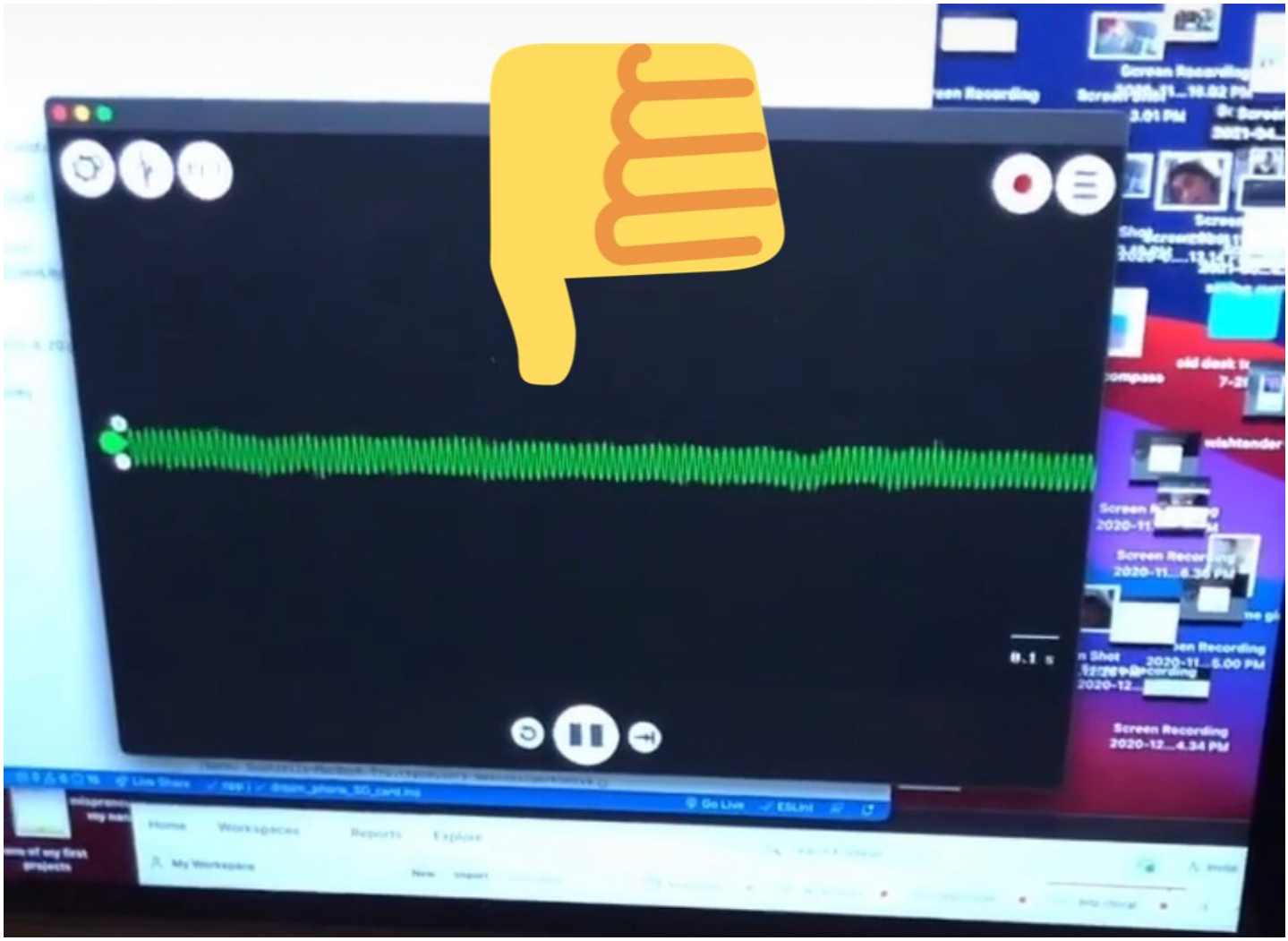
I tested the EOG signal. As I suspected, the power strip that the dream phone is sitting on top of is creating electrical noise which alters the EOG signal causing the dream phone to think I'm in REM when I'm not.


BYB Spike Recorder
Thu Apr 22
command
option
delete
return
shift

Night 3

Before bed I fixed the noisy signal by moving the AC power strip far away.

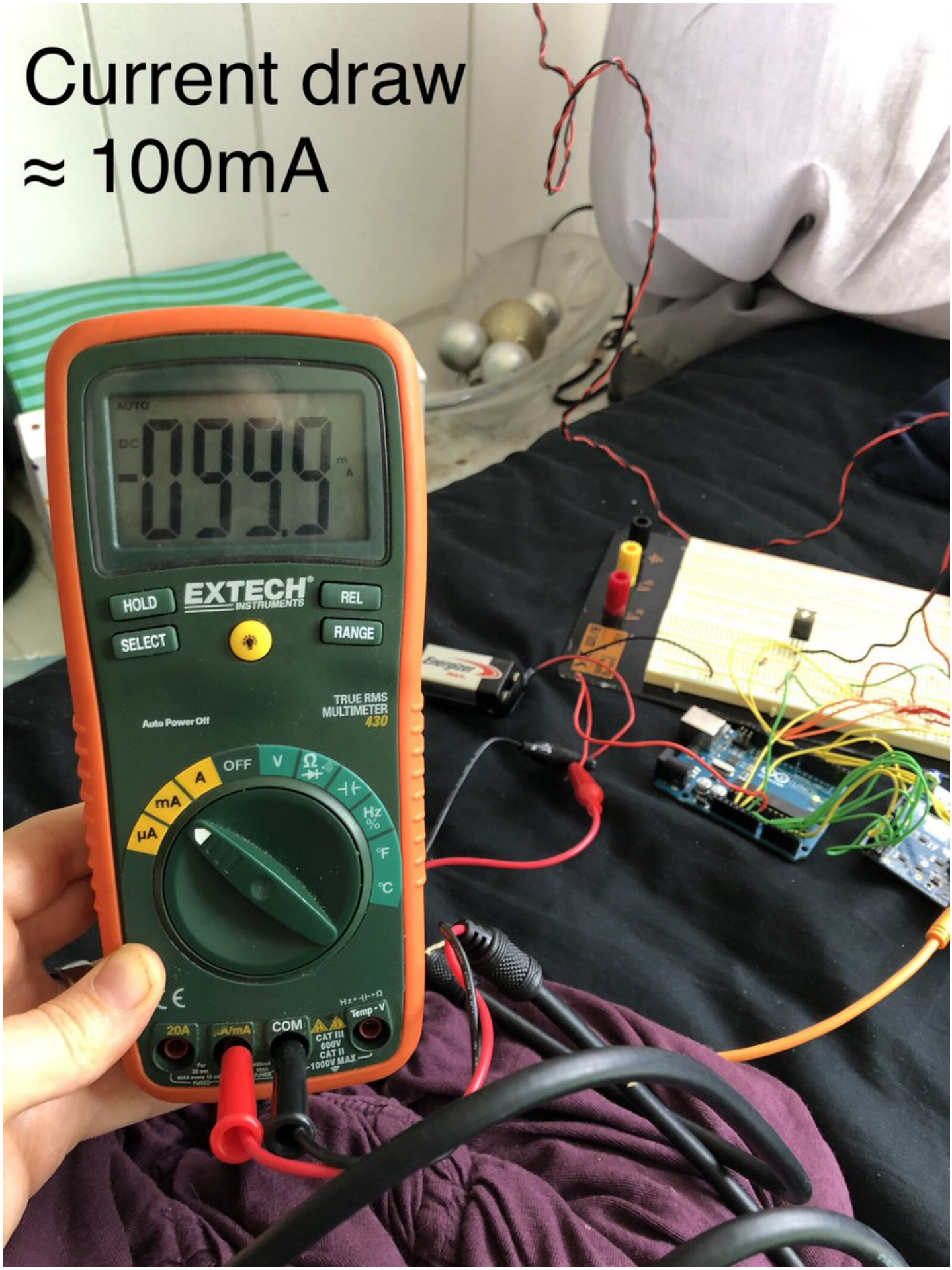
Woke up at 2am to see the device mysteriously turned off again. Have to investigate further.



Investigated the mysterious shut off.

The dmm showed my dream phone is drawing 100mA, even w/the LED’s off. This would drain a 9v battery in 5hrs.

I checked the 9v battery with a dmm and surely was drained. I double checked the old fashioned way as pictured.
#buildinginpublic



Battery issue posted here: https://t.co/QJfJ4phLDL

Reply with ideas- I’m an electronics newbie, so you might know better than me.

#Arduino #CodeNewbie #helpmecode

Solved: Ordered batteries that will last long enough to power the dream phone through the night. The regular 9V batteries were dying in the middle of the night because standard 9V batteries only have 500mAh.

Solution/Issue posted here: https://t.co/77EMsIYv3f

#BuildInPublic

Dream Phone SD test
Night 4

The good:
1. The new battery bank kept the DP on all night.
2. The DP did not fall on my head in the middle of the night.

The bad:
1. Would not flicker, not even when I moved eyes while awake.
2. Still difficult to sleep bc of pressure to perform.



Solved the last issue where the dream phone wouldn’t flicker it’s lights. The problem was in the code, not the electronics: https://t.co/lDMghvVlTC

Dream Phone SD test
n5

I woke up too early. The dream phone waits 5 hours before going into “detect rem” mode. But I woke up at around that time and couldn’t fall back asleep.

My sleep was better than last time, but still not good. My “lab anxiety” is reducing.

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Dream Phone SD test
Night 6

Similar to last time I had trouble sleeping.

Had hypnogogic visions of having to code the dream phone which kept me in this more alert state where I couldn't proceed into deeper sleep.

1/2

2/2

A reoccurring hypnogogic thought I had was "being in" the html elements (IRL there is no html) of the dream phone & having to position the center most element correctly- the center most element being me.

Dream Phone SD
Night 7

Decided to test every night this week to try to acclimate to reduce insomnia.

I slept well but was also extremely tired from the night before. I don't remember seeing any lights in my dreams and in the morning the dp would not trigger, need to debug.

1/2

2/2
I tried this app based on insomnia research called mySleepButton that puts you through a mental exercise to stop mental chatter and help you sleep. Will continue to try it for a while.

Dream Phone SD test
Night 8

I realized night 7's bug was due to a loose wire. Plugged it back in.

Similarly, after I stuck the electrodes to my face last night, I forgot to plug them in!

mySleepButton helped me fall sleep at bedtime and in the middle of the night.


A sweet
treat
for you!

Dream Phone SD Tests
N: 9-16

My goal for the past 1.5 weeks was to reduce the insomnia that the dream phone was causing.

I accomplished this with:
- mySleepButton app
- CBT-I

My sleep is actually been better than ever because of these tools.

Next: Fine tune the LD induction


10:51
Search
terday
Today
SLEEP
86
Optimal
Sleep contributors
Total sleep
7h 53m
Efficiency
91%
Restfulness
Optimal
REM sleep
1h 29m, 19%
Deep sleep
3h 41m, 47%
Latency
10m
Timing
Good
Home
Readiness
Sleep
Activity

N17-N20 (N20 was 6/8)

Tested a few more times. Talked Karen Konkoly, ld researcher, who said the DP's rem detection might miss short bursts of REM EM. So I collected my EOG data on night 20 to try to refine the DP's rem detection. Visualized the data with dygraphs.js.

*N20 was 6/7-6/8