* Idea
  + a phone that isn’t able to randomly listen in to you whenever it wants
* Reason
  + apps are listening. I don’t want them to listen all the time and overhear my private/personal conversations when I have no idea they’re listening.. Privacy plz.
* Features
  + Want to be able to turn off the muffling of listening on-demand
  + Phone and apps still have access to the mics!
    - I want to be able to use facebook/insta video, etc.. I just don’t want them listening in at other times.
  + All mics effectively blocked from listening
    - iphone 7 has FOUR mics
  + Is very simple to operate - no/minimal extra steps to use the phone
  + Ability to validate that the case is working properly
* Implementation ideas/notes
  + Foam rubber to block noise?
    - Any better materials?
  + White noise generators - thin flat tiny speakers?
    - How will these work on the mics that are on the bottom of the phone? Is it good enough to get close to those mics?
  + How to attach:
    - Flap(s) that wrap around and are held via magnets
    - Flap(s) that wrap around and are held via snap-bracelet kind of thing
    - Flaps can be cute, like animal legs hugging the phone or something
  + Phone case has to be the kind with front, otherwise it can’t block front mics
  + Test App
    - Start test
    - Wait a couple seconds for case closing
    - Make phone beep to indicate test is starting (case should be closed)
    - then try to listen through all the mics
      * Check db level that can be heard
      * Check if can get any speech out?
    - Beep again to indicate test completion
    - Present report

First steps - Sept 7-8, bought some various dampening materials (see notes).

Neoprene is the squishiest, dampens sound ok in my super duper rough test.

There are FOUR LIGHTS! I mean.. Microphones..

The front top mic is ANNOYING AF. It’s inset so you can’t block the sound easily because noise from the case goes into the phone. Bleh. It seems like a 100% physical blocking situation will not work, will need to use white noise as well. I also found another company that is making a very fancy super blocking phone and selling it for like $1k.. :o

Sept 11th - went to Akihabara, wandered around like a moron and asked a bunch of people but couldn’t find the tiny speaker I’m looking for..

<https://www.digikey.jp/product-detail/en/soberton-inc/SP-1003/433-1139-ND/6562938>

I bought the Sunhayato Model SBS-P02 which is a 38mm diameter speaker just to try out. It conveniently has leads attached so I can just stick it right in the breadboard.

I bought these speakers on AliExpress to try out:

<https://www.aliexpress.com/item/20pcs-Speaker-phone-tablet-micro-speaker-1W-8R-8-Euro-1-watt-1015-10-15MM-4mm/32813097082.html>

20pcs Speaker phone tablet micro speaker 1W 8R 8 Euro 1 watt 1015 10 \* 15MM 4mm thick

I paid $4.77 for them..

Sept 14th - used arduino uno with the sunhayato speaker mentioned above and made some white noise wooo.. Used a 10k resistor to dial down the volume to a level that isn’t really noticeable in a room with air circulation (exposed speaker) and tested it over the front facing speaker and it works GREAT to block noise. Easy peasy mac and cheesy.

Probably would like to use something like an Adafruit Trinket board or something equivalently tiny for PoC. Next question will be.. Do I need a speaker for the bottom as well? Or will just the front-facing speaker be enough.. Need to check on apps as to how to access mics. Ok, checked, will need to test recording via all mics and see how it works.

I feel kind of at a bit of a loss as to how to proceed with the case.. I really need the other speaker stuffs. I ordered some moldable thermoplastic.. I want to make a base mold of a case that will fit the phone inside a layer of neoprene. I guess I could also go ahead with making the cute felt design to cover the outside..

Also I could really use a macbook.. Geez why did I buy this stupid not-macbook.. Oh yeah, bc I was cheap.