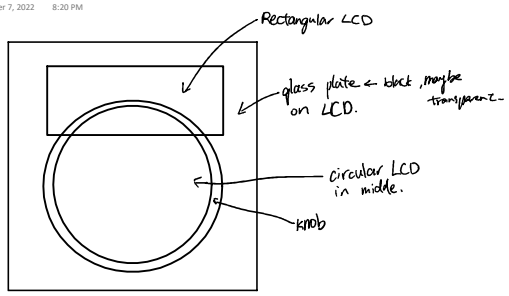
Sketch

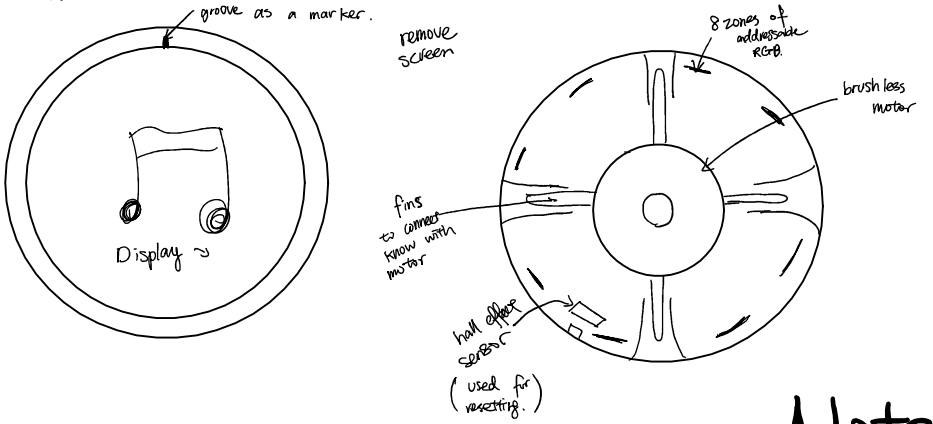
Monday, November 7, 2022 8:20 PM



FOC haptic knob.

- Hello World keyboard.
- superknob
- look into UR gloves.

The knob



Necessary Components.

- driver for brushless mtor.
- magnetic encoder
- wifi / bluetooth / usb
- strain gauge ADC BF 350-3AA
- screen adapter
- conside LVGL

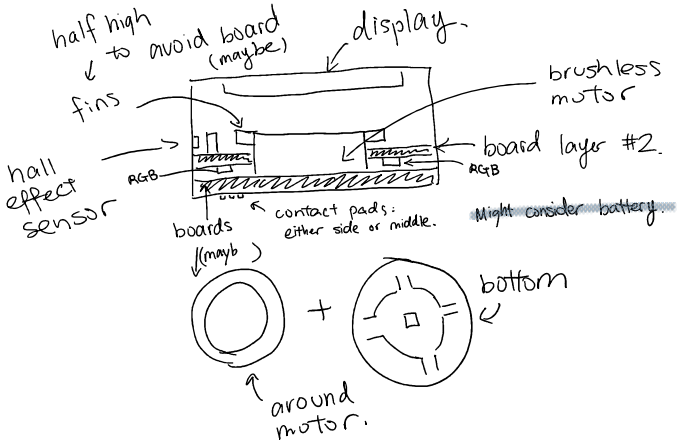
Note:

- Esp32 have touch GPIO ports
- another possible approach is to use it as universal knob for all appliances. used pins to determine device
- look into freeRTOS
- consider using oLED screen
- using battery + boost converter.

this would mean that the rectangular screen might need to be omitted.

or even better, this can be one of the attachments!

Components in knob.



- Start with the bottom PCB and see if everything can fit in.

Technical Detail

- use a latch to control the RGB LEDs
- use another to control which latch to control
- resistors are used to limit the voltage going into RGB (0.7v)
- low-frequency circuit (<1GHz)
- one bus for LED and other devices
- one I2C bus

- STM32 should be powerful enough
- use simulation to test first