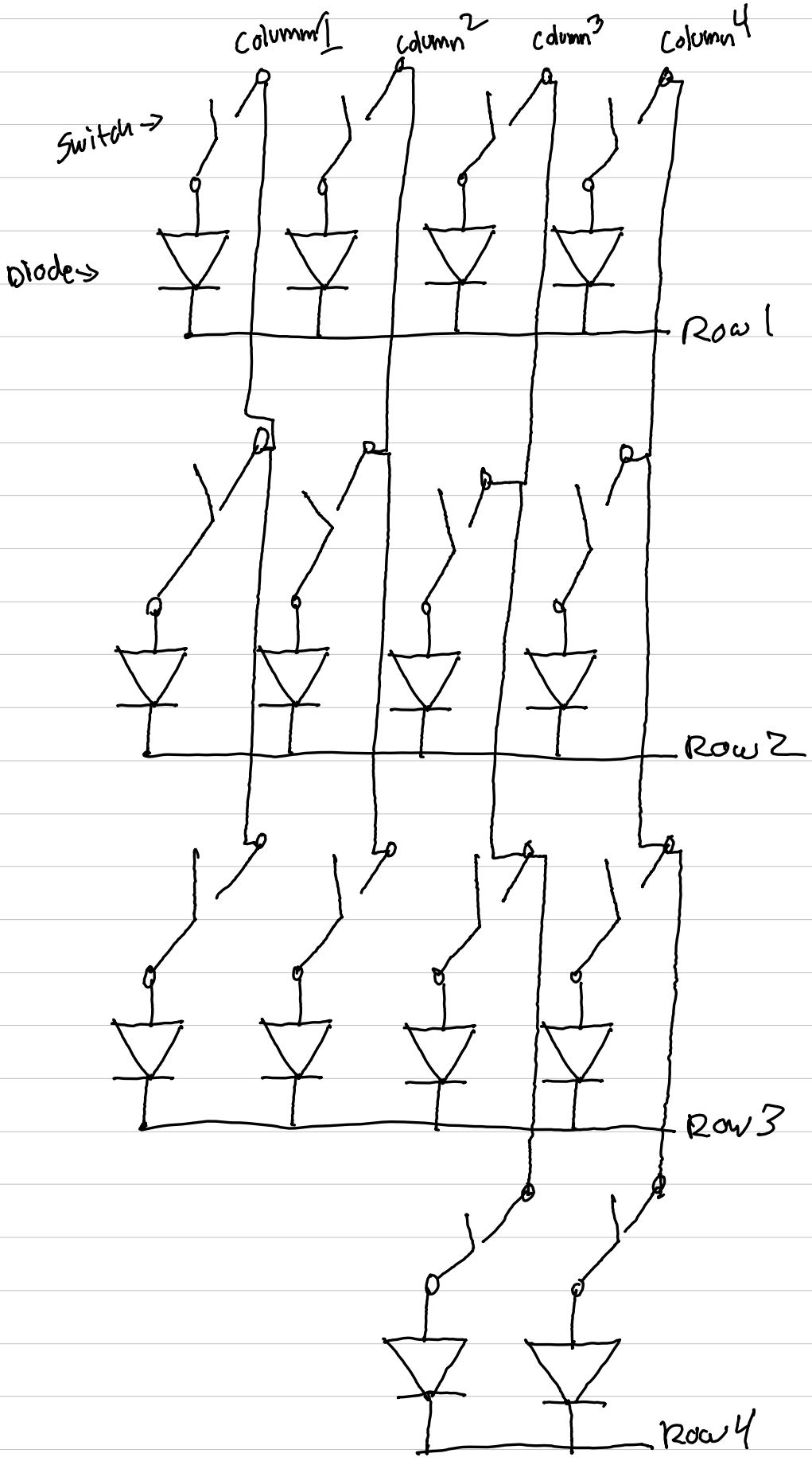
Biometric Lock

Objective: the objective of this project is to create a door lock utilizing finger print scanning in addition to a solenoid bolt type lock. This will be powered and controlled using an ESP32-soala-1R(wrover), and lithium-polymer batteries.

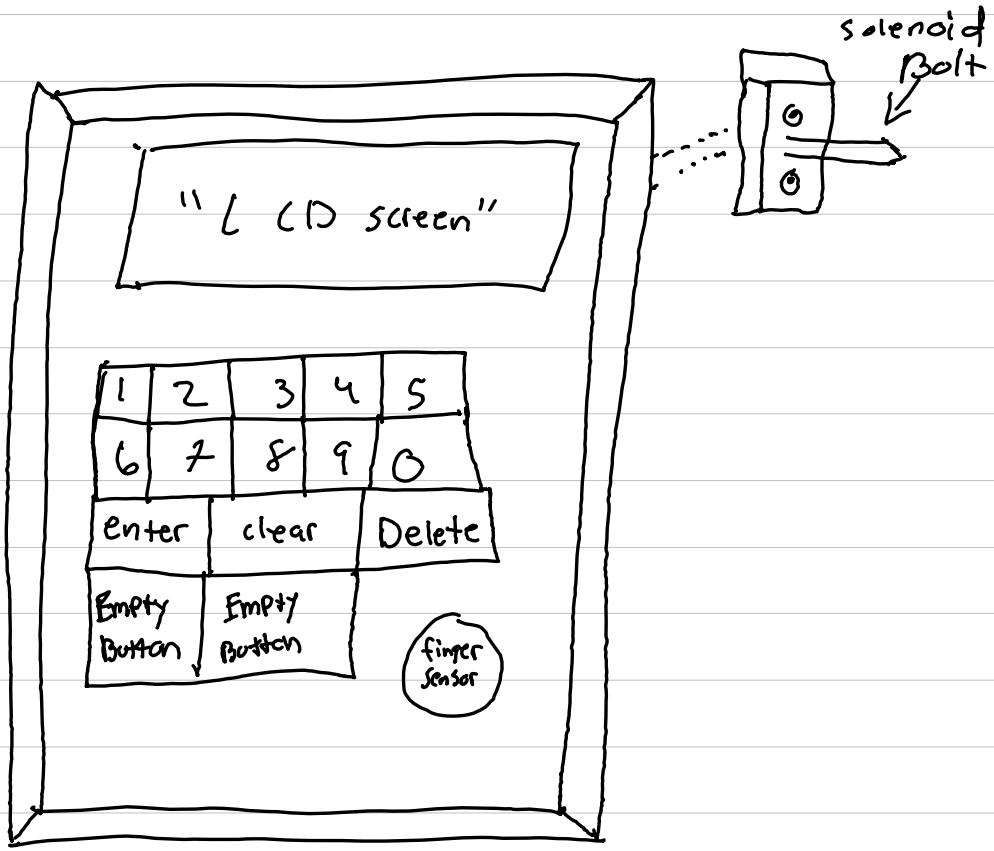
B.O.M

- MX1A-11NN: switch ✓
- 1N4004 DO41-10: diode ✓
- ESP32-WROVER/ESP32-S2-Saola-R1 ✓
- I2C OLED Display (DM-OLED096-636) ✓
- Battery holder (18650) ✓
- Low dropout regulator (LDO) (AP2112K-3.3TR G1) ✓ 600mA, 250mV
- Solenoid bolt ✓
- finger print sensor (R558-S module) ✓
- N-channel powe mosfet (IRL540N) ✓
- 200kohm SR Resistor (5-2176245-4) ✓
- Case designed in Fusion 360

Connectivity, Schematic example (keypad)

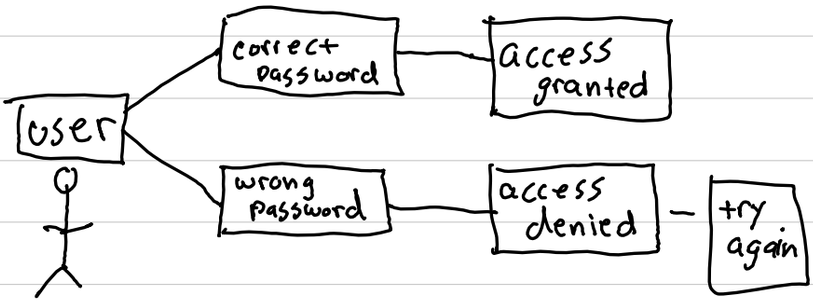


Prototype (Biometric Bolt Lock)

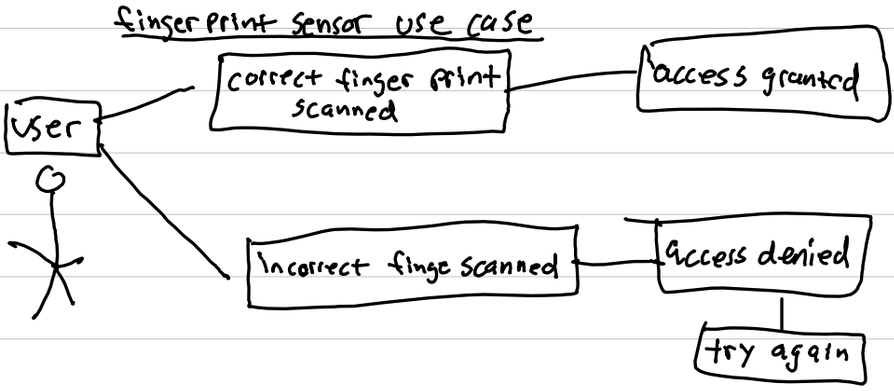


use cases

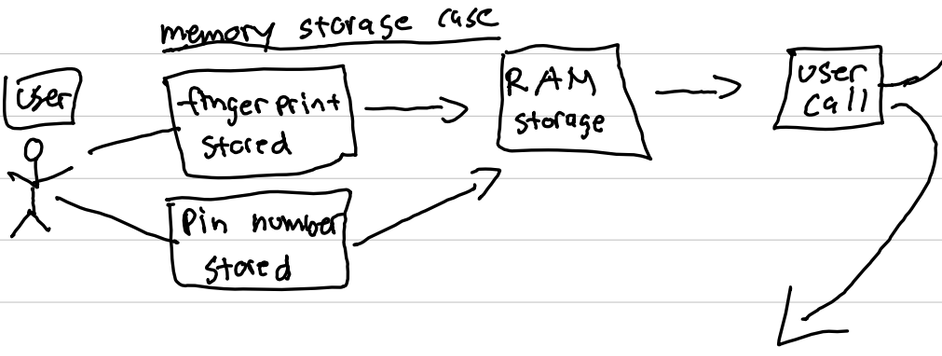
pinpad/keypad use case



finger print sensor use case



memory storage case



factory Reset case