ARDUINO 4-DIGIT DOOR LOCK SYSTEM WITH NOTIFICATION

Hameed Akinwunmi, Julio Dominguez, Frederick Tetteh, Aparicio Carranza

Department of Computer Engineering Technology

ABSTRACT

We live in a society that is rapidly advancing towards a future where technology and comfort is paramount to our everyday living. We have designed, developed and implemented and affordable door lock system that will be accessible via a four-digit programmable code. We usee a 3D printer(Yemi), Solid Works and Arduino microcontroller to realize our door lock solution. Our system uses a video camera to record and send an email notification whenever a movement is detected by a proximity sensor.

INTRODUCTION

- We are making a Programmable 4-Digit combination lock with Arduino
- With the use of 3D printer we will make a house for the number pad that'll be used as the input device.
- In addition when the door is successfully unlocked a notification will be sent to the owner.
- A proximity sensor will be used to detect any movement in the case of forced entry and send a notification to the owner.

CODE

- `#include <Keypad.h>`
- `#include <EEPROM.h>`
- `#include <LiquidCrystal_I2C.h>`
- `#define Solenoid 11`
- `#define O_Button 10`
- `#define I2C_ADDR 0x27`

EQUIPMENT

- **Arduino**
- **Arduino IDE**
- **Ender 3 3D Printer**
- **LCD Display**
- **Keypad**
- **Proximity Sensor**
- **Power Supply**
- **Servo Motor for Lock**

EQUIPMENT ESCRIPTION

- **3D Printer** - 3D printing uses computer-aided design(CAD) to create three-dimensional objects through a layering method
- **Arduino** - Open-source electronic prototyping platform enabling users to create interactive electronic objects
- **Solidworks** - A solid modeling computer-aided design (CAD) and computer-aided engineering (CAE) computer program.
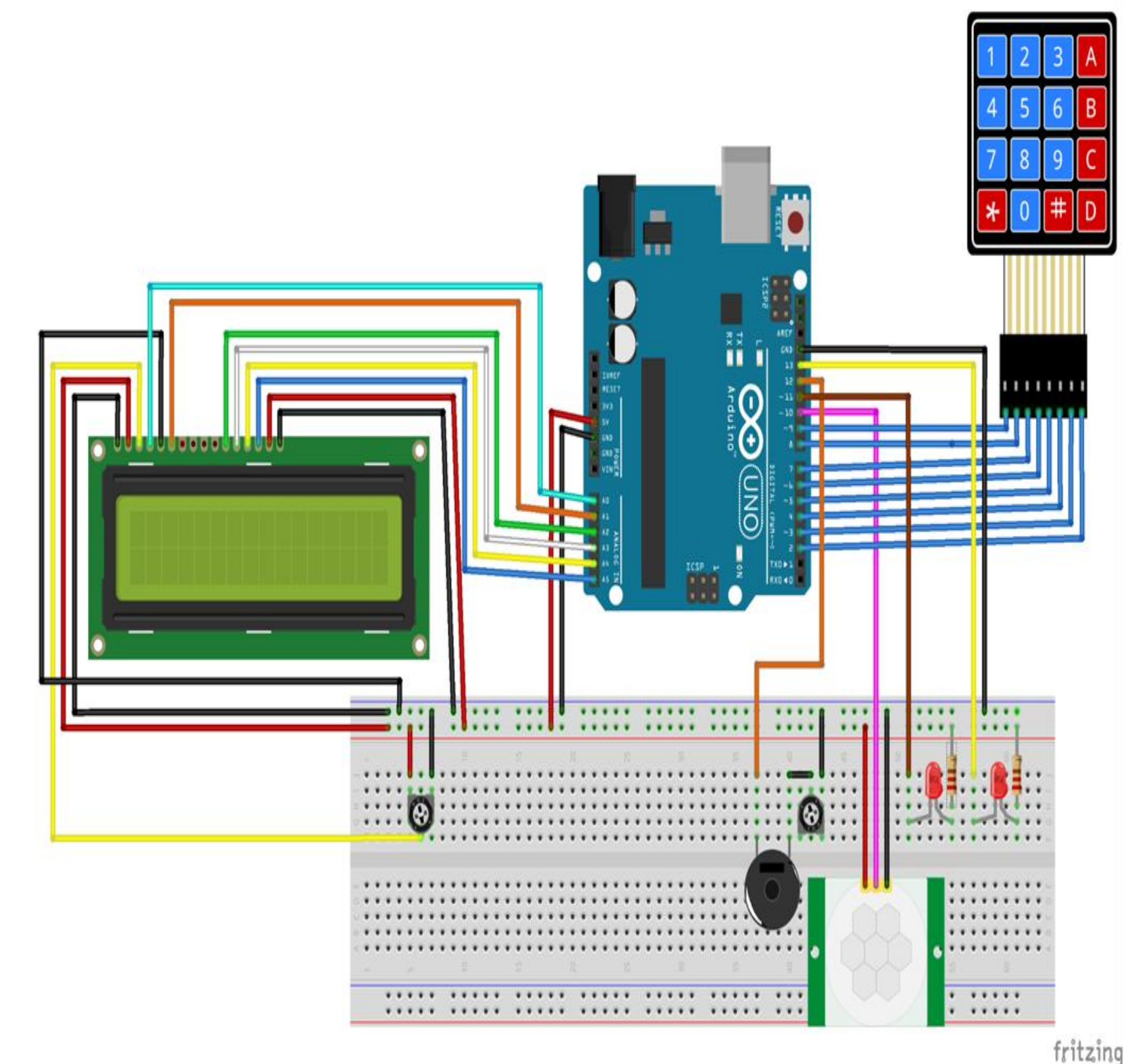
EQUIPMENT 2

Back Cover

Main Box
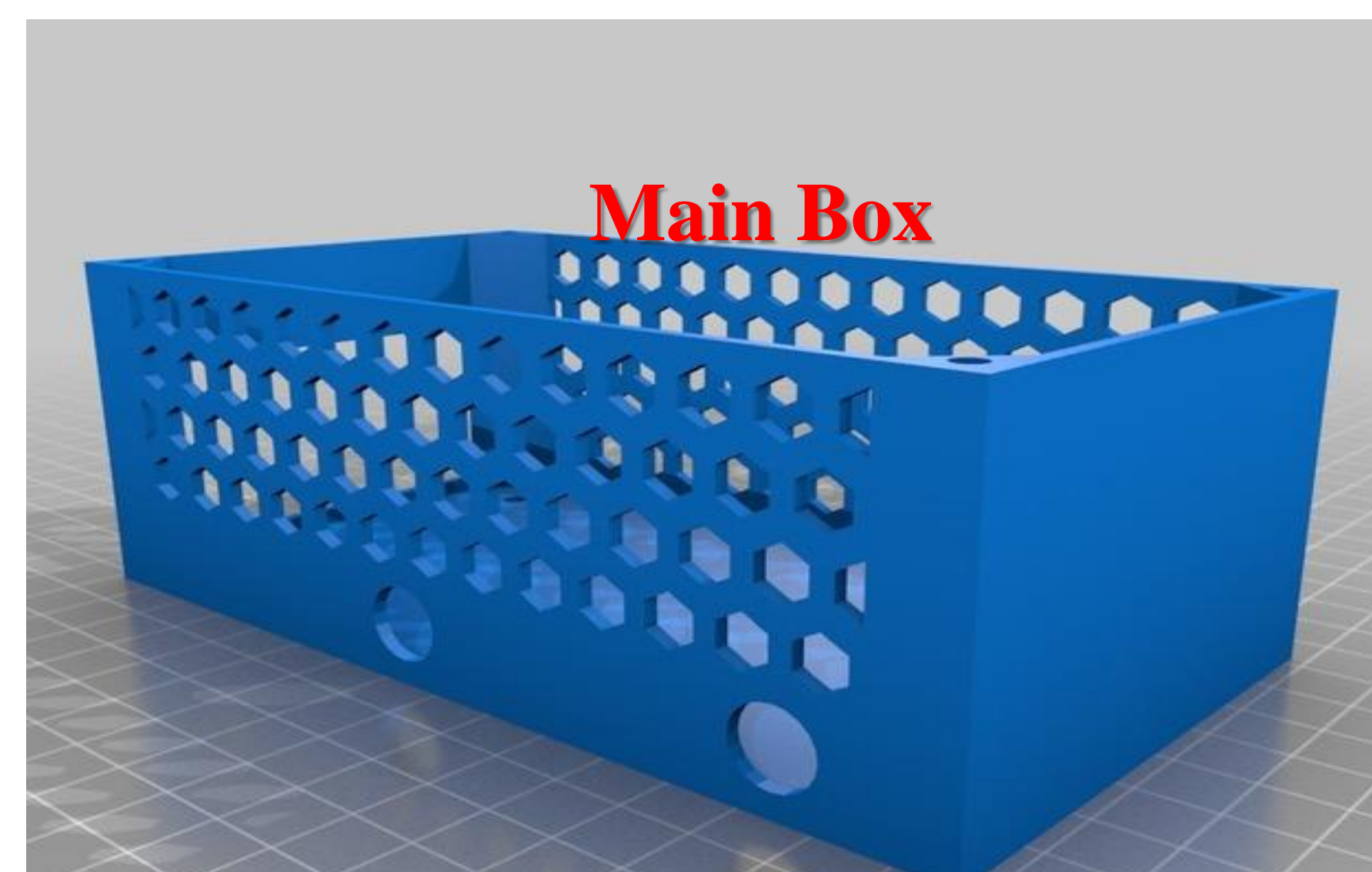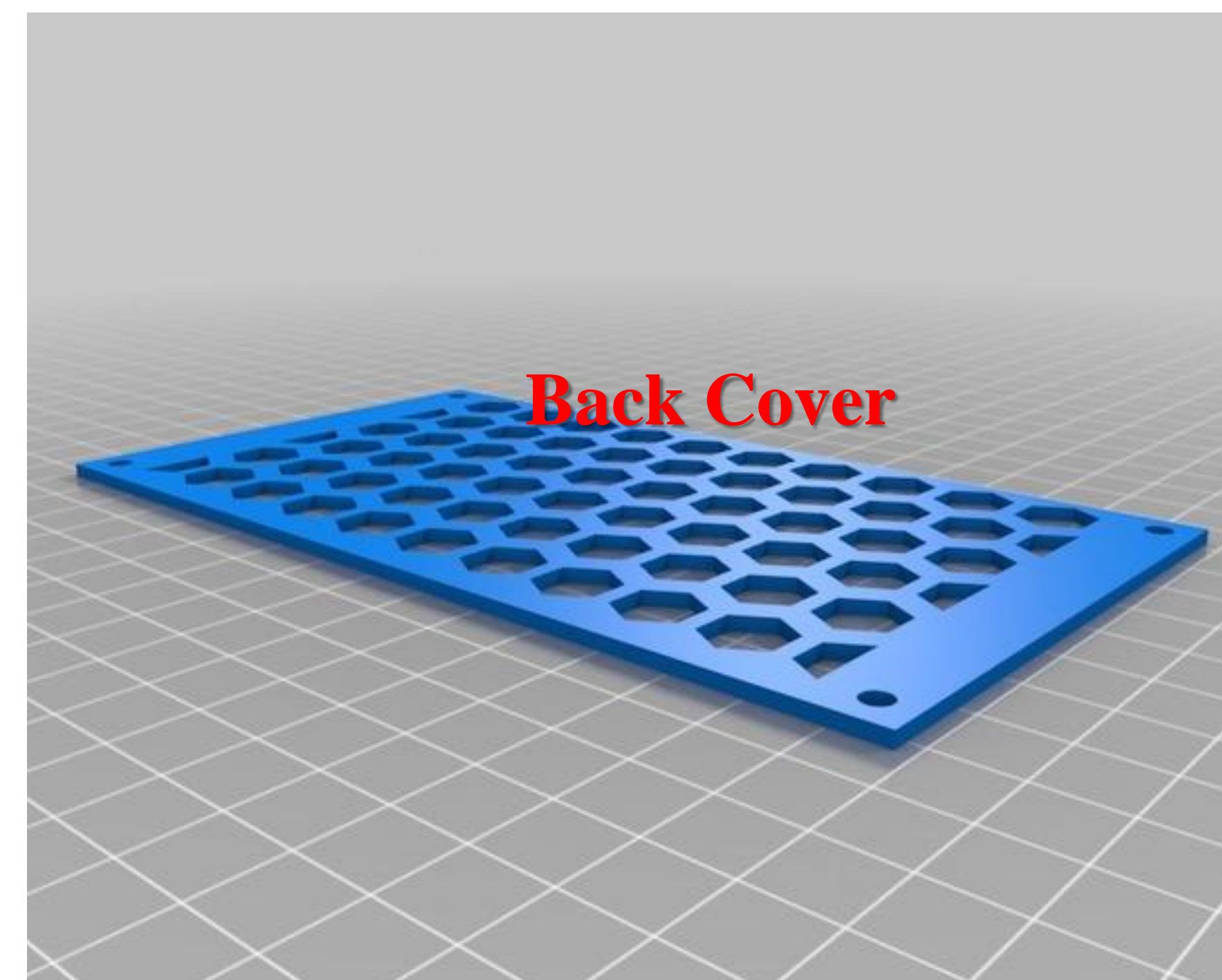
Ender 3D Printer
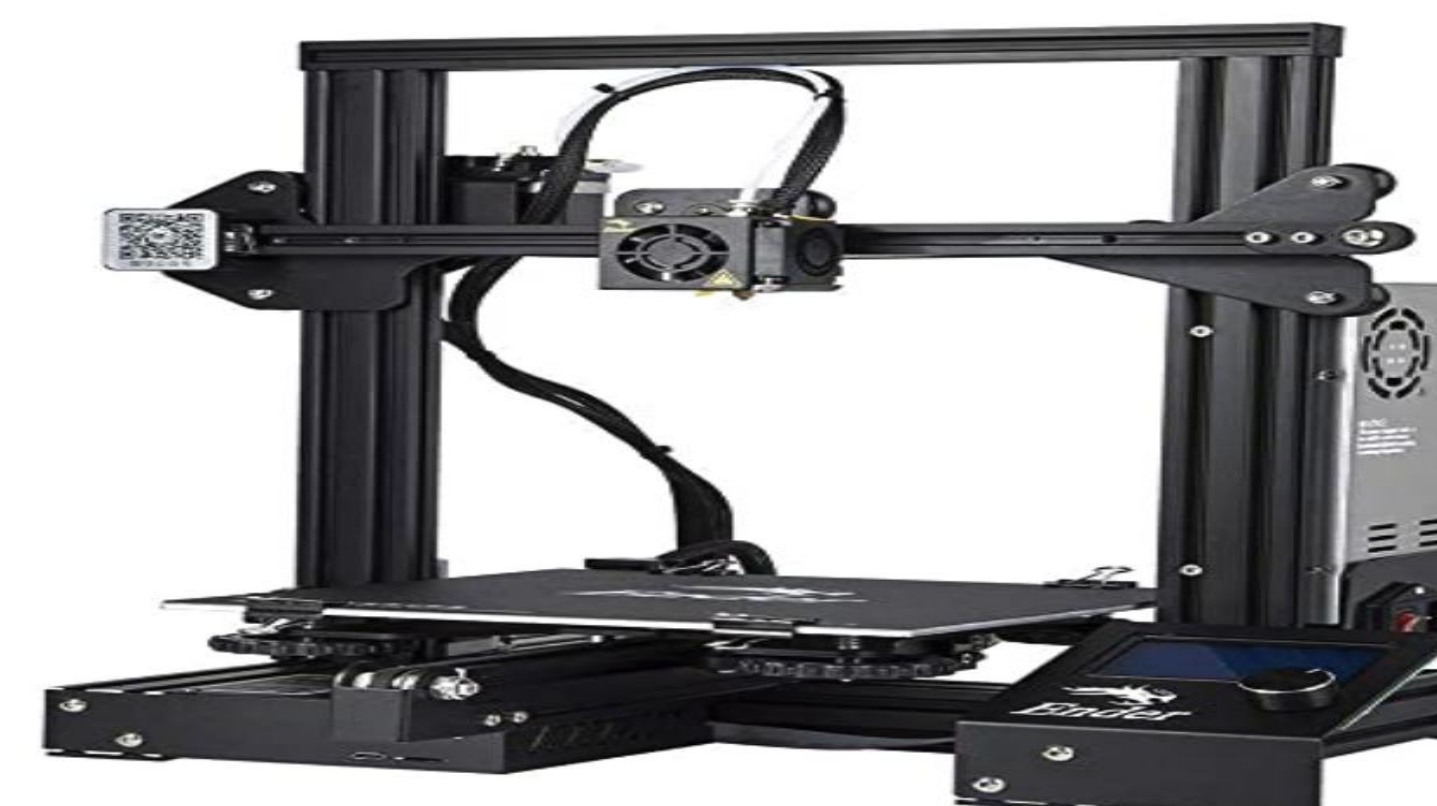
SCHEMATIC

CONCLUSION

- Designing a lock system using SolidWorks.
- Refactor code to include an alert system whenever an attempt to open the lock is made.
- 3D print the components needed to build the lock system.

REFERENCES

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