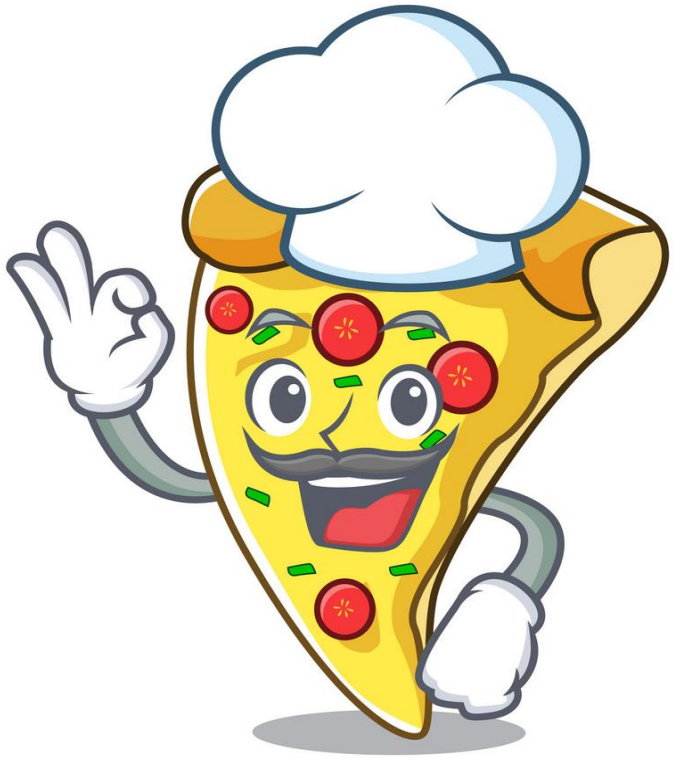
Automated Pizza Locker

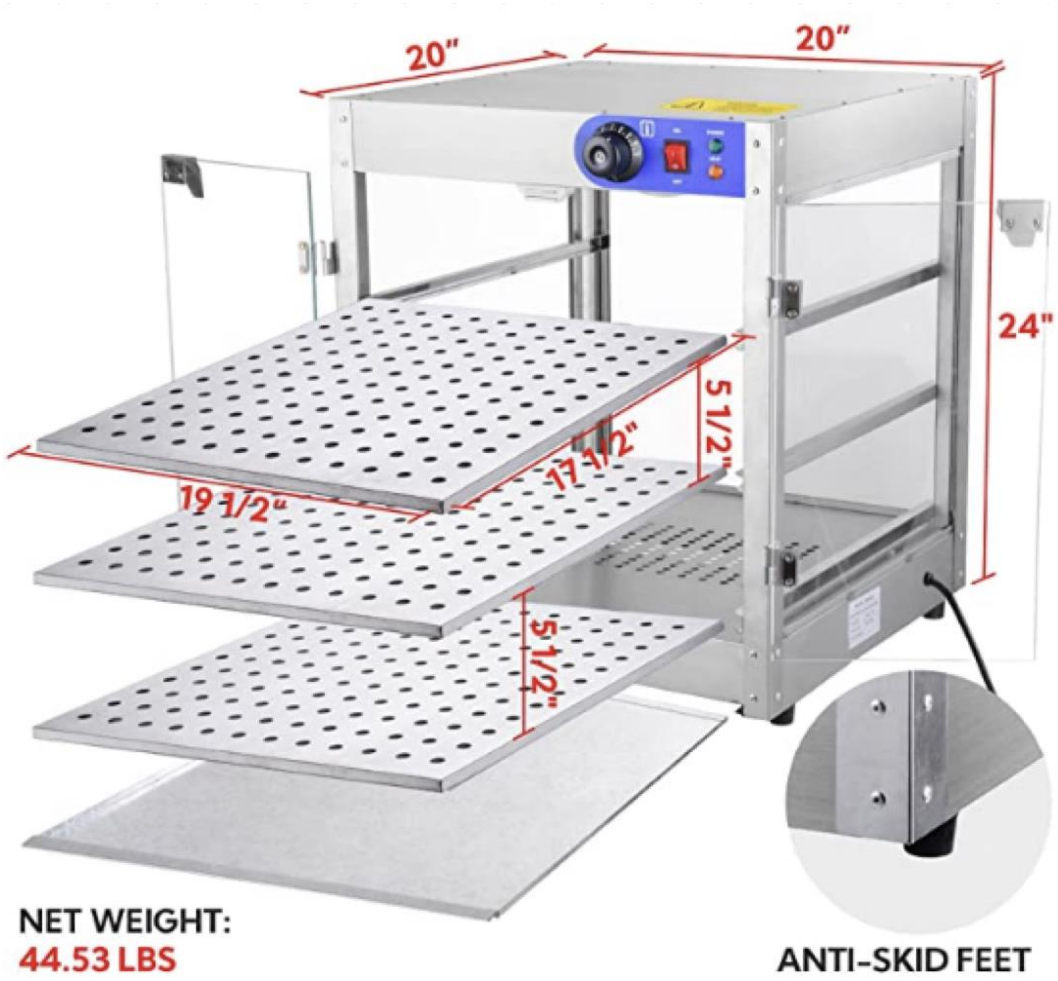
Design Review

The Neatest ECE Team (sd22p10)

Annie Liu, Damian Huerta, David Wechsler, Leah Jackson



Locker



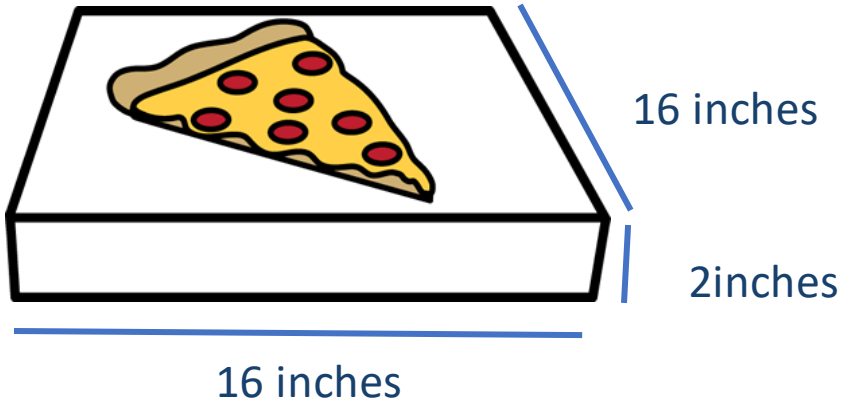
Temperature

- Adjustable, controllable
- 86° to 230°

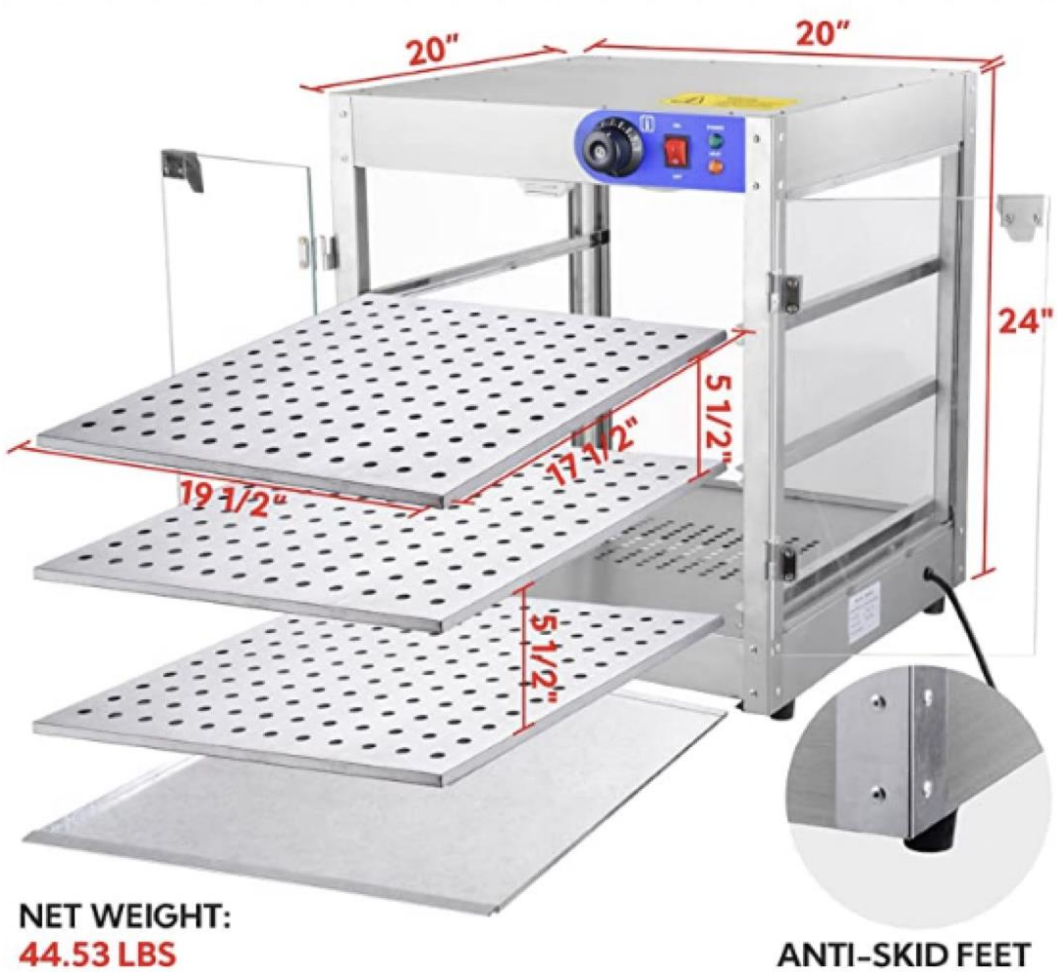
Material

- Metal is durable
- But also expensive
- Metal oven + heating element = good choice

Pizza Box Dimensions – XL

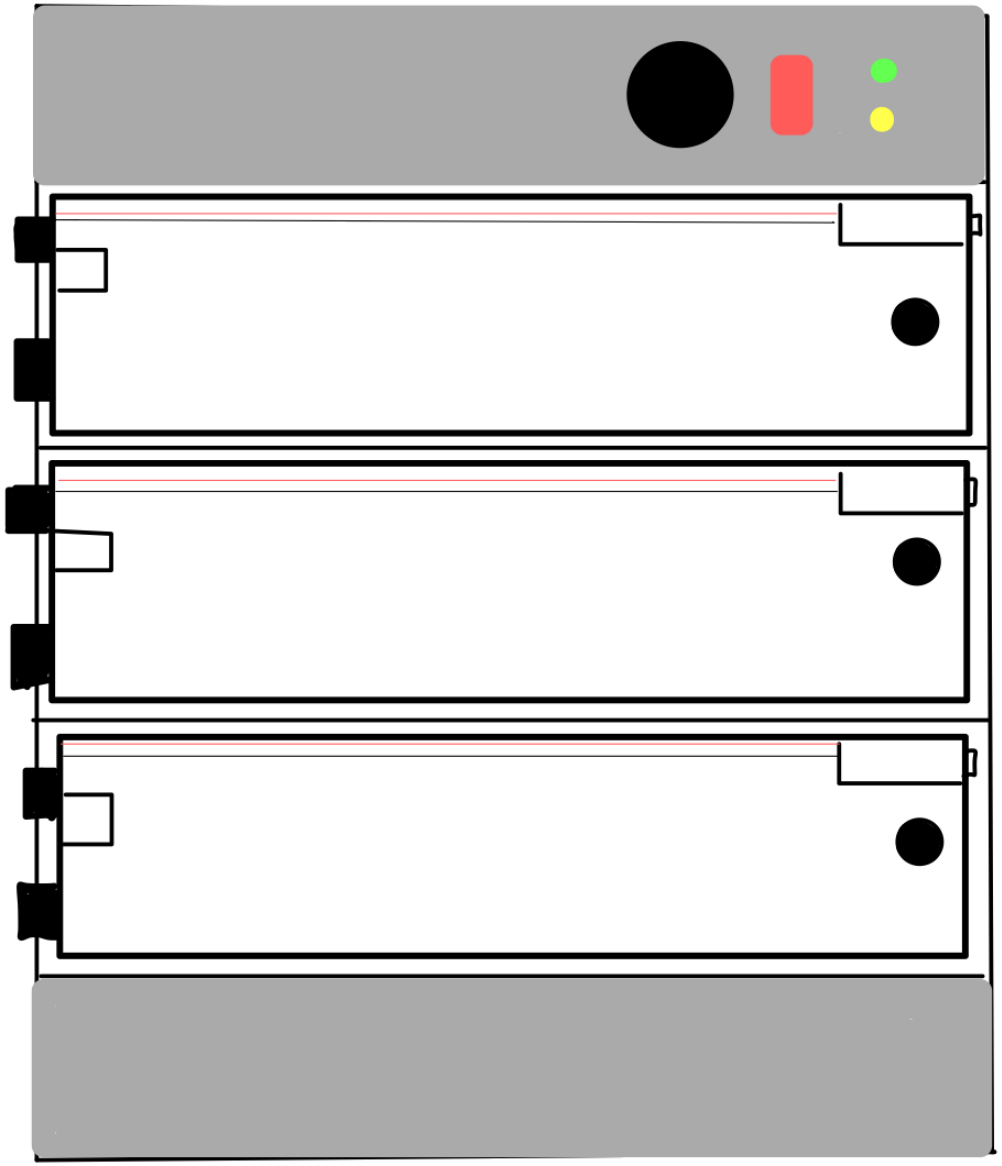


Locker



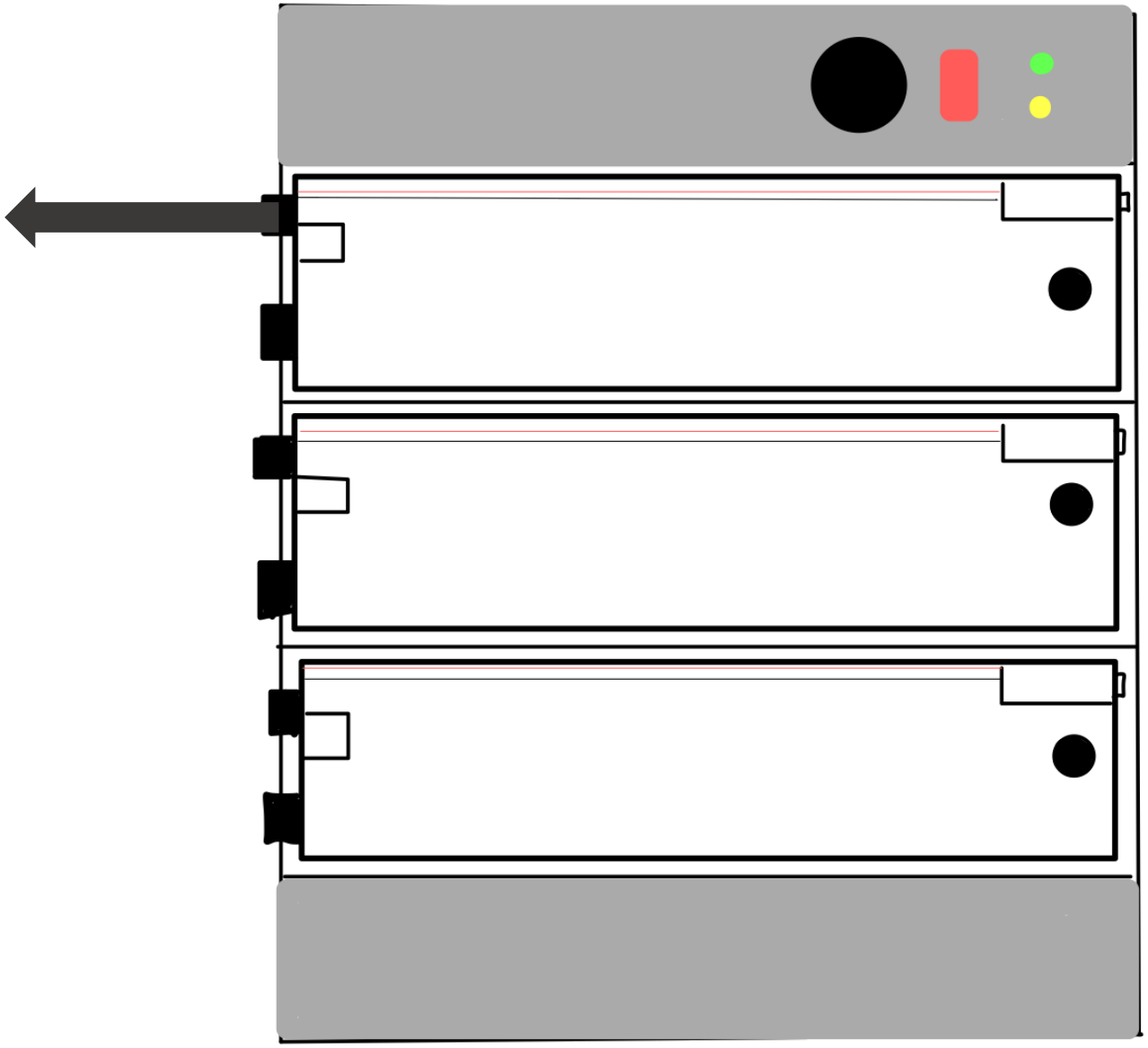
?

Locker Design



Locker Design

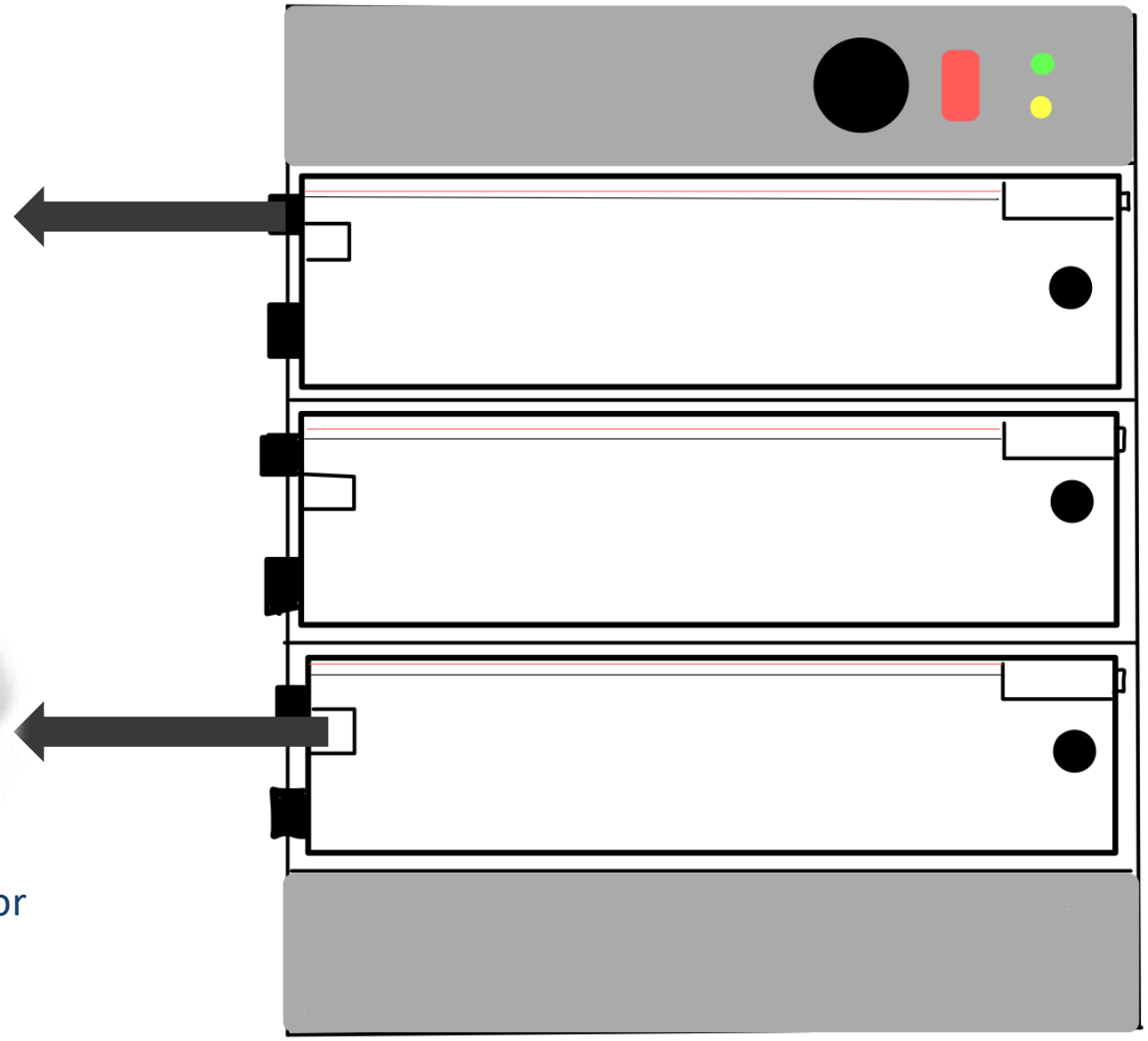
Door Hinge



Locker Design

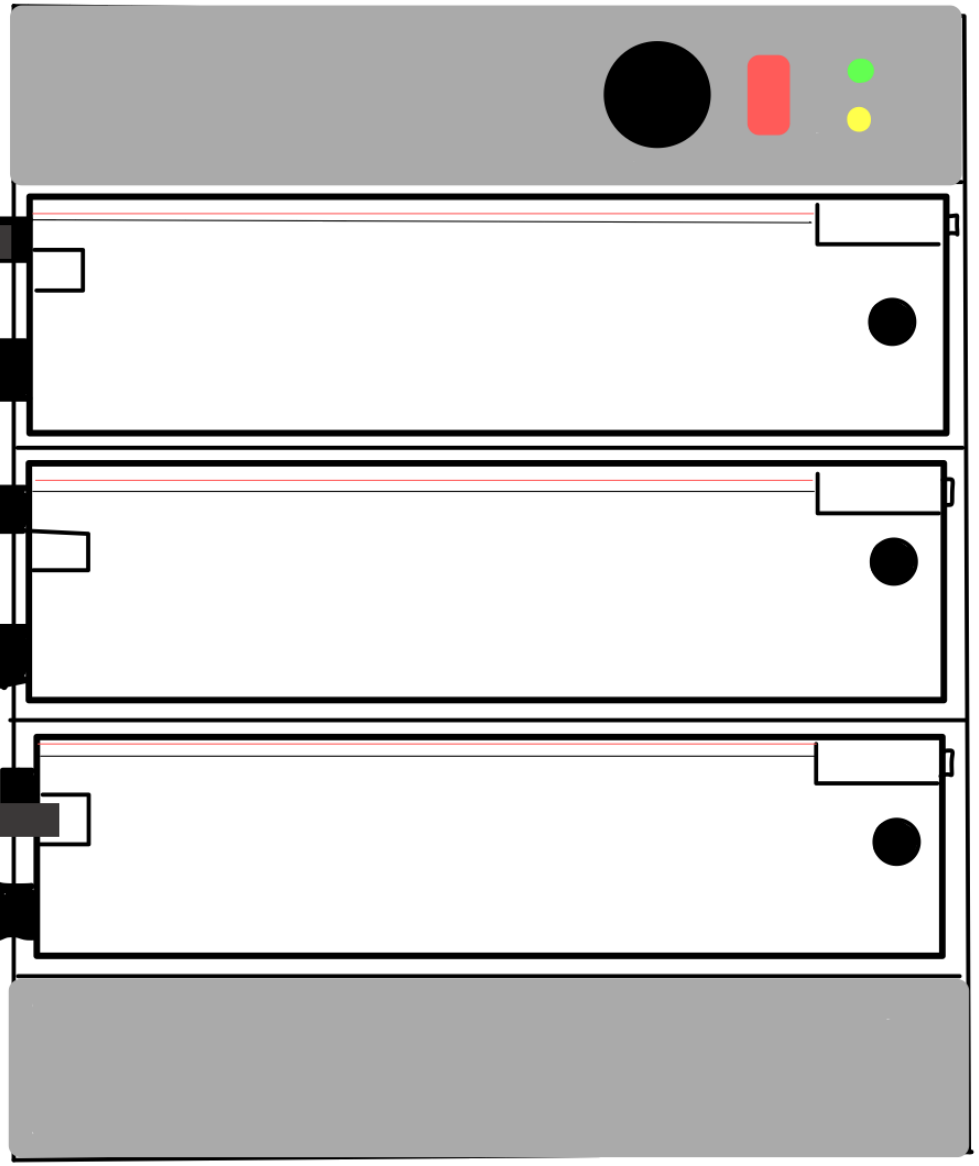
Door Hinge

Temperature Sensor



Locker Design

Door Hinge



Solenoid Lock

Temperature Sensor

Locker Design

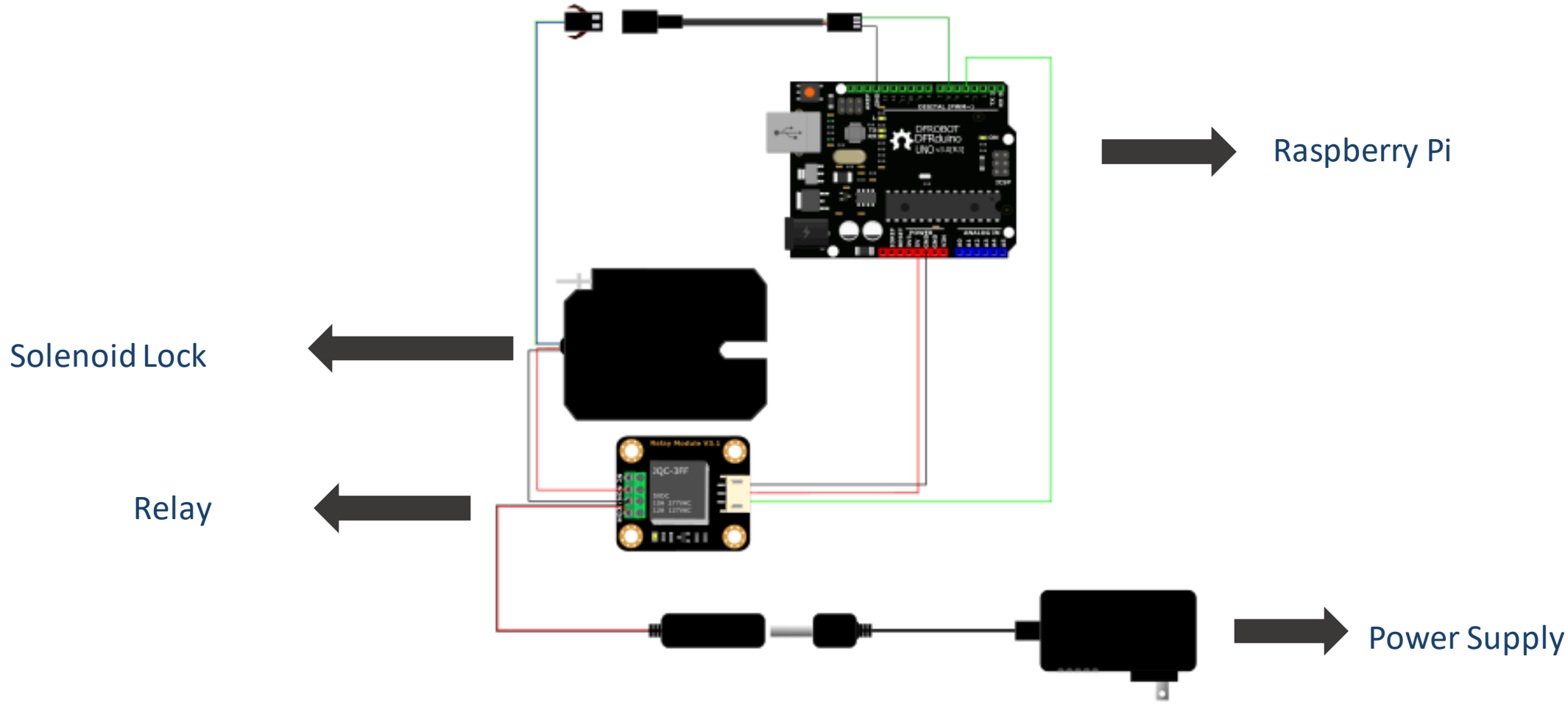
Door Hinge

Solenoid Lock

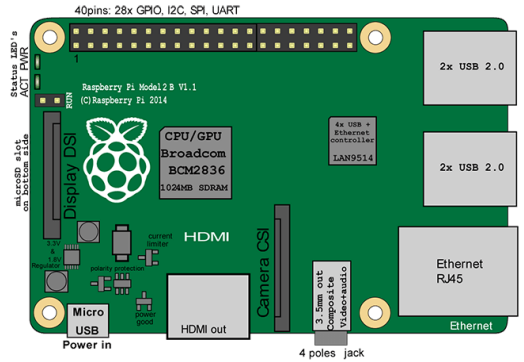
Temperature Sensor

Doorknob

Solenoid Subsystem



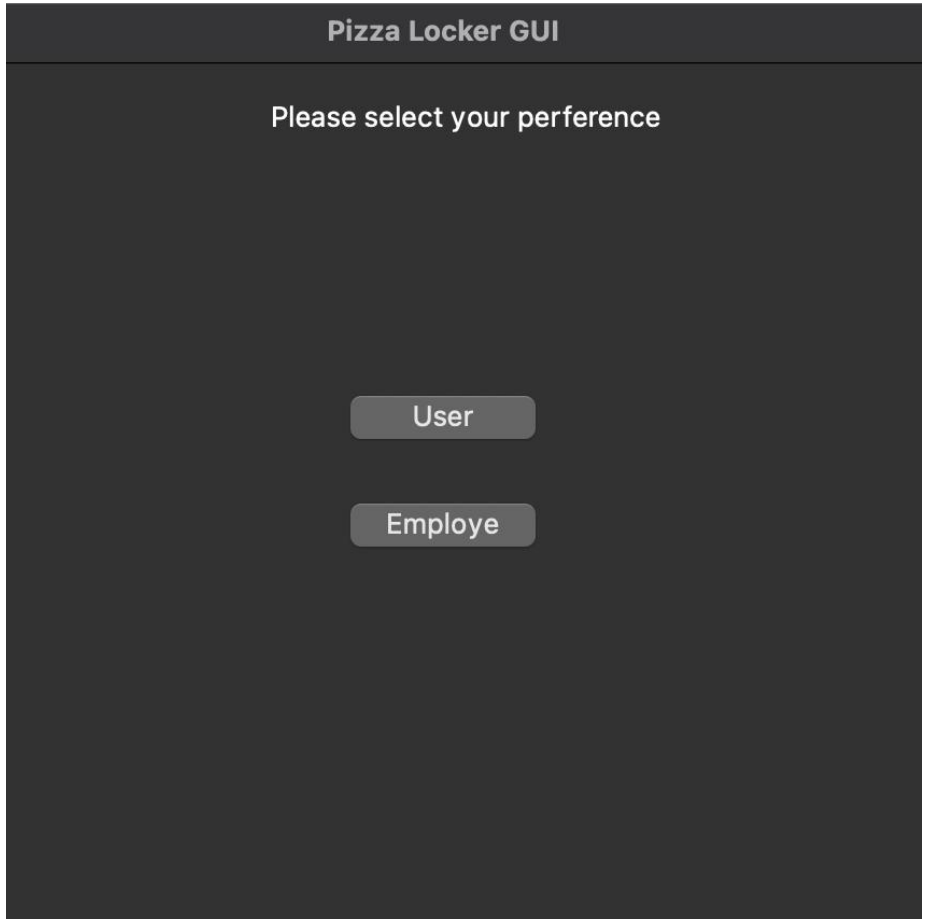
Barcode Scanner Subsystem

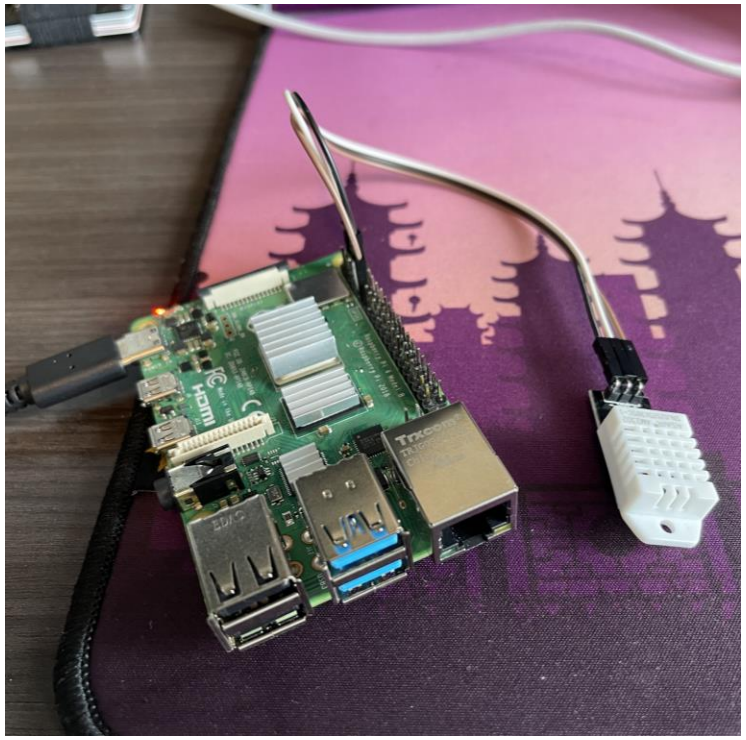


barcodes = {"5418762109345": locker #}
lockers= {"locker #": GPIO Pin #}

Micro-Controller Sensors/GUI

- Running on python3 virtual environment
- Utilizing PyQt5 GUI library
- Selecting preference prompts barcode read and display of barcode ASCII representation
  - Barcode read code still in development
  - Utilizing evdev python library





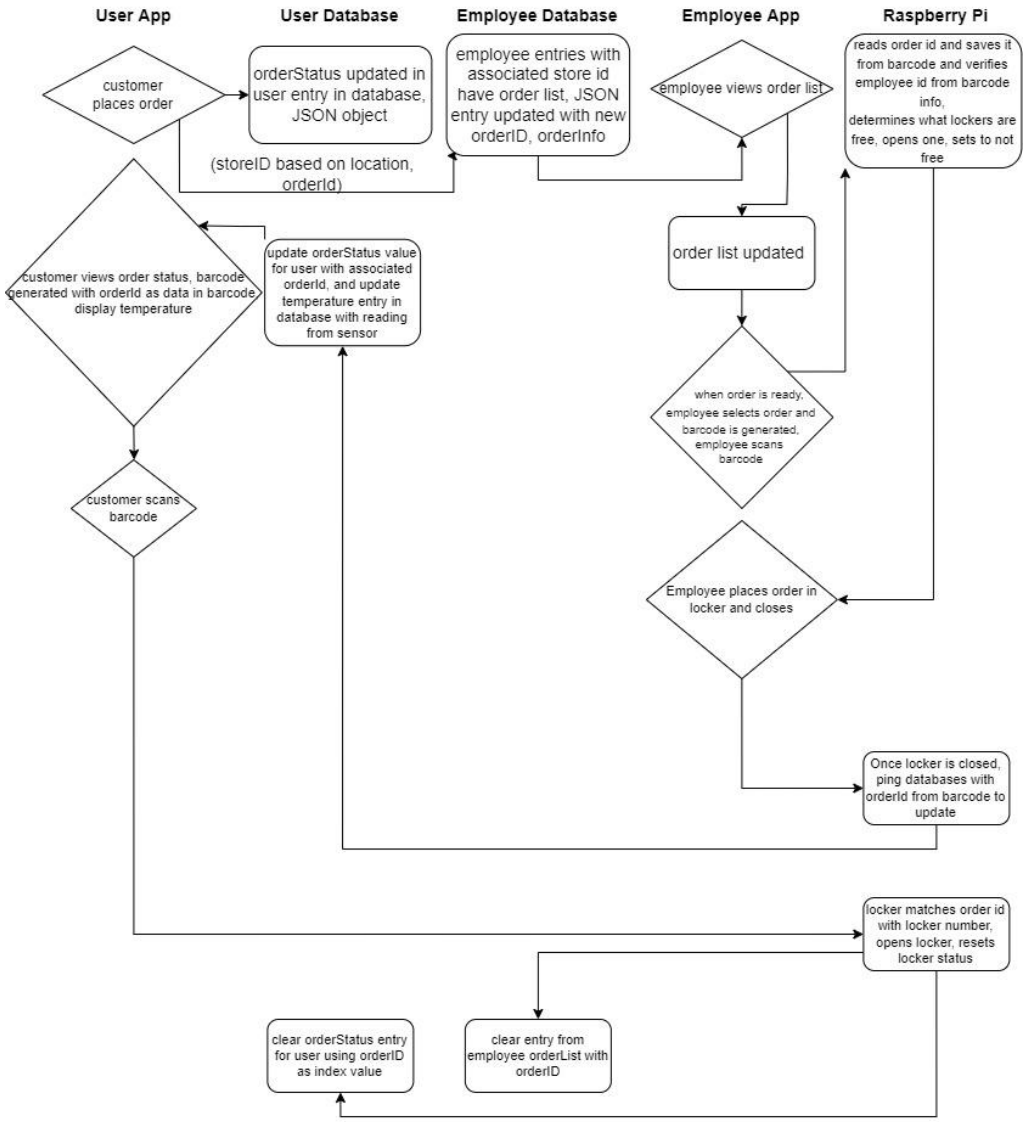
```
setting up sensor


reading sensor
humidity: 14.7%  Temp: 22.1 C or 71.78 F
humidity: 14.7%  Temp: 22.1 C or 71.78 F
humidity: 14.7%  Temp: 22.1 C or 71.78 F
finished reading sensor
```

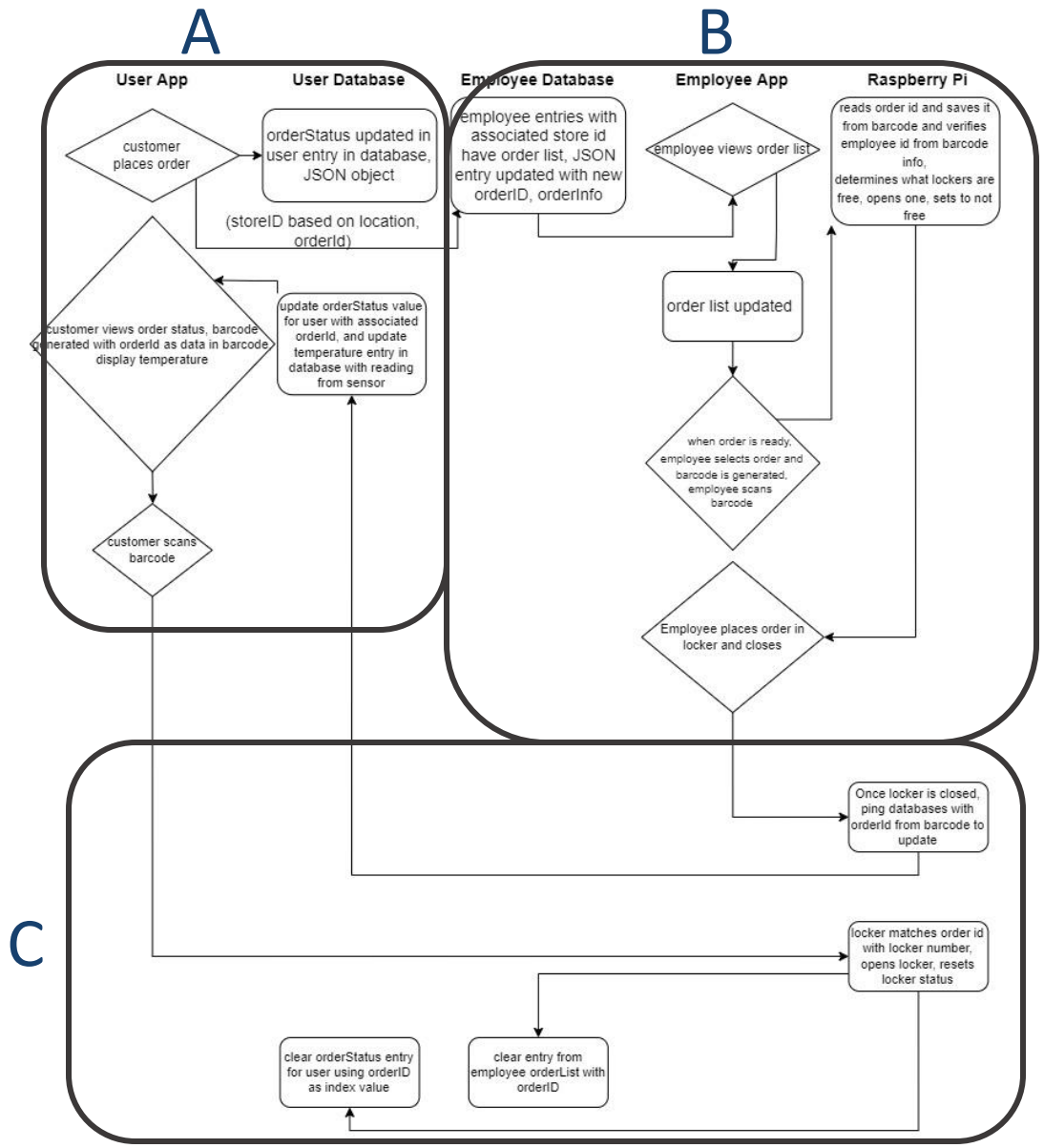
Micro-Controller/GUI

- Temperature sensor uses 5V, ground, and 1 GPIO pin
- Measurements read using RPi.GPIO python library.
- Eventually data will be sent to user application periodically

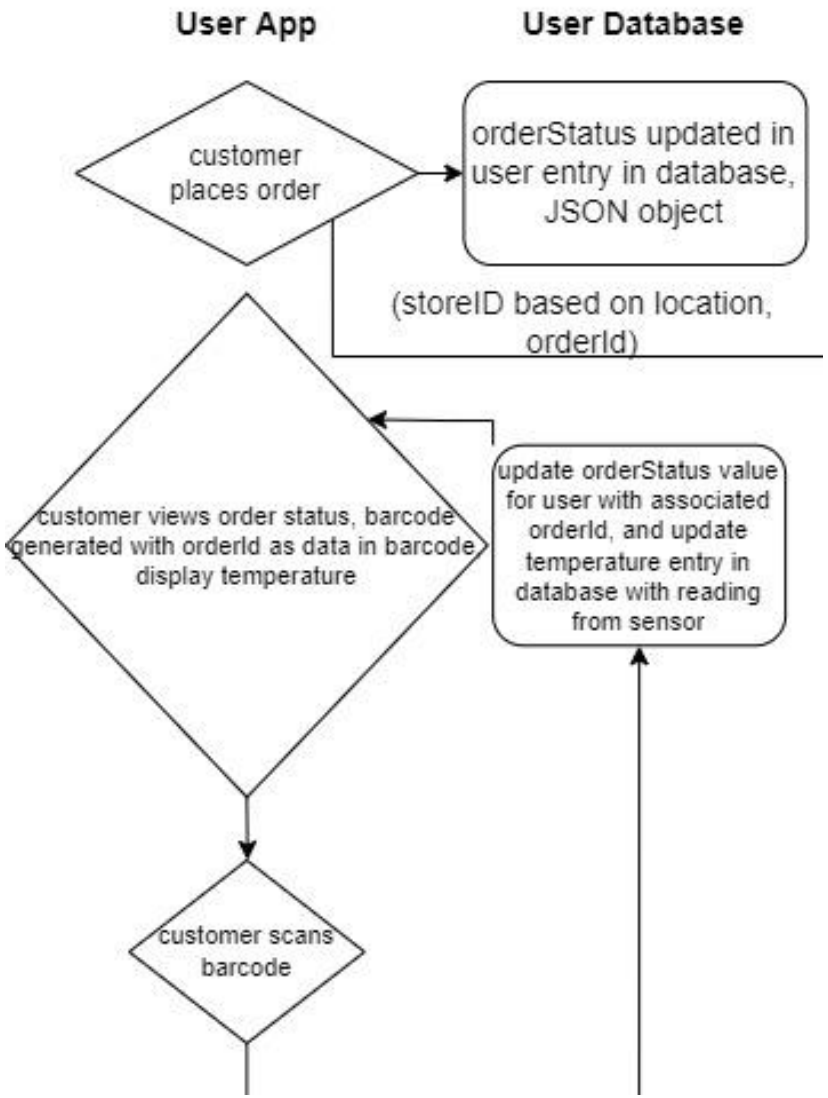
Software Flow Diagram



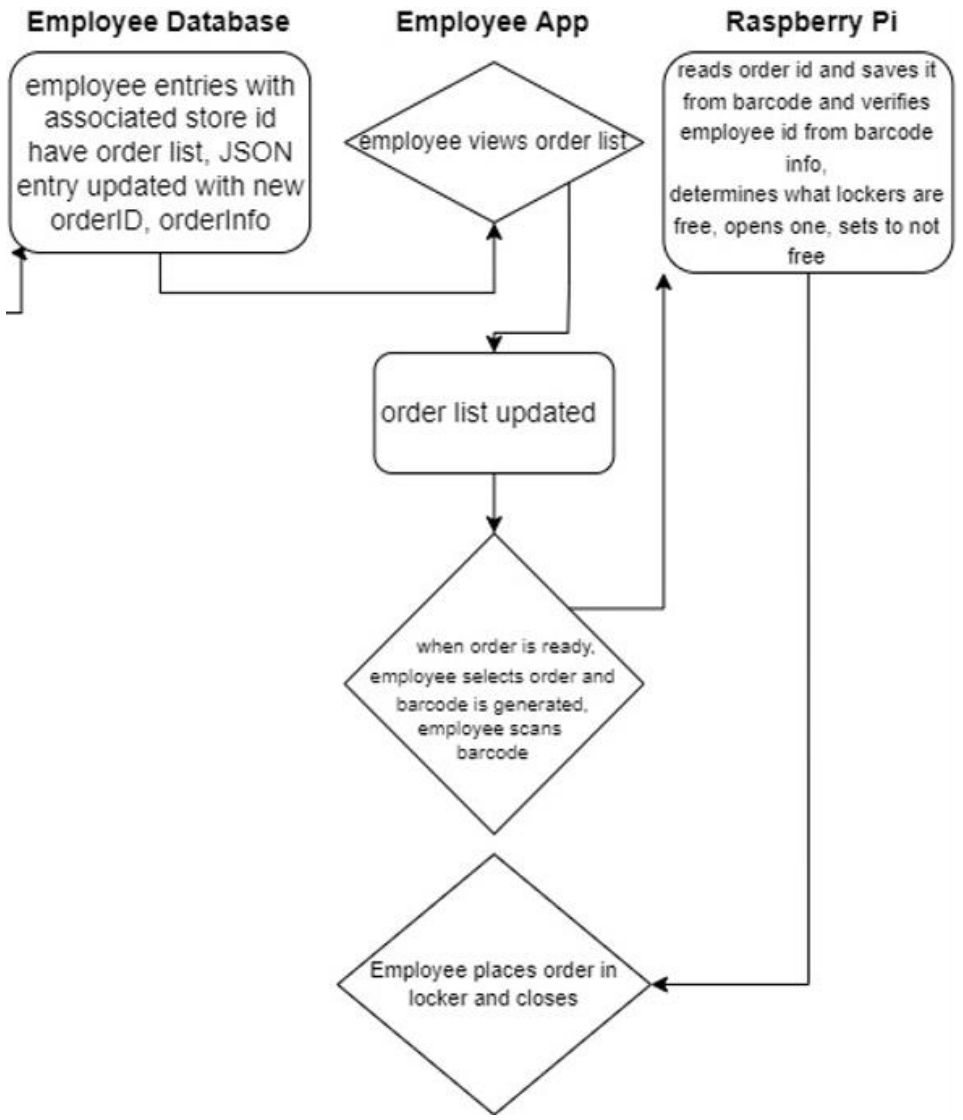
Software Flow Diagram



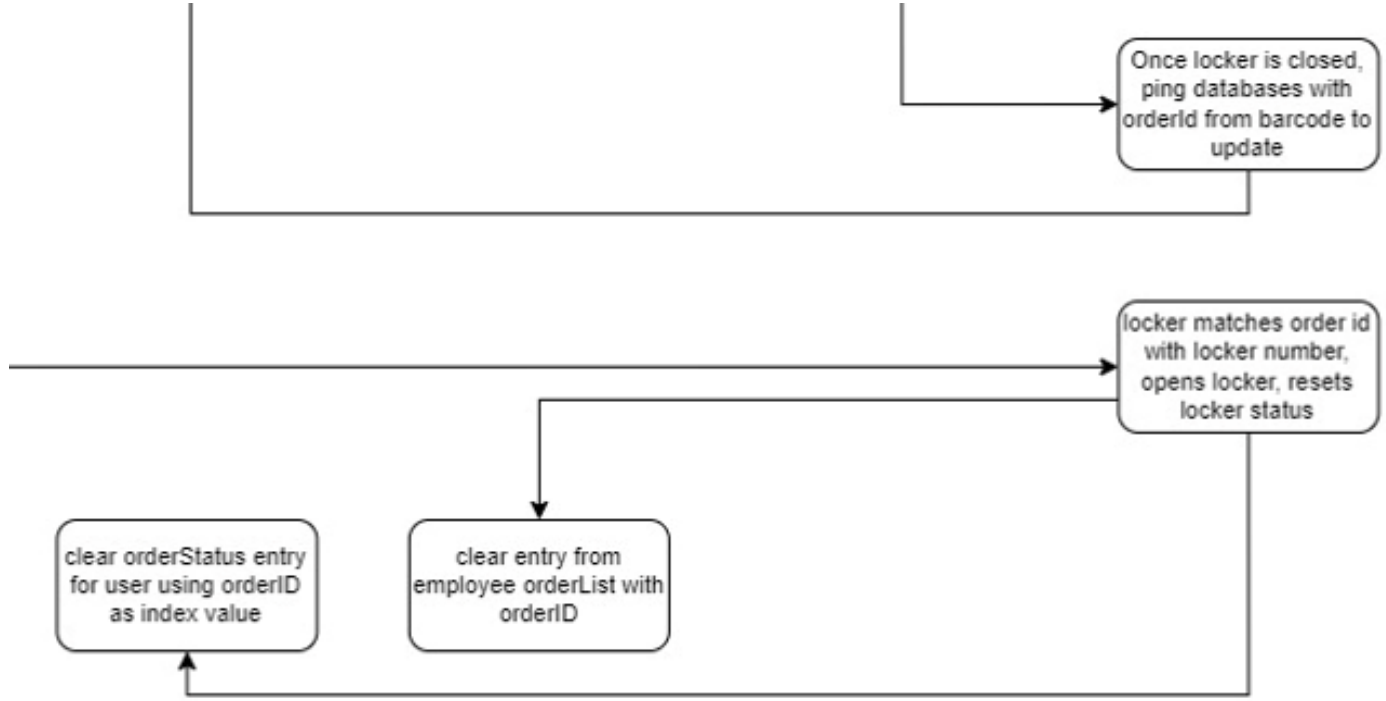
Software Flow Diagram A



Software Flow Diagram B



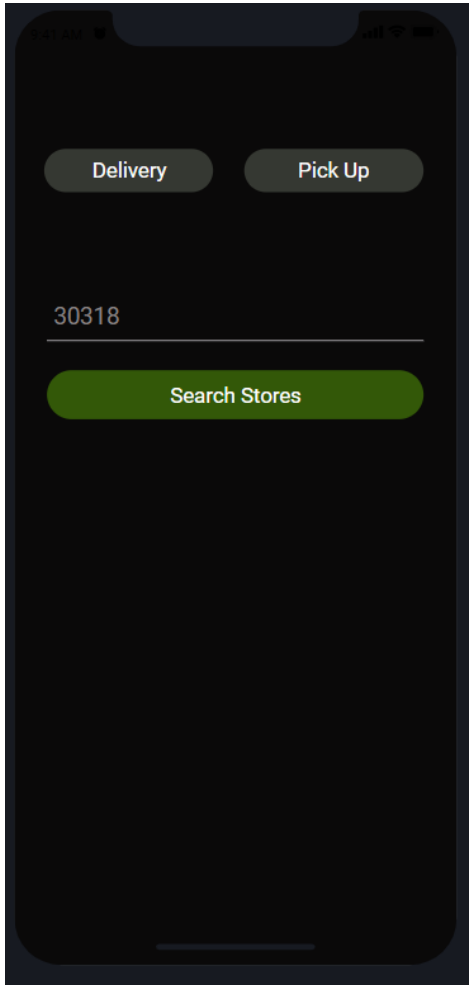
Software Flow Diagram C

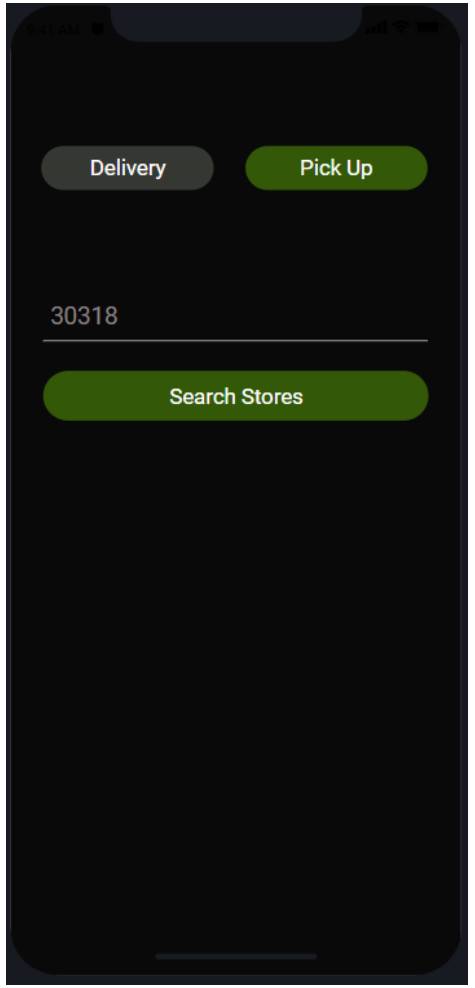


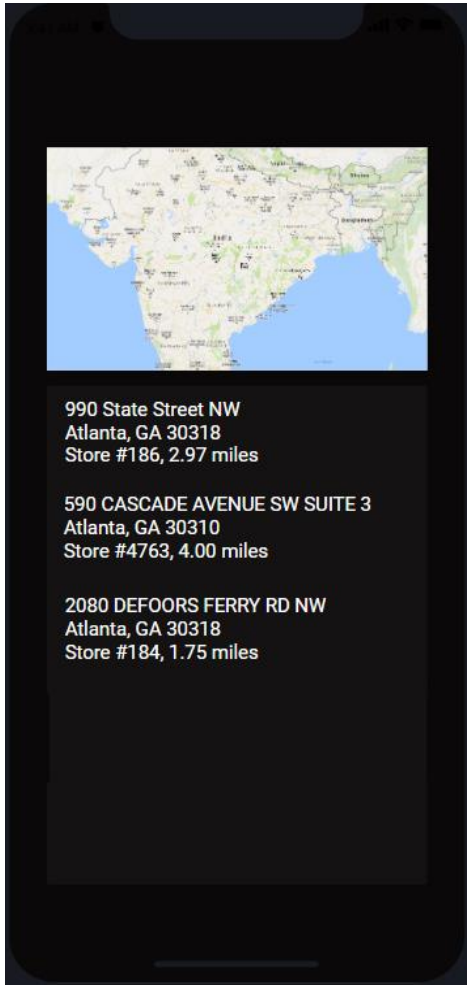
Software Design

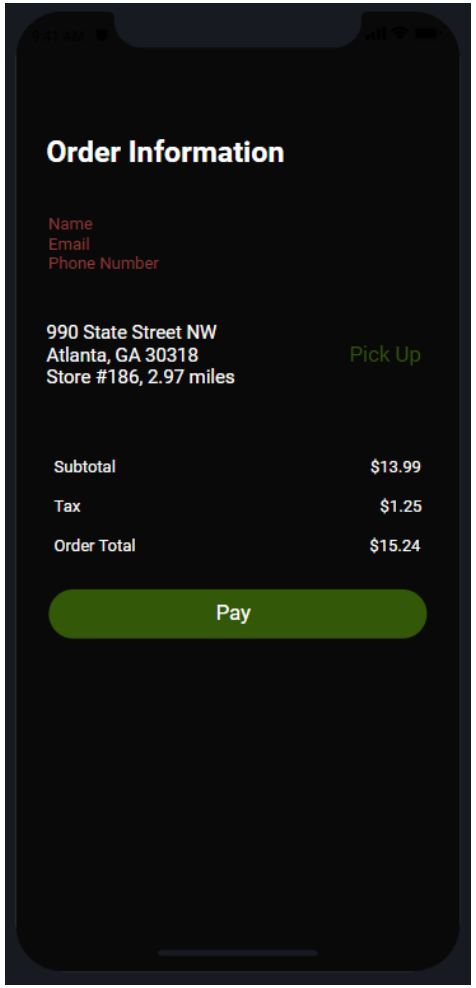
- Communication between Application and Raspberry Pi
  - AWS API Gateway
  - Lambda Functions for API Requests
  - DynamoDB, a NoSQL database, for user/employee information
- User/Employee Application
  - React Native, a cross-platform development tool
  - React Native Javascript will handle interface and application interaction with AWS services

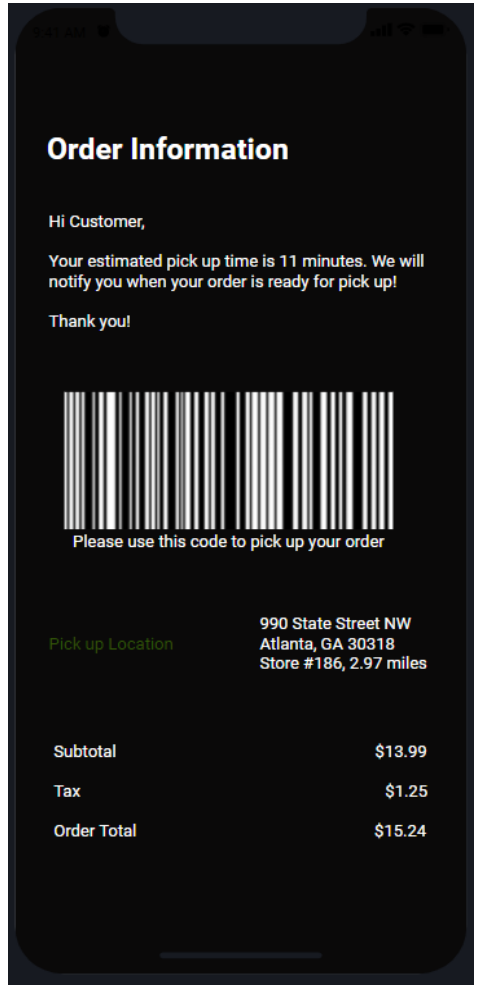
UI Design


Delivery
Pick Up
30318
Search Stores


Delivery
Pick Up
30318
Search Stores


990 State Street NW
Atlanta, GA 30318
Store #186, 2.97 miles
590 CASCADE AVENUE SW SUITE 3
Atlanta, GA 30310
Store #4763, 4.00 miles
2080 DEFOORS FERRY RD NW
Atlanta, GA 30318
Store #184, 1.75 miles


Order Information
Name
Email
Phone Number
990 State Street NW
Atlanta, GA 30318
Store #186, 2.97 miles
Pick Up
Subtotal $13.99
Tax $1.25
Order Total $15.24
Pay


Order Information
Hi Customer,
Your estimated pick up time is 11 minutes. We will notify you when your order is ready for pick up!
Thank you!
Please use this code to pick up your order
Pick up Location
990 State Street NW
Atlanta, GA 30318
Store #186, 2.97 miles
Subtotal $13.99
Tax $1.25
Order Total $15.24