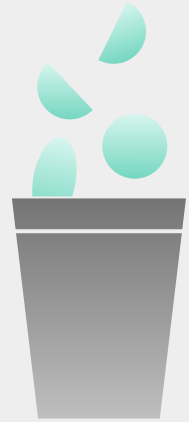# FridgeBuddy

Your Waste-Reducing Smart Fridge Companion

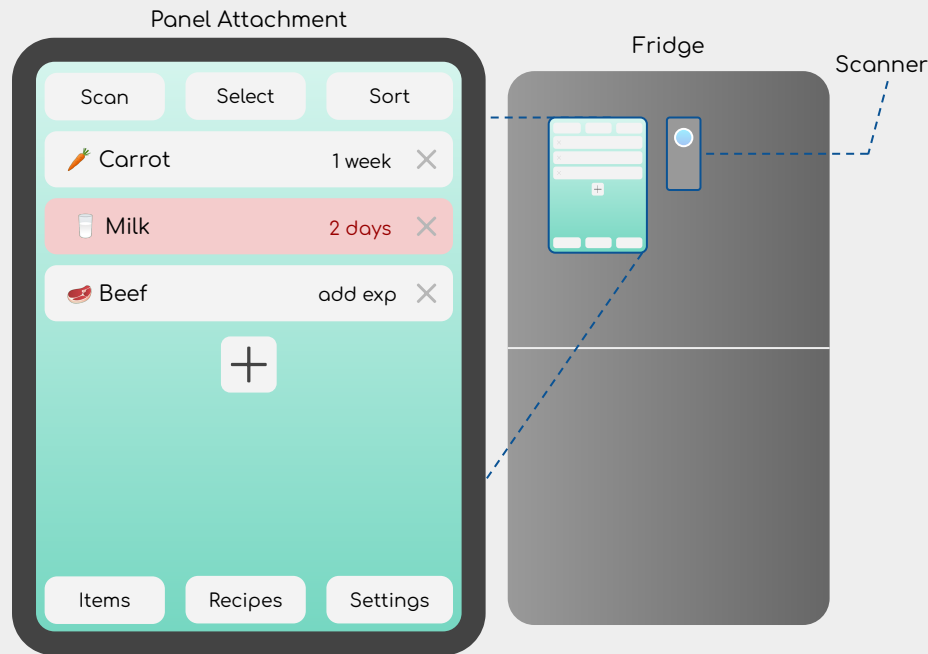Jeffrey Chen | Andres Garcia | Cole Wentzel | Trevor Chan

Problem Statement

- America wastes approximately 2.5 billion tons of food every year (~40% of food supply)

- The average person discards $53.81 worth of spoiled food weekly

- Excess food production also contributes to 11% of greenhouse gas emissions

Our Solution

- Touchscreen unit that magnetically attaches to fridge

- Displays and alerts item expiration dates

- Integrated scanner to scan barcodes, receipts and expirations

- Phone app to sync data

Panel Attachment

Scan	Select	Sort

🥕 Carrot   1 week   ✕

🥛 Milk   2 days   ✕

🥩 Beef   add exp   ✕

+

Items	Recipes	Settings

Fridge

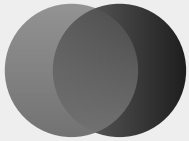Scanner

Value Proposition: Who & What

Users

For households that want to reduce food waste and spend less on groceries they won't use

Product

FridgeBuddy attachment and phone app for keeping track of what groceries users have and when they'll expire, as well as suggesting recipes

Value Proposition: Why

Convenience

Having the display conveniently on the fridge makes it quick and easy to view food inventory and recipes, as opposed to existing phone apps

Affordability

Current smart fridges cost ~$2,000 - $5,000 on average and require users to replace their existing appliance

The smart fridge attachment will cost < $250

Minimum Viable Product

Touchscreen Display

Easy to set up

Display current user items, quantity, and expiration date

Input items via barcode scanner or manual input

Phone App

Display and input items synced with cloud backend

Push notifications for soon-to-expire items

Recipe API

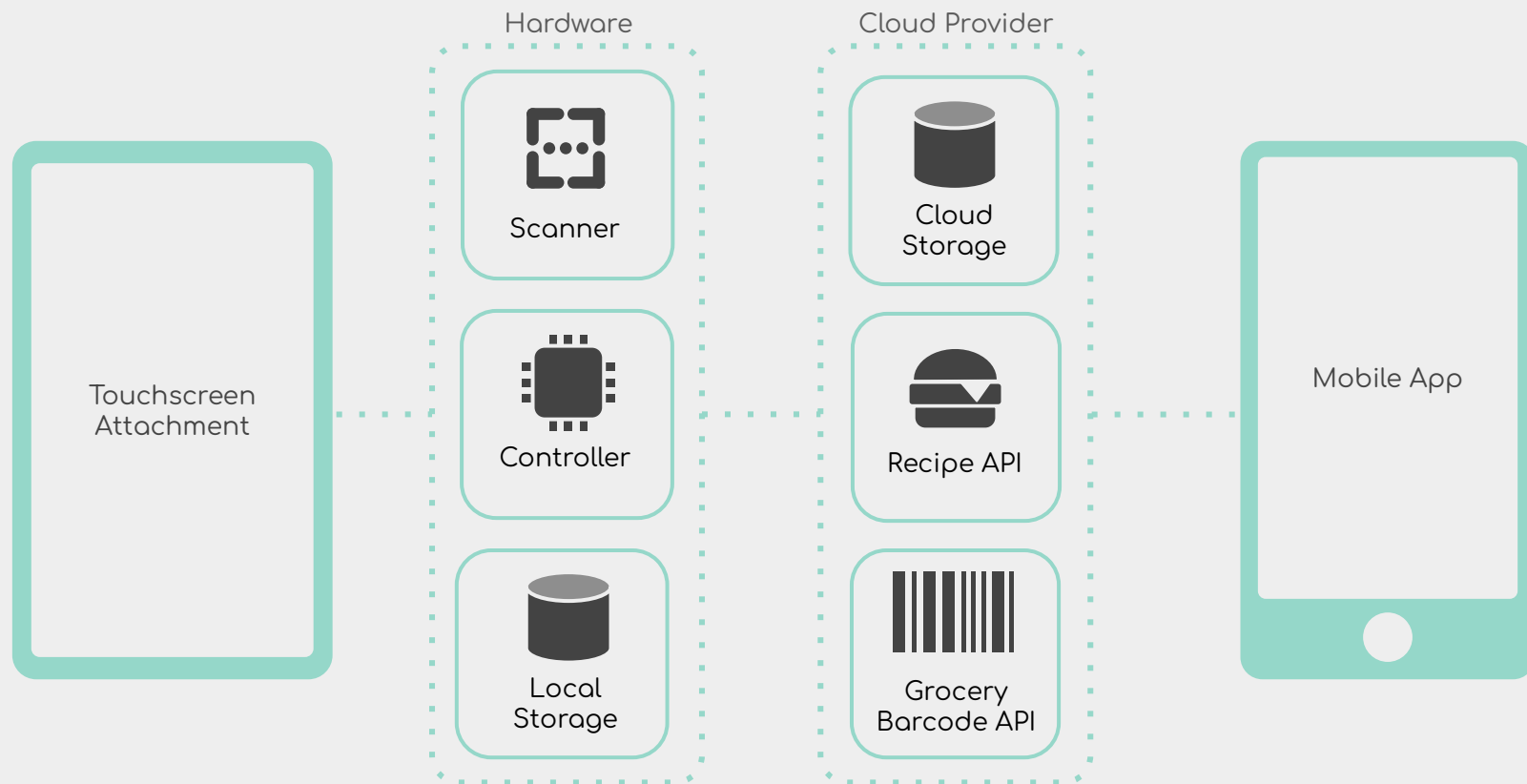Generates recipes the user can make using currently owned ingredients

Reach Goals

Text recognition for expirations and receipts

Low-profile enclosure for panel and controller

System Design

Hardware

Cloud Provider

Touchscreen Attachment

Scanner

Controller

Local Storage

Cloud Storage

Recipe API

Grocery Barcode API

Mobile App

Components & Specifications

Controller

Raspberry Pi 4
- 4GB memory option
- On-board Wifi to connect to AWS
- 32GB SD storage
- Wired to display and scanner

Cloud Platform

Amazon Web Services
- **IoT**: Connect hardware panels to AWS services
- **RDS**: Store user and item data and icons
- **Lambda**: Run recipe API calls

User Interface

Flutter Framework
- Cross platform for Android, iOS, and web
- UI used for both mobile app and display attachment

Recipe API

Spoonacular API:
-

Thank you

Questions?