Smart Food Storage

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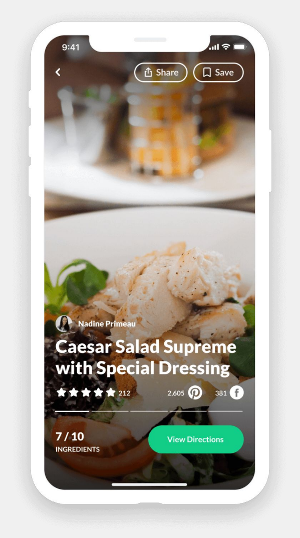
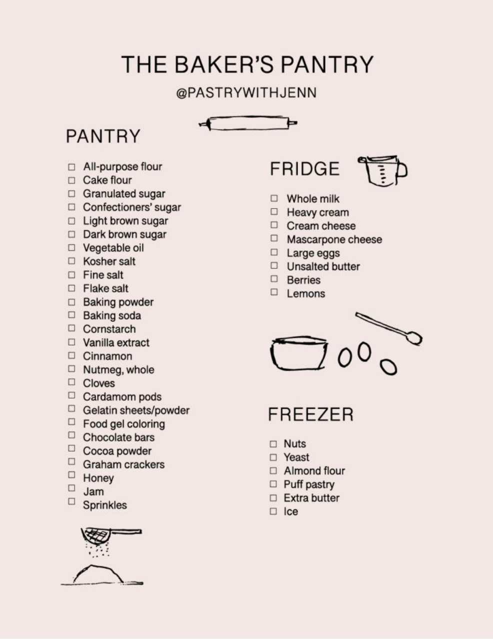
Concept

Do you ever wish that there was a way to find recipes based on what you have in your fridge? *Smart Food Storage* can do that for you by tracking what food items you currently have in your fridge with AI technology and then generate recipes to show you in the *Smart Food Storage* app.



Concept

- Food items in your fridge are shown in *Refrigerator View/Grocery View* on the *Smart Food Storage* app,
- The recipes generated are solely based on what food items are in the users fridge
- Suggestion of popular substitution ingredients (also based on the user's food items.)
- Users can also 'favorite' and rate recipes through the app.



THE BAKER'S PANTRY

@PASTRYWITHJENN

PANTRY

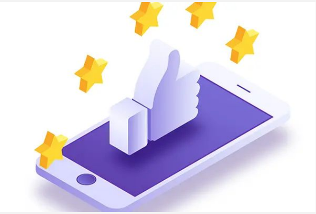
□ All-purpose flour
□ Cake flour
□ Granulated sugar
□ Confectioners' sugar
□ Light brown sugar
□ Dark brown sugar
□ Vegetable oil
□ Kosher salt
□ Fine salt
□ Flake salt
□ Baking powder
□ Baking soda
□ Cornstarch
□ Vanilla extract
□ Cinnamon
□ Nutmeg, whole
□ Cloves
□ Cardamom pods
□ Gelatin sheets/powder
□ Food gel coloring
□ Chocolate bars
□ Cocoa powder
□ Graham crackers
□ Honey
□ Jam
□ Sprinkles

FRIDGE

□ Whole milk
□ Heavy cream
□ Cream cheese
□ Mascarpone cheese
□ Large eggs
□ Unsalted butter
□ Berries
□ Lemons

FREEZER

□ Nuts
□ Yeast
□ Almond flour
□ Puff pastry
□ Extra butter
□ Ice



Functional Requirements

Retrieve and Display Food Information

- Place item in fridge
- Fridge displays item in app

View Refrigerator/ View Grocery List

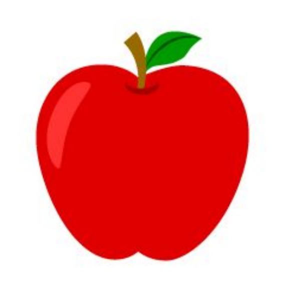
- View current groceries and their quantity

Manually Input Items

- Hit plus and enter in new foods stocked in the fridge

Functional Requirements

Get more information on specific food item



- Display details such as calories, vitamin contents, and more

Generate Recipes

- Identify recipes where most ingredients are in fridge

Refresh Recipes

- Decrease repetitiveness by cycling through large variety of recipes

Functional Requirements

Substitute missing ingredients

- Provide suitable alternatives if one ingredient is missing

Rate recipes

- The rating system will let users build a log of their favorite and least favorite recipes

Non-Functional Requirements

Food Item Storage

- A database that have information about 300+ different types of food/ingredients
- Fresh produce (meat, dairy and fish to vegetables to grains to dry spices,etc)

Non-Functional Requirements

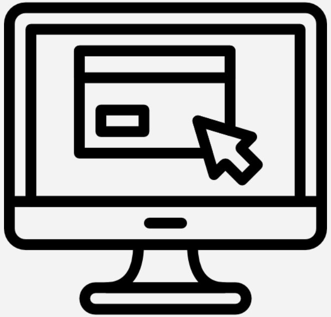
Retrieving information about existing items quickly

- Displaying relevant information about stored items

Non-Functional Requirements

Generate Recipes Time

- Displaying recipes available to cook
- slow if use external sources
- Quick if we have our own database of recipes in the future



Non-Functional Requirements

Maintenance Time

- The system needs down time every month
- Each session should be no longer than 60 minutes.

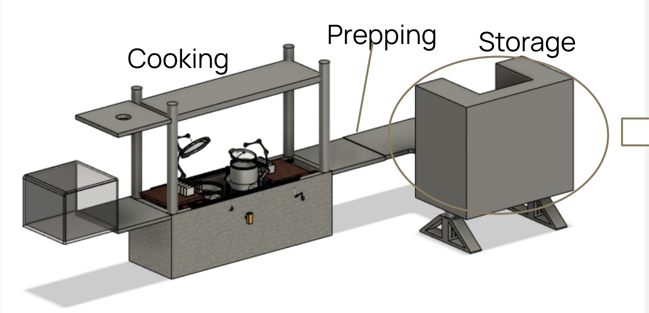
Ultimate evolution of the product

Stage 1 of Autonomous Home Kitchen

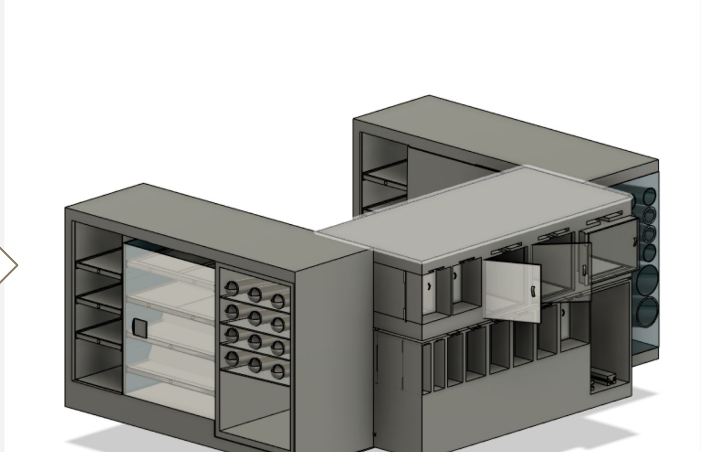
Stage 1 Stage 2 Stage 3

Storage module → Prepping module → Cooking module

- Each module with built in self-cleaning
- Conveyor belts interconnect the machine modules and the dinner table and the dishwasher.

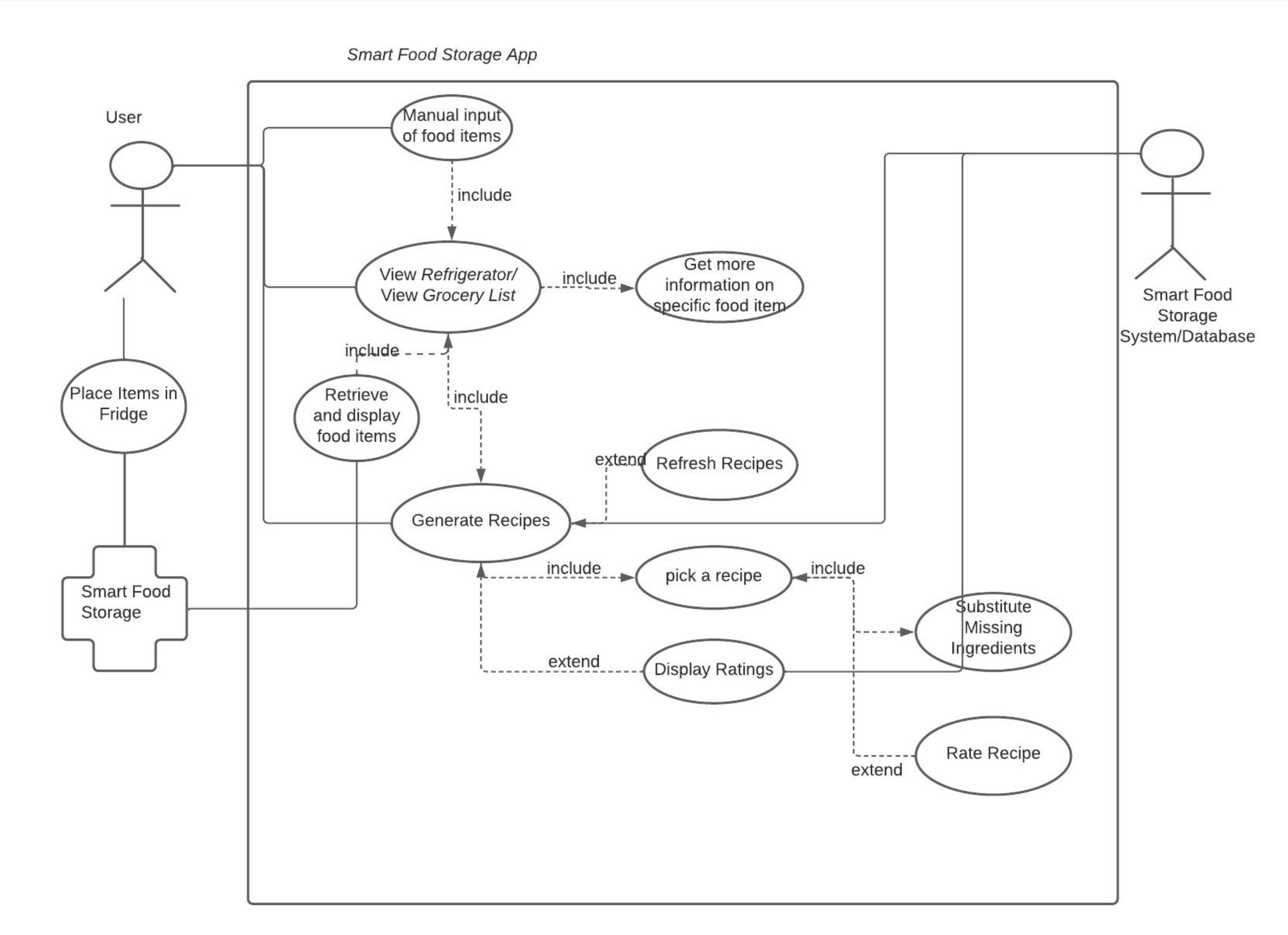


Autonomous Home Kitchen



Storage module/Smart food storage

Use Cases and Use Case Diagram


Smart Food Storage App
User
Manual input of food items
include
View *Refrigerator*/ View *Grocery List*
include
Get more information on specific food item
Smart Food Storage System/Database
include
include
Place Items in Fridge
Retrieve and display food items
extend
Refresh Recipes
Generate Recipes
include
pick a recipe
include
Smart Food Storage
Substitute Missing Ingredients
extend
Display Ratings
Rate Recipe
extend

System Constraints

Tool Constraints

- Software will be in the form of an iOS application
- The application will be designed using XCode for compatible UX design and device specific testing/debugging

System Constraints

Language Constraints

- Application will be built using the native IOS application language Swift
- Swift will minimize the time spent developing and debugging when used in conjunction with Xcode

System Constraints

Platform Constraints

- Compliant with iOS Store design constraints
- The Apple IOS store can be strict in some areas regarding design and functionality
- These include font, color palette, and other design considerations that must be compliant with Apple's standards

System Constraints

Hardware Constraints

- Application requires compatible smart food storage hardware
- Will only be compatible with our own appliances and other certified OEM partner's smart food storage appliances
- Our software will only be accessible through our website or through the mobile application
- Users must possess either a computer with network access or a mobile phone running Android/iOS

System Constraints

Network Constraints

- The application requires network connection to access the online database
- The application must be on the same LAN as the smart food hardware

System Constraints

Deployment Constraints

- The application must have been accepted to be listed in the iOS store
- The smart food storage hardware must be complete before application deployment

System Constraints

Transition/Support Constraints

- Troubleshooting processes involving the hardware of the Smart Food Storage Fridge will require an onsite hardware technician to debug the system
- For recipes to be displayed in the app, there needs to be food detected first. App will not function unless it can detect the contents of the fridge

System Constraints

Budget/Schedule Constraints

- Initial funding of $1,000 and possible future rounds
- App can be developed by core developers with no monetary compensation
- Smart Food Fridge will require compensation towards the engineers, in the form of vested equity / capital
- App must be finished by May 13th 2022 as developers will be graduating