Smart Food Storage

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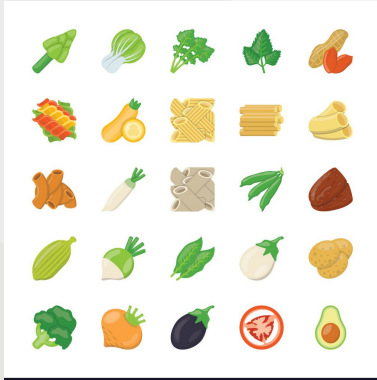
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Brief recap

An application (software) for integrated smart food storage (hardware) that tells you <u>the status of your food at home</u> and <u>recommends recipes</u>.

all key features
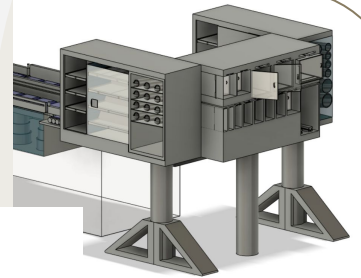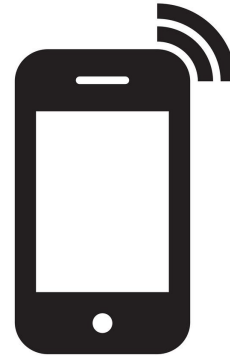
Main function

Recipe generation

Food storage

Recipe reviews

System overview

The composition of our system is mainly focused on the following parts: tracking stored food items in the database, and presenting generated recipes based on these items.

The data on food items currently stored inside the Smart Food Storage will be cached locally in the user's application, as well as stored in our database for a backup.

Structured as a traditional 3-tier application so the client can directly access the server, we first have the UI written in JavaScript. In the middle tier, information is collected from the user and used to modify data in the final tier, the data tier. In the database tier, recipes can be called upon for the user depending on the food items present.

System diagram
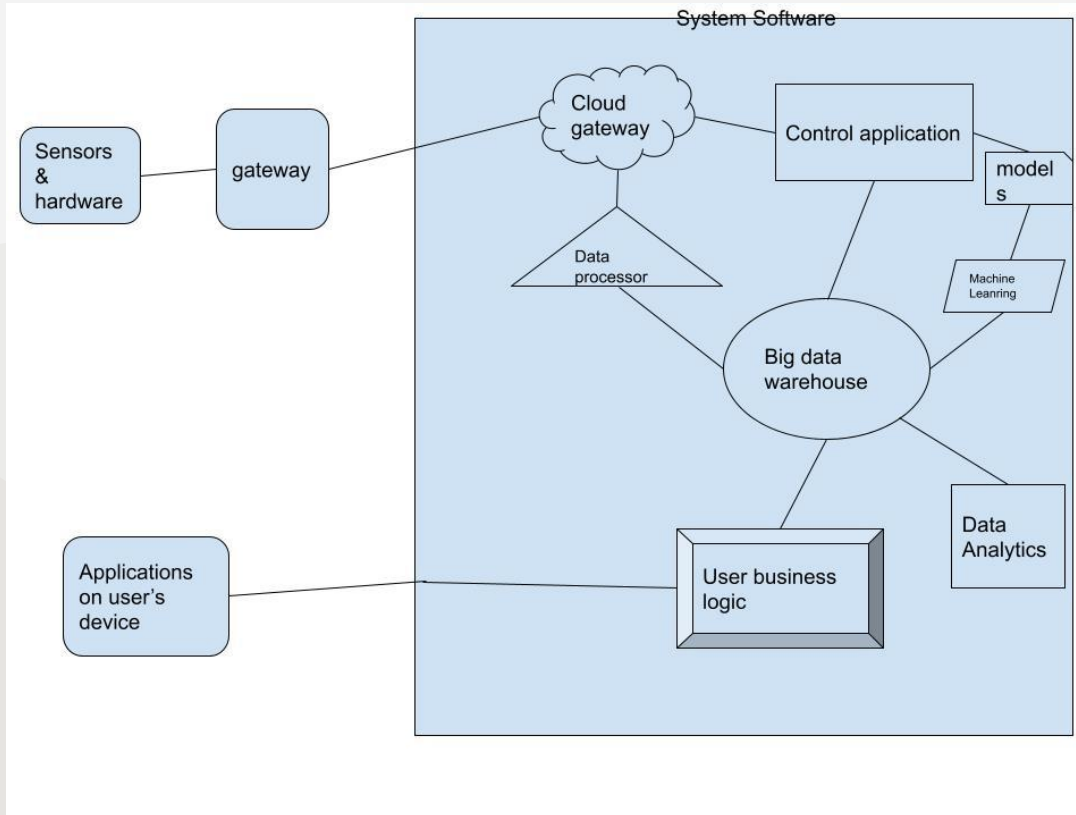
Actors

Users

Plays both the physical role of stocking the fridge, and the virtual roles of creating account on our platform, inputting food items, and requesting recipes from the database

Device

Being either the users phone or computer, used in order to run the application
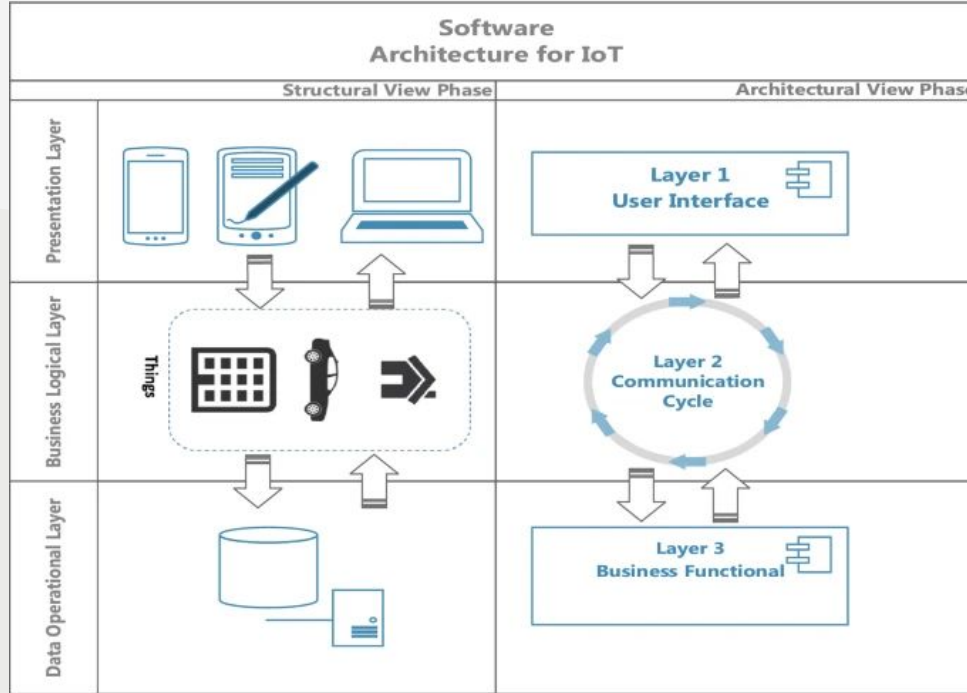
Servers
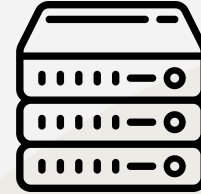
Hold record of all our users, keep the application running smoothly
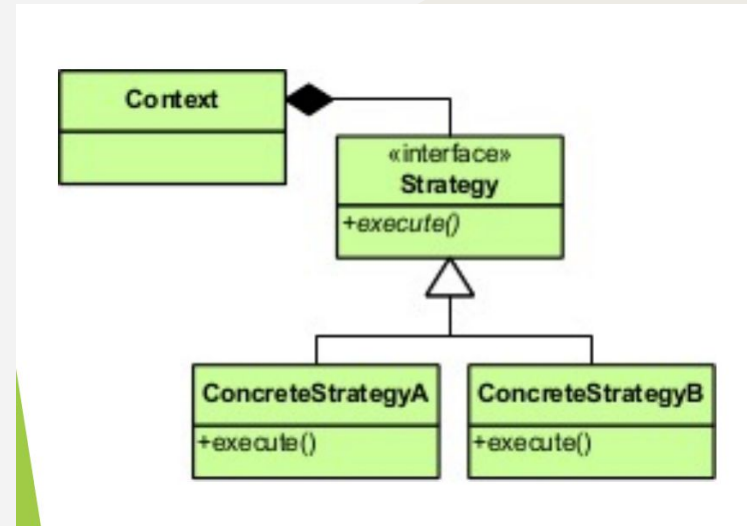
Database

Holds all possible food items as well as recipe combinations and ratings

Architectural Style

Design pattern

For Smart Food Storage using a Strategy design pattern will be the most efficient for our needs. A Behavioral Strategy design pattern allows us to encapsulate our multiple algorithms for searching and producing recipes. Using this design pattern will also efficiently add additional algorithms in the future for evolutionary changes to Smart Food Storage. A Navigator will be used as the context class, which will implement the strategy class, RecipeSearch. RecipeSearch includes different algorithms for searching recipes, like searching for recipes based on the current food items, or searching for recipes based on substitutions.

Frameworks

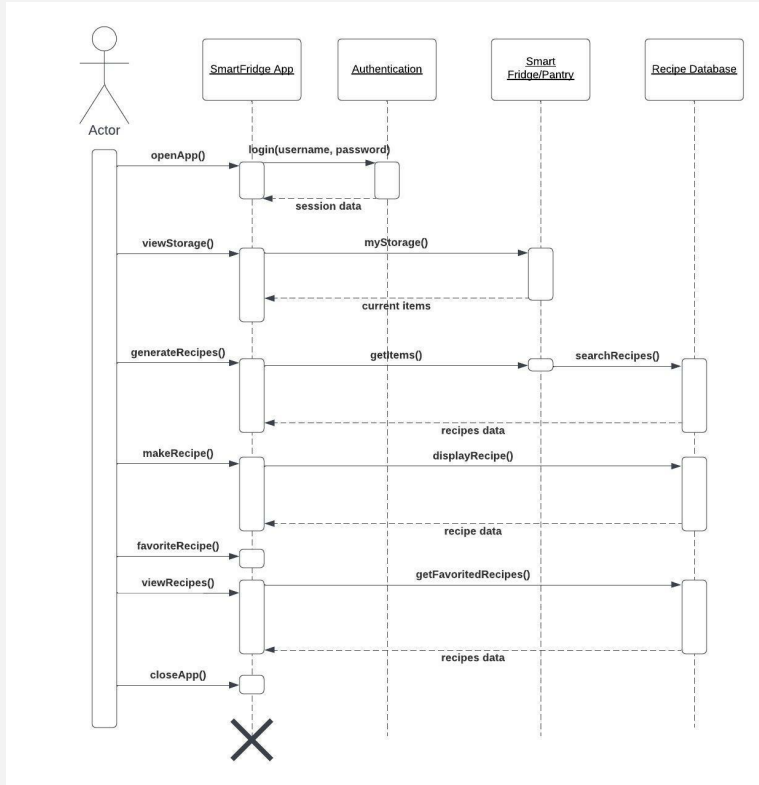Spring Framework : Java + JDBC + MySQL
- Docker + mySQL: Persistent Database
- JDBC: Food Items → Database
- Java: Application State, Database Management, Cloud Synchronization / Lookup, etc.
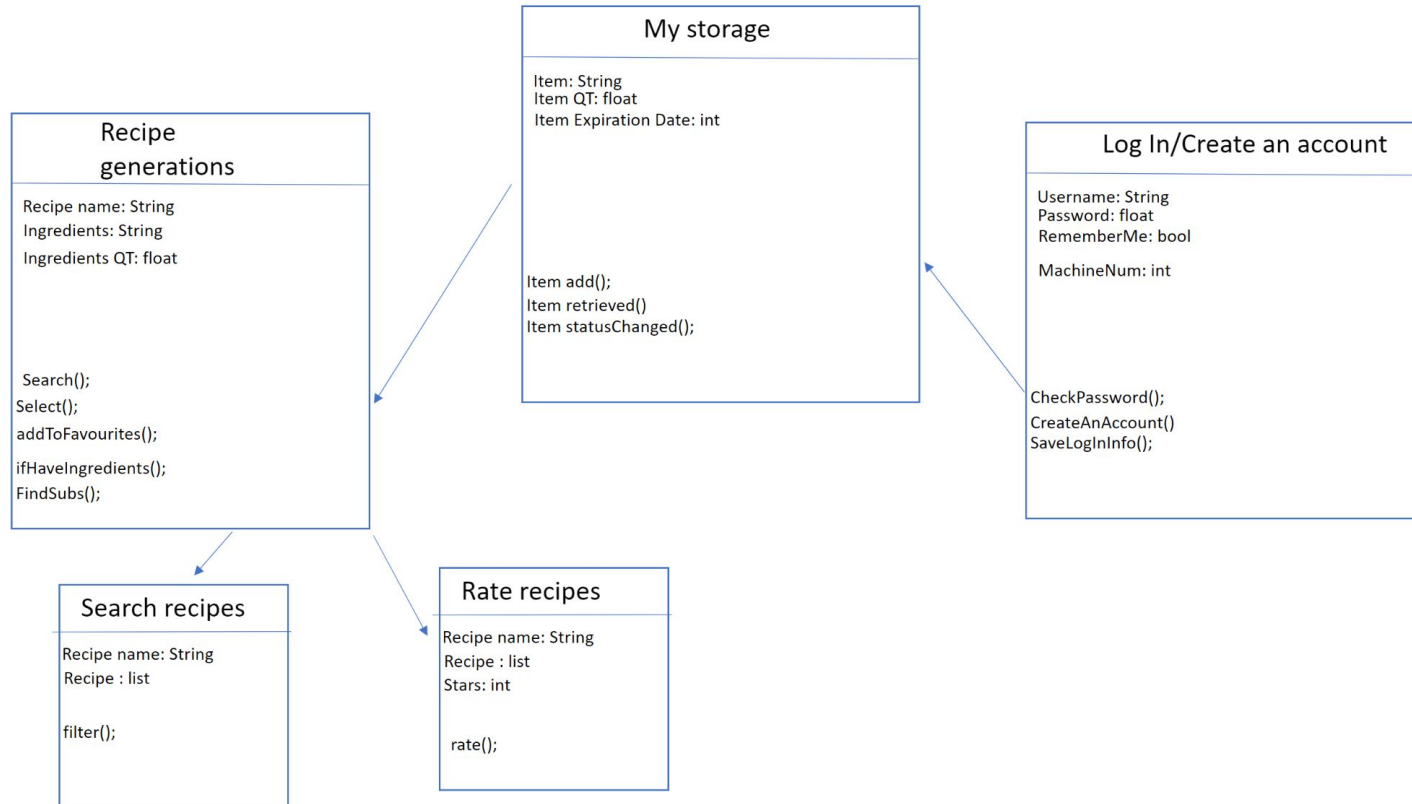
Sequence Diagram

Objects : SmartFridge App, Authentication, Smart Fridge Pantry, Recipe Database

Classes: openApp(), viewStorage(), generateRecipes(), makeRecipe(), favoriteRecipe(), viewRecipe(), closeApp()

Class diagram

Recipe generations

Recipe name: String
Ingredients: String
Ingredients QT: float

Search();
Select();
addToFavourites();

ifHaveIngredients();
FindSubs();

My storage

Item: String
Item QT: float
Item Expiration Date: int

Item add();
Item retrieved()
Item statusChanged();

Log In/Create an account

Username: String
Password: float
RememberMe: bool

MachineNum: int

CheckPassword();
CreateAnAccount()
SaveLogInInfo();

Search recipes

Recipe name: String
Recipe : list

filter();

Rate recipes

Recipe name: String
Recipe : list
Stars: int

rate();

Mock up Demo

https://app.moqups.com/d5pxKi46wNOZyKWUqgC71oojeE4pf1ks/view/page/ad64222d5

User's storage

Main menu

Find recipes

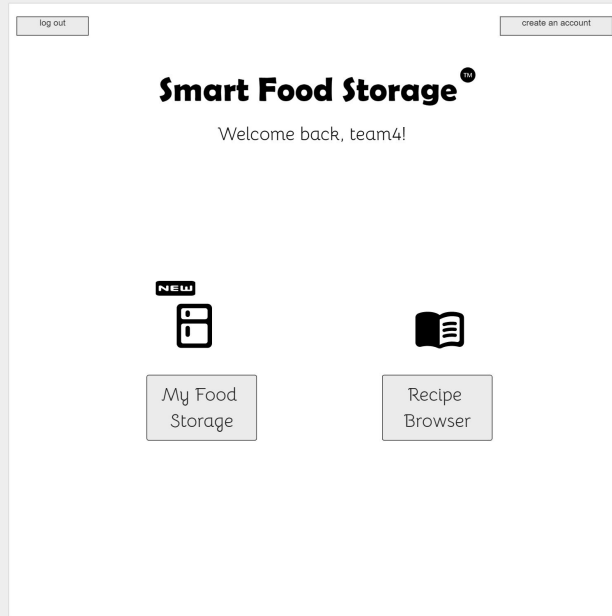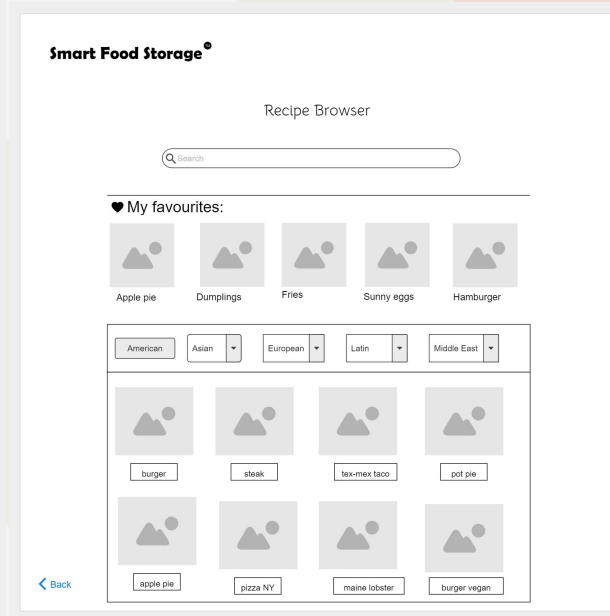# Sign up page

Smart Food Storage

Log In now

☺

Create your account

First Name: `required`

Last Name: `required`

Age: `require`

Email : `required`

Machine serial #: `required`

Password: `required`

Read this if you don't want to get sued! Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla quam velit, vulputate eu pharetra nec, mattis ac neque. Duis vulputate commodo lectus, ac blandit elit tincidunt id. Sed rhoncus, tortor sed eleifend tristique, tortor mauris molestie elit, et lacinia ipsum quam

☑ I agree with the terms and conditions

Create an account

Login page

Smart Food Storage

Creat an account

☺

Sign in
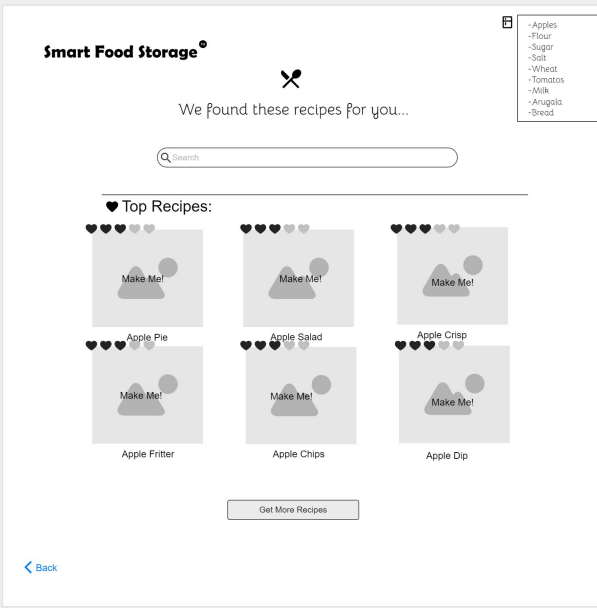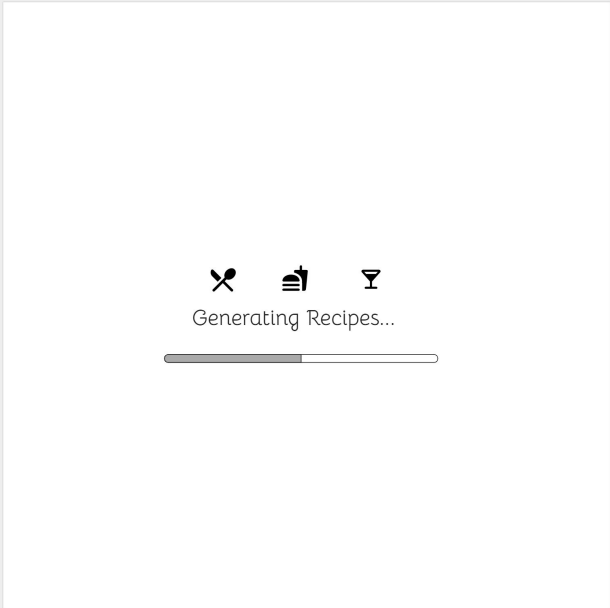
Email : `required`

Password: `required`

☑ Remember me

Log in

Recipes generation main page

Recipes found after typing in the search bar

Smart Food Storage®

- Apples
- Flour
- Sugar
- Salt
- Wheat
- Tomatos
- Milk
- Arugala
- Bread

Here are some more recipes...

Search

♥ Top Recipes:

Make Me!

Apple Cake

Make Me!

Fried Apples

Make Me!

Apple Sauce

Make Me!

Baked Apples

Make Me!

Apple Jelly

Make Me!

Apple Cooki

Get More Recipes

‹ Back

Generating Recipes...

Smart Food Storage®

- Apples
- Flour
- Sugar
- Salt
- Wheat
- Tomatos
- Milk
- Arugala
- Bread

We found these recipes for you...

Search

♥ Top Recipes:

Make Me!

Apple Pie

Make Me!

Apple Salad

Make Me!

Apple Crisp

Make Me!

Apple Fritter

Make Me!

Apple Chips

Make Me!

Apple Dip

Get More Recipes

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Click on one recipe

Smart Food Storage™

Rate Me: 🖤 🖤 🖤 🖤 🖤

creativefoods.com

Matched Ingredients:
- ✓ 5 Apples
- ✓ 3/4 Cup Wheat
- ✓ 2 Cup Sugar
- ○ ~~Vanilla Extract~~
- ✓ Substituted Ingredient:

Vanilla Maple Syrup

Simple Apple Pie

Description:

Our homemade apple pie is sure to be the best apple pie recipe you've made to date. For starters, you can make this warm, cozy, classic dessert in three simple steps, and it's made with the ultimate baking shortcut: Pillsbury™ Pie Crusts. Serve up this easy apple pie and enjoy the most classic dessert with family and friends. Whether you bake it for a holiday, a potluck or as a special weekend treat, this timeless recipe is guaranteed to spark joy.

Steps:

1.) Heat oven to 425°F. Place 1 pie crust in ungreased 9-inch glass pie plate. Press firmly against side and bottom.

2.) In large bowl, gently mix filling ingredients; spoon into crust-lined pie plate. Top with second crust. Wrap excess top crust under bottom crust edge, pressing edges together to seal; flute. Cut slits or shapes in several places in top crust.

3.) Bake 40 to 45 minutes or until apples are tender and crust is golden brown.

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Github link

https://github.com/ange-mwang/CSC431SmartFoodStorage

Thank you!