

Perfect Pantry

Team #7

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Perfect Pantry

Perfect Pantry is an app designed to help users reduce food waste in their homes by providing tools to better organise, track, and utilise the items in their kitchen pantries, fridges, and freezers. This digital assistant aims to bring efficiency and sustainability to everyday food management.

The program serves as a kitchen inventory manager. It allows users to add, remove, and monitor food items across different storage locations. It is equipped with features like a calendar view, virtual location view, colour-coded expiration tracking, and recipe recommendations based on available ingredients.

This tool is planned for a wide range of users, from busy families to students to individuals living alone, and is especially useful for environmentally conscious individuals looking to reduce food waste and optimise grocery usage. Because everybody's time and mind are usually preoccupied with their daily tasks, like with school and work. Most of the time, they are not thinking about shelf life of their products. As such, the application will help organize and keep track of it for them. It also helps save time with planning on what to use with food items, and especially expiring food items by presenting to the user with recipes that use those food items so that they do not need to do research and find the recipes themselves.

Perfect Pantry addresses the critical issue of food wastage, a global concern with significant environmental and economic implications. By providing an efficient means of tracking and utilising food items before they expire, Perfect Pantry helps reduce waste, save money, and promote sustainable living practices. Additionally, it aids in meal planning and grocery shopping, making the process more efficient and less time-consuming.

The app will be considered successful if surveys of users show they are throwing away less spoiled food after using Perfect Pantry. We aim for users to reduce their household food waste by 15-40%. Environmental impact will also be measured by tracking the reduction of organic material entering landfills from users' homes.

To achieve our goal, Perfect Pantry will be equipped with many systems to help users in tracking their products and which products will soon expire. We plan on implementing warnings on the app to notify the user of any products that are going bad. For example, there will be a calendar view to present to the user on which days specifically their products expect to go bad. As well, users will be able to sort their products in many ways, one of which being sorting by expiration date to see what items are going to expire the soonest.

Overall user stories (Both big and detailed ones):

Iteration 1:

Big Story Description: Initialise Fridge/Pantry With items

Goal of user: The user should start being able to managing their virtual fridge

Priority: High

Cost: 14 Days

User Stories:

Create Fridge

Priority: Med

Cost: 0.5 Days

1. I should be able to create a new fridge/pantry and give it a specific name. This will help me keep track of what pantry space I'm managing.

Add Items

Priority: High

Cost: 2 Days

2. I should be able to add whatever food item I want to my virtual pantry. This will help me know what I currently have available.

Remove Items From Pantry

Priority: High

Cost: 2 Days

3. I'd like to also be able to remove items from the pantry, if I no longer have it available. When foods are consumed or expired, I would need to be able to stop tracking them.

Tagging Food Groups

Priority: Med

Cost: 2 Days

4. I want to tag each food based on their food groups. I.e Fruits, Vegetables, Grains, Proteins and Dairy. This will be useful to know the composition of food items in the pantry.

Add User

Priority: Med

Cost: 2 Days

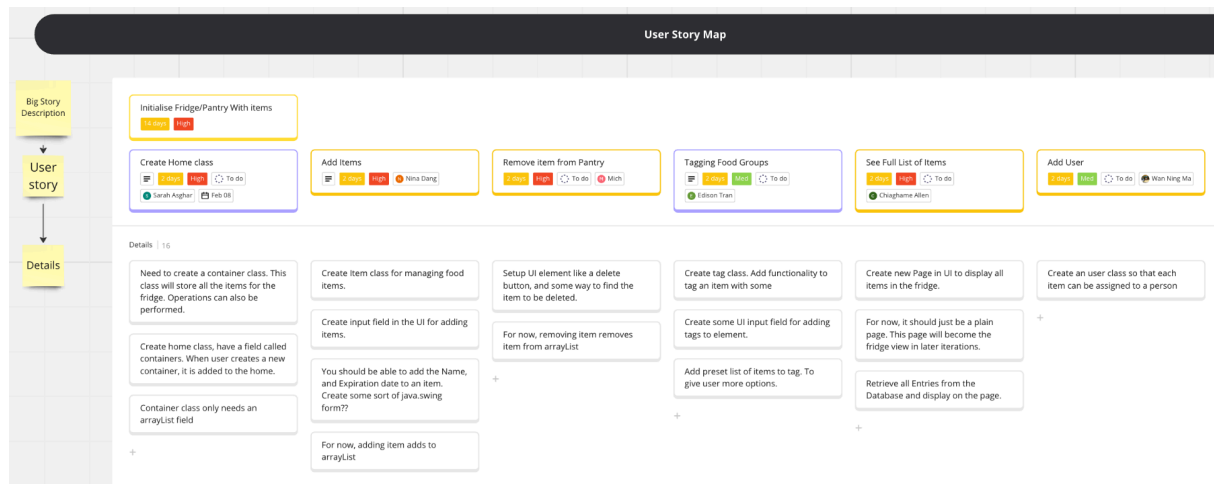
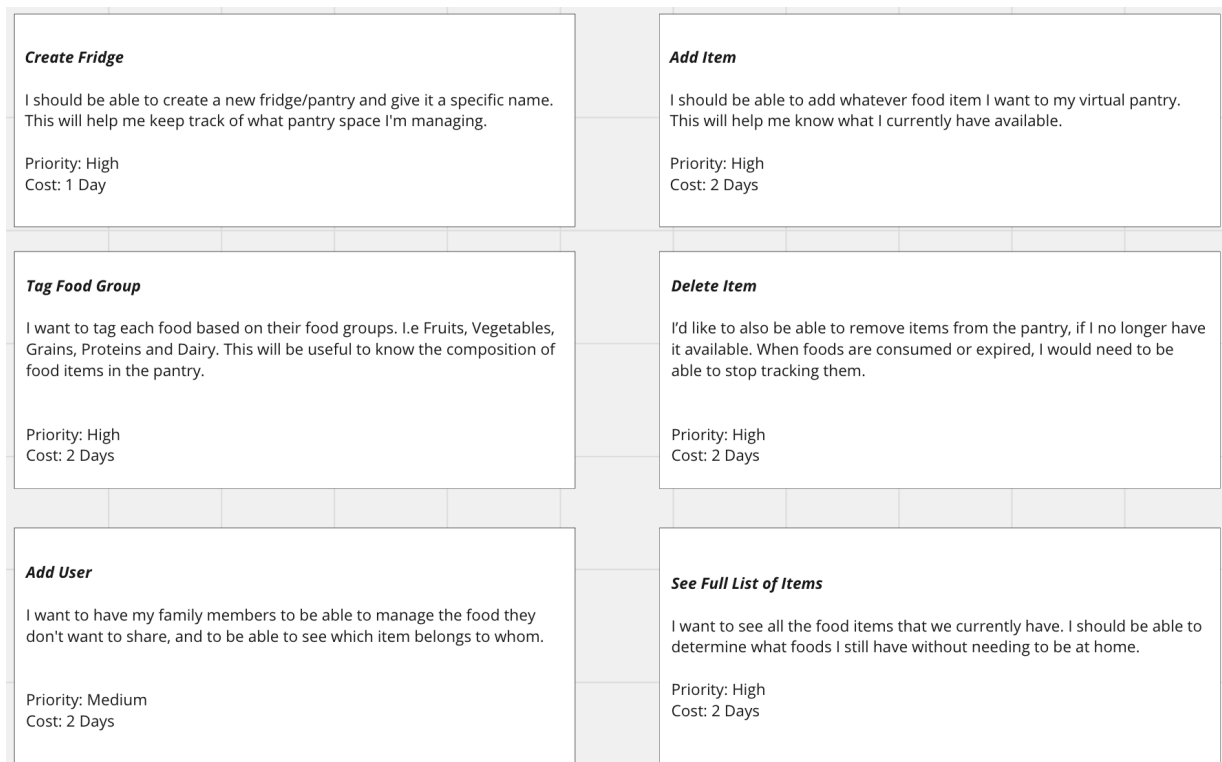
5. I want to have my family members to be able to manage the food they don't want to share, and to be able to see which item belongs to whom.

See Full List of Items

Priority: High

Cost: 2 Days

6. I want to see all the food items that are currently located in my pantry. I should be able to determine what foods I still have without needing to be at home.



Miro View Link: https://miro.com/app/board/uXjVNvII-FM=?share_link_id=150674584264
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Development Tasks

1. Create Fridge (Sarah)

Dev Tasks..

- Create the container class. A container represents a pantry/fridge of items that users can add and delete from.
- Create Home and ContainerView, using java.swing to develop the UI.
- Setup the home to receive user input (name of container to be created).
- Create stub db class.

Estimated Working time: 2 Days

Actual Working time: 7 Days

- Setting up this user story took longer than estimated. It also served as the foundation for other user stories as there must be consistent logic for setting up the UI and data binding.

2. Add Items Class (Nina)

Dev Tasks..

- Create an item class to represent a food added to a user's pantry.
- Setup the AddItemPanel view to receive user input.
- Implement error handling on user input.
- Populate stub db with items.
- Test implementation of adding an item

Estimated Working time: 2 Days

Actual Working time: 3 Days

3. Remove Item from Pantry (Michel)

Dev Tasks...

- Create DeleteItemView to prompt users for the item they want to remove from their pantry.
- Implement error handling on user input to ensure that items actually exist in the database.
- Test implementation of deleting an item

Estimated Working time: 2 Days

Actual Working time: 3 Days

4. Tagging Food Groups (Edison)

Dev Tasks...

- Create a tag class and several "tag" classes.
- Implement tagging test cases

Estimated Working time: 2 Days

Actual Working time: 1 Days

5. See Full List of items (Allen)

Dev Tasks...

- Create ItemsList ListView to display list of items
- Display this view over top the containerView

Estimated Working time: 2 Days

Actual Working time: 1 Days

6. Add User (Ning)

Dev Tasks...

- Setup user class to implement user logins in future iterations

Estimated Working time: 2 Days

Actual Working time: 1 Day

Iteration 2:

Pantry Awareness (This big story aims to help the user make more informed decisions about what is in their pantry, by developing the virtual fridge)

Colour Coded Fridge Items

Priority: Low

Cost: 1 Days

1. Colour coded fridge items would be extremely beneficial. For example, food items that are going bad could be coloured red. This should give a sense of urgency for me to use them. The food groups could also be colour coded.

Calendar

Priority: High

Cost: 3 Days

2. I want to see all food expiry dates in a calendar format. This will help me have a better idea of when foods will go bad. This should help me make more informed decisions about what I cook.

Add To Grocery List

Priority: Low

Cost: 2 Days

3. I definitely would like to have a grocery list feature implemented. When I see that food is running low or has expired, it would be great to add them to a grocery list.

Detailed Fridge View

Priority: High

Cost: 4 Days

4. I'd like to be able to see a more realistic view of my pantry/fridge. Maybe dividing it into sections based on how I store my actual food?

Sorting

Priority: High

Cost: 4 Days

5. It would be nice if I could sort foods based on food groups, and also based on the days that they will expire.

Notifications

Priority: Low

Cost: 2 Days

6. Whenever I open a pantry, I'd like to receive some instant notification on the app. This should mostly be for foods that are about to expire. This should help me be alert and aware of foods that are about to go bad.

Iteration 3:

Research and Analytics (The point of this big story is to provide the user with information they need about their pantry, which foods tend to spoil quickly, and start offering some ways to utilise fridge items)

- Support for recipes (based on available ingredients)
- 'Star' recipes
- Get reminders if starred recipes ingredients are low
- Editable System Settings (for reminders (what should you get reminded for), Customize parts of UI)
- Reminders about upcoming expiration dates.
- Log in System (for different users)

Major Changes (Deliverable 1)

There are a few major changes we made from the start of our planning.

1. The name of the application has changed from ExpireMeNot to Perfect Pantry. The name fits and sounds better. Additionally it was agreed upon by most of the members.
2. We decided to stop working on the user logins for the first iteration of the project. It may be scrapped for later iterations of the project as well. Since this application is for personal use, there is little need for there to be multiple users with access to different containers. Additionally, it adds extra complexity to the project, which may not be necessary for us to consider at this moment.