vPantry

VIRTUALIZE YOUR KITCHEN

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Introduction

Can’t find the peanut butter in your pantry? Sibling ate your Doritos? Sour cream expired before you can use it? Well... we can fix that! The vPantry is an app intended to keep track of grocery items for groups/ families in a household, workplace, etc. It will keep track of the item’s name, location, type, quantity left per item, and expiration date. This will appeal to households that have multiple people living together. For example, couples, families, or roommates will find this app very useful. Keep your kitchen organized and view what’s in it all while lying in bed!

Product Overview

vPantry is a very easy to navigate website and Android application that will allow users to be able to add, remove, update, find, and list all items in your pantry/ kitchen virtually within a certain group. Each group created will have an admin and then users added to it.

Features and Functionality

vPantry brings convenience to daily life... considering everyone has to eat. For instance, it saves users money by not wasting product because it notifies you the expiration dates so you can plan your meal around those near expiring ingredients. Ultimately, not waste the items you spent money on.

The application also lists all grocery items currently available in the house. This means that users do not have to go down and waste time shuffling things around in the pantry.
to see if they have ingredients available. Just open the app and check while you are lying in bed and watch Netflix. This will save money as well because if one tries finding the item in the pantry that they think they bought but aren’t sure, they can ease their doubts by checking the app and not just running to the store buying that said item, and then immediately finding an open package of that item that they bought last week. As most of us know, kitchens have multiple storage areas like the pantry, cabinets, drawers, etc. Sometimes making it hard to find items you bought and leading you to make a grocery run for just a single item. You can easy your mind as vPantry stores the location of each registered item so that you do not waste time trying to find it. It is not unheard of for multiple people to be living together under the same roof. As many of us probably do live with others, whether it be family, friends, or roommates. vPantry allows you to label what belongs to who. This feature can solve the problem of others in the household obliviously eating your groceries. In the app, users within the same group can register grocery items in the and they can label the owners of each items.

There is no doubt that vPantry will be an in demand application. It will be very convenient for households to view all of the items in the kitchen, save money, and help keep your kitchen clean and organized! It will keep households organized by allowing users to see what is available and how much of it is available, reducing buying multiple of the same product. vPantry giving a preview of all that’s in the kitchen will create less inconvenient trips to the grocery store for products that are running out, and a convenient house grocery list that is available to members of the group.

**Backend Design**

The vPantry Android app used the same backend as the website. The vPantry website and backend solution was built using the MERN stack:

- MongoDB – a NoSQL, general-purpose database
- Express JS – a web application framework
- Node JS – a JavaScript runtime environment
- React - a JavaScript user interface library

The database runs on the Node server, where Express was used to build a RESTful API to communicate with the server from the website and Android App. The React library was used to create a simple, intuitive single-page web application. The “look and feel” of the web application was designed with Material Design principles in mind with the help of the MaterialUI library for React.

Website Frontend

The vPantry website was designed to be clean and intuitive for users. The goal for the dashboard layout was to have visibility of all navigation options to make managing a vPantry account easy. A user is greeted personally, by name, and has immediate view of their items in their pantry. A user with multiple pantries can see and navigate to each using the left navigation drawer right on the items page. Item management using the item table is straightforward, and the user has customization options for the layout of their table. The top navigation bar allows the user to see their other pages, where they can view pantry group information and see their account information.
Virtualize your Kitchen!

Never forget if you have something in your pantry again!

- Keep track of all your pantry items
- Know when it’s time to throw away expired items
- Know who bought what item
- Note what items are intended for (no more going to use an ingredient and it’s gone!)

Hello, Scott

<table>
<thead>
<tr>
<th>My Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
</tr>
<tr>
<td>Preserves</td>
</tr>
<tr>
<td>Captain Crunch</td>
</tr>
<tr>
<td>Rice</td>
</tr>
</tbody>
</table>

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Android Frontend

The vPantry Android app is the mobile version designed to bring portable convenience to the users. For the frontend, our team developed the mobile app using Kotlin language inside of Android Studio. We chose Kotlin because it is the new growing language for Android app development. We also chose Android Studio because it is
the most popular and fairly simple to use for Android app development.
Challenges

- Learning new frameworks
- Time management
- Collaboration – code sharing, scheduling, communication
- An older version of the backend had a few difficult to fix issues, so a newer version was developed. The older versions issues included the following. When running locally the old backend caused connection issues with the Android client. The file structure of the source code was poorly laid out; slowing development
It was inconsistent in design and didn’t support basic required functionality thus making it more challenging to develop both front ends.

- Issues merging branches due to unrelated Git histories