

Research and Problem

Problem: Planning groceries for a family is hard, if there was an app that allowed the creation of a list shared between multiple devices and included the stock of specific stores it would be easier.

Justify Your Choice: When deciding on groceries my mom and I have to share one phone and look at a store's app to see what they have. And to add items to a list I have to write it down on a mini-whiteboard on the fridge or tell my mom to add something and hope she remembers. Existing apps that allow you to make a list only work on one device or do not include specific items. If the app had specific stores, you could browse their items in the same app as well.

Making a grocery list is a hassle that requires multiple apps, the sharing of a single device, and is very prone to human error such as forgetfulness. An app that combines the resources of multiple apps could solve this issue.

Existing Solutions: AnyList is an app that allows you to make a list that is shared across multiple devices. However, it is not specific to certain stores and only allows generic items. Often requiring you to manually create an item yourself, giving it a name, image, and other details. All other apps I investigated have the same problem, AnyList seems to be the most popular option so I will focus on it.

AnyList allows you to track prices which is a feature I am interested in, but the prices must be manually entered which is very tedious. AnyList is essentially just a shared notebook when using it for free, picking items seems to be a paid feature, and even then they aren't specific items. It doesn't provide enough for me to switch to using it.

Sources:

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<https://www.thekitchn.com/best-grocery-list-apps-23618481>
- Catalano, P. (2020, June 20). *The Free-to-Download App That's Made Me a Better (More Organized!) Grocery Shopper*. Kitchn; The Kitchn.
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Www.anylist.com. <https://www.anylist.com/>

Solution

Software Solution: The app would allow you to invite accounts to a shared grocery list. It would also have information of specific stores and their stocks, to allow you to browse and add items in the same places. This could be through integration with the store's apps.

The app would also have tools to manage the list and family, such as seeing who added items to the list or adding notes to each item. The family member that created the list could also enforce rules for it by having owner privileges. They could remove items, disallow items, or set a price limit as examples.

The app differs from existing ones by including the stock of specific stores, which would also allow you to see the prices and get a total cost of your list.

Pseudocode:

Account creation so that family members can be added to a list.

Ability for users to create a list and invite other accounts. The user can create or be a part of multiple lists.

Owner privileges are allowed to the creator of the list and whichever other users the owner grants them to. Users with privileges can disallow certain items from being added to the list or set a price limit on items that can be added.

The app would have to interface with the apps of existing stores, or if that is not possible through manual creation of items those stores have. Each item has variables for a name, price, image, and possibly dietary information. Users choose from a list of stores to search before adding an item. Selecting a store allows the user to see the stock of that store. The store will be remembered in a variable when selecting items, to display which store the item is from later.

Items include tag variables, such as pastry, fruit, or vegetable. A search function allows the user to enter a string and search for these tags of the specific name of an item.

After selecting an item and the quantity of that item from the store it is added to the list and displayed to all users, a variable for which account added the item is filled. The price and other details are recorded.

The list is a group of objects that each have multiple variables associated with them. An item could be a cake, it has a price variable of \$10, a store variable of Safeway, a count of 1, and an associated image.

All of the objects are added to a list, with each object holding its respective information.

The total cost of all items on the list and total number of items are calculated.

Users with privileges can remove items from the list and any user can add comments, which are string variables, to each item.

The list can be cleared at any time, this is intended to be used after making the purchases. However, a history of items removed from the list is stored in a separate list, to see what was purchased in the past.

User Interaction:

The app would first require a sign-in. After signing in you can see all lists that you are part of and there is a button to create a new list.

Opening a list displays the items that are currently in that list and all members of the list. Next to an item's name is the most important information, such as its price, an image of the item, the quantity of that item, and what store it is from.

Opening an item displays more detailed information about the item, such as dietary information and any notes users added to the item.

Using the button to add to the list prompts the user to select a store. After selecting a store the user is immediately displayed a list of popular items or items they have added in the past. There are also dropdowns for categories to browse and a search bar to enter names or item tags.

Each item in this shopping menu displays the information previously mentioned and includes a plus sign to add it to the list.