W11 Report (Project Part I):
Conceptual Design, Lo-fi Prototyping, Cognitive Walkthrough

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Project Direction

a) Topic (Step 1):

For this project, the interface is Save-On-Foods and the human need is to create and share grocery lists online. Currently, the Save-On-Foods website does not allow users to easily create and share a grocery list. We propose a feature that allows users to easily view and share grocery lists online.

b) Requirements (Step 2):

- Users should be able to easily create, access, and modify their grocery lists.
- The interface should allow users to share their grocery lists.
- Users should be able to discover other user's grocery lists on the interface.
- Interface should allow a user to view and edit another user's list.

Justification for Requirements

- The current interface does not support accessing and modifying grocery lists very well. Allowing the list to be more easily accessible and modifiable would improve the user's experience (reducing time spent) and encourage the user to continue using the interface.
- Sharing and discovering would encourage users to use the grocery list feature more often. It would provide users with more grocery options; the user can generate more grocery list ideas by looking at other lists.
- Furthermore, the ability to edit another user's list can be beneficial. For example, a list could be used for family grocery shopping, and family members can add/remove items from the list.

c) Task Examples (Step 3):

Task Example #1

Mary is running a daycare and needs to keep track of ingredients to buy in order to cook meals for the children. Due to dietary restrictions and the pickiness of the children, she creates lists for recipes based on the different days she is working.

On most days, she would buy the same list of groceries for the same meals. However, sometimes she has extra groceries from previous days. She tasks her new intern, Joe, to first check off the items that they already have, and then only purchase the items that are left on the list. Because it is his first week on the job, Joe is unfamiliar with purchasing groceries online. As well, he is uninformed on what to buy, so Mary makes sure to name the lists appropriately before handing it off to Joe.

Every month, Mary would like to change up some of the recipes she makes to include more variety and seasonal produce in the meals, while keeping the staple ingredients and each student's dietary restrictions in consideration. She browses the array of available items and adds the items she thinks are appropriate for each day's list.

Task Example #2

Luke is an aspiring fitness influencer and is currently working on weekly meal prep plans. As an influencer, it is his duty to spread his knowledge of meal planning by publicly sharing his grocery lists. This way, Luke's followers can follow along in his meal prepping journey. As a result of his

busy influencing schedule, Luke prepares multiple shopping lists for purchasing a week's worth of food at a time.

As it is also difficult to plan for a week's worth of meals at once, Luke makes changes to the current list at the end of the week. He often swaps out ingredients for healthier options and removes ingredients he dislikes. In order to stay with the trend and keep his popularity, Luke often creates new lists consisting of trendy foods but also references his other lists for ideas. He also refers to popular diet recipes on the internet to gain inspiration.

Lo-fi Prototyping and Cognitive Walkthrough Report

d) Summary of Brainstorming and Conceptual Design:

Our conceptual models using concepts such as a pocket book and community are based on users' prior knowledge of the world and familiarity with established interfaces. Since users have a limited number of new concepts to learn, this in turn will heighten the likelihood of users forming an accurate mental model of the designed interface.

Conceptual Design #1: Pocket Book

In Figure 1, a mood board was created to depict our conceptual model of convenience. The aim was to make users feel that the grocery list feature is easy to access and edit, convenient, and intuitive. Images of bags, pocket books, and phones were used to evoke these qualities. First, crossbody bags were used in the mood board to evoke the sentiment of the ease of adding and removing items from a bag, while having the convenience of carrying it easily. Similarly, pocket books and phones in pockets also evoke the sentiment of easy access and convenience. Next, images of pencils, drag and drop, and the undo button demonstrated the ease of editing. The proposed interface will imbue these concepts as the grocery list feature will now be present on the home page beside the cart and the add to list button will be included on the item previews rather than product details, increasing intuition, while improving editability and convenience.

Conceptual Design #2: Community

In Figure 2, a mood board was created to show how the central metaphor of "community" might be present in Save-On-Foods online shopping experience. Some central concepts of the community theme include: sharing recipes, worldwide cuisine, social interactions, map of your area, shoppers in your area, collaborating, and browsing. The share symbol is used throughout to map the interactions users are likely to have with this community model. The model also displays a location-based relationship the user would have with their Save-On-Foods community through the store location markers and the related "30 Lists In Your Neighbourhood". Terminology such as "local" and "neighborhood" that are present in the conceptual design also act to support the community design. The lo-fi prototype will take all of the aforementioned qualities of the community conceptual model to create a welcoming sense of social community for Save-On-Foods grocery shoppers.

e) Lo-fi Prototyping Rationale (Justification for Step 5):

Prototype #1 Subgroup - Pocket Book: Cici, Vanessa

Prototype #2 Subgroup - Community: Kevin, Roger, Sasha

Coverage

Our group created two low-fidelity prototypes to improve upon Save-On-Foods' current list feature. In our discussion, we identified some main problems: the difficulty of finding lists, the lack of flexibility in modifying list contents, the tediousness of adding an item to a list, and the lack of collaboration and community among users of the platform. Then, we developed two metaphors for the feature: a pocket book (which is both accessible and has easily editable pages), and a community (where people can freely share their ideas with each other). Drawing inspiration from the two metaphors, and keeping the task examples in mind, we designed Prototype #1 and Prototype #2.

Prototype #1 supports Task Example #1 because it addresses different types of users' needs to easily find and view the lists. Mary can conveniently overview her grocery lists on the home page, compartmentalized for each day. Joe, who is unfamiliar with shopping online, is able to easily find the "Lists" tab, access the appropriate day's list, check off the items that are not needed, and add the rest to the cart with the correct quantities. As well, when Mary is browsing ingredients for new recipes, she can add them to one or more lists without having to click into the item's detailed view, which saves her time and effort.

Prototype #2 supports Task Example #2 because it addresses the central metaphor of community, which is the ability to collaborate with others, either directly through sharing the user's personal list, or indirectly by browsing for shared lists. Luke is able to easily share his meal plans with his followers, who will be able to precisely follow his grocery lists, as well as view any updates he has made to the meal plan each week. Luke is also able to easily reference other pre-made grocery lists, by either finding lists in his area or browsing for popular lists.

Scope

Both prototypes used Google Slides to create simple demonstrations of their corresponding features. For Prototype #1, the tabs in the original Save-On-Foods' homepage were kept, with "Past Purchases" and "Favourites" shifted to the left to add in the new "Lists" tab. Promotional banners and individual items were kept to an absolute minimum to avoid noise/distraction and highlight the most relevant functionality.

In Prototype #2, only the logo and list tabs were kept to provide a sense of relative location on the site. Because the functionality is not a currently existing one, we created a simple yet clear illustration of the new features.

f) Cognitive Walkthrough Evaluation Findings (Outcome of Step 6):

Cognitive Walkthrough #1: Pocket Book

In the cognitive walkthrough, the participant was tasked to add an item from the "Thanksgiving" shopping list to the cart, and then add an item in the explore page to the "Weekly Groceries" and "Victoria Trip" lists. The participant was able to complete both tasks with ease. When asked about their mental model of the prototype, they said that it reminded them of the checklist in the Notes app on their iPhone, which shares some similar characteristics as a pocket book (easy access, intuitive form of editing, etc.) However, they also noted a few issues that we plan to improve upon in the mid-fi prototype:

- The prototype had no option to create a new list from the dropdown view
- The participant did not immediately understand why items would move to the bottom after adding it to the cart, but eventually caught on
- The participant said that the “save” button is not necessary, and it would be easier if just checking/unchecking the checkbox beside list would save the changes

Cognitive Walkthrough #2: Community

In the cognitive walkthrough the participant was asked to test a breadth of features in the horizontally implemented lo-fi model of community lists. They were asked to view users and interactions on the current list, create a new list, and finally browse local lists.

In Figure 3, some notes were recorded on questions the user struggled with during the walkthrough. Firstly, whilst commenting was a transferable concept and easy to find, the interpretability was questionable because of the confusing related colors to users and items in the list that were color coded very similarly in such a way where it was not entirely who commented and for what item. Secondly, when creating a new list the nature of the different types of lists have confusing terminology and the user struggles to understand what exactly they’re doing by creating a new list. At the top bar it can be seen that the user seems to be in “Discover Lists” and there are more tabs called “My Lists” and “Shared Lists”. These lists have an unclear relationship between one another. There is also the adjacent “Things to Buy” list which also has an unclear relationship to the “Snacks for Party” list. Lastly, the first and last steps of the walkthrough seemed to be more straightforward with the participant being able to find collaborating users and their information quite easily, and also being able to manipulate and interpret the local lists map easily.

Appendix A

a.1) Conceptual design images:

a.1.1) Conceptual Design #1: Pocket Book

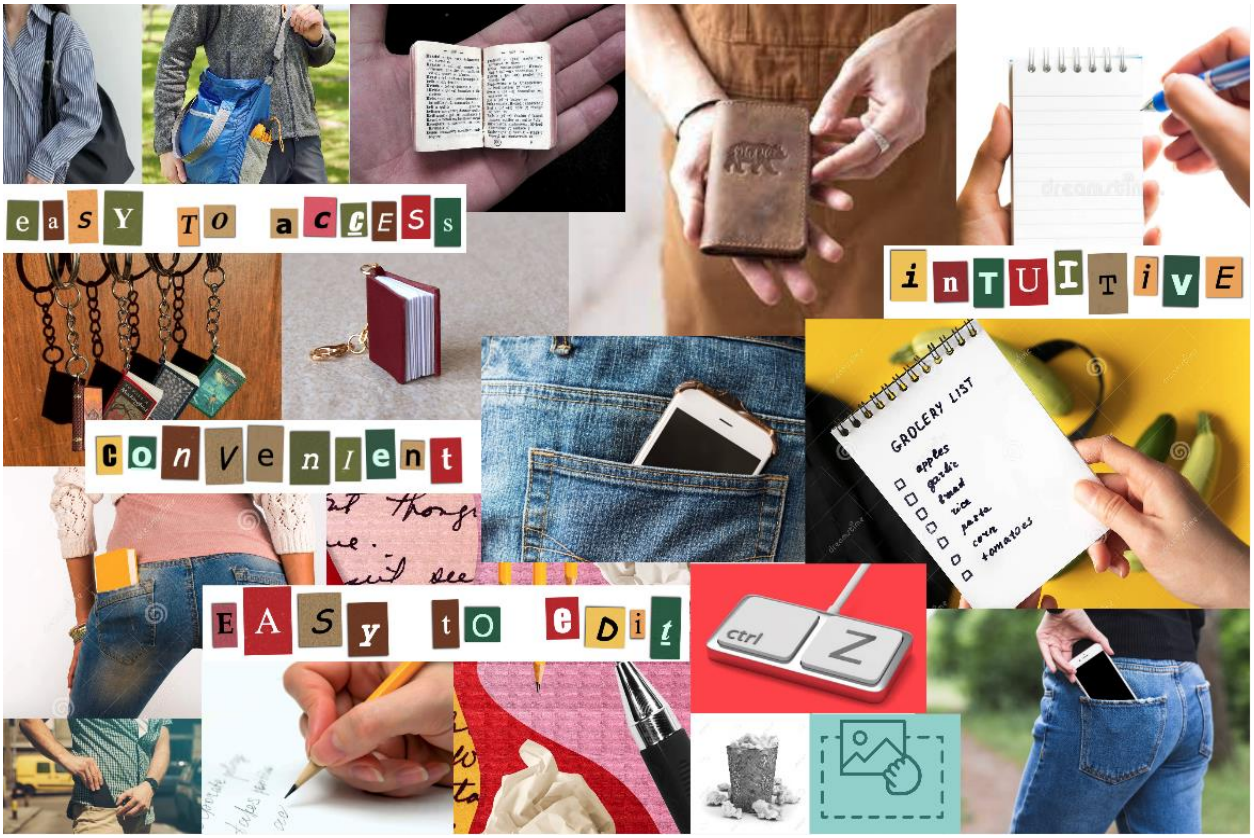

Figure 1: Mood board of metaphors that depict the ease of accessing and editing, convenience, and intuition such as a pocket book, phone, and crossbody bag.

a.1.2) Conceptual Design #2: Community

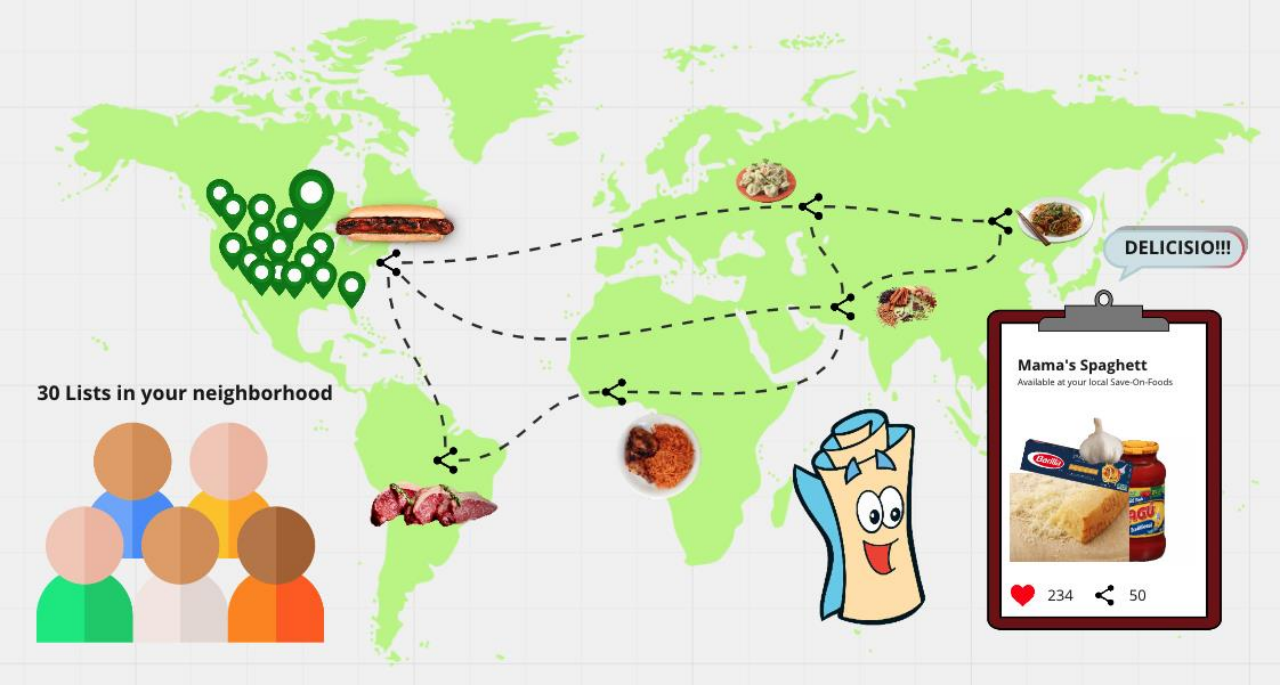

Figure 2: Moodboard of community theme based on a central metaphor of a map that shows the possibilities of social interactions for grocery shopping.

a.2) Lo-fi prototyping videos:

- Video #1: Pocket Book: https://youtu.be/iIifBQvZBWw
- Video #2: Community: https://youtu.be/9CmylIarQbs

a.3) Supplemental Information

Steps	Q1	Q2	Q3	Comments
1. View users	YES	YES	YES	The comments are color coded based on the user color which can be seen at the top of the list. But the list items themselves are also colored in a similar way and this could confuse the user. Although there is a giant plus sign, it is not highlighted and it's not immediately clear to the user how to act. Furthermore, the adjacent "Things To Buy" might be a confusing overlap with the user's understanding of a list.
2. View Comments	YES	YES	**NO**	
3. Create a New List	**NO**	**NO**	YES	
4. Browse Local Lists in the Area	YES	YES	YES	

Figure 3: Community Lo-Fi Cognitive Walkthrough - 3 Questions Approach

Contributions

Name	Contribution	Work hours
Cici Bai	Lofi Prototype #1, Rationale, Cognitive Walkthrough #1	6 hours
Roger Huang	Topic, Requirements, Lofi Prototype #2	6 hours
Vanessa Lee	Conceptual Model #1, Lofi Prototype Video #1	6 hours
Sasha Sokolov	Conceptual Model #2, Cognitive Walkthrough #2	6 hours
Kevin Zhu	Task Examples, Lofi Prototype #2, Lofi Prototype Video #2	6 hours