

2d: Contextual Inquiry Review

Contextual Inquiries:

Many parents are concerned about the nutritional content of the meals they feed their families. These health conscious parents want to plan and shop to provide well-balanced meals consistently. Our group conducted contextual inquiries with three health-conscious individuals to discover their methods and concerns while meal planning and shopping for their families and found that all three experienced similar problems and concerns during this process. The groups all felt that whatever process they used to prepare for their shopping trips was too time consuming, and that a better solution was needed. The participants also expressed frustrations with shopping itself, and that even with considerable preparation shopping is not generally a positive experience.

The first participant observed was Kevin. Kevin is a very health conscious person. He and his wife exercise everyday and take extreme measures to meet nutritional goals. They have specific numbers they strive to reach each day. They have done extensive meal planning before, but found the meal preparation time too consuming. They are interested in delivery meals but they are too expensive. We interviewed in the breakroom at work on lunch. I had Kevin plan a meal for the next night. First, Kevin wrote down he and his wife's goals. For Kevin, he is trying to reach 200/200/50 for proteins, carbs, and fats respectively. His wife wants 100/75/30. After writing the goals down, he wrote down the potential basic combinations in a table and selected the ones that looked appetizing.

The second participant observed was Julie. Julie has a husband Danny and together they have two girls ages 5 and 2. She is a stay-at-home mother who watches her children and provides meals for the entire family. She is physically active and healthy and desires the same lifestyle for her growing family. There were two observations made with Julie. The first involved her talking through her meal planning process that happens with pen, paper, and online resources. The second involved a typical shopping trip to Costco in South Jordan to carry out part of her meal plan. Through these experiences we were able to learn some of her struggles to provide balanced healthy meals for her children.

The final participant, named Jane, is a mother of two children aged 3 and 4. Jane is a full-time graduate student who is frequently worried that she is not providing healthy enough options for her children, and who has very little time to devote towards keeping track of the foods her family consumes. Jane has spent time searching for the a solution to optimize the time she allocates to the problem, but since she hasn't found the solutions she has been looking for she usually doesn't follow a set process and improvises once in the store. This inquiry was conducted at the Whole Foods grocery store at Trolley Square in Salt Lake City with Jane and her two children. Jane had prepared a list, but as her shopping when on she became more likely to add items to her cart which were not on her list, frequently that were both less healthy and took less time to prepare. Jane become more frustrated throughout her shopping trip with the

time she was spending shopping and admitted that much of this frustration was due to her feeling that she needed to compromise between the time she had available to invest in the planning and preparing process and her desire to provide her family healthy meals. Jane's children also became less cooperative as the shopping trip went on, exacerbating Jane's frustration. Jane was ultimately less satisfied with her purchases than she had anticipated she would be, and mentioned that she would like to find a better solution to help her accomplish her goal.

Themes:

A major theme from these three contextual inquiries was that the planning and preparation of meals was taking more time than the participants wanted, or were able, to allocate to the task. During the first inquiry Kevin mentioned that he never feels like he has enough time to consistently plan meals to the degree that he would like, and during the third inquiry Jane frequently expressed that she "just wishes she had more time" to prepare for shopping and to prepare meals at home. Kevin is left with the option of knowing what he wants to accomplish in very fine detail, but not being able to devote the necessary time to follow his goal. Jane is able to provide healthy meals to her family a certain percentage of the time, but is left feeling frustrated that she doesn't do more. An effective design would need to relieve the burden by requiring less time instead of adding more time to the whole process.

Another issue that was found during the inquiries was that the shopping experiences of our participants is generally not an enjoyable one, especially if they were shopping with their children. Julie struggles to make it to more than one grocery store at a time because her children have a small shopping time window in which they will cooperate. Her two-year old threw a temper tantrum and was screaming when she suggested that they stop at a bakery to get a loaf of bread after the first trip to Costco. The atmosphere inside of a grocery store is not exactly relaxed, and our participants who were shopping with their children during the contextual inquiry were frequently distracted by the children, with the result that the parents felt rushed and also felt that this led them to compromise on their food choices more often than they likely would had the children not been there. Both Julie's and Jane's children asked for treats which added unhealthy items to the cart. As these additional items were added to the cart in addition to the planned items the cost obviously rose beyond what had been budgeted during the planning phase.

It was also clear from the time spent with the participants that, while many resources currently exist to help solve this problem, the information that they were looking for is scattered throughout the internet and in magazines and cookbooks. Searching through such a large set of data is a very real challenge, especially when trying to keep specific the needs and desires, like those of small children and of Kevin and his wife in mind, making the planning phase very time consuming. Jane mentioned that she spent about fifteen minutes trying to prepare to shop, and knew she would have needed more to prepare fully. In addition to the complications in planning for shopping is the fact that much of the available information is in a format that is difficult to parse on a smartphone screen, which was the most used tool for the process. A solution designed to minimize these problems would have to take into account the need to present the

needed information in a format that easily consumed on a phone, potentially from within a crowded and distracting location like a store.

Task Analysis Questions

1. Who is going to use the design?

The primary group of users for this design will be health conscious young parents. Secondary groups could be coworkers or roommates who want to plan healthy meals together.

2. What tasks do they now perform?

These groups currently use cookbooks, blogs, social media, magazines, and research studies to plan meals. They shop at grocery stores occasionally and loosely follow these plans.

3. What tasks are desired?

Our users desire something that will help organize their meal planning efforts and ultimately save them time.

4. How are the tasks learned?

The tasks must be simple enough that they can be learned the first time using them. If the system is too complex we are afraid our users will lose interest.

5. Where are the tasks performed?

The tasks should be able to be performed anywhere with mobile devices. This will allow for busy parents to plan meals in any spare time they have, which could include during commute time, waiting for doctor's appointments, in the office, in the kitchen, etc.

6. What is the relationship between the person and the data?

This design allows for heavy interaction between users and their data. The data will help them decide which meals to plan to prepare.

7. What other tools does the person have?

The person using our design will still have their current sources of information to search and meal plan. Our design will allow the planning to happen more efficiently and effectively.

8. How do people communicate with each other?

Our design does not require users to communicate with each other outside of the methods that they normally interact. Every member of a family or group will have access to the group's progress and goals.

9. How often are the tasks performed?

Meal planning and shopping should be weekly or biweekly activities. Meal tracking is an almost daily activity.

10. What are the time constraints on the tasks?

These tasks do not have any particular time constraints. Any effective design will need quick tasks to allow the user to save time. Our small sample from contextual inquiries needed about 15 minutes to plan meals for a week and 30 minutes to shop.

11. What happens when things go wrong?

When our design experiences trouble there will be no major catastrophe. The user will sense that something has gone wrong and may continue performing the tasks on pencil and paper. This will be an inconvenience that causes frustration but it will not cause any damage to the user. Data loss would be the worst consequence, and this could be mitigated with data backup solutions.