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2d: Contextual Inquiry Review

## Contextual Inquiry Participants

We did four contextual inquiries in total to gather data and understand more about our potential users: people who are busy and have a packed schedule. During the contextual inquiry, we followed the master/apprentice approach; we would observe and interview participants in their environment (UW campus, office room, etc.), and share our interpretations with the participants for immediate feedback.

**Brad**, our first participant, is a principal product manager in Concur technologies, who has been working in this industry for over 15 years. His working schedule is packed with meetings, phone-call conference, and he spends most of the time sitting in his workspace, working on his computer. The contextual inquiry took place in his office room, where we sat together and had a casual talk.

Brad is a big fan of biking, and usually spends an hour doing biking everyday. Also, Brad cares a lot about his diet, that he would usually avoid taking food with carbohydrate, and would take a lot of vegetables, fruits, and food with high protein. Brad used to be a coast guard, so he follows a very regular diet and water-intake schedule.

**Richard** is our second participant. Richard is a software developer working at Concur. Richard is a big fan of cool, cutting-edge technologies, and he is also very busy with his work. The contextual inquiry with Richard happened in the common kitchen area in his workplace, where he usually has his lunch and coffee with his co-worker. Richard likes milk a lot, and from his interview results, we can see that he consumes a lot of milk in a day. Richard runs three to four times a week around green lake in the evening after dinner, and has been doing this for many years.

**Avery**, the third participant, is a third-year Ph.D. student at the University of Washington. She is a teaching assistant of an undergraduate class and also participates in several projects, so there are lots of meetings and course arrangements that occupy her daily life. During weekdays she usually spends 7 to 8 hours in her office in UW reading papers, working on her research projects and meeting with her advisor.

Badminton is her favorite leisure activity and she always spends 4 hours playing badminton with her friends on Sunday afternoon (14-18 pm). She also likes to take a 30-minute walk in nearby parks after dinner if there is less work to do in that night. Avery is sensitive to caffeine, so she doesn't drink any coffee, but she drinks a lot of herbal tea.

**Truman**, our fourth participant, is an undergraduate student studying Aerospace Engineering at the University of Washington. He spends most of his time in his dorm studying or playing video games. Truman also works part time as a valet at the W Hotel in downtown seattle. He is quite busy throughout the week with school and work and doesn't exercise much. The contextual inquiry with Truman took place in his dorm room where he drinks water most often.

Truman drinks a cup of coffee and water every morning when he wakes up but only drinks water when he feels thirsty for the rest of the day. While doing homework and when at work, he drinks water to take a little break. Even though Truman does not drink that much water throughout the day, he does not feel like he needs to.

## Contextual Inquiry Themes

Most of our participants are trying to get into a good habit of drinking water and keeping themselves hydrated. Some people were very good at that, while others may need additional tools to remind them and track their progress for them.

According to our contextual inquiry results, the most common thing we encountered is that most people prefer things with flavor over plain water. For example, people would like to have milk, tea, soda, or seltzer water with enhancers when they feel thirsty. Water is the last thing that people think of when their bodies want some hydration. People's drinking habits are very hard to change by a single design, but we can think of this theme from another perspective. The design would be more helpful and useful to people if it recommends some healthy water enhancers that adds color and flavor to water or other healthy beverages (like fruit smoothies, milk, herbal teas, etc.) rather than keeping on reminding people to drink plain water.

Also, almost all the participants have a variety of drinks and beverages to choose from, and their selections are very personal. Most of our participants did not drink only water, or one kind of beverage throughout the day. People may highly prefer one kind of beverage but they would also drink many other types of beverages during the day. This brings up another idea that the design should segment and customize peoples' drink plan. For example, after you finish a 40 minute run, the product should know what kind of energy drink or beverage you usually take after exercise, and remind you to have one to keep yourself hydrated.

In addition, an important theme we found from our contextual inquiry is that most people do not want to be reminded regularly. Three of our interviewees point out that they do not want to be reminded to drink water all the time since they already have enough interruptions in their life. The people we observed are always busy in a day and already have too many schedules and plans, so most of them are sick of notifications and do not want to introduce any more complications. This is very important to our design, and it is totally different from what we have been thinking of before. Therefore, we need to design a better way to "remind" people so that they will not feel interrupted and begin to ignore or disable the reminders.

Finally, another aspect that we thought about and explored was including users that have some illness or condition that is affected by water consumption. Sometimes, drinking water and keeping the body fully hydrated is very important when recovering from a sickness or surgery. It can also reduce the symptoms of a disease or medical condition like eczema. Helping people be more aware of the benefits of water will motivate them to drink more. This does not only pertain to those who need to drink more water for medical reasons. Providing people with the knowledge of the negative effects of dehydration and the benefits of water will show them how to achieve a healthier lifestyle.

In retrospect, we gained a lot of valuable insight into the way people think about and interact with drinking water through the contextual inquiries. Most people enjoy some flavor, or even texture, in their water and also prefer various beverages, like tea or soda, over plain water. Simple reminders are also too intrusive for most people so it would be better to find other ways to motivate them to drink water.

## **Task Analysis**

### **Who is going to use the design?**

This design will be useful to people who usually do not drink enough water each day or often forget to drink water and want to change their habits. The design could also be for people who want to track their drinking in order to monitor their water intake for health reasons. In general, people who want to adopt a healthier lifestyle are going to use the design.

### **What tasks do they now perform**

Most of people do not have a plan for water intake and sometimes feel dehydrated. Usually, they drink more soda or coffee than water. Currently, they have to remember what and how much they drank by retracing their steps for the day, which takes time and is prone to error and bias.

### **What tasks are desired?**

We want people to be able to see how much water they drink in day and for longer periods of time too. We may even give them warnings if they are in a very dehydrated condition. Our overall goal is to motivate people to drink more water.

### **How are the tasks learned?**

Customers need to know where water is available, especially in some public spaces, like schools, parks, and large companies. If people know where to find water, then maybe they will drink more.

### **Where are the tasks performed?**

The tasks should be performed throughout the day at time or place, like at the office, at home, or when exercising. The most effective time for people to be thinking about water is when they are thirsty and want to drink.

### **What is the relationship between the person and data?**

People have to remember how much water they have drunk and how much they still need to drink later to achieve their daily water requirement and keep their body healthy. Also, everyone needs to drink a different amount of water based on his or her body and environmental situation. The amount of water an individual needs varies on their age, height, and weight, their diet and exercise, and the nature of the work they do everyday.

### **What other tools does the person have?**

Some people may have already figured out some ways to track their daily water intake and make sure that they achieve their daily water requirement. An example would be marking their water bottle with time-stamps of when and how much they should drink.

There are also a lot of activity recording applications for smartphones that can log users' daily activities, including water intake, but it heavily requires users to input their data manually, which most users are reluctant to do so.

**How do people communicate with each other?**

We target mainly towards solo users, so most of the time users do not need to communicate with each other. Water consumption data could be shared with friends or family but it is not an essential aspect of the design.

**How often are the tasks performed?**

The tasks are performed whenever our customers either drink or need to drink water, so it depends on individual preferences.

**What are the time constraints on the tasks?**

These tasks do not have any time constraints because our service focuses on recording water-intake activity automatically as well as providing long-term monitoring information.

**What happens when things go wrong?**

Our interview with P3 showed that if people are busy, they will forget to drink water. Also, sometimes people do not remember to bring their water bottle. These will all affect people's water drinking schedule and increase the possibility of dehydration. In the worst case scenario, people might ignore or completely stop using the tool. At this point, knowledge is the best weapon and we can still educate people about water and dehydration.