Smart Showerhead Summary

Team members:

Kaiwen Xu

Xin Su

Linghong Tang

1. **Personal information:**
   - **Age:** 28
   - **Gender:** Male
   - **Academic program or profession:** Computer Science Master Student

   Questions for interviewee:
   - **How long do you take a bath every time?**
     Answer: 5 minutes
   - **Do you have water saving consciousness during shower? If have, how? (like use a water-saving shower head or turn off the water when not use water or use other ways)**
     Answer: Have water saving consciousness, turn off the showerhead when not use water
   - **How long a showerhead you can use generally?**
     Answer: Change another until the old one cannot use
   - **Which aspects when you buy the showerhead?**
   A. **Price B. Appearance C. Practicability D. Decorative E. Brand F. Other**
     Answer: A
   - **What kind of water column would you like during taking a bath?**
     Answer: Fine columnar water
   - **What other functions you want you use during taking a bath?**
     Answer: No requirement

After introduce our product:
- **What did this user say? think? feel?**

This user presented there is another way to save water during shower may more suitable for him, similar to car wash shop, water first about 1 minute, then when the water is stopped, spray shampoo, then water, then body wash. The main problem is because he doesn't take a long time shower just around 5-minutes every day, so he thinks this kind of showerhead is unnecessary to him, he thinks our functions are not suitable for short time shower and cannot save lot of water for 5-minutes shower, our product maybe more suitable for hotels, dorm or some public bath room and can save more water. He likes our automatically turn off function, but he worries about the waterproofing problem of this showerhead and he thinks our product's price is too expensive for him.

2. **Personal information:**
   - **Age:** 26
   - **Gender:** Male
   - **Academic program or profession:** Epidemiology Master Student

   Questions for interviewee:

- **How long do you take a bath every time?**
  Answer: 20 minutes
- **Do you have water saving consciousness during shower? If have, how? (like use a water-saving shower head or turn off the water when not use water or use other ways)**
  Answer: Have water saving consciousness, turn off the showerhead during use body wash
- **How long a showerhead you can use generally?**
  Answer: More than two years until broken
- **Which aspects when you buy the showerhead?**
  A. Price B. Appearance C. Practicability D. Decorative E. Brand F. Other
  Answer: C
- **What kind of water column would you like during taking a bath?**
  Answer: Atomized water
- **What other functions you want you use during taking a bath?**
  Answer: No requirement

After introduce our product:
- **What did this user say? think? feel?**
  This user's raised two main questions, one is our infrared sensor range, because there are a lot of infrared sensors that are not sensitive enough, may easy to break. Another problem is to connect the showerhead and our phone with Bluetooth, he thinks it too bother to open the Bluetooth every day before take a bath, also some people have big house and they may need to take their phone to bathroom or near bathroom during shower, it is not too inconvenient. He suggests we change another connection method can directly get the water flow record like Wi-Fi. And he knows the Bluetooth is cheaper and easier than other connection method, but change a better connection method need more money and he unwilling to buy one. He said our water bill is not expensive in Massachusetts, so he said he is more willing to pay the water bill than buy this expensive showerhead.

3. **Personal information:**
   - **Age:** 23
   - **Gender:** Male
   - **Academic program or profession:** Civil & Environmental Engineering Master Student

   Questions for interviewee:
   - **How long do you take a bath every time?**
     Answer: 15 minutes
   - **Do you have water saving consciousness during shower? If have, how? (like use a water-saving shower head or turn off the water when not use water or use other ways)**
     Answer: No water saving consciousness
   - **How long a showerhead you can use generally?**
     Answer: Until the old one doesn't work
   - **Which aspects when you buy the showerhead?**
   A. Price B. Appearance C. Practicability D. Decorative E. Brand F. Other

Answer: C
- **What kind of water column would you like during taking a bath?**
  Answer: Atomized water
- **What other functions you want you use during taking a bath?**
  Answer: Can listen to music

After introduce our product:
- **What did this user say? think? feel?**

This user's main question is about waterproofness. He said he use a showerhead for several years, so our showerhead' s waterproofness must be very good and can use for several years.

He likes our built-in LED, he said this kind of reminder is very interesting can develop good habits of saving water and he also like to know how much water used every shower.

4. **Personal information:**
- **Age:** 35
- **Gender:** male
- **Academic program or profession:** Professor

Questions for interviewee:
- **How long do you take a bath every time?**
  Answer: 10 minutes
- **Do you have water saving consciousness during shower? If have, how? (like use a water-saving shower head or turn off the water when not use water or use other ways)**
  Answer: Have water saving consciousness, turn off the showerhead when not use water
- **How long a showerhead you can use generally?**
  Answer: Around 4 years
- **Which aspects when you buy the showerhead?**

A. Price B. Appearance C. Practicability D. Decorative E. Brand F. Other
  Answer: A and C
- **What kind of water column would you like during taking a bath?**
  Answer: No matter what
- **What other functions you want you use during taking a bath?**
  Answer: Hope can play music when take a shower

After introduce our product:
- **What did this user say? think? feel?**

This user said our program is very attractive, so people can use this showerhead to control the water flow. But there are two problems. First, the price may be a bit expensive. If the price is cheaper, it should be more popular. We should discuss how to reduce the price. If the problem is solved, it will be a great improvement. Second, about the APP connecting shower-head, for the hardware, it is still very good. But he has a problem about the software, like: what are the things we're targeting? Some older people will use it? Some older people may not understand the fresh product, the adaptation process is very slow, our APP may be a good idea, for some older people will be more difficult? So our design should be simple and convenient for the elderly, including

children.

5. Personal information:
- **Age:** 27
- **Gender:** Female
- **Academic program or profession:** Physics Department PHD Student

Questions for interviewee:
- **How long do you take a bath every time?**
  Answer: 20 minutes
- **Do you have water saving consciousness during shower? If have, how? (like use a water-saving shower head or turn off the water when not use water or use other ways)**
  Answer: No water saving consciousness
- **How long a showerhead you can use generally?**
  Answer: 4 years
- **Which aspects when you buy the showerhead?**

A. Price B. Appearance C. Practicability D. Decorative E. Brand F. Other
  Answer: A and C and E
- **What kind of water column would you like during taking a bath?**
  Answer: No matter what.
- **What other functions you want you use during taking a bath?**
  Answer: Help to wash her

After introduce our product:
- **What did this user say? think? feel?**

This user thinks she is very lazy, she hopes this showerhead has better function. She thinks she doesn't have a sense of the bath to save water, so when she takes a bath she always forgot time. She said our connection to the app function is very good, set the time for user can quickly end the bath, she said she love this function. But she thinks if some people like to delay, wash and forget the time, can we optimize those situations to remind people like by add artificial voice reminder? She thinks adding the artificial voice reminder will make our shower-head alert function more effective.

After interview:
- **What did you learn in your interview and research process?**
- We found that our product maybe more suitable for hotel, dorm or other public bath room. And most of male they don't take a long time shower as female, showering may not hold most of water use in their home. So we need to do more research for how many people really need this kind of showerhead to save shower water. There are still many problems we need to solve like waterproofness problem, calculate how much water our showerhead really can save compare with others showerhead. We need more practice if we want to meet our customer requirements.
- **What surprised you during your research?**
  We surprised some people don't care water in our daily like because the water bills in Massachusetts is cheap. I mean many place in the world are suffering from water scarcity problem, home water waste is a serious problem, we need people get into the habit of water saving. Also we found some people just take a very short shower

every day, we didn't consider this situation before.

- **What are the 3 commonalities you have learned about the user group you're researching?**
  Price; Practicability; Waterproofness
- **Motivations:** Improve people's water saving consciousness; Understand people's thoughts of our products.
- **Needs:** More research for how many people really need this kind of showerhead to save shower water; The actual operation to detect waterproofness; Calculate accurate data: how much water our showerhead really can save compare with others showerhead.
- **Challenges:** Fixed cost; Target User; Waterproofness; Water records for accuracy and completeness.