

## **9713 User Research and Testing, WS2024/25**

### **Observational Study and Task Analysis of Body Temperature Measurement**

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#### 1) Introduction

Research Goal : We want to observe how people measure their body temperature and how to use different thermometers when they need it. This research also helps to identify to users's pain points, common problems or mistakes and use errors etc... But for this study we only focus interviews not the analysis part.

#### 2) User's (participants) location and simple demographic information

These interviews are conduct as a phone call.

First participant :

- Age: 55 years
- Gender: Female
- Status: Retired, mother of a daughter
- Health: Healthy
- Location: Erfurt, Germany

Second participant :

- Age: 24 years
- Gender: Female
- Status: Student, single
- Health: Healthy
- Location: Düsseldorf, Germany

#### Interview 1 :

- 1- Do you have a thermometer ?  
Yes, i have a digital thermometer.
- 2- Can you show me how do you measure your body temperature ?  
I put it under my arm and wait for a while then it beeps. When i hear the beep sound i understand that i can check my temperature. But i do not know how much time it takes. I have used it many times but never thought about it before.
- 3- Where do you store your thermometer (bathroom, kitchen, etc?) ?  
I put my thermometer into my small box next to my bed, since i want to reach it immedialety when i need it. I have a daughter and sometimes she got sick during midnight and i feel safe when its closer and reachable.
- 4- When do you measure it (in the morning or evening) ?  
Most of the time i measure it in the evening because i do not feel tired in the morning. But if my daughter (5 years old) was sick i measure her temperature two times in a day like in the morning and in the evening.

- 5- Are there any specific moments you have been triggered to check your body temperature ?

When my friends are sick i always check my body temperature and sometimes i feel a bit dizzy even though i have no physical problems at that moment.

- 6- Can you explain steps one by one when you measure your body temperature ?

I take my thermometer and open it. Check the little screen and put it under my armpit. Wait for the beep sound and measure it again. Becuase i am afraid of measuring it wrong. And the put it back to the box.

- 7- Do you also have any preparation before you measure it ?

I just check the battery and clean with a special tissue and i bought it from the pharmacy so it is safe to clean with that. Because my other family members are also using it and it has to be clean and precise.

- 8- Do you use Fahrenheit or Celcius, why ?

I always use celcius because i learned it that way and easy for me to understand.

- 9- What Fahrenheit/Celcius should it be ?

I feel a bit stressed when it is over 38. And i tend to take a pill but i do not do this all the time. Sometimes i just make hot herbal tea and try to sleep a bit.

- 10- Have you ever visited an emergency service after measuring your body temperature ?

For myself i have never visited the emergency service but i did for my daughter when she is 2-3 years old. For me it is okay to take some pills and rest a bit but she is my first child so i do not want to make anything wrong and i am afraid of hurting her by interpreting something wrong. At that time i had no idea what should be the normal body temperature for a child.

- 11- Have you ever took a pill after measuring your body temperature ?

Yes, i did this before. But i have never used very strong

- 12- Was there a time you wished for something else, to measure body temperature?

I really hate touching the thermometer at all. I would love to use it without touching it and i know that we have even more digital options looking like a gun. But i am afraid of using it because some of them uses battery and my child can take them of easily. Small digital thermometer can be hidden easily and the battery the cover cannot be opened that much easy. And one more reason is i believe using the gun version digital thermometer is emitting radiation a lot. Some days i feel like i am also an old fashioned woman too.

- 13- Do you prefer digital thermometers or old-fashioned mercury ?

I used to have an old-fashioned version but then i changed with the digital version

- 14- Why do you trust that version ?

Because mercury could be dangerous if we drop it. And i believe we do not need to take that kind of risk just to measure the body temperature.

- 15- Can you tell us a moment when you had a struggle with a thermometer (if there is not any what do you think it would be and why) ?

When my digital thermometers' battery died during covid-19 and there is no chance to go to the store and buy a new one, i had to use the mercury version. So there is no beep sound and the fact that i know how to use them it was a bit stressful. Because using the new version was so easy and even for me i adopted to that one so quickly and forgot the old version.

- 16- Do you have any other medical devices at home ?

We have blood pressure monitor and pulse oximeter. We bought them during covid-19 because i wanted to check my health condition so often.

## Interview 2 :

1- Do you have a thermometer ?

Yes, i have very digital thermometer and i guess it is called the infrared digital thermometers.

2- Can you show me how do you measure your body temperature ?

I just take the thermometer and press the button without touching my skin. There is a screen that shows the body temperature and if your heat is normal the screen shows the green color. Depends on your body temperature it could be red as well.

3- Where do you store your thermometer (bathroom, kitchen, etc?) ?

I put it into the kitchen because there is a cabinet in my kitchen and i put all my medication there. If i need a pill or device, i have to go to the kitchen and check all bags. I put everything randomly.

4- When do you measure it (in the morning or evening) ?

I do not measure my body temperature unless i feel sick. I do not have that kind of habit or something like that.

5- Are there any specific moments you have been triggered to check your body temperature ?

No, i just bought the device on amazon because there was a discount. But then covid-19 happened. I checked my body temperature a couple of times but then i felt so lazy to change the battery and first i thought the device was broken. (it was not broken)

6- Can you explain steps one by one when you measure your body temperature ?

I open the device there is power button. And then i press the button when the device is turned to my forehead. Then it shows the celcius and the green color. I do not make any cleaning because it does not touching my skin.

7- Do you also have any preparation before you measure it ?

I only think about my daily meals. And if i took any pills or drunk something i prefer not to measure it. So my preparation is just thinking my day and deciding whether doing it or not. And maybe i just change the battery if necessary.

8- Do you use Fahrenheit or Celcius, why ?

I use Celcius. Because there is a guideline when you open the box and there were some adjustments. I just followed those steps. For me if it is green i believe my body temperature is normal. So, i can change it but i just do not care about it i can say.

9- What Fahrenheit/Celcius should it be ?

We can use both but for me it is easier to check when its celcius.

10- Have you ever visited an emergency service after measuring your body temperature ?

I have never visited an emergency service because of that. I do not get sick easily so even if my body temperature is high i try to take a shower and take my vitamins. I have never got sick so bad before.

11- Have you ever took a pill after measuring your body temperature ?

I only take my vitamins because i do not want to use any pill without asking a doctor. It would be unsafe i believe.

12- Was there a time you wished for something else, to measure body temperature?

I would like to see my body temperature on my wrist so i bought a smart watch because its easier. I want it then i got it.

13- Do you prefer digital thermometers or old-fashioned mercury ?

I have used an old-version thermometer when i was a child but i remember that it was painful for me to hold the device for a while and i have no idea what it says. I used to ask my mother to explain it for me. So i prefer digital ones.

14- Why do you trust that version ?

For me, the reason is just i do not understand old ones. And they also have mercury which is a bit dangerous if you break. So i also do not know how to clean the mercury. It is easier to not have one.

15- Can you tell us a moment when you had a struggle with a thermometer (if there is not any what do you think it would be and why) ?

When i first bought my digital thermometer, (i bought it from amazon) the interface was chinese like the language and everything. And i was so frustrated for a while. Then i used my Google lens to translate it and then solved my problem. That moment is just a five minute problem for me but when i think about my mother, she might not be able to figure it out and might throw it away instead of me.

16- Do you have any other medical devices at home ?

I just have my smartwatch with me. I use to exercise a lot but after getting into the university i feel a bit tired from the school work so i decided to buy a watch to track my healt especially for my heart rate and daily walkings. But i do not have any other device at all.