

TITLE:
Interaction Design Technology for the Elderly

GROUP MEMBERS:

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Methodology:

How did you design the experiment?

Designing the experiment involved the following steps:

- Defining the questions. We created a questionnaire such that it would help us to know the experience of elders with digital devices other than smartphones.
- Collection of the data. We circulated the questionnaire via google forms.
- Interpretation of the data. Based on the responses we were able to analyze the experiences, shown in the findings section.

Who were the participants?

We circulated the questionnaire amongst elders over 50 years of age. We received responses from participants aging from 50 - 80 years.

How many participants?

A total of 20 participants responded to the questionnaire.

What were the demographics of the participants?

For the demographics, we aimed for elders who had to interact with digital devices other than smartphones (for example, TV, washing machine, etc). We inquired about their experiences, their emotions while interacting with the devices, the ease of operation, etc.

Study Conducted:

1. What was the experiment?

The experiment, designed to explore the perspectives of elderly individuals, utilized a Google Form questionnaire as its primary data collection tool. Participants were asked to provide detailed accounts of their interactions with various digital devices, excluding smartphones, as well as their associated emotions. By gathering experiences and emotions, the study aimed to gain insight into how elderly individuals interact with technology.

2. What was the hypothesis?

The experiment hypothesized that older individuals could encounter issues when interacting with digital devices, due to factors such as motor impairments and other age-related limitations. These challenges may not allow them to engage effectively with technology, potentially leading to difficulties. By exploring these potential issues, the study aimed to gain a deeper understanding of the unique challenges faced by elderly users.

3. What was studied?

We studied the responses given by the participants in the questionnaire with the format as shown below:

Survey Questions

Questions	Type	Options
What age group do you belong to?	Single Choice(Range)	40-50, 50-60, 60-70, 70-80, 80+
How often do you interact with digital devices, except smartphones?	Single Choice	Always, Often, Sometimes, Rarely, Never
What specific tasks or activities do you perform with those devices?	Text	User Input
For each of the devices that you interact with, can you describe your experience with them?	Text	User Input
On a scale of 1 to 5, how easy is it to interact with a digital device?	Scale	1 - 5 Very Difficult - Very Easy
What made it difficult or easy?	Text	User Input
What emotions do you feel when interacting with the devices?	Multiple Choice	Happy, Sad, Excited, Frustrated, Other(User Input)
How do you usually cope with any challenges/difficulties faced when using digital devices?	Multiple Choice	Ask for help from friends or family, Search online for solutions, Experiment and try to figure it out on my own, Stop using the device, Seek alternative devices or solutions, Other(User Input)

Have you ever received assistance to improve your digital literacy? If yes, how did it impact your experience?	Text	User Input
Are there any particular features or aspects of digital devices that you appreciate or enjoy?	Text	User Input
How do you think the design of digital interfaces could be improved to better accommodate your needs and preferences?	Text	User Input
If you don't mind sharing, do you have any physical challenges/health issues that might affect your interactions with digital devices?	Text	User Input

Findings:

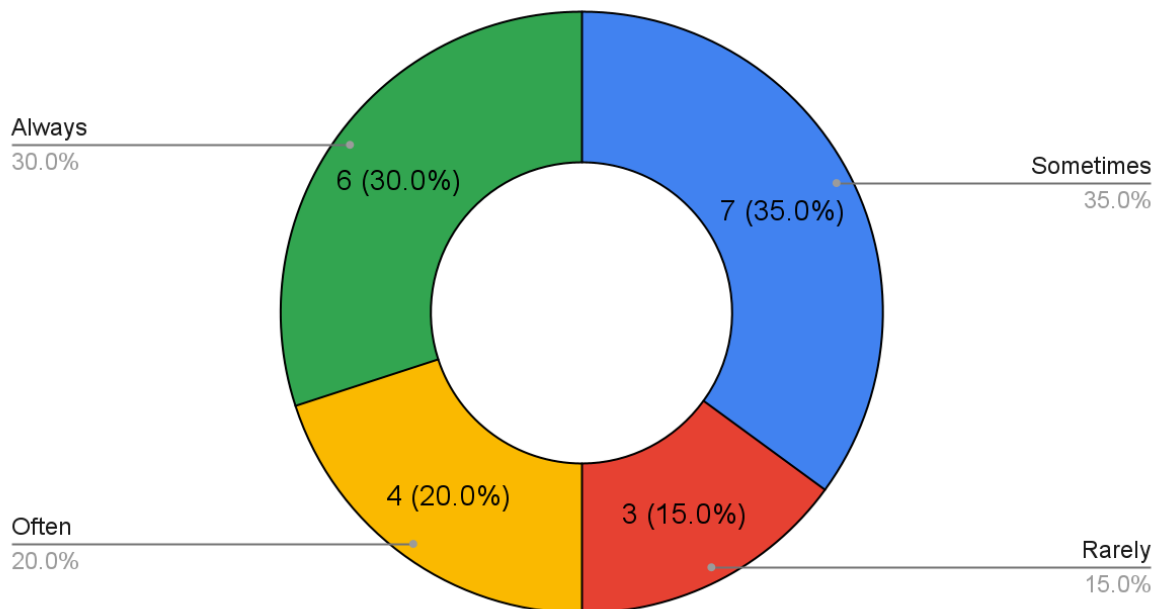
- 1. For each question asked or task given, what did you observe in participants?**
- 2. If there are variables that you recorded values for, use plots to visualize. (for instance, time taken to perform a task)**

Based on the survey (Google Form)

- Frequency of elderly people using digital devices like Washing machines, laptops, and TVs was sometimes in a day.

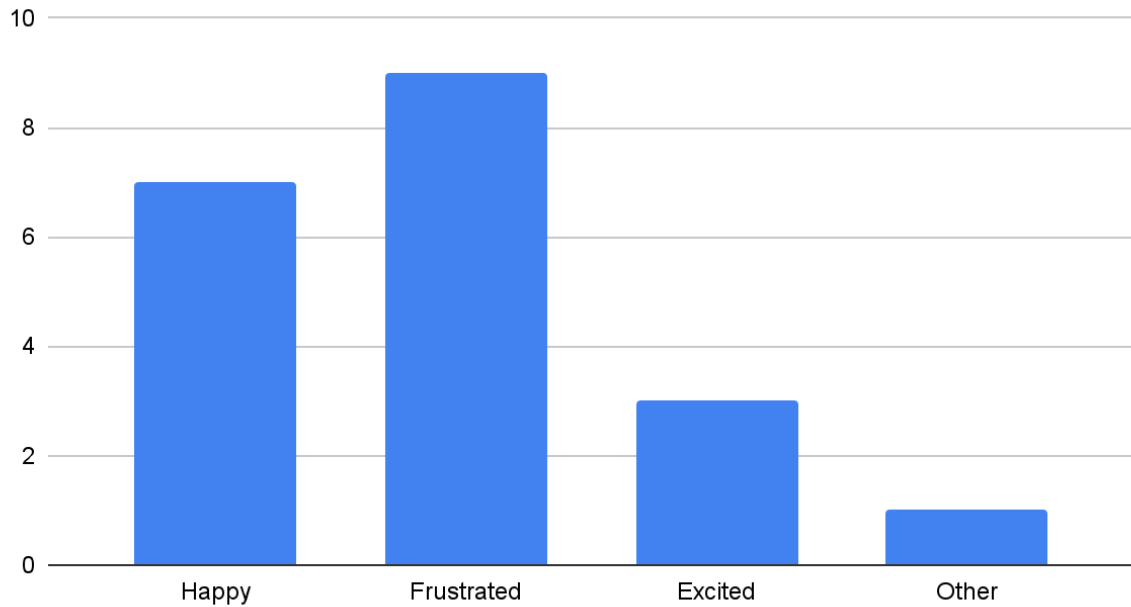
- We can say that most older people use digital devices for various purposes like health monitoring, Entertainment, Assistance in day to day life works etc.
- Elder users frequently interacted with digital devices, as shown below:

Frequency of Interaction with Digital Devices



- The following pie chart shows the emotions felt when interacting with the devices:

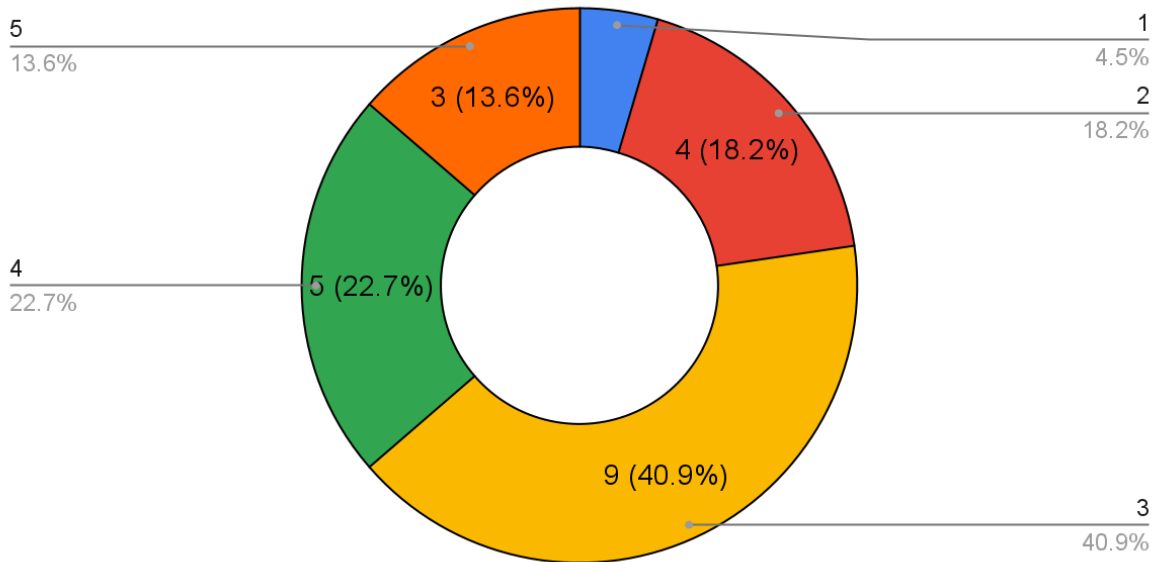
Emotions felt while Interacting



- From responses on google form, we also found out that generally older users ask their friends or family first when they encounter any problems or difficulties during interacting with digital devices.
- We also asked users to tell us how difficult/easy it was to interact with the devices on a scale of 1 to 5, 1 being very difficult and 5 being very easy. The responses are as shown:

Difficulty of Interaction

1 -> Very Difficult; 5->Very Easy



Conclusion:

- Based on the findings from the experiment, it is clear that while elderly users generally have positive experiences with smart devices like washing machines and TV remotes, there are many challenges and areas for improvement.
- The main challenges encountered in modern washing machines and TV controls are complexity (numerous settings and options that can be overwhelming), lack of clear visual feedback (error codes and status indicators causing difficulties in understanding the machine's current state), elderly individuals with mobility issues may face difficulties operating small or hard-to-reach controls and buttons.
- The main challenges encountered with modern TV controls are complexity (overwhelming number of buttons and functions),

small size of text and buttons on these remotes presents difficulties for elderly individuals, especially those with vision impairments, the lack of intuitive design features makes it challenging to navigate menus, switch between inputs, or access advanced functions.

- In conclusion, while smart devices offer essential functions and features for daily living, the challenges faced by elderly users highlight the need for improvements in their interface design. Addressing these issues can enhance the usability and user experience of these devices for elderly individuals.