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COMP2044 Human-Computer Interaction:
Evaluating Interfaces using Cognitive Walkthroughs and SUS

Group 2

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1 Introduction

The purpose of this prototype is to design a mobile application that allows the students and staff at the university to check space availability and reserve space. The application mainly comprises three functions: quick reservation, advanced reservation, and space list. For quick reservations, the user should reserve a space with the least input. For advanced reservations, the user can reserve a space with more details being specified. For the space list, a list of detailed space information is displayed to the users. When the reservation is confirmed, it turns on the navigation automatically to guide the user to the destination.

The objective of this research is to evaluate our application prototype by simulating a realistic experience in user evaluation. The evaluation process is composed of three stages. First, cognitive walkthroughs are performed on the prototype of each group member. One of the prototypes is chosen for a Cooperative Evaluation based on the discussion of cognitive walkthrough findings. Next, six participants in the module are recruited to experience our application prototype. They are asked to complete a SUS form after they use the app. Finally, the results of these SUS forms will be analyzed and used in the evaluation.

2 Methodology

This research was carried out to examine an application prototype that has been developed in Coursework 1 using various methods, which include cognitive walkthroughs, user studies and System Usability Scale (SUS) evaluations. The prototype was presented on an iPad and participants were asked to evaluate its usability via the Think-Aloud Protocol (TAP). In the study, each member of the team performed a particular role, such as taking notes or tracking time spent by participants on tasks.

Participants were obtained from other groups within the module to ensure representativeness. They were briefed about the aims of this research before beginning and requested informed consent.

- Cognitive Walkthrough: Each group member carried out a cognitive walkthrough on different prototypes. This entailed assessing design about how well users can accomplish tasks; it emphasizes usability, learnability as well as overall user experience (Monk et al., 1993).
- User Study: Following the cognitive walkthroughs, only one prototype was selected for further investigation. Participants were asked to perform a series of tasks on the iPad and use their thoughts with the TAP method (Ericsson, 1980). One member of the team led the session, while others took notes and kept track of time. The evaluators

remained passive but occasionally encouraged participants to continue voicing their thoughts to ensure a continuous stream of data collection. This method was previously demonstrated in class with great success (Pike et al., 2014).

- System Usability Scale (SUS): Following the user study, participants completed an SUS questionnaire. This is seen as a standard tool that measures various aspects of system usability for quantitative evaluation. SUS scores were calculated and interpreted against established benchmarks to indicate how usable the prototype is.

The information gathered through cognitive walkthroughs, user studies and SUS questionnaires have been analyzed in depth. Qualitative findings from walkthroughs and TAPs pointed out problems with usability and areas for improvement whilst quantitative SUS scores served as benchmarks against which usability can be measured. The findings have been synthesized to draw comprehensive conclusions about what needs improving in design terms.

To look at how usable the prototype was, we used both numbers and descriptions. We could see what parts were hard or easy for people by watching them and timing them, but we also had a way of comparing this to other things with SUS scores. These two kinds of information let us make more detailed judgments about what the design did well and not so well (Pike et al., 2014).

The study followed ethical guidelines. Before they began, participants were told everything about the purpose of the study, their rights as subjects, and what would happen with any data collected from them. They weren't required to join this trial and could stop anytime without facing any consequences. We did not choose to use full confidentiality of the participants, as this study was carried out among coursemates, we did not find it a critical factor.

3 Results

3.1 Identify the prototype chosen for further evaluation and justify the choice

The prototype created by group member Yuken Low (student ID 20511001) was chosen for further evaluation. This decision was made after considering various convincing considerations. First, Yuken's prototype resembles a modern-day application. It has a chatbot feature to assist users, as well as personalization options like toggling between light and dark mode, language selection, and profile editing. The focus on personalization was able to enhance the usability and accessibility of the app.

Moreover, the prototype clearly demonstrated each stage of the booking process, ensuring smooth navigation for users. Its attractive design can also enhance the overall user experience. The app also incorporates some accessibility features, such as speech-to-text, auditory guidance, and multilingual support to allow users with disabilities to use the app comfortably. In conclusion, these elements collectively contribute to a comprehensive and inclusive user experience, making Yuken's prototype the ideal candidate for further evaluation.

The prototype was evaluated by 6 participants from other groups within the module. After the evaluation, we found that most participants feel that the prototype is user-friendly with a streamlined interface that allows for making quick reservations efficiently. They also feel the design is attractive and does not contain excessive text that will overwhelm users when using the app. Additionally, participants were also impressed with the creativity of integrating a chatbot into the app. The chatbot provides a convenient way for users to access information and support. It helps the user to solve their queries quickly and without hassle. The participants state that this innovative feature has enhanced user interaction and provides a more engaging experience.

However, some participants were not satisfied with the prototype and felt that assistance may needed to operate the app effectively. There is a participant who reflects that the software is easy to use but he thought the homepage was too cluttered and confusing. For example, when a participant was instructed to book a room on the third floor of the library, he selected the incorrect button when choosing the location. It seems that the icon used in the software to represent the location is confusing, leading users to make wrong decisions when booking rooms. This confusion suggests that the user interface may need to be simplified and require clearer icons to prevent mistakes and improve the user experience.

Next, The current design of the app's time selection bar is confusing users. When the user wants to select the time to book the room, one needs to scroll down through the time options as it does not have enough place to display all the time in the app. However, the interface does not show that there are more options of time available off-screen clearly. Some participants were confused and believed that there were only a limited number of time slots that could be chosen. They suggested that the prototype should have a visible slider or indicator to suggest that scrolling is possible.

Furthermore, when a participant was tasked to book a room equipped with a TV in PB, one encountered difficulties in navigating back to the main interface after selecting the room's feature on the advanced filtering page. This suggests that the interface design does not provide a clear or intuitive way to guide the user to return to the previous page. The design of the booking system may require some improvements to ensure users can easily

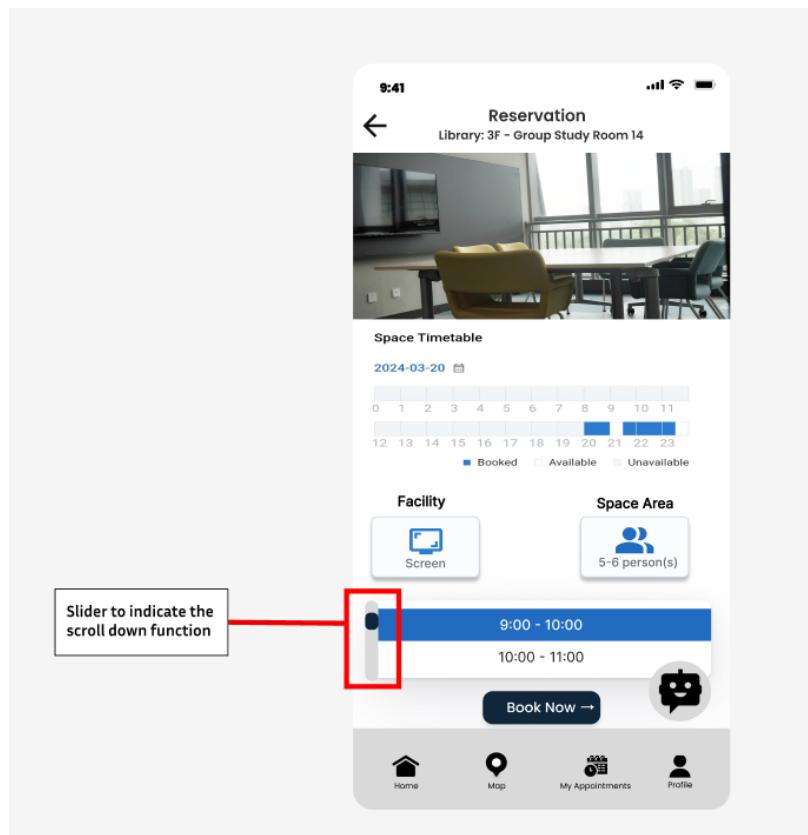


Figure 1: Improvement of prototype after a suggestion from the user (slider function)

navigate through the booking process without encountering obstacles or confusion. The participant has suggested that the advanced filter page may include a back icon on the top right of the to prevent users from getting stuck on this page.

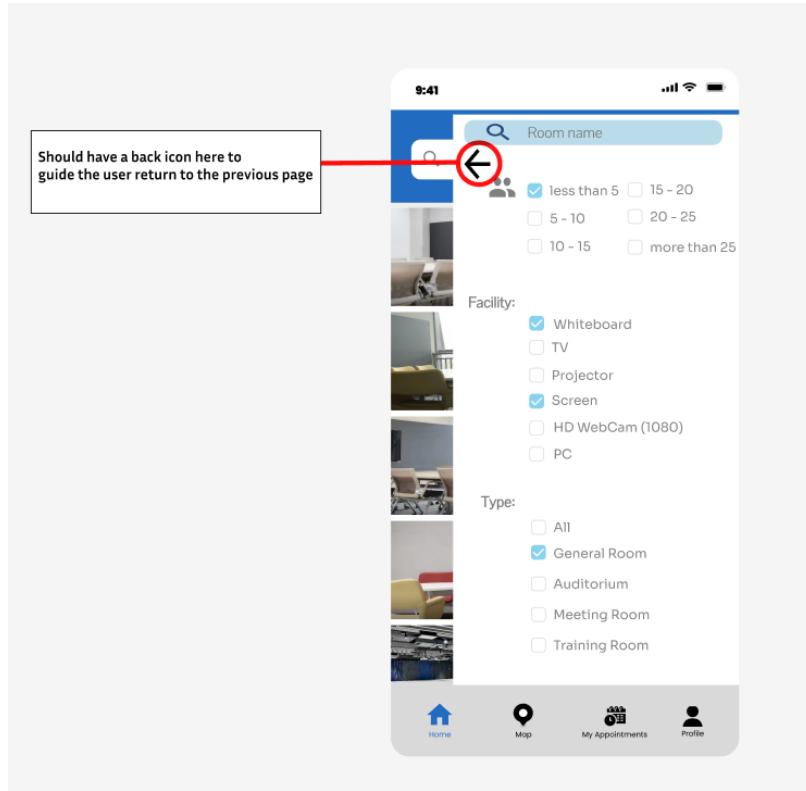


Figure 2: Improvement of prototype after a suggestion from the user (back icon)

3.2 Present the results of the collaborative evaluation and the SUS

After the six non-group participants in this course completed the prototype trial simulation process, they all actively and cooperatively completed the SUS (System Usability Scale) overall evaluation questionnaire with the assistance of the group members. The SUS questionnaire in this group has a total of ten 10 questions, including positive statements for odd-numbered items and negative statements for even-numbered items. Participants are required to rate each question after participating in the simulation process. Ratings range from 1 to 5 (integers), with 1 representing a strong disagreement with the statement and 5 representing a strong agreement with the statement. After all ten questions have been answered, the scores for all questions are added up and multiplied by 2.5 to obtain an SUS score that reflects the overall usability of our group's product as perceived by this participant. The ten SUS questionnaire questions set by our team for this software simulation process are as follows:

1. I think that I would like to use this system frequently.
2. I found the system unnecessarily complex.
3. I thought the system was easy to use.
4. I thought that I would need the support of a technical person to be able to use this system.
5. I found the various functions in this system were well integrated.
6. I thought there was too much inconsistency in this system.
7. I would imagine that most people would learn to use this system very quickly.
8. I found the system very cumbersome to use.
9. I felt very confident using the system.
10. I needed to learn a lot of things before I could get going with this system.

The SUS questionnaire is shown in the figure. (See Figure 3)

Question					
	1	2	3	4	5
Strongly disagree					
1. I think that I would like to use this system frequently.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I found the system unnecessarily complex.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I thought the system was easy to use.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I think that I would need the support of a technical person to be able to use this system.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I found the various functions in this system were well integrated.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I thought there was too much inconsistency in this system.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I would imagine that most people would learn to use this system very quickly.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I found the system very cumbersome to use.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I felt very confident using the system.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I needed to learn a lot of things before I could get going with this system.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strongly agree					

Figure 3: SUS questionnaire

Based on Figure 4, the first participant agreed that he would want to use this system frequently and did not feel that our system design was unnecessarily complex. However, he encountered some problems during the simulation process and may needed help from a technician when using the prototype. He felt that some of the system components did not integrate well with each other when using the system, but the entire usage process was very smooth. He believes that most people can quickly learn how to use our system. However, he

was still not sure whether using our system would require a lot of advanced preparation. His final SUS score was 62.5 and was rated Grade D. He may feel that our system is relatively not bad.

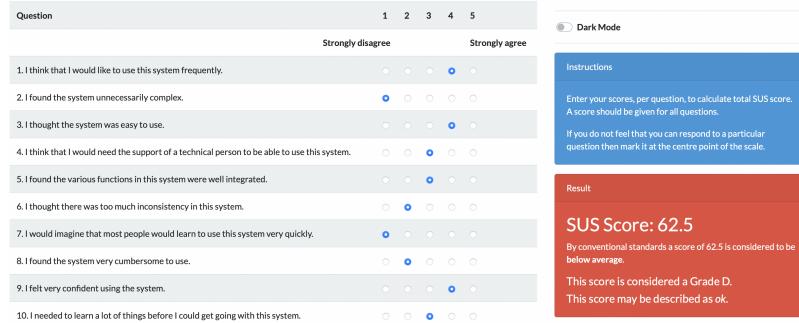


Figure 4: first participant

As reflected in the SUS questionnaire (See Figure 5) filled out by the second participant, he was not very satisfied with the system. He was not very enthusiastic about using the system and felt that the system design was unnecessarily complex. Therefore, he only gives the average marks for the system. Moreover, he felt that he did not need the assistance of technical personnel when using the system, and the functions in the system were well connected. He believed that most people can quickly learn how to use the system. He strongly disagrees that the system is cumbersome to use. He is confident when using the system and believes that users do not need to have some advanced knowledge before using the system. His final SUS score was 65, rated Grade D. He felt that the system was above average.

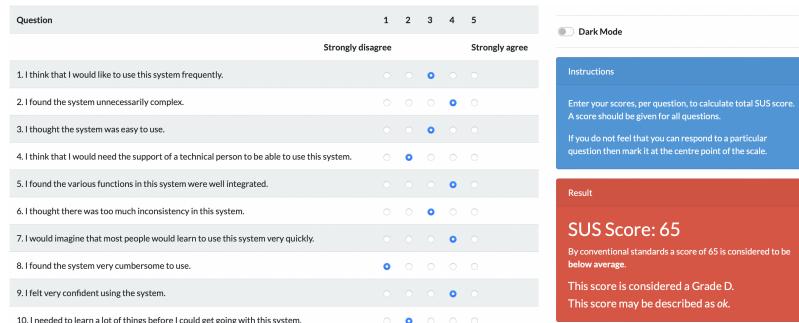


Figure 5: Second participant

The third participant stated in the SUS questionnaire (See Figure 6) that he would like to use our system frequently and does not feel that the design of our system is unnecessarily complex. He felt that he did not need the help of technical staff to use the system, but the

interaction between the functions in the system was relatively mediocre. He felt that the system component did not have a strong connection and led to confusion when using the system. In his opinion, most people can quickly get started using the system. He was very confident in using the system and did not think that the system was cumbersome to use. His final SUS score was 75, rated Grade C, and he felt that our system was well designed.

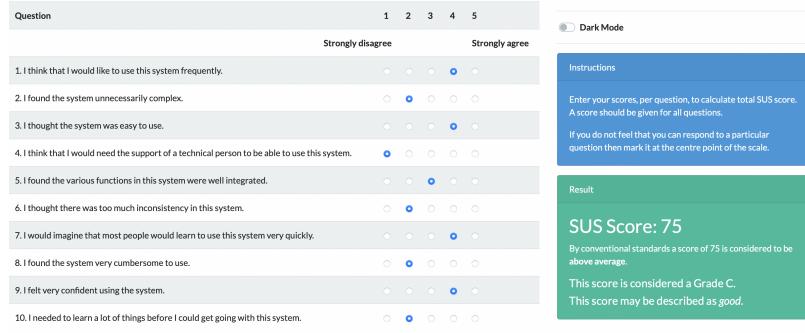


Figure 6: The third participant

The fourth participant's SUS questionnaire (See Figure 7) shows that he would like to use our system frequently. However, he has no idea that the system is easy to use or unnecessarily complex. However, he was able to figure out that he did not need a technical person to help him when using the system. He did not get a good experience when using the system and felt that the functions in the system were not well integrated. He is not confident that most people can quickly learn how to use the system. He did not feel that our system was very cumbersome, but he needed to prepare in advance before using the system. His final SUS score was 57.5, rated Grade F.

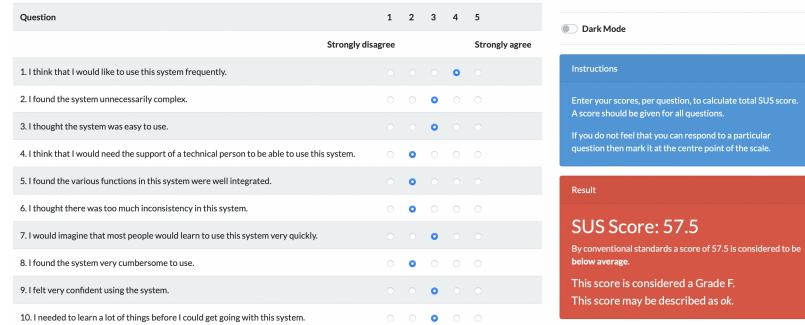


Figure 7: The fourth participant

Figure 8 shows the SUS questionnaire of the fifth participants. The fifth participant has the same opinion as the fourth participant who does not have any idea about the complexity of the system. Unlike other participants, the fifth participant believed that he

needed help from technical staff when using the system, possibly because he felt that the cooperation between the various functions of the system was not well designed. He held a neutral attitude towards the description of two issues: "6.1 thought there was too much inconsistency in this system." and "7.1 would imagine that most people would learn to use this system very quickly." He did not find it cumbersome to use our system, but he was not confident and needed to prepare in advance when using the system. His final SUS score was 50, rated Grade F.

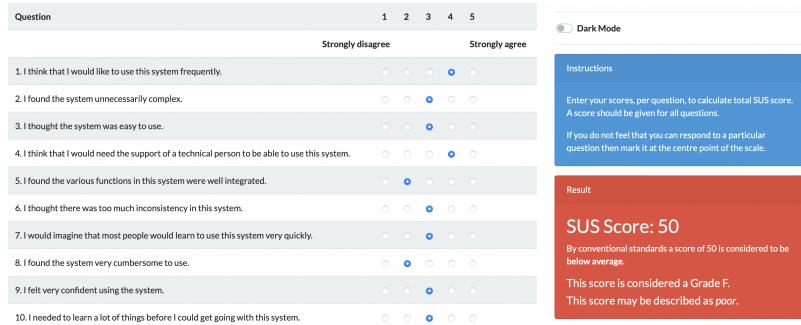


Figure 8: The fifth participant

The last participant's SUS questionnaire (See Figure 9) reflects that the last participant is not very enthusiastic about the system and thinks that the system is a bit unnecessarily complicated. He is not satisfied with the ease of use of the system but still able to use the system without help from the technical person. He believes that the functions in the system are well integrated and give a good impression to the user. However, he is not confident that most people can quickly learn how to use the system. At the same time, he does not feel that the system is cumbersome or easy to operate. He does not feel that someone needs to make a lot of preparations before using the system. His final SUS score was 52.5, rated Grade F.

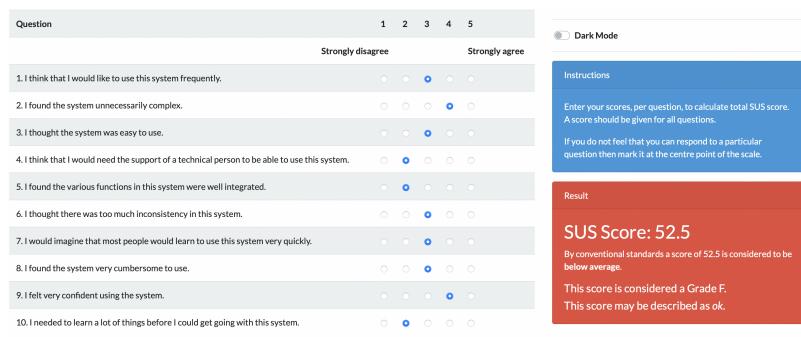


Figure 9: The last participant

Above is the presentation of the SUS questionnaire that was obtained from the six participants. Based on their SUS questionnaire, the system was scored below average and improvement is needed in the future. Through these SUS questionnaires, we can scientifically quantify user experience and facilitate our subsequent product improvements.

4 Discussion

By collecting everyone's evaluation of the use of the prototype, the team conducted statistics and analysis, and finally came up with the results. We conduct an in-depth analysis of the results combined with the prototype. This section describes the team's analysis of the results and summarize effective suggestions for changes to the prototype. Following is the analysis and the recommendation of the prototype.

4.1 Analysis of the results

First of all, judging from the users' ratings of the prototype and the prototype as a whole, it can be seen that the prototype has been designed in detail in terms of personalization and accessibility, and conforms to the concept of accessibility. It provides auxiliary functions such as chatbot, light and dark mode switching, language selection and other auxiliary functions to meet the different needs of users and convenient user to use the software. These features not only make the application more convenient but also improve accessibility so that users with disabilities can use the application comfortably (Ferri & Favalli, 2018). Secondly, the prototype well demonstrates the functions of each interface, which can ensure that users understand the functions of the software and use them smoothly. For example, the chatting robots can help people find the fittest room meet their require. Judging from the users' ratings, they think the design of the prototype is attractive enough. Most of user thought it is easy to use and need no help from others to book a room. In addition, the auxiliary functions of the prototype can well meet their needs.

However, from the user's perspective, the prototype also has some problems. Some users think that the interface functions are a bit complicated, which prevents users from finding the functions they need in time, leading to wrong operation. For example, when selecting a room location, some participants selected the wrong button due to confusion over interface icons. Although this situation only This shows that the interface needs more simplified and clear icons to ensure users use it correctly (Peterson & Berryhill, 2013). Judging from the results, the design of the time selection bar also has some shortcomings. In the design of the prototype, to ensure the system simplicity and intuitiveness, there are only two time slot options showing on the screen, and the rest of options can be seen by scrolling down. But there is no sign which can show that there are still some options available off the screen.

Thus, this caused confusions for participants to choose the time. In their first views, they thought the time slot choices are limited. So after discussion, we thought we should add slider-like function keys to further ensure user usage. Some participants were unable to return to the previous interface while using the software. This reflects the lack of clear and unambiguous design of the interface. In actual use, users should be able to easily return to previous pages without getting confused or lost due to the complexity of the interface. The interface should be improved accordingly to ensure that the interface is well connected and gives users a good experience.

From the analysis of participants' scores, it can be seen that the design of the system is clear and logical, allowing users to have a good hands-on experience. Users generally use the system smoothly and take reasonable time, which reflects that the system has made certain achievements in user-friendliness. And users also have good feedback on the system's auxiliary functions. Moreover, from a broader perspective, while the system has been generally well-received in terms of its clear and logical design, allowing users to engage effectively and efficiently, there are indications that occasional assistance from technical personnel is required. This suggests that while the system is largely user-friendly, there are aspects that could be improved to reduce dependency on technical support, thus increasing user autonomy. Looking forward, the development team should focus on streamlining the interface and making it more intuitive. This could involve conducting further usability testing to pinpoint specific areas of confusion or difficulty. Feedback mechanisms could also be integrated more seamlessly into the application, allowing users to report issues in real-time, which would provide valuable insights for continuous improvement. Additionally, enhancing the system's educational components to better guide users through its features could mitigate some of the issues encountered. Tutorials or guided tours at the start of the application use could help familiarize users with the interface and reduce the learning curve. In conclusion, while the prototype has demonstrated its strengths in accessibility and function, the design and interface need refinement to improve usability and user independence. By addressing these issues, the system can evolve into a more complete and efficient application, better serving its user base and potentially extending its reach to a wider audience. Further research into user interaction and feedback will be crucial in guiding these enhancements, ensuring that the application not only meets but exceeds user expectations in future iterations.

4.2 Recommendations for improving the design

To avoid the risk of users accidentally clicking the wrong button, add some description of the usage of the button when the mouse stay at the button for few seconds without clicking it. Furthermore, replacing old version button symbols with clearer, more intuitive icons will enhance user comprehension and interaction with the interface. To improve usability

and make the interface not so crowded, increasing the size of buttons, text, and graphical elements is recommended. This change can be balanced by a reduction in the density of information displayed on each page, preventing the software from appearing too cluttered and overwhelming to users. Incorporating ample blank space around interactive elements and between sections of content can significantly improve the visual appeal of the interface, creating a cleaner, more user-friendly environment. It not only improves the flow of information but also enhances the focus of users' attention and improves readability of the interface. In addition, to streamline the process of booking a room, several enhancements can be made. After a user presses the 'book now' button, they should be directed to a page where they can enter their details and adjust the booking time as needed. Placing the day selection and time slot buttons in close proximity will facilitate a more intuitive selection process, making it easier for users to choose their desired time without confusion. This arrangement ensures a user-friendly booking experience, promoting efficiency and satisfaction.

5 Conclusion

In conclusion, the evaluations have been made to examine the usability of an application prototype. The evaluations were simulated on a realistic experience by recruiting six participants to evaluate the prototype through the Think-Aloud Protocol, accompanied with cognitive walkthroughs, user studies and System Usability Scale(SUS) evaluations. All the information gathered from the evaluation process was analyzed. The results of user ratings show that the system performs well on the personalization, accessibility and function demonstration in each interface. However, the results of SUS scores show that the prototype performance is below the average, and it needs to be further improved. Thus, some suggestions are provided to perfect the system usability.

6 Reference

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7 Appendix

7.1 Statistics on the time spent by users

Statistics on the time spent by users is shown in the table.

Interfaces	Avg. Time in Sec.
Login Page	16
Home Page (Search)	44
Booking Page	33
Booking Confirmation	7
TOTAL	101

7.2 SUS Questionnaires

Question	1	2	3	4	5	
	Strongly disagree				Strongly agree	
1. I think that I would like to use this system frequently.	<input type="radio"/>					
2. I found the system unnecessarily complex.	<input type="radio"/>					
3. I thought the system was easy to use.	<input type="radio"/>					
4. I think that I would need the support of a technical person to be able to use this system.	<input type="radio"/>					
5. I found the various functions in this system were well integrated.	<input type="radio"/>					
6. I thought there was too much inconsistency in this system.	<input type="radio"/>					
7. I would imagine that most people would learn to use this system very quickly.	<input type="radio"/>					
8. I found the system very cumbersome to use.	<input type="radio"/>					
9. I felt very confident using the system.	<input type="radio"/>					
10. I needed to learn a lot of things before I could get going with this system.	<input type="radio"/>					

Figure 10: SUS questionnaire

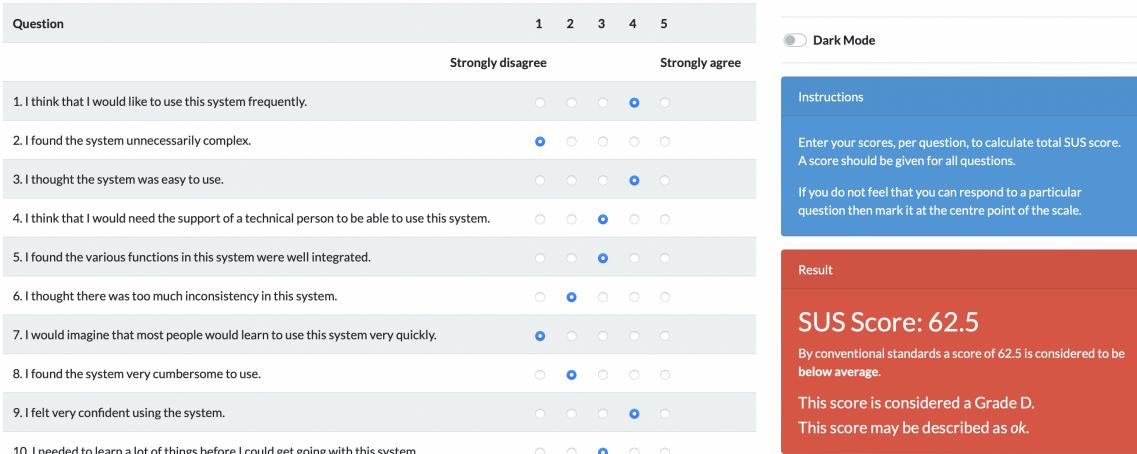


Figure 11: first participant

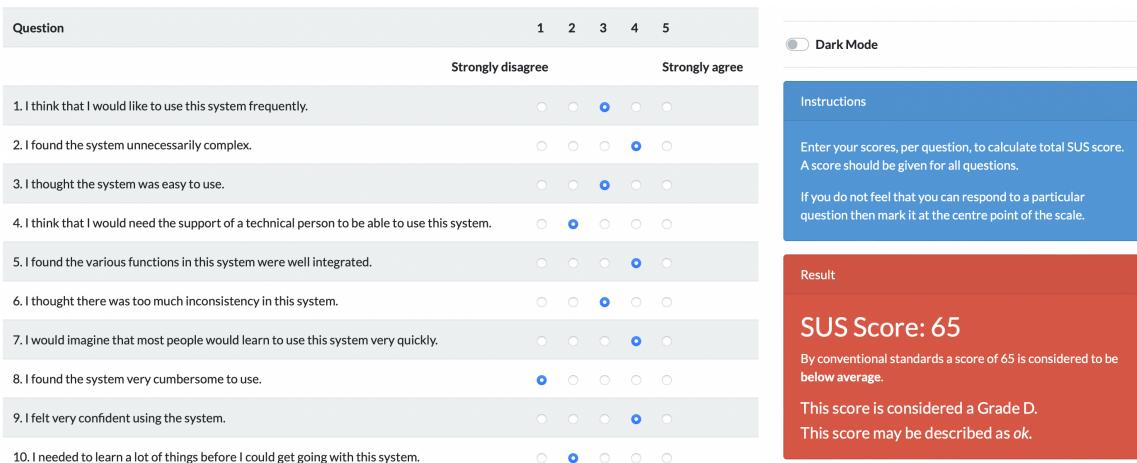


Figure 12: Second participant

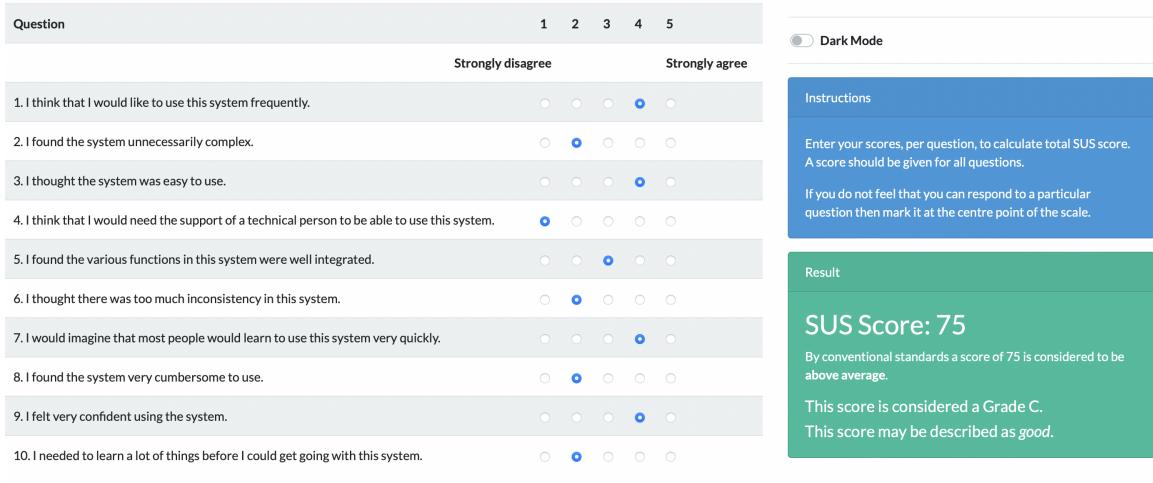


Figure 13: The third participant

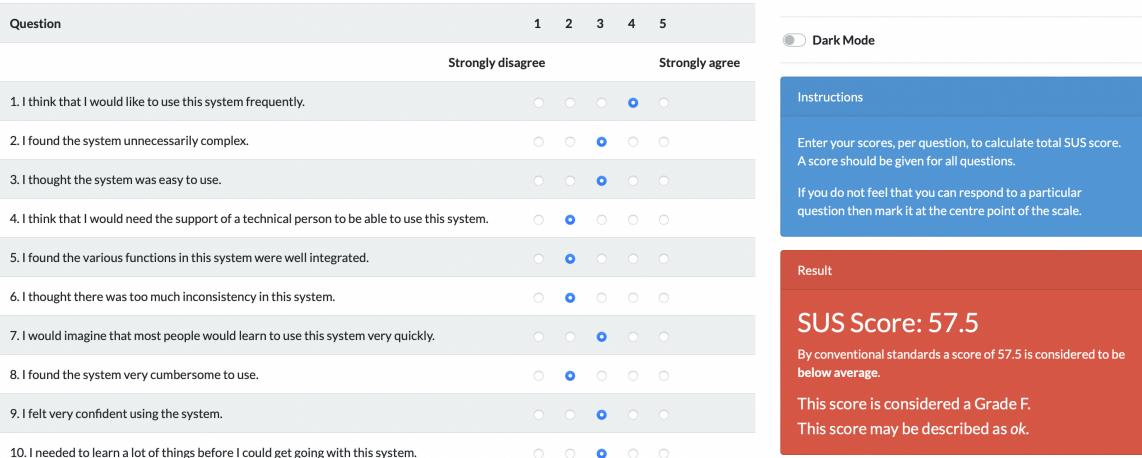


Figure 14: The fourth participant

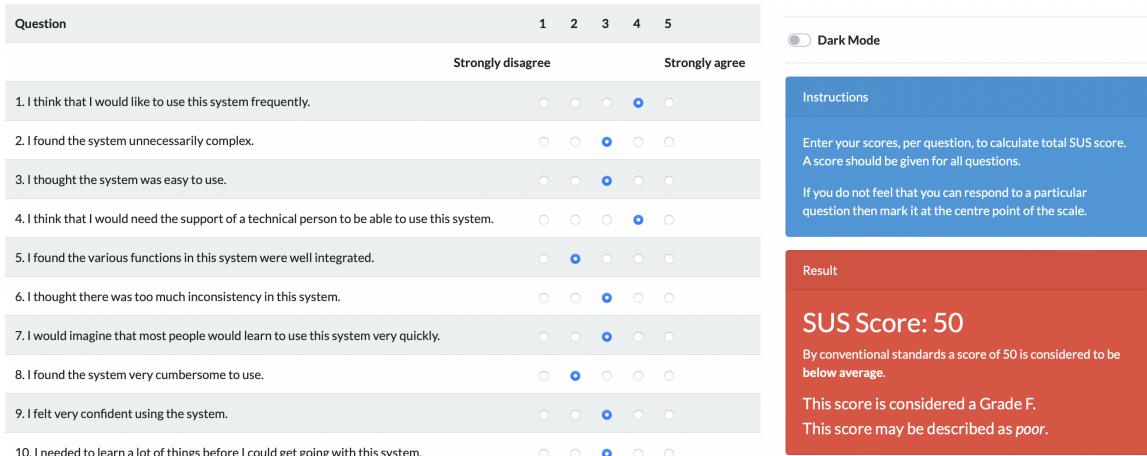


Figure 15: The fifth participant

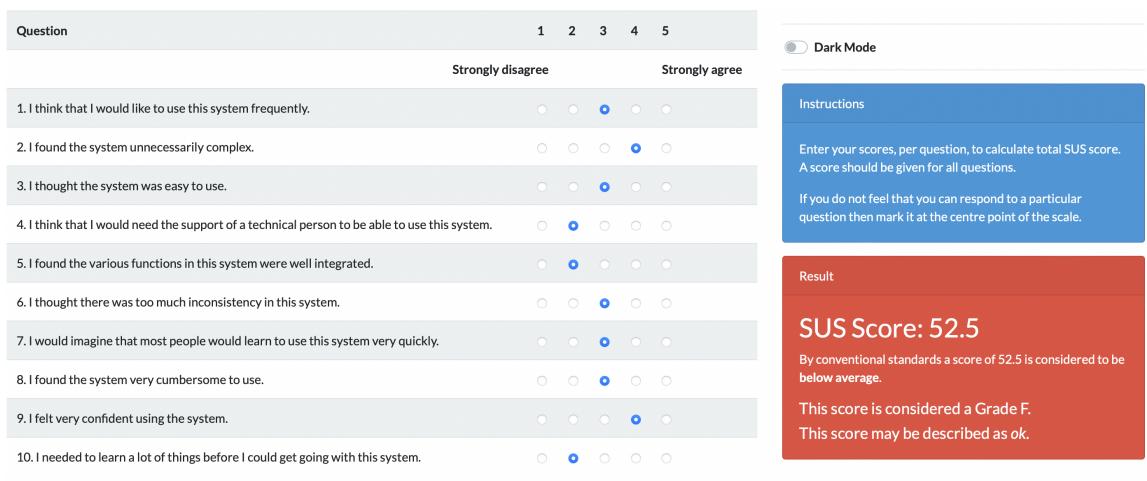
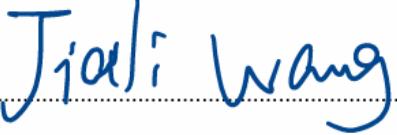


Figure 16: The last participant

7.3 Consent Form

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed  (participant)

Print name Date 

Figure 17: Consent form 1

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed *Xiaojie XV* (participant)

Print name *Xiaojie XV* **Date** *4.22*

Figure 18: Consent form 2

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed  (participant)

Print name **MATTHEW PIKE** **Date** **22 APR 2024**

Figure 19: Consent form 3

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed *Tianping LU* (participant)

Print name *Tianping LU* **Date** *2024. 4. 22*

Figure 20: Consent form 4

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed  (participant)

Print name **Nicholas Lee** Date **22 April 2024**

Figure 21: Consent form 5

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that the interview/data collection [*omit as appropriate*]. will be recorded/filmed [*omit as appropriate*].
- I understand that data will be stored in accordance with data protection laws.
- I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

Signed  (participant)

Print name *Anson Lee* **Date** *4/22/2024*

Figure 22: Consent form 6

7.4 Study Notes

1. A user was instructed to book a room in PB for Friday. They navigated the software proficiently and explored all prototype pages, although it was not expected. He mistakenly clicked the 'Appointment' button while attempting to book the room.
2. A user needed to book a room in PB on Wednesday. their usage was nearly flawless, and he interacted with the anticipated pages without misclicking any buttons.
3. A user was tasked with booking a room equipped with a TV in PB for Friday. He encountered difficulties exiting the interface after selecting the room's functionality

and found the process of choosing a book date to be complex.

4. A user was asked to book a room in TB and managed to use the software smoothly. However, he felt that assistance was needed to operate the software efficiently.
5. A user had to book a room in the library and found the software easy to use, but he thought the homepage was cluttered.
6. A user was instructed to book a room on the third floor of the library but pressed the incorrect button for selecting the location. He believed that the button for choosing room functions could also be used to select the room's location.

7.5 Provide evidence of group work

Communication method: WeChat App, Workshop

Meeting Environment: Class time, Meeting rooms and online calls

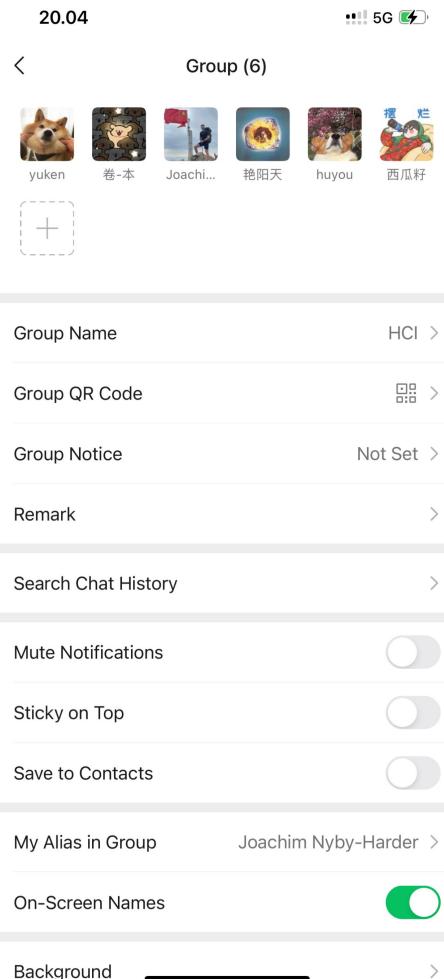


Figure 23: WeChat Group



Figure 24: Booking Room1



Figure 25: Booking Room2

Progress of our group work

Discussion content	Method
Each group member perform a "cognitive walk-through" of one other group member's CW1 prototype	Workshop
As a group, select one prototype for a Cooperative Evaluation	Workshop
Discuss division of labor of CW and SUS	Workshop/Meeting
Discuss the division of labor among various parts of the report	Workshop
Report content editing discussion	Wechat
Final review of report	Wechat