Inspection Evaluation

Dementia Support App

System Designed by:

Shawn, Alex, Sooria, Syazwan (Group 4)

System Reviewed by:

Lionel, Joel, Dishika, Zhan Liang

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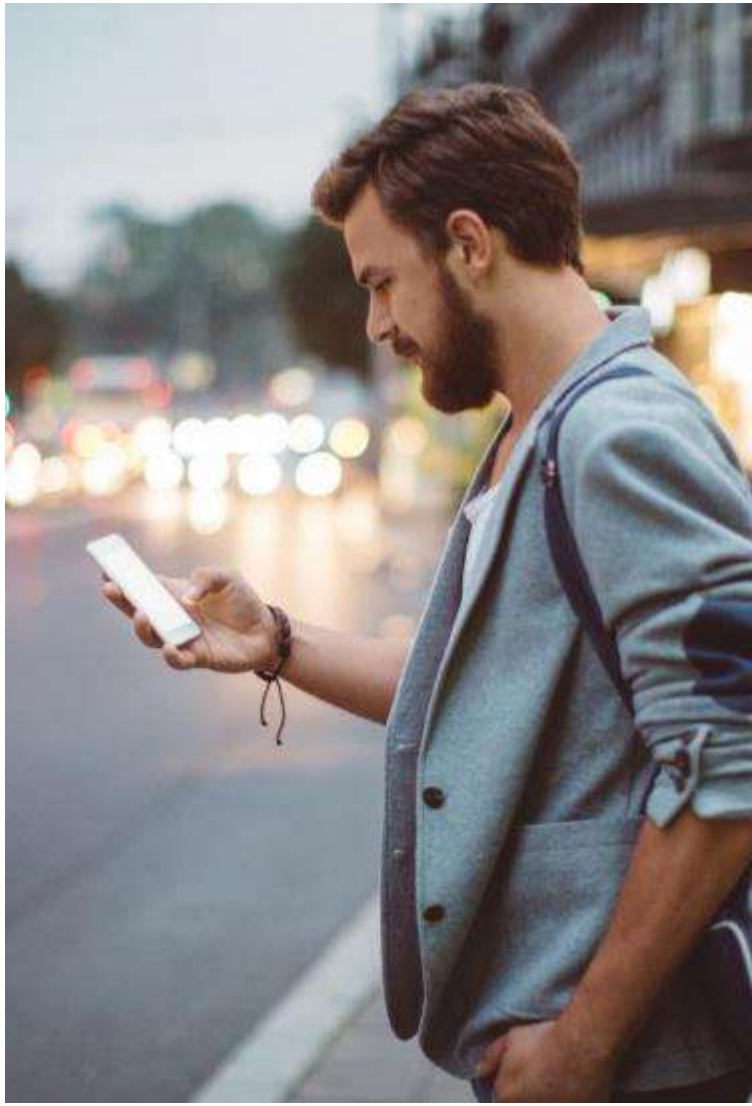

Executive Summary

Heuristics are used by experts to determine whether an app meets the interactive guidelines for users. It is important in the interactions of apps because it helps user have a seamless experience and navigate through the app easily. In this evaluation, 4 of Jakob Nielsen's heuristics will be used.

In addition, to the heuristics, specific usability guidelines have been included as inspection metrics of the evaluation. In addition, 4 usability metrics will be used.

Key Heuristics

- User Control & Freedom
- Consistency
- Efficiency
- Minimalist Design

Key Usability Metrics

- Effectiveness
- Efficiency
- Learnability
- Satisfaction

Jakob Nielsen 10 Design Heuristics

1. Visibility of system status -

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

2. Match between system and the real world

The system should speak the users' language, with words, phrases and concepts famil-iar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

3. User control and freedom

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support “undo” and “redo”.

4. Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

Jakob Nielsen 10 Design Heuristics

5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

6. Help users recognise, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

7. Recognition rather than recall

Make objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

8. Flexibility and efficiency of use

Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Jakob Nielsen 10 Design Heuristics

9. Minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

10. Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

Tasks

- Try to pair device and bracelet under 2 mins
- Try to understand what the app is trying to tell you through the layout and information provided without being distracted by unnecessary details.
- Try to navigate through the app without confusion or many mistakes. Comment whether font sizes, color, icons are consistent throughout
- Try to interact with different functions of the app and able to undo/redo options if a mistake is caused and not seek external help.

Prototype Review

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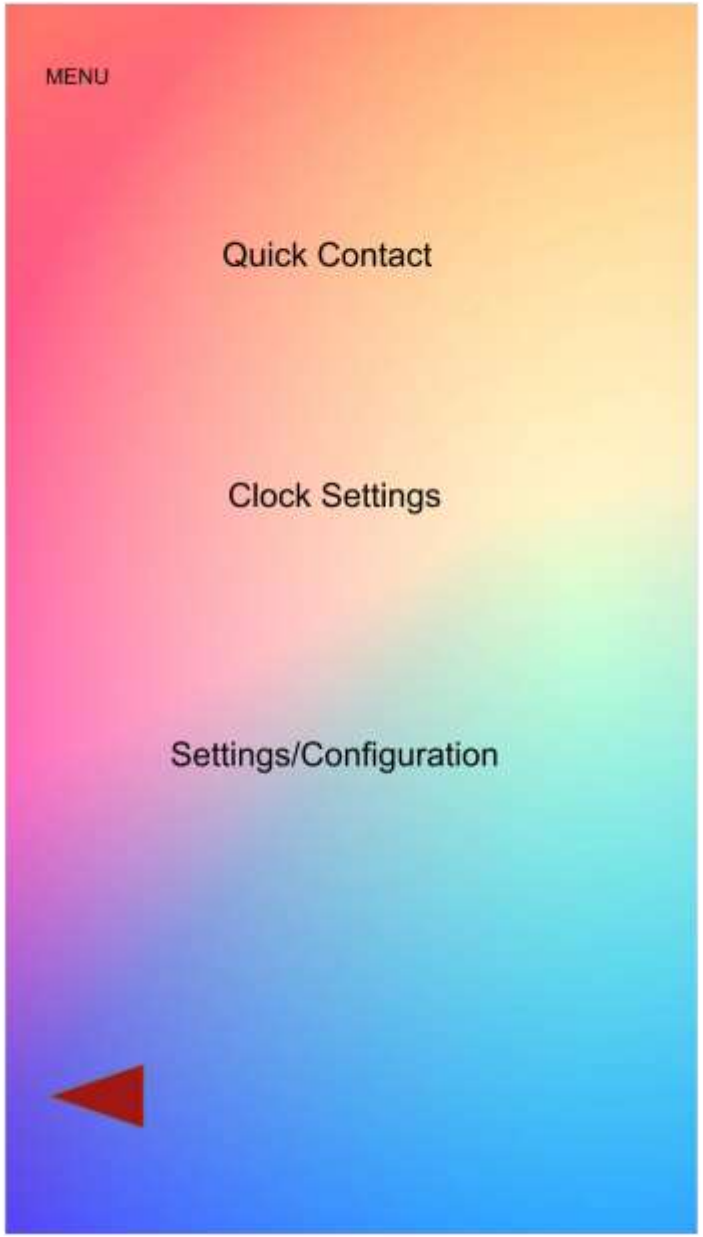


User Control & Freedom

Tasks:

“Try to interact with different functions of the app and able to undo/redo options if a mistake is caused , and not seek external help. .”

User Control & Freedom

Negative Report

Negative report because there are no “exits” for the user to correct their mistake if they accidentally trigger a function by mistake. Does not provide undo/redo options. This will cause users to seek external help which may take time to correct their mistake. Lastly, dementia patients are prone to making mistakes so this factor should be taken into account.

Scope of Problem – All pages.

Severity of Problem (Low,Mid,High) –

Mid, Minor problem - Low Priority Fix.

Severity Categories –

Frequency: Rare

Impact: Difficult to Overcome

Persistence: Ongoing problem

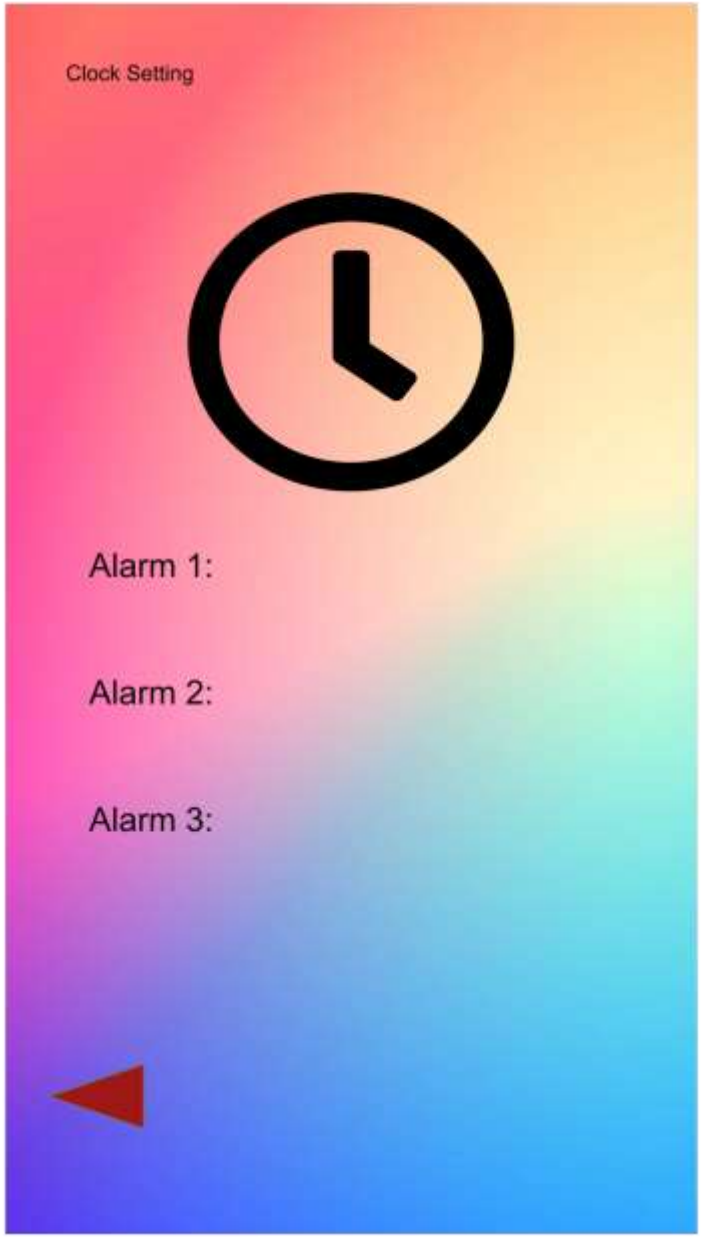
Severity reason: The frequency of mistakes are rare however, if it happens, it is difficult to overcome because there is no “emergency exit” to undo the mistake. It will be an ongoing problem until this is fixed. Based on the severity scale, it can be classified as low priority fix and still a minor problem.

Usability Metric – Efficiency

Efficiency will be hampered because it will take longer to fix the problem

Recommendations

An undo/redo option should be included in the interface near the menu because our eyes view from left to right. Putting it there will automatically tell the user where and when to look for the option if a mistake happens



Consistency

Tasks:

“ Try to navigate through the app without confusion or many mistakes. Comment whether font sizes, color, icons are consistent throughout”

Consistency

Positive Report

In terms of consistency, words, fonts, icons are consistent throughout the app which is good and meets the standard of this heuristic. However, the background should be a neutral color as the current colors make the fonts and icons painful to view and mistakes are at a higher chance of occurring.

Scope of Problem – All pages.

Severity of Problem (Low,Mid,High) –

Mid, Major problem - Important to Fix.

Severity Categories –

Frequency: Rare

Impact: Difficult to Overcome

Persistence: Ongoing problem

Severity reason: Although the severity rating of this mid, the background is frustrating to users because of the colors it causes confusion as certain functions cannot be viewed easily and they may accidentally click the wrong things.

Usability Metric –Satisfaction

Overall, this usability metric is met because a consistently designed app will be enjoyed by the user.

Recommendations

Going back to the background, it also creates an impression that this is a child's app not a dementia support app because of the color. Therefore, neutral colors should be used as stated in the report. Also proper textboxes to display text should be used to display info and either an analog/digital clock be shown with an option to interchange between both.

Efficiency

Tasks:

"Try to pair device and bracelet under 2 mins and enable accelerators"

Efficiency

Negative Report

In the settings, the ability to switch accelerator on/off is unavailable or pair bracelet quickly. This feature is important because it helps caretakers to quickly enable functions if an emergency happens saves time which is the most important factor. Accelerators make an app efficient from a time aspect because tasks can be done faster.

Scope of Problem – Settings page.

Severity of Problem (Low,Mid,High) –

Low, Cosmetic problem, Need not to be fixed unless have time.

Problem Categories –

Frequency: Rare

Impact: Easy to Overcome

Persistence: One time problem

Severity reason: This is a “nice to have” feature and not necessarily needed to be fixed unless additional time is available

Usability Metric – Learnability

This usability metric is crucial because for caretakers who are inexperience with tech, they will have a learning curve to operate accelerators.

Recommendations

Other than undo/redo accelerators, accelerators for emergency calls, calls to first responders, and brief health reports should be included. In terms of learnability, a pop up step-by-step guide to use the accelerators should be included when the users decides to activate the accelerator functions. A guide should be given on how to pair the bracelet also.

Minimalist Design

Tasks:

"Try to understand what the app is trying to tell you through the layout and information provided without being distracted by unnecessary details."

Minimalist Design

Positive Report

From a minimalist perspective, there is a minimalist design in the overall looks of the app. There is also not too much in terms of information or widgets appearing in the interface.

Scope of Problem – All pages.

Severity of Problem (Low,Mid,High) –

Not applicable as this heuristic is met accordingly.

Problem Categories –

Frequency: Not Applicable

Impact: Not Applicable

Persistence: Not Applicable

Severity reason: Not Applicable

Usability Metric – Effectiveness

With respect to this metric, a minimalist design brings out the crucial elements of the app. This metric ensures that that the crucial elements of the interface helps user's tasks to be achieved and get it achieved accurately

Recommendations

Minimalist design does not necessarily mean discarding irrelevant information, but to also, ensure that colors, font, font-sizes, and icons are chosen properly to bring out the essential information needed which this current design has room to improve on.

Review & Conclusion

Review

Throughout this evaluation , I have learned how to conduct an effective and efficient inspection evaluation of app designs using industry standard heuristics in specific, Jakob Nielsen’s 10 interaction design heuristics. With the review of other prototypes, I have a clearer idea on how to better design my current prototype and to integrate heuristics into my design process for future prototypes. In addition, further research has also been done on how to use heuristics to evaluate within the context of the app. Lastly, I have learned in greater detail on the process of inspection evaluations and further enhanced my communication skills in reviewing other prototypes.

Conclusion

In conclusion, context is important when developing or inspecting an app to derive proper and informed conclusions. With respect to implementing heuristics, appropriate heuristics have to be used when designing and evaluating an app otherwise the conclusion formed will be irrelevant. In this UCD project, a dementia support app is designed and evaluated. In a research by Savio & Braiterman (2007), when an app is designed with a user situated context, it will support them in the usage and serve as a trusted companion in ways unimagined during the user's journey with the app. Additionally, evaluation by experts will be much easier with a user situated context.

References

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References

1.

Measuringu.com. 2020. Measuringu: Where Did The ISO 9241 Definition Of Usability Come From, And Where Is It Going?. [online] Available at: <https://measuringu.com/iso-9241/> [Accessed 13 October 2020].

2.

Savio, N. and Braiterman, J., 2007, June. Design sketch: The context of mobile interaction. In Mobile HCI (pp. 284-286).

3.

Heuristics list taken from Appendix A (Swinburne Project Brief)

4.

Slides and images from Microsoft Powerpoint

5.

Interface screenshots from Group 4