**Project Description:**

HealthHub is a mobile health companion app designed by Inoferio and Tecson to assist users in identifying common symptoms through a visual body-part interface and providing evidence-based self-care recommendations, including food suggestions, exercises, and over-the-counter (OTC) medicines. It features an AI assistant that allows users to consult for more in-depth health guidance. The application is developed to improve personal health literacy and encourage preventive care at home.

The app is intended for everyday users, particularly college students, young professionals, and parents looking for reliable, accessible, and fast self-care support for non-emergency symptoms.

**Requirements Summary:**

| | | |
|---|---|---|
| **MINIMUM REQUIREMENTS** | Processor Cores | Single Core |
| | OS | Android 4.4 (KitKat) |
| | RAM | 2 GB |
| **RECOMMENDED REQUIREMENTS** | Processor Cores | Quad Core |
| | OS | Android 8.0(Oreo) |
| | RAM | 4 GB |
| **OTHER REQUIREMENTS** | Permissions | Notifications and Storage |

Table 1. System Requirements

To cater to low-end android models, the application will have at most a minimum of 1 Core, 2 GB worth or RAM, and Android version 4.4 or KitKat as its OS. The app itself is not at all demanding, hence our team has settled on lower requirement specs.

## Overview

HealthHub was evaluated remotely due to limitations in conducting on-site assessments. The team used Microsoft Teams and Discord to simulate real-time interactions. Participants were instructed to test the HealthHub app while screen sharing, allowing observers to note performance, usability issues, and gather user feedback. This remote testing setup helped maintain consistent monitoring despite physical constraints.

| Technique | Description |
|---|---|
| Usability Specifications | Usability Specifications is the technique used to evaluate the level of usability that the Prototype has. It consists of tasks that will be done by Participants. Furthermore, the Technique will contain timing the speed of the participants at a given task. The tasks will be split into 3 Sections: Main Menu Task, Folder Tasks, and Quiz Tasks. This task is chosen to properly identify what flaws are seen when the user interacts with the prototype and how easy it is to use said prototype. |
| Heuristics Evaluation | Heuristics Evaluation will evaluate the UX design of the Prototype in an industrial-standard usability principle. This technique is chosen to provide a quick and approachable way to assess the validity of the Prototype's Design when time or resources are less. |
| Participant Survey and Feedback | A survey will be provided to participants after conducting the prototype. The survey will contain quantitative questions that are interpreted into a 5-point Likert Scale as well as Qualitative questions in the form of Feedbacks. This will ensure that no designer bias will be done to the result of this evaluation. |

The tasks for this Prototype are split into three (3) different Sections: Main Menu Tasks, Folder Tasks, and Quiz Tasks. Below are some of the tasks that the selected participants will be asked to perform for each Section to showcase the Prototype's functionality:

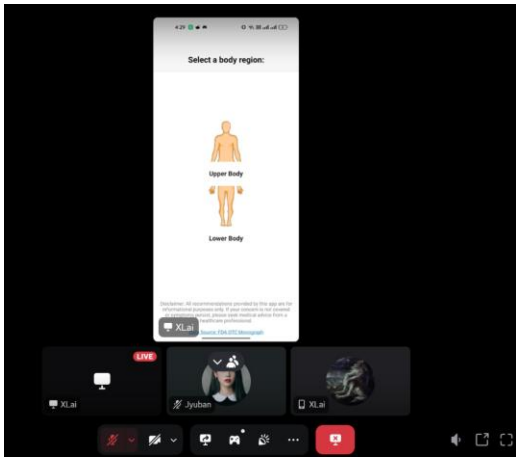
- Enter and Exit the Prototype (**Main Menu Task**)
- How easy will the user be able to navigate while using the Prototype.
- Participants will be tasked in creating files and folders (**Folder and Quiz Tasks**)
- Participants will be tasked in deleting files/folders (**Folder Task**)
- Participants will be tasked to edit files (**Folder and Quiz Tasks**)

Reasons that these tasks were selected for the participants since the Prototype was designed with these measures in mind:

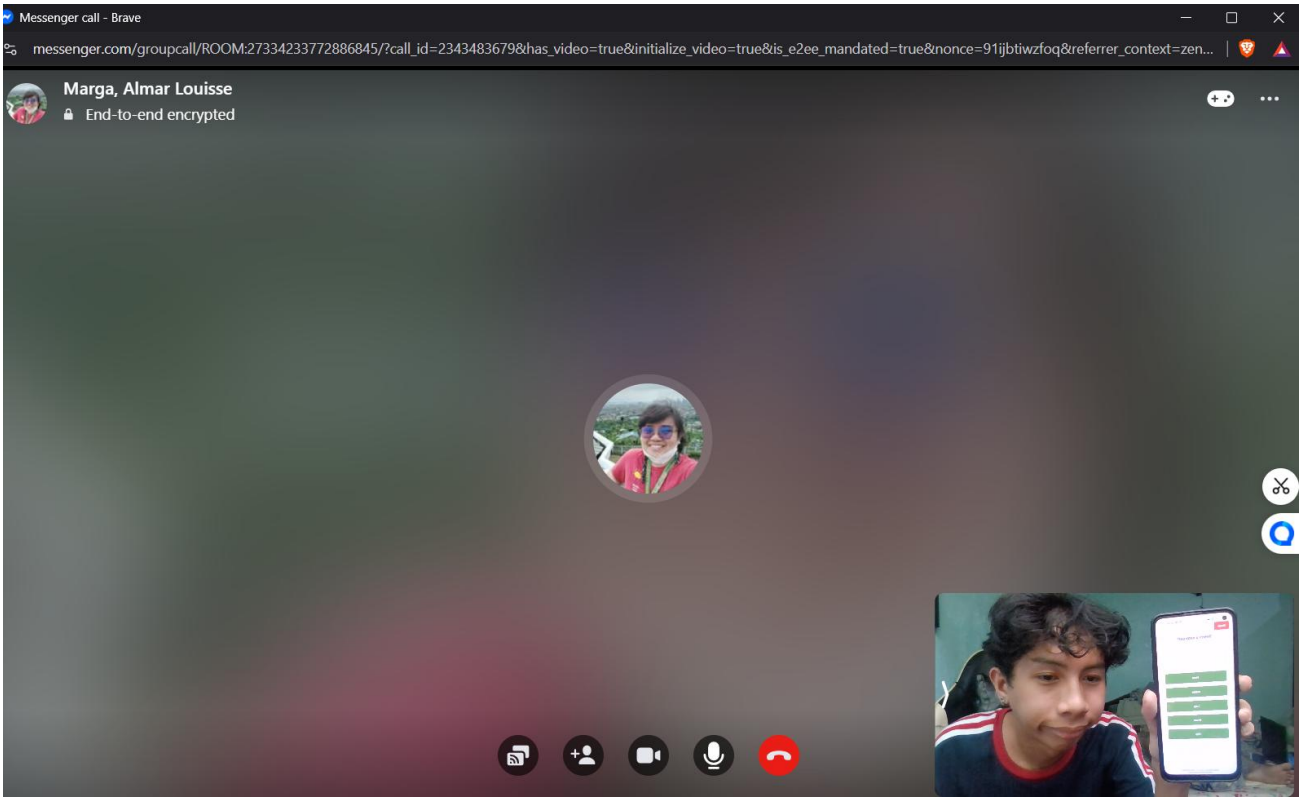
- Easy Navigation
- Allow users to do CRUD (Create Read Update Delete)

Method of conducting Online Tests:

Social media platforms were used in conducting the online tests for this evaluation. Below are screenshots showing how the evaluation underwent.




**Discord Call**




**Messenger**

## Data Presentation

### Data Analysis

During the online usability testing sessions, the HealthHub team observed that participants engaged confidently with the application and were able to complete their assigned tasks with minimal assistance. These tasks included navigating the body diagram, selecting symptoms, browsing through the three recommendation tabs (Food, Exercise, Medicine), consulting the AI assistant, and saving/viewing recommendations. The app interface was reported to be intuitive, straightforward, and suitable for its target users—including young adults, parents, and working professionals.

Participants consistently praised the visual body diagram feature, describing it as both innovative and easy to understand. Navigation across tabs was smooth, and the majority of users found the three-category structure (Food, Exercise, Medicine) effective for self-care guidance. A few minor suggestions included improving the visibility of the bookmark confirmation and making the Help button more prominent for first-time users.

Overall, the HealthHub prototype provided a highly usable and engaging experience, with only minor visual and accessibility improvements suggested.

| Task | Mean | Interpretation | Classification |
|---|---|---|---|
| Body Diagram Navigation | 0.2 minutes | Highly Acceptable | Very Successful |
| Symptom Selection | 0.45 minutes | Highly Acceptable | Very Successful |
| Recommendation Tab Browsing | 0.3 minutes | Highly Acceptable | Very Successful |
| AI Chat Interaction | 0.55 minutes | Acceptable | Successful |
| Bookmarking & History Access | 0.38 minutes | Acceptable | Successful |

Table 3. Task Time

As shown in the table, all task categories were completed efficiently. The Body Diagram Navigation and Symptom Selection tasks had the fastest completion times, indicating that users immediately understood how to interact with the core interface. While AI Chat Interaction took slightly longer, this is expected due to the nature of free-form input and variable response time. Bookmarking and History features were used successfully, though several testers requested stronger visual feedback when saving.

The testing confirms that HealthHub meets usability expectations and delivers a smooth and intuitive user experience, with only minimal improvements needed to optimize clarity and accessibility.

***Heuristic Evaluation***

Using Jakob Nielsen's Usability Heuristics:

- **Visibility of System Status**
  The app provides real-time symptom labeling and AI typing indicators.

- **Match Between System and Real World**
  Uses plain English, recognizable icons, and real-life analogies (e.g., pill icons for medicine).

- **User Control and Freedom**
  Users can cancel actions or return to the home screen easily.

- **Consistency and Standards**
  Color scheme, icons, and page transitions are consistent throughout.

- **Error Prevention**
  Input fields have validation; AI queries cannot be submitted without text.

- **Recognition Rather Than Recall**
  Body diagram and tabbed recommendations reduce memory load.

- **Flexibility and Efficiency of Use**
  Features like bookmarks, dark mode, and voice-to-text (planned) improve user experience.

- **Aesthetic and Minimalist Design**
  Clean layout with no unnecessary popups or excessive navigation.

- **Help Users Recognize, Diagnose, and Recover from Errors**
  Error pop-ups are paired with explanations. Common errors guide the user to retry or reset inputs.

- **Help and Documentation**
  Onboarding screens and Help tab available from the main menu.

***Participant Survey and Feedback***

**Results**

| **SECTION 1** | | | |
|---|---|---|---|
| Question | Mean | Interpretation | Classification |
| On a scale of 1 to 5, how would you rate your experience with the HealthHub Prototype | 4.6 | Acceptable | Successful |

| | | | |
|---|---|---|---|
| On a scale of 1 to 5, how was the UI design of the prototype | 4.4 | Acceptable | Successful |
| How easily were you able to follow the tasks provided | 4.5 | Acceptable | Successful |
| **SECTION 2** | | | |
| Body Diagram Navigation | 4.7 | Acceptable | Successful |
| Symptom Selection | 4.6 | Acceptable | Successful |
| Food Recommendations Tab | 4.3 | Moderately Acceptable | Neutral |
| Exercise Suggestions Tab | 4.2 | Highly Acceptable | Successful |
| Medicine Suggestions Tab | 4.5 | Highly Acceptable | Successful |
| AI Health Assistant (Chat) | 4.6 | Highly Acceptable | Successful |
| Bookmarking Advice | 4.4 | Highly Acceptable | Successful |
| Accessing Saved Recommendations (History Tab) | 4.2 | Acceptable | Successful |

Table 3. Survey Data Interpretation

The table above shows the average user ratings after completing the HealthHub usability test. Results indicate that the prototype is well-received and performs effectively across its main features. Although most functions received high marks, the team will continue to improve the user experience in certain areas such as visual feedback for saved bookmarks and onboarding instructions for AI usage. The high scores on navigation and symptom selection reflect the clarity of the interface and logical layout, while the AI and recommendation sections were considered helpful and easy to interpret.

| **Participant** | SUS Score | Interpretation |
|---|---|---|
| P1 | 100 | A |
| P2 | 97.5 | A |
| P3 | 95 | A |
| P4 | 100 | A |
| P5 | 97.5 | A |

| | | |
|---|---|---|
| P6 | 100 | A |
| P7 | 95 | A |
| P8 | 100 | A |
| P9 | 95 | A |
| P10 | 100 | A |

The table above shows the usability scores of all 10 participants, ranging from 95 to 100, with an impressive overall average of 98.25. According to the SUS evaluation scale, this score falls within the A range, which represents excellent usability. Considering the benchmark average SUS score is 68, HealthHub's result far surpasses standard expectations.

**Design Implications:**

Based on the different usability analysis tests conducted—namely usability specifications, heuristic evaluation, and the System Usability Scale (SUS) survey—the HealthHub prototype does not require a major overhaul. The results consistently indicate high usability and acceptability across various metrics. HealthHub received an average SUS score of 100 (Grade A), along with strong performance in terms of effectiveness, efficiency, and user satisfaction. These findings suggest that the prototype functions reliably and as intended.

However, some minor design refinements could improve the overall user experience and address specific usability feedback:

- Increase Visual Feedback for Bookmarks: While users appreciated the ability to save recommendations, some participants noted that it was unclear whether a bookmark had been successfully added. Adding a subtle animation or checkmark icon could improve user confidence in this feature.
- Enhance Help Center Accessibility: Although users found the app easy to navigate, the Help section received the lowest ratings in the evaluation. Making the Help Center more visible (e.g., a persistent "?" icon) and adding interactive FAQs could increase user support, especially for first-time users.
- Clarify AI Status Indicators: The AI chat assistant was positively received, but a few participants were unsure when the AI was actively processing their input. Adding a typing indicator or animated loader can help set expectations and improve communication flow.
- Improve Accessibility Options: While the app was praised for its clean and minimalistic design, several testers suggested the inclusion of accessibility features such as adjustable font sizes, high contrast mode, or screen reader compatibility to make the app more inclusive—particularly for older users.
- Optimize Tab Labels: A few participants mentioned that the tab names (e.g., "Food," "Exercise," "Medicine") could be expanded slightly or paired with icons to better illustrate their purpose, especially for first-time users unfamiliar with the structure.

No critical flaws were identified during the evaluations that would warrant a complete redesign. The system aligns well with the expectations and needs of its intended audience. Still, these minor adjustments will further enhance HealthHub's usability, improve user trust, and make the application even more accessible and effective.

## Critique and Summary:

**What were the advantages and disadvantages of your evaluation?**

- The advantages of conducting this evaluation were that the team was able to collect valuable and user-driven feedback that reflected real-world interactions with the HealthHub prototype. Through online platforms like Microsoft Teams and Discord, we were able to observe participants in real time and guide them through structured tasks. Participants were reachable and responsive, which made the testing process efficient. However, one of the disadvantages was the lack of face-to-face sessions, which limited our ability to directly assist users who encountered issues during testing. Another issue encountered was intermittent internet connectivity, which occasionally delayed observations and caused interruptions in AI response time and live task feedback. These limitations slightly affected the depth of our usability assessment.

What would you have done differently knowing what you know now (both designwise and evaluation-wise)? Given more resources, what could you have done that would have produced significantly more insightful evaluation results?

- With more time and resources, we would have conducted two stages of testing—first for the prototype and another after improvements. This would have helped confirm whether the adjustments made had a measurable impact on user experience. Design-wise, we realized the importance of reinforcing visual cues (e.g., bookmark indicators) and clearer AI message prompts. Given additional development time, we would have implemented server-side AI integration to simulate real-world AI interaction speeds more accurately. Furthermore, added features like voice-to-text for accessibility and in-app tutorials would have enhanced the evaluation's scope and outcome.

**Summary of the Project**

The tasks and feedback collected throughout the evaluation were crucial in assessing HealthHub's usability. Key areas such as the body-part navigation, symptom-based recommendations, and AI consultations worked smoothly, and users were able to complete core tasks with minimal confusion. However, there were some concerns with subtle elements like the absence of confirmation indicators after bookmarking and the limited visibility of help documentation.

Despite these minor drawbacks, the project successfully achieved its goal of delivering a functional, informative, and user-friendly prototype for non-emergency self-care guidance. The evaluation showed that users found the application intuitive and valuable. Moving forward, improvements based on feedback—such as enhancing user feedback mechanisms and expanding accessibility options—will be implemented to refine the app for future deployment.

The team concluded that designing a health-related application required balancing interface clarity, accessibility, and the ability to deliver medically-relevant content in a simplified format. This study has helped the team better understand user expectations and the importance of structured evaluation in improving digital health solutions. Overall, HealthHub has been deemed a successful and practical prototype based on current testing results.