Heuristic Evaluation

FAMU – Nourish-Ed mobile prototype

Part I: Your Name

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Part II: Project Description

Nourish-ed is an application which purpose is to inform users about what are the nutritional values, benefits and more, of meals. The user can take a picture of the food with the camera or directly search for the food in the database by providing its name. There are also some daily challenges, which are educational quizzes that help the user to challenge himself and learn new information every day. More expert users can also report some information as wrong, if they find some.

Part III: Evaluation Execution

The evaluation was first conducted in the 2I room at Polito, where Francesco, a member of the FAMU team, described me how the application works, by moving throw the different pages and sections of the physical version of the paper prototype. Then it was reviewed and continued at home with the help of the pdf version of the paper prototype, given by Francesco himself to me via chat on Telegram.
First of all, I tried to simulate the three tasks, simple, moderate and complex, to see if they were well satisfied; then, I tried to navigate throw the whole application and looked in depth each interface to find violations to the heuristics.
The explanation given by Francesco was clear, I noticed a couple of violations during his demonstration, but a second look at the application at home allowed me to find most of the violations.

Part IV: List of Violations

1. **H4** Consistency and standards
   Where: Homepage > Compare subsection.
   What: In the "Compare" section, the application behaves like a single button, but from the image given, the two squares shown seem to be two different buttons.
   Why: The user is made to think he needs to click one of the two squares at a time, and it is inconsistent because other sections (Categories, Daily Challenge, Take a picture) show correctly that they have one only button (or multiple ones for Category).
   Severity: 2

2. **H10** Help and documentation
   Where: “Information” page.
   What: This page should show the category of the food (starter, main, dessert, etc.) in some way.
   Why: The user doesn’t know to which category that meal belongs.
   Severity: 3

3. **H7** Flexibility and efficiency of use
   Where: Search bar.
   What: The search page should show which are the latest searched meals.
   Why: In this way the user can have fast and direct access to the information of the food just searched, without typing again the full name on the search bar.
   Severity: 3

4. **H6** Recognition rather than recall
   Where: “Report wrong info” page.
   What: In this page is missing the title of the meal the user is reporting.
   Why: The user may forget which was the dish he is reporting.
   Severity: 3

5. **H5** Error prevention
   Where: “Report wrong info” page.
   What: There should be the possibility of selecting the specific information the user is reporting, instead of providing one full description of what the problem is.
   Why: It would guide the user throw a well-defined process to report the wrong info, avoiding missing or useless information.
   Severity: 3

6. **H6** Recognition rather than recall
   Where: "Report wrong info" page.
   What: In this page, after inserting the report infos, a summary of the report request should be shown, with a way to accept or decline that these are the right infos the user is reporting.
   Why: It would help the user to be sure of what is going to be sent to the server and to go back if something is not right.
   Severity: 3

7. **H5** Error prevention
   Where: "Daily challenge" page.
   What: When the user selects a choice to be his answer to the quiz, there is no way to change his mind.
   Why: If the user makes a mistake, like a click he didn't want to do, he can’t go back to change the answer.
   Severity: 3

8. **H3** User Control and Freedom
   Where: "User Profile" page.
   What: In this page there is no way to modify the information about the user's Name, Surname and Age. These fields are shown in the interface, but they are not editable.
   Why: The user may want to change his infos but he can't.
   Severity: 4

9. **H1** Visibility of system status
   Where: "Take a pic" page.
   What: It's missing a way to show that the system is processing the photo, between the "take pic" and the "information" pages.
   Why: It's not clear if the system is still processing or it is frozen.
   Severity: 3

10. **H4** Consistency and standards
    Where: "Take a pic" page.
    What: In the main page is used the name "Take a picture" while in this page the title is "Take a pic".
    Why: It's inconsistent, and the user can think the two pages are not related.
    Severity: 1

11. **H3** User control and freedom
    Where: "Take a pic" page.
    What: It's missing the possibility to use the camera flash while taking the photo.
    Why: If it's dark, the user is not able to take a photo.
    Severity: 3

12. **H10** User control and freedom
    Where: "Take a pic" page.
    What: There is no way to upload a picture from the gallery.
    Why: The user may desire to upload an already-taken photo, but he is forced to upload only photos taken at that exact moment.
    Severity: 1

13. **H7+H4** Flexibility and efficiency of use + Consistency and standards
    Where: Compare food -> results of the comparison.
    What: A way to report wrong infos should appear also on this page.
    Why: the user could want to report if any information is wrong also from this page, without having to go back to search the food in other ways to report it.
    Severity: 2

14. **HN** non-heuristic issue
    Where: Whole application.
    What: There is no way to add a meal as favorite, but there is a page to see the favorites.
    Why: The user may want to use this feature, but he can't.
    Severity: 4

15. **H2** Match between system and the real world
    Where: Whole application.
    What: The system doesn't provide a way to change the language.
    Why: This could be limitative to people who don't speak English.
    Severity: 2

16. **H10** Help and documentation
    Where: Whole application.
    What: The application doesn't guide the user for his first usage.
    Why: First time users might not know how the application works.
    Severity: 1

Part V: Summary and Recommendations

Heuristic	**# violations**
H1: Visibility of system status	1
H2: Match between system and the real world	1
H3: User control and freedom	3
H4: Consistency and standards	3
H5: Error prevention	2
H6: Recognition rather than recall	2
H7: Flexibility and efficiency of use	2
H8: Aesthetic and minimalist design	0
H9: Help users recognize, diagnose, and recover from errors	0
H10: Help and documentation	2
HN: Non-heuristic issue	1

General impressions and recommendations

The Nourish-ed prototype presents a solid foundation for an educational and user-friendly application that integrates nutrition tracking with gamified elements like daily challenges. Its approach to helping users understand their meals through either visual or textual search with the assistance of AI is intuitive and promising.
However, the application currently suffers from several usability issues that could decrease user satisfaction and engagement.

The first key recommendation is to improve consistency and standardization across the interface. Just for example, terms like "Take a picture" and "Take a pic" should be unified to avoid confusion. Another big suggestion is that, in the report form, a dropdown menu could be shown to select between Caloric Density, Macronutrient Balance, Nutrient Density, Sugar Sodium; then, after the selection, the application could show on one side the previous value and on the other side the new value as an input field. The description field can still be inserted under it to provide more clarification.
Additionally, it would be important to implement a progress indicator or animation for loading between pages that require it, this would enhance the user's understanding of the system's status. Moreover, including interactive tutorials or tooltips for key functions could be beneficial, as they would provide valuable guidance to first-time users and help them navigate the application more confidently.
Furthermore, the prototype would benefit from enhancements to flexibility and efficiency. Features such as remembering recent searches and adding a "report info" button on multiple pages would make the application more versatile for both novice and advanced users.
Lastly, accessibility improvements, such as multi-language support and options for better usability in low-light conditions, would bring the application's appeal and usability for a diverse audience.

In conclusion, while the Nourish-ed prototype demonstrates significant potential in promoting nutritional awareness through innovative features and a user-centric approach, addressing the identified usability issues is essential for its success. Implementing these recommendations will not only boost user satisfaction and engagement but also strengthen the application's credibility and usability, ensuring it meets the diverse needs of its target audience.