Usability Project for the UNICEF website

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April 2, 2024

Contents

0 Abstract

Usability evaluation of a website can be defined as a systematic and methodical approach to assess the ease of use of a website, intended as the degree of simplicity and intuitiveness with which target users are able to navigate the website, accomplish tasks, find useful information.

This document illustrates the methodology adopted and the results obtained for the usability evaluation of the official Unicef website.

The structure of this report can be divided into three main sections, completed by a final annex.

In the first chapter, the inspection procedure and its results are described. Inspection is a kind of usability evaluation practice that involves usability experts to examine the website and identify issues and problems to be solved. More specifically, the methodology employed here is heuristic-based, which means that the assessment of the website is centered around some heuristics that are relevant for the software product under analysis. For all heuristics, the experts are required to assign a score to the website individually and then discuss together about their marks. The result of this discussion should produce an unanimous score agreed by all evaluator for each heuristic.
In this chapter, the final scores agreed by all evaluator on the official Unicef website are illustrated.

The second chapter is about another relevant usability evaluation procedure which is user testing. In this case, possible users of the website (which are not usability experts) are required to complete some predefined tasks on the website itself. Their behavior and actions are observed by an expert while they accomplish the tasks and important usability concerns or issues are elicited from this observations.

Finally, the third chapter concludes the document with a set of final considerations about the methodology and techniques adopted for assessing the official Unicef website. A comparison of the inspection and user testing practices is also offered here.

The annex adds some important information that might be complementary for the reader to delve deeper and understand better the results illustrated in the previous chapters. For instance, while the first chapter on inspection only shows and describes the final scores agreed by all evaluators, the annex has dedicated subsections in which it is possible to see the individual scores assigned by the evaluators for the website.

1 Inspection

1.1 Introduction

Inspection or experts' review is a structured technique in the field of usability evaluation that aims to assess some critical aspects and characteristics of a website to ensure its ease of use for the target users that might be interested in exploiting it. This practice is carried out by experts, so people with a solid and robust knowledge around the principles and guidelines for the creation of an effective and pleasant website.

Among the several ways in which this practice can be organized, there is the so called heuristic-based methodology, which requires the various inspectors to establish in advanced a set of heuristics that will be the focus of the evaluation.
Thus, the steps that must be taken to complete an inspection procedure are the following. First off, since multiple inspectors have to collaborate and share their results, the initial phase can be considered as a setup of the actual inspection practice. Inspectors have to find an agreement on the general methodology that all of them must adopt to make the results comparable and useful for analysis. As a starting point, the evaluators must establish a set of heuristics that they will examine the website on. Of course, these heuristics have to be relevant for the website in question, as they must identify possible flaws or issues related to the usability of the website. The definition of each heuristic should be unanimously agreed upon and noted down to rule out different subjective interpretations.
Part of this process is also to discuss among the inspectors the evaluation metrics, so a shared range of values (numerical or not numerical) that is suitable to assess the heuristics on the website. All the different values in the range should have a proper and unambiguous meaning which all inspectors are aware of before starting on the subsequent phases.

All inspectors can now start working individually on the target website. At this stage, the practice consists in navigating on the website and trying to critically spot all the flaws, inconsistencies and errors that are present. To make the process organized, the inspector should focus on one heuristic at a time, leaving out the other ones momentarily. Once satisfied with the analysis of a single heuristic, the inspector assigns a score to the website for that heuristic and moves on to the next one.

The final step of inspection is the comparison and discussion of the results obtained by the evaluators. Ideally, all evaluators should meet, talk about the scores they assigned and find an agreement on a final shared mark to associate to each heuristic. This process is really a discussion, in which all experts argue about the reasons why they graded the website a certain way and eventually meet somewhere in the middle of their different ideas and opinions.

This chapter aims to show the inspection performed on the official Unicef website and all the points described above can be seen in the following.

1.2 Heuristics

1.3 Metrics

1.4 Final scores

Heuristic	Score
H1. Visibility of system status	2
H2. Match between system and the real world	4
H3. User control and freedom	4
H4. Consistency and standards	2
H5. Error prevention	3
H6. Recognition rather than recall	3
H7. Flexibility and efficiency of use	3
H8. Aesthetic and minimalist design	2
H9. Help users recognize, diagnose and recover from errors	3
H10. Help and documentation	-
H11. Information overload	2
H12. Consistency of page content structure	2
H13. Contextualized information	2
H14. Content organisation (hierarchy)	4
H15. Interaction consistency	1
H16. Group navigation-1	2
H17. Group navigation-2	3
H18. Structural navigation	3
H19. Semantic navigation	4
H20. “Landmarks”	3
H21. Text lay out	3
H22. Interaction placeholders-semiotics	4
H23. Interaction placeholders-consistency	1
H24. Consistency of visual elements	3
H25. Hierarchy-1	3
H26. Hierarchy-2	3
H27. Spatial allocation-1	4
H28. Spatial allocation-2	4
H29. Consistency of page spatial structure	2

Comments

1.5 Aggregated data and Visual illustration of inspection results

Mean global score: 2.862068966
Mean Nielsen's 10 Heuristics score: 3
Mean Mile Heuristics score: 2.789473684

In order to achieve a better analysis on the heuristics, it has been decided to extend Mile Heuristics' categories also to Nielsen's 10 Heuristics. The heuristics share and evaluate the same system, and they do so in a very similar fashion, which only differs in how they are organized and framed. As a natural consequence of this, extending Mile Heuristics' categories to Nielsen's Heuristics will yield a more comprehensive and accurate representation of the system regarding both intra and inter categories aspects. The followings are the motivations behind the category assignments to each Nielsen's Heuristic:

- **H1. Visibility of system status:** this heuristic mainly revolves around interactive orientation information (**NAVIGATION/INTERACTION** category).
- **H2. Match between system and the real world:** this heuristic clearly focuses on how the system presents information to the user (**PRESENTATION** category).
- **H3. User control and freedom:** this heuristic mainly revolves around the user interaction capabilities, with the undo and redo functionalities (**NAVIGATION/INTERACTION** category). However, it also presents a presentation component, since "emergency exits" should be "clearly marked" (**PRESENTATION** category).
- **H4. Consistency and standards:** this heuristic affects the entirety of the system under analysis (**CONTENT - NAVIGATION/INTERACTION – PRESENTATION** categories).
- **H5. Error prevention:** this heuristic focuses on design choices which prevent problems from occurring, so it focuses on creating a better interaction experience for the user (**NAVIGATION/INTERACTION** category), but it also focuses on the presentation aspect of such interactions (**PRESENTATION** category).
- **H6. Recognition rather than recall:** this heuristic affects the entirety of the system under analysis (**CONTENT - NAVIGATION/INTERACTION – PRESENTATION** categories).
- **H7. Flexibility and efficiency of use:** this heuristic involves the way a user can interact and navigate through the system (**NAVIGATION/INTERACTION** category).
- **H8. Aesthetic and minimalist design:** this heuristic revolves around the information presented to the user and how this is achieved, so it not only focuses on the content itself (**CONTENT** category), but also on how the content present in the system is presented to the user (**PRESENTATION** category).
- **H9. Help users recognize, diagnose and recover from errors:** this heuristic focuses on helping the user recognize and diagnose errors, which is a matter of how the error and its information are shown to the user (**PRESENTATION** category). And it also revolves around how to recover from these errors, which is a matter of interaction with the system (**NAVIGATION/INTERACTION** category).

- **H10. Help and documentation:** this heuristic focuses on giving the user access to useful documentation about the system, and as such its main objective is content and information (**CONTENT** category).

Mean CONTENT score: 2.5
CONTENT score absolute difference:* 0
Mean NAVIGATION/INTERACTION score: 2.923076923
NAVIGATION/INTERACTION score absolute difference:* 0.256410256
Mean PRESENTATION score: 3.0625
PRESENTATION score absolute difference:* 0.0625

**difference between the mean scores achieved by considering only Mile Heuristics and the extended methodology previously explained.*

As a consequence of the previous reasoning behind the extension of Mile's categories to Nielsen's 10 Heuristics and the small difference that this extension made to the mean category's scores, in the following graphs the categories considered will be in their extended form.

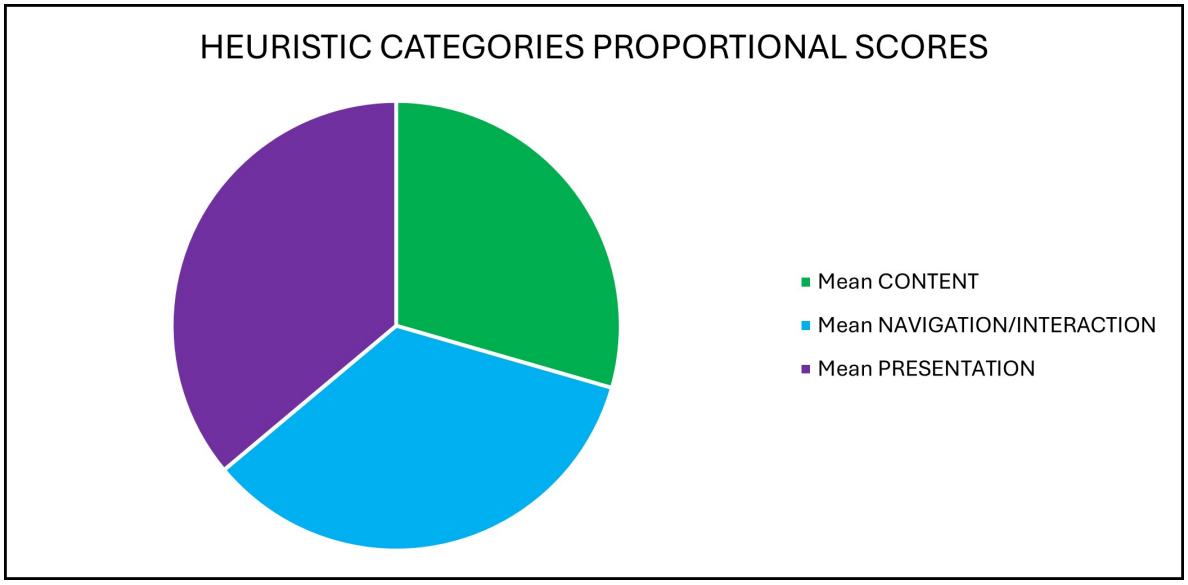

Figure 1: *HEURISTIC CATEGORIES PROPORTIONAL SCORES.*

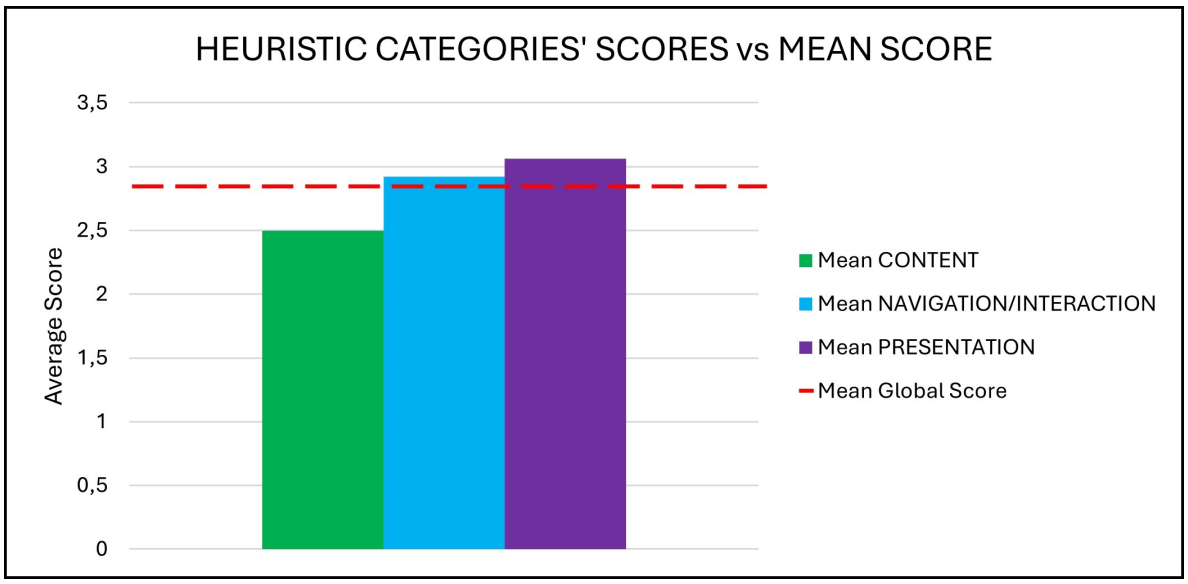

Figure 2: *HEURISTIC CATEGORIES' SCORES vs MEAN SCORE.*

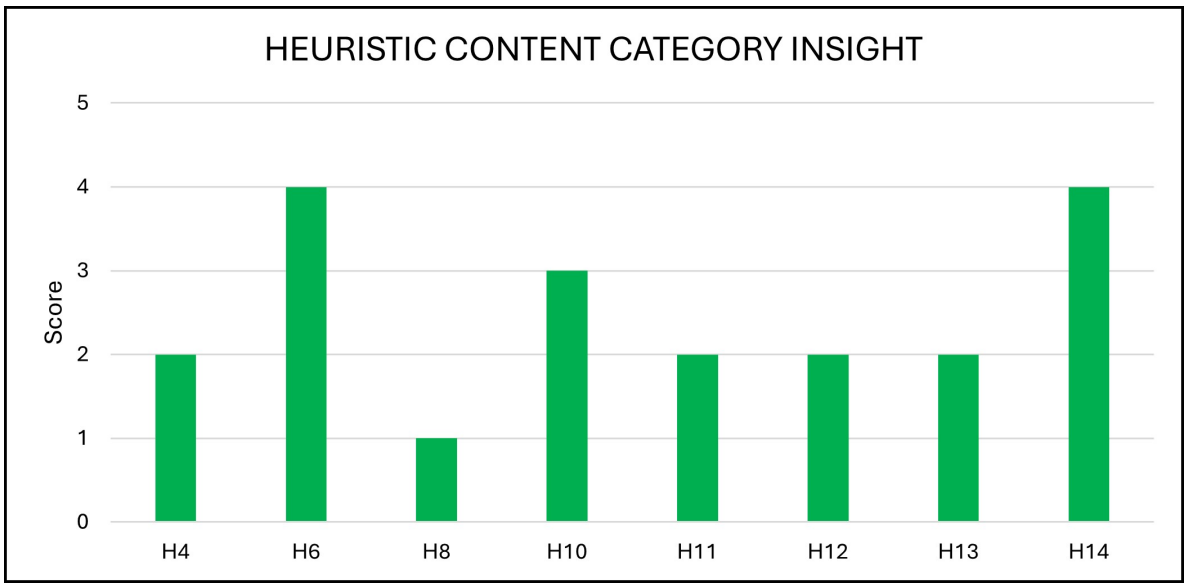

Figure 3: *HEURISTIC CONTENT CATEGORY INSIGHT.*

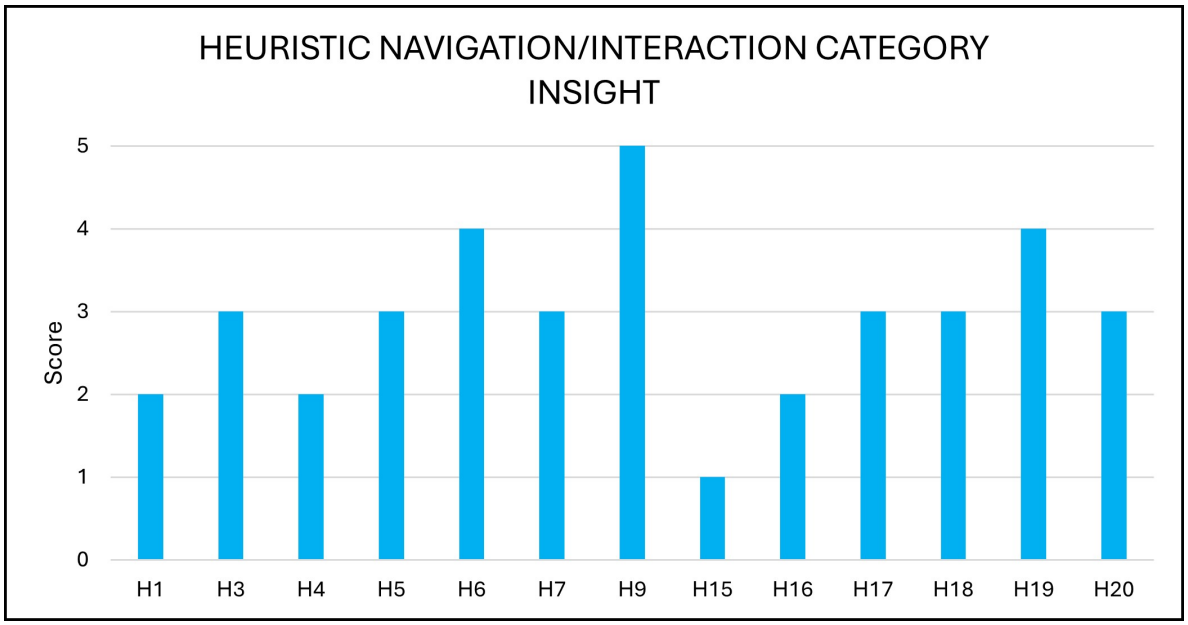

Figure 4: *HEURISTIC NAVIGATION/INTERACTION CATEGORY INSIGHT.*

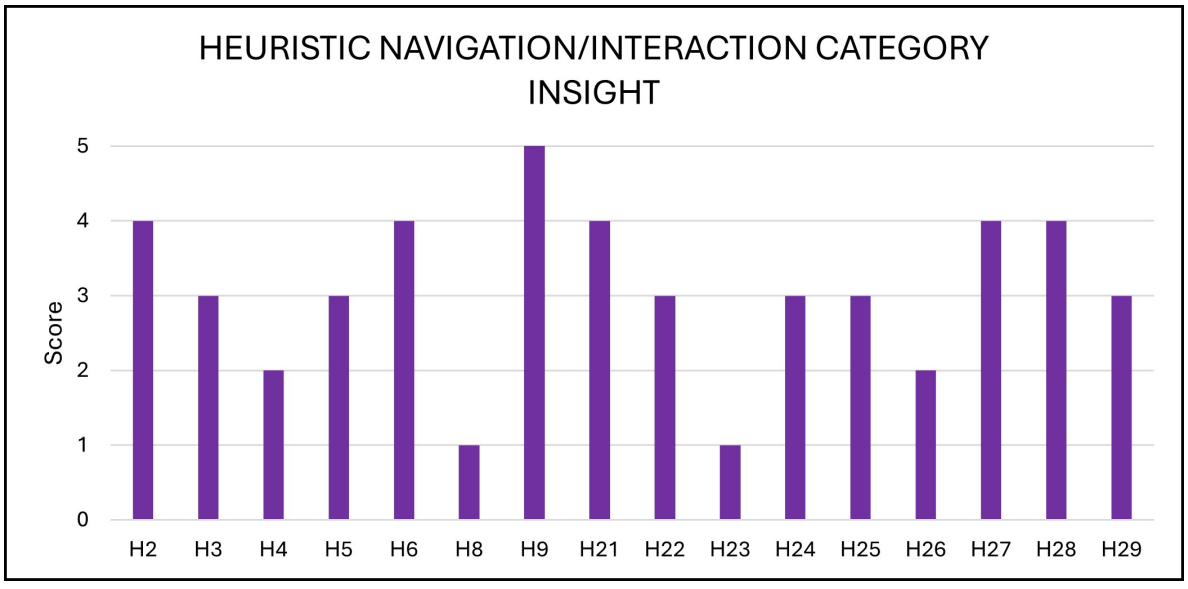

Figure 5: *HEURISTIC NAVIGATION/INTERACTION CATEGORY INSIGHT.*

1.6 Conclusions and considerations

2 User Testing

2.1 Introduction

2.2 Design and methodology

2.3 Final scores

2.4 Visual illustration of user testing results

2.5 Conclusions and considerations

3 Conclusion

3.1 Comparison between Inspection and User Testing

3.2 Redesign strategy and suggestions

3.3 Observations and comments

4 Annex

4.1 Evaluator 1 inspection scores

Heuristic	Score
H1. Visibility of system status	2
H2. Match between system and the real world	4
H3. User control and freedom	4
H4. Consistency and standards	2
H5. Error prevention	3
H6. Recognition rather than recall	3
H7. Flexibility and efficiency of use	3
H8. Aesthetic and minimalist design	2
H9. Help users recognize, diagnose and recover from errors	3
H10. Help and documentation	-
H11. Information overload	2
H12. Consistency of page content structure	2
H13. Contextualized information	2
H14. Content organisation (hierarchy)	4
H15. Interaction consistency	1
H16. Group navigation-1	2
H17. Group navigation-2	3
H18. Structural navigation	3
H19. Semantic navigation	4
H20. “Landmarks”	3
H21. Text lay out	3
H22. Interaction placeholders-semiotics	4
H23. Interaction placeholders-consistency	1
H24. Consistency of visual elements	3
H25. Hierarchy-1	3
H26. Hierarchy-2	3
H27. Spatial allocation-1	4
H28. Spatial allocation-2	4
H29. Consistency of page spatial structure	2

Evaluator’s comments

4.2 Evaluator 2 inspection scores

Heuristic	Score
H1. Visibility of system status	2
H2. Match between system and the real world	4
H3. User control and freedom	4
H4. Consistency and standards	2
H5. Error prevention	3
H6. Recognition rather than recall	3
H7. Flexibility and efficiency of use	3
H8. Aesthetic and minimalist design	2
H9. Help users recognize, diagnose and recover from errors	3
H10. Help and documentation	-
H11. Information overload	2
H12. Consistency of page content structure	2
H13. Contextualized information	2
H14. Content organisation (hierarchy)	4
H15. Interaction consistency	1
H16. Group navigation-1	2
H17. Group navigation-2	3
H18. Structural navigation	3
H19. Semantic navigation	4
H20. “Landmarks”	3
H21. Text lay out	3
H22. Interaction placeholders-semiotics	4
H23. Interaction placeholders-consistency	1
H24. Consistency of visual elements	3
H25. Hierarchy-1	3
H26. Hierarchy-2	3
H27. Spatial allocation-1	4
H28. Spatial allocation-2	4
H29. Consistency of page spatial structure	2

Evaluator’s comments

4.3 Evaluator 3 inspection scores

Heuristic	Score
H1. Visibility of system status	2
H2. Match between system and the real world	4
H3. User control and freedom	4
H4. Consistency and standards	2
H5. Error prevention	3
H6. Recognition rather than recall	3
H7. Flexibility and efficiency of use	3
H8. Aesthetic and minimalist design	2
H9. Help users recognize, diagnose and recover from errors	3
H10. Help and documentation	-
H11. Information overload	2
H12. Consistency of page content structure	2
H13. Contextualized information	2
H14. Content organisation (hierarchy)	4
H15. Interaction consistency	1
H16. Group navigation-1	2
H17. Group navigation-2	3
H18. Structural navigation	3
H19. Semantic navigation	4
H20. “Landmarks”	3
H21. Text lay out	3
H22. Interaction placeholders-semiotics	4
H23. Interaction placeholders-consistency	1
H24. Consistency of visual elements	3
H25. Hierarchy-1	3
H26. Hierarchy-2	3
H27. Spatial allocation-1	4
H28. Spatial allocation-2	4
H29. Consistency of page spatial structure	2

Evaluator’s comments

4.4 Evaluator 4 inspection scores

Heuristic	Score
H1. Visibility of system status	2
H2. Match between system and the real world	4
H3. User control and freedom	4
H4. Consistency and standards	2
H5. Error prevention	3
H6. Recognition rather than recall	3
H7. Flexibility and efficiency of use	3
H8. Aesthetic and minimalist design	2
H9. Help users recognize, diagnose and recover from errors	3
H10. Help and documentation	-
H11. Information overload	2
H12. Consistency of page content structure	2
H13. Contextualized information	2
H14. Content organisation (hierarchy)	4
H15. Interaction consistency	1
H16. Group navigation-1	2
H17. Group navigation-2	3
H18. Structural navigation	3
H19. Semantic navigation	4
H20. “Landmarks”	3
H21. Text lay out	3
H22. Interaction placeholders-semiotics	4
H23. Interaction placeholders-consistency	1
H24. Consistency of visual elements	3
H25. Hierarchy-1	3
H26. Hierarchy-2	3
H27. Spatial allocation-1	4
H28. Spatial allocation-2	4
H29. Consistency of page spatial structure	2

Evaluator’s comments

4.5 Evaluator 1 user testing scores

4.6 Evaluator 2 user testing scores

4.7 Evaluator 3 user testing scores

4.8 Evaluator 4 user testing scores