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| **UNICEF Web Site’s**  **Analysis**  Usability Evaluation and  User Testing Document  Hypermedia Application project  Academic year 2023 – 2024  16 March 2024  Version 0.0 | |
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# **Abstract**

This document presents a comprehensive usability evaluation of the website [unicef.org](https://www.unicef.org/). Drawing upon established heuristic evaluation frameworks by Nielsen and MiLE, the assessment aims to identify usability strengths, weaknesses, and areas for improvement. The document analyzes various website pages, focusing on navigation, consistency, error prevention, and user satisfaction.

The website is undergoing systematic assessment against predefined usability principles; this phase facilitates the identification of usability issues, providing quantitative ratings to gauge overall usability performance. Subsequently, user testing is conducted to complement findings from the heuristic evaluation. Tasks have been designed to simulate generic user interactions to validate usability issues and explore user preferences.

These evaluations are described in the following report detailing identified usability issues, their severity levels, and recommended improvements. By synthesizing findings from both heuristic evaluation and user testing, the report offers actionable insights to enhance the experience of the website.

The potential of this document is to inform website designers, developers, and stakeholders about usability strengths and weaknesses. Website owners can optimize user interaction, satisfaction, and task completion rates.

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# **Introduction**

## Purpose and Scope

This document serves to provide a comprehensive evaluation of the usability of the website, outlining the main activities conducted and the desired outcomes. It aims to identify usability issues and propose redesign solutions for improved user experience. The report targets the general manager and design manager, offering clear insights into problems and their severity, supported by relevant examples.

## Reference Documents

* UNICEF’s website: <https://www.unicef.org/>
* USABILITY Projects HYP 2023-24
* Course slide on WeeBeep

## Document structure

The structure of this document follows five main sections:

1. **Introduction:** presents the purpose and scope of the document, and also references the pertinent documents used in the analysis. Additionally, it provides a brief overview of the document's structure, giving readers a preview of the topics covered in subsequent chapters.
2. **Inspection**: provides a detailed account of the usability evaluation process for the website. It begins with an overview of the heuristics utilized, proceeds to describe the organization of the analysis conducted by the team, and presents the obtained results. These results are represented through tabulated data, highlighting the scores obtained for each heuristic. Finally, the chapter concludes with an in-depth analysis and commentary on the emerged results.
3. **User Testing:**
4. **Conclusion:**
5. **Annex:**
6. **Effort Spent**: keeps track of the time spent to complete the whole project including code and documentation. There is a table for the work done by the team and the others contain the effort spent by each team member.

# **Inspection**



## Method

In our analysis, we relied on usability evaluation heuristics to assess the website. Usability heuristics are guidelines or principles used to evaluate user interfaces. We primarily utilized two prominent heuristics, namely Nielsen's heuristics and some of MiLE (Milano – Lugano Evaluation Method) heuristics, to evaluate the website's usability aspects.

Each heuristic has been assigned to one or more of the following categories:

* *Navigation/Interaction*:   
  This aspect ensures consistent navigation and interaction within the website's interface, assessing ease of movement between pages, groups of items, and components. It also evaluates semantic navigation for accessibility and the effectiveness of landmarks in guiding users to key sections.
* *Content*:

This aspect evaluates content quality, balance, and organization on the website, ensuring users aren't overwhelmed. It examines consistency in presenting similar topics across pages and provides contextual information for user understanding. It also assesses hierarchical topic organization for logical navigation.

* *Presentation*:

This aspect evaluates website design for readability, intuitive interaction, consistency, and logical content grouping to ensure a cohesive user experience.

### Nielsen

Nielsen's heuristics consist of ten key principles:

* *N01. Visibility of system status (****Navigation/Interaction****)*:

Ensure users are promptly informed of system activities through clear feedback.

* *N02. Match between system and the real world* ***(Presentation****)*:

Make sure the system employs language and concepts familiar to users.

* *N03. User control and freedom (****Navigation/Interaction****)*:

Provide users with an easy way to backtrack or exit undesirable actions without hassle.

* *N04. Consistency and standards (****Presentation-Content****)*:

Maintain uniformity across the interface to avoid confusion regarding terminology and actions.

* *N05. Error prevention (****Presentation****)*:

Design the system to proactively prevent errors, rather than relying solely on error messages.

* *N06. Recognition rather than recall (****Navigation/Interaction****)*:

Minimize the need for users to remember information by keeping relevant options visible.

* *N07. Flexibility and efficiency of use (****Navigation/Interaction****)*:

Implement shortcuts or hidden features to expedite interaction for experienced users.

* *N08. Aesthetic and minimalist design (****Presentation-Content****)*:

Streamline dialogues by excluding unnecessary or rarely used information.

* *N09. Help users recognize, diagnose, and recover from errors (****Presentation****)*:

Present error messages in plain language, clearly identifying issues and offering solutions.

* *N10. Help and documentation (****Content****)*:

While aiming for intuitive usability, provide supplementary help materials when necessary.

2.1.2 MiLE

MiLE's heuristics are already divided into the three categories:

* *Navigation/Interaction*:
  + *M01. Interaction Consistency*:

Pages of the same type should have the same navigation links and interaction capability.

* + *M02. Group Navigation-1*:

It should be easy to navigate from, among groups of “items”, and within the items.

* + *M03. Group Navigation-2*:

Menus should not create Cognitive Overload.

* + *M04. Structural Navigation*:

It should be easy to navigate among the “components” (“parts”) of a topic.

* + *M05, Semantic Navigation*:

It should be easy to navigate from a topic to a related one (in both directions).

* + *M06. Landmarks*:

Landmarks should be effective for users to reach the “key” parts of the web site.

* *Content*:
  + *M07. Information overload*:

The information on a page should be neither too much nor too little.

* + *M08. Consistency of Page Content Structure*:

Pages that present topics of the same category should have the same types of elements.

* + *M09. Contextualized Information*:

Pages should include information that helps users understand where they are

* + *M10. Content organization (hierarchy)*:

The hierarchical organization of topics should be appropriate for the topic relevance.

* *Presentation*:
  + *M11. Text Layout*:

The text should be readable and the font size appropriate.

* + *M12. Interaction placeholders-semiotics*:

The interactive elements should be “intuitive”, textual and visual labels/icons for interactive elements should convey their functional meaning.

* + *M13. Interaction placeholders-consistency*:

Textual or visual labels of interactive elements should be consistent in terms of wording, shape, color, position, etc.

* + *M14. Consistency of Visual Elements*:

Visual elements should have the same visual properties in pages of the same type.

* + *M15. Hierarchy-1*:

The on-screen allocation of contents within a page should be appropriate for their relevance.

* + *M16. Hierarchy-2*:

The on-screen allocation of visual elements should be appropriate for their relevance.



## Study design

This section outlines the organization of the website analysis, following the defined steps:

1. Definition of Heuristics: The team collectively decided to utilize the Nielsen and MiLE heuristics for the analysis, omitting additional ones deemed unnecessary for the website.
2. Metrics Definition: Scores ranging from 0 to 5 were established to evaluate each aspect, where 0 indicates some catastrophic problem, 3 grammatical, spelling or other errors, and 5 full compliance. "N/A" was used if the heuristic was not applicable to the website.
3. Inspection Sheet Preparation: An inspection sheet was created, incorporating all selected heuristics in a table format for use by all evaluators.
4. General Process Definition: Specific guidelines were set, including the selection of minimum pages for inspection and the minimum time allocated for inspection.
5. Inspection Execution: Evaluators individually conducted inspections using the prepared inspection sheet.
6. Results Discussion: Evaluation data from individual inspections were collaboratively reviewed to reach a consensus on comments and scores, which may not necessarily be the average of individual scores.
7. Material Organization and Reporting: Finally, all evaluation materials were organized, and the results were reported as outlined in the document structure. This involved active collaboration among team members to compile and present the findings effectively.

## Study execution

Firstly, we identified the tasks to execute to value the heuristics. Afterward there was an individual analysis of the website considering the heuristics during task execution. Subsequently, following a comparison, the final score for each heuristic was determined based on the scores assigned by each individual.

### Tasks Identification

The process started with the identification of the following three tasks:

* Make a donation
* Get information about UNICEF’s last projects
* Discover what is UNICEF doing for the Child Protection

### Metrics Definition

To assign the scores we relied on the following Metrics Definition:

* N/A: Heuristic not applicable.
* 0: Catastrophic problem; must be addressed with the highest priority.
* 1: Major problem; important to fix, as this will impact users' ability to achieve goals.
* 2: Minor problem; should be fixed if possible as this will be an annoyance to users, but it won't affect ability to achieve goals.
* 3: Grammatical, spelling, or other errors; should be fixed as they can affect users' impressions of the interface and its creators, but it won't impact usability.
* 4: Cosmetic problem; there is no urgency in fixing it.
* 5: Not a problem.

## Results

The subsequent table presents the finalized scores unanimously determined by the inspectors. As previously stated, these scores range from 0 to 4.

### Table

|  |  |  |
| --- | --- | --- |
|  | Heuristic | Score |
| Nielsen's Heuristics | N01. Visibility of system status/bread crumps (**Navigation/Interaction**) | 1 |
| N02. Match between system and the real world (**Presentation**) | 4 |
| N03. User control and freedom (**Navigation/Interaction**) | 3 |
| N04. Consistency and standards (**Presentation-Content**) | 1 |
| N05. Error prevention (**Presentation**) | 4 |
| N06. Recognition rather than recall (**Navigation/Interaction**) | 2 |
| N07. Flexibility and efficiency of use (**Navigation/Interaction**) | 3 |
| N08. Aesthetic and minimalist design (**Presentation-Content**) | 3 |
| N09. Help users recognize, diagnose and recover from errors (**Presentation**) | 4 |
| N10. Help and documentation (**Content**) | 5 |
| MiLE's Heuristics - Navigation/Interaction | M01. Interaction consistency | 1 |
| M02. Group navigation-1 | 2 |
| M03. Group navigation-2 | 1 |
| M04. Structural Navigation | 1 |
| M05. Semantic Navigation | 3 |
| M06. "Landmarks" | 4 |
| MiLE's Heuristics - Content | M07. Information overload | 4 |
| M08. Consistency of Page Content Structure | 1 |
| M09. Contextualized Information | 4 |
| M10. Content organization (hierarchy) | 4 |
| MiLE's Heuristics - Presentation | M11. Text Layout | 3 |
| M12. Interaction placeholders-semiotics | 5 |
| M13. Interaction placeholders-consistency | 2 |
| M14. Consistency of Visual Elements | 1 |
| M15. Hierarchy-1 | 3 |
| M16. Hierarchy-2 | 3 |

### Score analysis

In this subsection we are going to discuss in detail all the heuristic scores that require some extra comments.

**N01. Visibility of system status/bread crumps**The status bar may not always be visible, and in high contrast mode, the cursor may not be readily discernible.

**N02. Match between system and the real world**This concerns solely the donation page, where attempts are made to encourage visitors to stay on the site (through a banner) and complete their donation, resembling real-world situations where volunteers strive to persuade individuals to donate, occasionally through persistent encouragement.  
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**N03. User control and freedom**This is generally effective across all pages, except for the donation page, where user control and freedom are essentially lacking.

**N04. Consistency and standards**The UI elements consistently vary, presenting an array of methods to accomplish the same task. This makes it hard for users to develop a clear idea of how things work.

**N05. Error prevention**This heuristic was only evaluated on the donation page, where nearly all errors in the fields for completion are verified, and feedback is provided for any inaccuracies. The only exception occurs when more than two decimal points are entered in the amount field, as it does not trigger an error and allows the process to continue uninterrupted.

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Descrizione generata automaticamente

**N06. Recognition rather than recall**The absence of discernible patterns, excessive repetition, and a lack of hierarchical ordering can hinder users' ability to recognize elements on a webpage.

**N07. Flexibility and efficiency of use**Certain links open new tabs displaying UNICEF pages from various countries, occasionally in different languages and with distinct user interfaces. This causes confusion and disorientation, and it has a severely negative impact on the flow of usage.

**N08. Aesthetic and minimalist design**There is an excessive number of elements, and there is a lack of consistent graphic code.

**N09. Help users recognize, diagnose and recover from errors**Assistance is available on the donation page, and on the error 404 page, there is a button provided to return to the homepage.

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Descrizione generata automaticamente

**N10. Help and documentation**There is documentation available regarding information about UNICEF's work, such as details on how they manage finances.

**M01. Interaction consistency**It is challenging to discern the available actions on each page, with various points of interaction leading to the same outcome, as pointed out with heuristic N07.

**M02. Group navigation-1**Certain sections of the site exhibit satisfactory navigation, while in others, navigation is notably poor (for example, the donation page lacks intuitiveness).

**M03. Group navigation-2**The status bar and the navigation menu contain an excessive number of options that can overwhelm cognitive processes, leading to cognitive overload.

**M04. Structural Navigation**Overall, the pages of the website tend to be excessively long, lacking an index that would allow users to navigate directly to a specific section. However, in the donation section, this issue is not present.

**M05. Semantic Navigation**Thanks to the presence and the structure of the status bar, users can swiftly locate pages related to their topics of interest. However, there are instances where clicking on links within the status bar opens a new tab leading to a different website, as observed with heuristic N07.

**M06. "Landmarks"**Landmarks are provided for users to navigate back to the homepage and main topics, offering convenience and accessibility. However, in line with the observations made for the heuristic N07, when links open new tabs, selecting the landmark to return to the homepage redirects users to the homepage of the newly opened site. Additionally, on the donation page, there are instances where selecting the landmark causes the page to become unresponsive.

**Sometimes, clicking on UNICEF's logo, the donation page got stuck.
**

Figure 1. Occasionally, when clicking on the UNICEF logo, the donation page becomes unresponsive or freezes.

**M07. Information overload**The website often overwhelms users with an excess of information, a problem compounded by redundant content and a need for improved hierarchical structure.

**M08. Consistency of Page Content Structure**The user interface (UI) of the pages tends to vary considerably, with occasional shifts significant enough to alter the overall appearance and functionality of the site.

**M09. Contextualized Information**The status bar aids in determining one's location within the site, yet its ambiguous design and style can lead to confusion and uncertainty.

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Descrizione generata automaticamente

Figure 2. The current page is the "Support for parenting" one, but the highlighted text is the title of the previous section

**M10. Content organization (hierarchy)**There is a considerable amount of visible text on each page, and one potential improvement could be the implementation of a drop-down menu to enhance organization and navigation efficiency.

**M11. Text Layout**The text layout is adequate, but the unclear hierarchy makes navigation confusing. In the donation page, interactive elements could be better emphasized for clarity.

**M12. Interaction placeholders-semiotics**Each link provides a descriptive explanation of its function, ensuring clarity and usability for the user, except for the link named “Humanitarian Action for Children” under the “WHAT WE DO” and the “RESEARCH AND REPORTS” menus that lead to different pages.

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Descrizione generata automaticamente Immagine che contiene testo, Carattere, Pagina Web, numero

Descrizione generata automaticamente

**M13. Interaction placeholders-consistency**Consistency is lacking, particularly in the formatting of donation descriptions within the donation section, where not all options are consistently presented in bold. This inconsistency can lead to confusion and detract from the overall user experience.

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Descrizione generata automaticamente Immagine che contiene testo, schermata, Carattere, software

Descrizione generata automaticamente Immagine che contiene testo, schermata, multimediale, software

Descrizione generata automaticamente

**M14. Consistency of Visual Elements**Consistency in the user interface (UI) is lacking across different pages of the website, contributing to a disjointed user experience. Additionally, the implementation of high contrast mode is inconsistent, as evidenced by variations in the color of text links leading to articles. These discrepancies can pose challenges for users, particularly those relying on high contrast mode for accessibility purposes.

Immagine che contiene testo, computer, schermata, Sito Web

Descrizione generata automaticamente

**M15 – M16. Hierarchy-1 & Hierarchy-2**The current hierarchy of elements is satisfactory, but there is room for improvement through graphical enhancements. Strengthening the visual presentation could elevate the hierarchy, resulting in a more intuitive user experience.

### Conclusions

In this section, we discuss the results obtained from the inspection.

The first chart above shows that the average of all ratings is barely above satisfactory (specifically 2.85 out of 5). Consequently, there is significant room for improvement.

From the Heuristic analysis, it is evident, as shown in the second chart, that the area where the site is the most deficient is Navigation/Interaction. The lack of consistency between the various pages of the site, coupled with their excessive length, as well as a dropdown menu containing an abundance of items, makes the learning process required to acquire proficiency in site navigation quite challenging.

Regarding the positive aspects, the second chart reveals that the Content category received the highest score, closely followed by the Presentation category. These two categories contribute to the good usability of the site, helping to offset deficiencies in the Navigation aspect. This is attributed to a well-implemented status bar and a well-organized hierarchy, which effectively compensate for shortcomings in other areas.

The website appears to be umbrella-like in structure, with *unicef.org* serving as the central hub from which users can access various other sites. Users start from a general point where they gather initial information, and then, based on their specific objectives, they navigate progressively deeper, being redirected to the relevant country-specific UNICEF website.

Overall, the site allows for fairly easy achievement of the basic user objectives, but it becomes too inconvenient when attempting to delve deeper into the site.

# **User Testing**



## General methodology

## Study design

### User Profile Definition

### Evaluation criteria & Variables

### Tasks

## Study execution

### Before Test

### During Test

### After Test

After each testing session, every participant contributed by providing detailed feedback through a dedicated Google Form containing the SUS survey regarding their experience using the website. This phase of data collection proved to be of paramount importance in gaining a real-time understanding of the users' just-concluded experience.

The questionnaire was prepared following the Standard SUS (System Usability Scale), a widely accepted and employed tool for assessing the usability of systems, in our case UNICEF.org website. This standardized methodology provides a structured evaluation of the user experience, allowing for the acquisition of quantitative data on users' perceptions regarding effectiveness, efficiency, and satisfaction in system usage.

The rating scale employed in the SUS survey ranges from 1 (Strongly disagree) to 5 (Strongly agree) and encompasses a series of 10 standard questions designed to explore various aspects of system usability. The adopted methodology aims to provide an in-depth and reliable insight into users' experiences, thereby assisting in guiding any enhancements and optimizations to the UNICEF.org website.

## Results

### …

### Survey Analysis

The data collected through the SUS survey allows for a subjective evaluation of website usability. Each user provides a rating representing their judgment on various aspects of the site defined by these questions:

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 think 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.

It's important to note that the survey questions are structured alternately: odd-numbered questions concern positive aspects, while even-numbered questions concern negative aspects. This arrangement prevents results from being influenced by users consistently assigning the same score to consecutive questions.

The following algorithm is executed to analyse the data, for each participant iterate:

1. For odd-numbered questions, subtract one from the given score.
2. For even-numbered questions, calculate the difference from five.
3. Sum all the scores obtained from the single user.
4. Multiplying the sum by 2.5 yields a score between 0 and 100.

After applying this process to each participant, the average of the resulting scores is calculated to obtain an overall evaluation of the experience. The following graphs display, for each user, the normalized total score compared with the overall average, allowing us to assess the usability of the UNICEF.org website.

The average score is 51.39 which can be interpreted following the below classification:

|  |  |  |
| --- | --- | --- |
| **Grade** | **SUS Score** | **Description** |
| A | 78.9 – 100 | Excellent: The website excels in usability and user satisfaction. |
| B | 72.6 – 78.8 | Good: The website performs well with room for minor improvements. |
| C | 62.7 – 72.5 | Okay: The website is satisfactory but may benefit from enhancements. |
| D | 51.7 – 62.6 | Poor: The website has noticeable usability issues affecting user experience. |
| F | 0 – 51.6 | Awful: The website performs very poorly, requiring urgent attention to issues. |

Upon further analysis of the individual question ratings, it's evident that for odd-numbered questions (representing positive aspects), question 7 has the highest average score, while question 1 has the lowest. Conversely, for even-numbered questions (representing negative aspects), question 6 has the highest average score, while question 4 has the lowest. Combining these findings, it's apparent that the combination of ratings for question 7 and question 4 indicates overall ease of use of the website due to its simplicity and repetitive structure, particularly for basic tasks. This idea is reinforced by the average ratings received for questions 3 and 9. Conversely, the combination of results for questions 1 and 6 suggests that inconsistencies present on the site make it confusing and chaotic, discouraging users from frequent visits to avoid unnecessary mental overload. This notion is supported by the ratings for questions 2 and 8.

Based solely on the survey data presented, we can infer that the final rating falls within the D and F range, considering the insights derived from the analysis confirming out judgment from usability evaluation at the beginning of this document.

In the annex section, all graphs are provided for further analysis.

# **Conclusion**



## Usability Evaluation VS. User Testing

## Suggestions for Improvements

### Problems

### Suggestions

## Observations

# **Annex**



## Inspection

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## User Testing

### User’s survey

This section compiles all the ratings provided by each user tested for every SUS survey question. The graphs are organized into two columns: the first represents odd-numbered questions (higher the score better the system), while the second column represents even-numbered ones (higher the score worst the system). Each graph displays both the individual ratings given by users and the average rating for each question. It's essential to emphasize that the data depicted in these graphs have not been standardized using the formulas applied to the overall graph presented earlier.

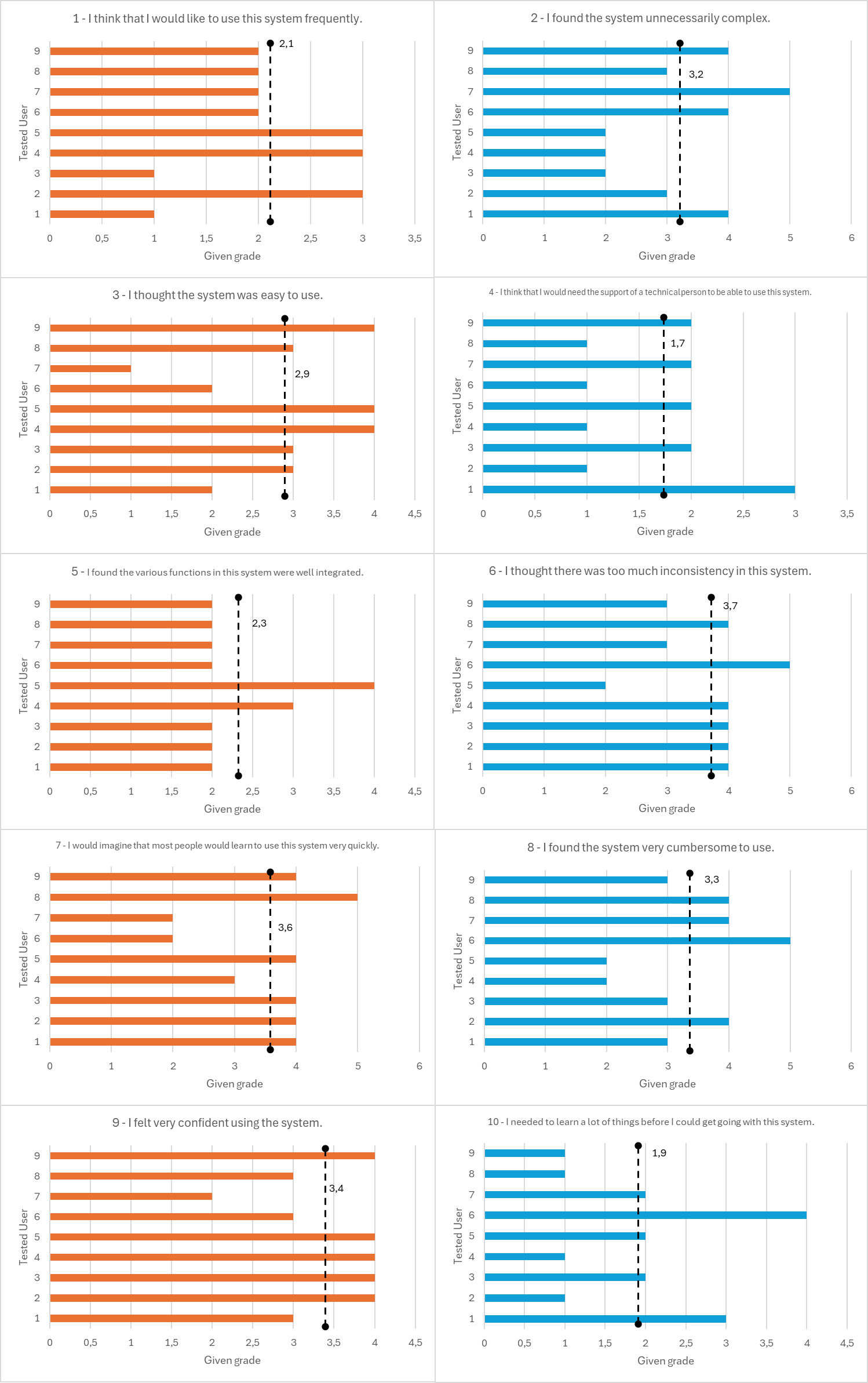


Immagine che contiene testo, diagramma, Parallelo, schermata

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