

HYPERMEDIA APPLICATIONS (WEB AND MULTIMEDIA)

USABILITY EVALUATION

<https://www.operaestate.it/it/>

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Abstract

The purpose of this document is to provide an evaluation of the usability of one of the following sites:

<https://www.operaestate.it/it/> or <https://www.operaestate.it/en/>

The site, called Opera Estate, is a performing arts festival held in Bassano del Grappa, Veneto during the summer. Both links point to the same website but the former is the Italian version whereas the latter is the English version. The objective was to analyze one or the other, but the English version of the site was not sufficient to support a full analysis. Instead, this report considers both versions with the understanding that the Italian version is more comprehensive and the English version translates only a portion of the original language. The first section of this report provides the analysis from an expert review using two inspectors to evaluate the site against two different sets of heuristics for usability. The second section of this report provides the data and outcomes from user testing using 10 users that test the usability of the site with a set of predetermined tasks. The last section of this report makes a comparison of the different results achieved using the two methods and discusses some suggestions for redesigning the site.

1 Inspection

1.1 General Method

The first part of this study provides an inspection of the usability of the Opera Estate site reviewed by experts using a heuristic approach. Heuristic methods are structured and based on checklists and usability principles to critique the usability of a product or system. For this study, two heuristic-driven evaluations are performed: one using Nielsen heuristics and another using the Milano-Lugano Usability Evaluation Method (MILE).

1.1.1 Nielsen Heuristics

The set of Nielsen heuristics is a framework of 10 broad rules used to analyze good usability design. For the purposes of this executing this study, the inspectors considered all 10 Nielsen heuristics described in Table 1.

1.1.2 Milano-Lugano Usability Evaluation

The Milano-Lugano Usability Evaluation (MILE) method consists of a set of over 40 criteria to evaluate a system. For the purposes of this evaluation, only a subset of the MILE heuristics is considered with the main subjects being navigation, content, and presentation. The inspectors considered only the 11 MILE heuristics described in Table 2.

1.2 Execution

1.2.1 Evaluation Format

Two Google Forms, Annex 3.2 and Annex 3.2, were used to execute the heuristic inspections. One form was used for each set of heuristics. Both forms consisted of a short explanation, a multiple choice field to capture the score, and a text box for the inspector to make any comments justifying their score. The questions in Tables 3 and 4 are the ones used in the inspection forms to prompt inspectors to provide a score for each heuristic.

1.2.2 Scoring Method

Each heuristic was evaluated by a score from 1 to 4. Both forms included the following guidance to define scoring measures:

- 1 - Critical/ No information
- 2 - Frustrating/ Not clear
- 3 - Doable/ Clear but hard to find
- 4 - Easy to do/ clear and easy to find

ID	Heuristic	Description
N1	Visibility of system status	The system should always keep users informed about what is going on through appropriate feedback within reasonable time. When users know the current system status, they learn the outcome of their prior interactions and determine next steps. Predictable interactions create trust in the product as well as the brand.
N2	Match between system and the real world	The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. The system should follow real-world conventions, making information appear in a natural and logical order.
N3	User control and freedom	Users often select functions by mistake and need to go back to a safe and known state through a clear and visible "exit/GoBack" function to prevent needing to start the process from the beginning.
N4	Consistency and standards	Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow "platform" conventions. Standards support consistency but consistency is a broader concept.
N5	Error prevention	Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and notify the users with a confirmation option before they commit to the action.
N6	Recognition rather than recall	Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. While using the system information should be visible or easily retrievable.
N7	Flexibility and efficiency of use	The system should speed up the interaction with the system for expert users by means of accelerators, like short-cuts, to allow users to tailor frequent actions.
N8	Aesthetic and 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 ones and decreases their relative visibility. Interfaces need to be cleared of unnecessary elements and content that do not support the page goals and tasks.
N9	Help users recognize, diagnose, and recover from errors	Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution. These error messages should also be presented with visual treatments that will help users notice and recognize them.
N10	Help and documentation	Even though it is better if the system can be used without documentation, it may be necessary to provide it. Any such information should be easy to search, focused on the user's task, eventually listing the steps to be carried out.

Table 1: Nielsen Heuristics

1.2.3 Data Collection

To undergo a thorough analysis of site, inspectors used the navigation bar as a reference point to start interacting with the site. By using the navigation bar to guide the exploration of the site, the inspector is guaranteed to touch areas of the site that the designers intended to give the most exposure to their users. The inspectors explored at least the following pages:

- Festival >> Programma [it]
- CSC Centro Scena Contemporanea [it]
- Dance Well [it]
- Progetti Europei [it]
- Box Office [it]
- Art Bonus [it]
- Circo [en]
- Residenze Passate [en]
- Festival >> Upcoming Events [en]
- CSC Centro Scena Contemporanea [en]
- Dance Well [en]
- European Projects [en]
- Box Office [en]
- Art Bonus [en]

ID	Group	Heuristic	Description
M1	Content	Information overload	The information provided on the page should be of the right size. The user should not be overwhelmed by information that would make the page unreadable. On the other hand the information provided should be enough to allow the user to understand where to go according of what is looking for.
M2	Navigation	Interaction consistency	Pages of the same category should have the same link and the same interactive functions.
M3	Navigation	Group navigation	It should be clear and easy for a user to navigate through the different section of a single topic.
M4	Navigation	Structural navigation	The system should offer users an easy and intuitive way to navigate among the parts of a topic.
M5	Navigation	Semantic navigation	The system should consider that the user wants to navigate through related topics, even if they belong to different groups, like Authors and Books in a library web site.
M6	Navigation	Landmarks	There are some pages of the web site that will be more requested than others, such as the home page or the message page in a social network. The system should include landmarks to allow the user to reach those pages in a quicker way regardless of where the users are currently located on the website.
M7	Presentation	Text layout	The text of the website should be easily readable without the need from the user to enlarge or reduce the layout.
M8	Presentation	Interaction placeholders: semiotics	A website could be full of interactive placeholders, such as clickable texts and icons, buttons, interactive images. All of them should be easily recognizable from the user who has to understand what it can or cannot interact with.
M9	Presentation	Interaction placeholders: consistency	There are multiple types of interactive objects on a website, each one with a different type of action. Those objects should provide information on what they do and they have to be consistent with the function they provide. For example a map icon will make the users understand that a map would be opened. If the login page would appear instead, the system would be unclear.
M10	Presentation	Spatial allocation	The images should be positioned in the correct way: the units of the same category should be close and the units of different categories should be far away.
M11	Presentation	Consistency of page structure	The information in pages of the same category must have the same background, the same disposition, and the same properties to provide the user a visual that is proportional to its relevance.

Table 2: MILE Heuristics

The intention was to select the English version to inspect but the English version of the site was insufficient to support a full study. Each heuristic evaluation was allotted an hour, totalling up to two hours per inspector.

1.3 Results

Although the list of pages to analyze in Section 1.2.3 seems plentiful, many of the pages from the English version of the site either showed a 404 message as in Figure 3 or directed the user back to the Italian version of the site. Adding pages from the English version of the site did not add much workload in the inspection as shown in Table 7. Moreover, some "child" pages from the pages with a working English version (labeled as OK in Table 7), revert back to the Italian version of the site or display a 404 error message. This is discussed more in the Discussion Section 1.4.

Results of each inspectors are shown in the annex. Interestingly, both inspectors issued scores 30.6% higher on average when evaluating the site against the MILE heuristics compared to the Nielsen heuristics. Collectively, the inspectors issued an average score of 2.35 across all 10 Nielsen heuristics and an average score of 3.2 across all 11 MILE heuristics, Table 5. Figure 2 directly compares all the scores given by the inspectors for both evaluations. After sharing findings, the inspectors agreed on the final scores listed in

ID	Heuristic	Questions
N1	Visibility of system status	Is it clear what are you doing and where are you doing? Is it clear where are you now? It is clear how I got here, the path I followed, can I follow the step backward(Bread crumbs)?
N2	Match between system and the real world	Is the language understandable for the user or is it too technical? Does the UI seem intuitive? Is it designed to represent life-like objects?
N3	User control and freedom	Does the system allow the user to go back to a safe state when she performs a wrong action? Does it show a clear way to exit the current interaction, like a cancel button? Does it support Undo and Redo?
N4	Consistency and standards	Are there any strange symbols or patterns which can get the user confused? (For example, an 'x' symbol that is not used as a 'close' or 'deny' semantic).
N5	Error prevention	If you end up on the wrong page, does the site show you a way to go back to your previous position? (or am I forced to resume from the beginning?). Are there any messages/pop-ups that help the user to know exactly what they are doing in order to prevent errors? Considering the forms, are there clear explanations to prevent errors in its compilation? Is the form evaluated while the user types the information?
N6	Recognition rather than recall	Does the system help the user to retrieve information? (For example, suggesting their options while searching for something).
N7	Flexibility and efficiency of use	Does the system provide accelerators, like shortcuts and touch gestures? Does the system provide personalization by tailoring content and functionality for individual users?
N8	Aesthetic and minimalist design	Is every information or stimuli (dis)played on the page are necessary and useful? Is the user overwhelmed with too much information? Is the content displayed in a minimal and clear way?
N9	Help users recognize, diagnose, and recover from errors	Does the system provide error messages to help the user? Do the error messages written in an understandable language rather than code messages?
N10	Help and documentation	Are the cookie and privacy policies easy to find and to read? Does it present any kind of help desk?

Table 3: Nielsen Heuristics Inspection Questions

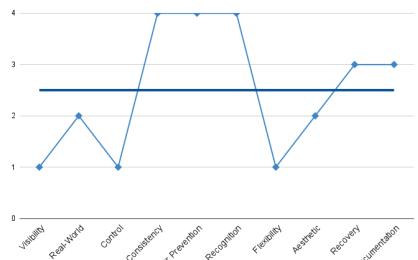
Table 6.

ID	Heuristic	Questions
M1	Content: Information overload	Is the information in a page too much or too little?
M2	Navigation: Interaction consistency	Do pages of the same type have the same links and interaction capabilities?
M3	Navigation: Group navigation	Is it easy to navigate from and among group items: from the list of items of a group to its members, among different groups, among members of the same group?
M4	Navigation: Structural navigation	Is it easy to navigate among components (parts) of a topic?
M5	Navigation: Semantic navigation	Is it easy to navigate from a topic to a related one?
M6	Navigation: Landmarks	Are landmarks useful to reach key parts of the web site?
M7	Presentation: Text layout	Is the text readable? Is the font size appropriate?
M8	Presentation: Interaction placeholders: semiotics	Are textual or visual labels of interactive elements “expressive”? i.e., do they respect the meaning of the interaction and its effects?
M9	Presentation: Interaction placeholders: consistency	Are textual or visual labels of interactive elements consistent in terms of wording, icon, position, etc.?
M10	Presentation: Spatial allocation	Is the on-screen allocation of contents and visual appropriate for their relevance? Are “semantically related” elements close and “semantically distant” elements far away?
M11	Presentation: Consistency of page structure	Do pages of the same type have the same lay out (same visual properties of each component and similar organization and lay-out of the various elements)?

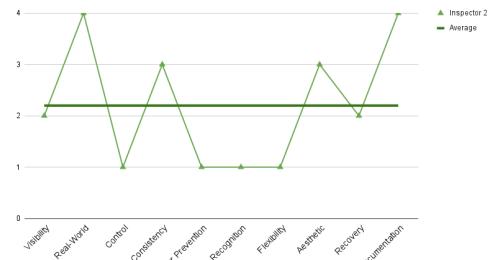
Table 4: MILE Heuristics Inspection Questions

	Inspector 1	Inspector 2	Combined
Nielsen Scores	2.5	2.2	2.35
MILE Scores	3.3	3.1	3.2

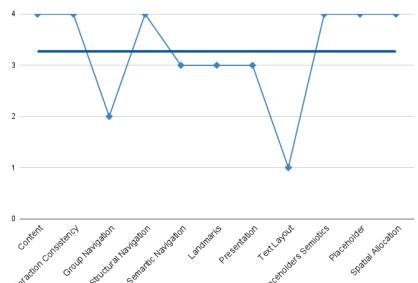
Table 5: Average values of the scores for each heuristic-driven evaluation.



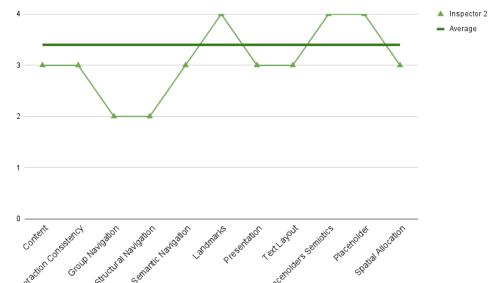
(a) Inspector 1 Nielsen Results



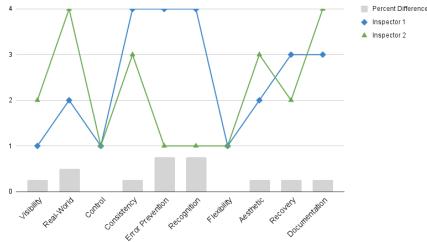
(b) Inspector 2 Nielsen Results



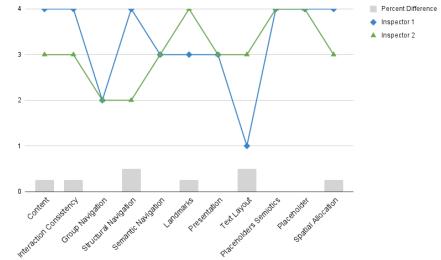
(c) Inspector 1 MILE Results



(d) Inspector 2 MILE Results



(a) Comparing inspectors' Nielsen scores.



(b) Comparing inspectors' MILE scores.

Figure 2: The inspectors' scores for each heuristic evaluation superimposed on each other. The grey boxes represent the ratio between the difference of the two scores and the maximum score.

ID	Inspector 1	Inspector 2	Agreed
N1	1	2	1
N2	2	4	3
N3	1	1	1
N4	4	3	3
N5	4	1	3
N6	4	1	2
N7	1	1	1
N8	2	3	2
N9	3	2	3
N10	3	4	3

(a) Aggregate table of the Nielsen scores issued by each inspector individually and the score all inspectors agreed upon after discussing.

ID	Inspector 1	Inspector 2	Agreed
M1	4	3	3
M2	4	3	3
M3	2	2	2
M4	4	2	3
M5	3	3	3
M6	3	4	3
M7	3	3	3
M8	1	3	1
M9	4	4	4
M10	4	4	4
M11	4	3	3

(b) Aggregate table of the MILE scores issued by each inspector individually and the score all inspectors agreed upon after discussing.

Table 6: Inspectors agreed on scores for Nielsen and MILE evaluations after discussing their rationale.

404

Article not found

[HOME PAGE](#)

Figure 3: The site routes the user to a page with this message when the user clicks on a broken link.

Page	Outcome
Circo [en]	404 message
Residenze Passate [en]	404 message
Festival >> Upcoming Events [en]	OK
CSC Centro Scena Contemporanea [en]	OK
Dance Well [en]	OK
European Projects [en]	Italian
Box Office [en]	Italian
Art Bonus [en]	Italian

Table 7: Many of the pages in the English version of the site are either broken links or route the user directly back to the Italian version of the site.

1.4 Discussion

1.4.1 Coverage of English Version

As mentioned, the English version of the site is not sufficient to deliver complete site to the user, thus it was added to the inspection because it in fact severely impacted the user experience, especially the navigation patterns. By including both English and Italian versions of the site, inspectors were able to capture how the partial coverage of English pages affected the navigation patterns while still being able to analyze the site for its content with the functioning Italian version.

1.4.2 Nielsen Heuristics

Visibility of system status — Average: 1.5

The site does not provide breadcrumbs or any indication of the user's "location" within the system. The site uses a sidebar to house links related to a topic, but the the site inconsistently uses different visual indicators to indicate the current page. For example, Figure 4 shows that in the CSC topic, the current page is indicated with bold, orange-colored text whereas in the Box Office topic, there is no indication of the current page.

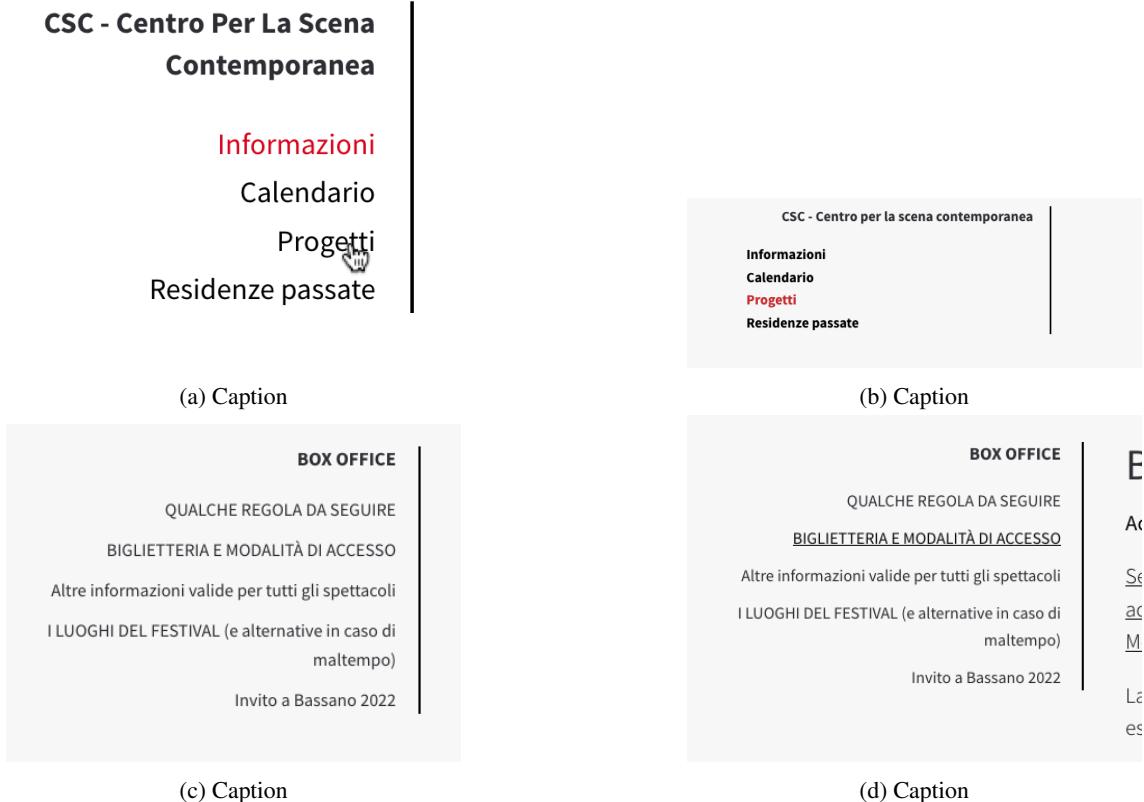


Figure 4: There are various ways in which structural links are formatted on a topic page.

Match between system and real world — Average: 3

The site does not use utilize real world images to enhance the user's experience, but the user interface is still not very intuitive. All the language used is appropriate for the content and the user is not exposed to technical jargon that does not pertain to the content.

User control and freedom — Average: 1

The site does not provide the user with their own back button. The user must rely on their own browser's back button.

Consistency and standards — Average: 3.5

The site appropriately uses a hamburger icon to represent the collapsed navigation bar. The site also uses a "+" icon to expand text as shown in Figure 5. The site uses these familiar icons for their standard functions. It was noted, however, that the accordion-style component used to show and hide text was only used

(a) Screenshot of the 'Dance Well – movement research for Parkinson' page. It shows a list of sections with a '+' icon to the right of each. The first section, 'NON DANZA TERAPIA, MA PRATICA ARTISTICA', has its text hidden, indicated by a red circle around the '+' icon.

(b) Screenshot of the same page with the text for 'NON DANZA TERAPIA, MA PRATICA ARTISTICA' restored, indicated by a red circle around the '-' icon.

Figure 5: The '+' icon show or hides text.

in two different instances throughout the site. There are some other pages that could have benefited from such a component, but this is not an inconsistency. Additionally, the exit button in the light-box presentation of the photos at the bottom the "Dance Well" page is placed in the bottom-right corner. The convention is to place the exit button in the top-right corner and the site actually uses this convention elsewhere in the site as shown in Figure 6.

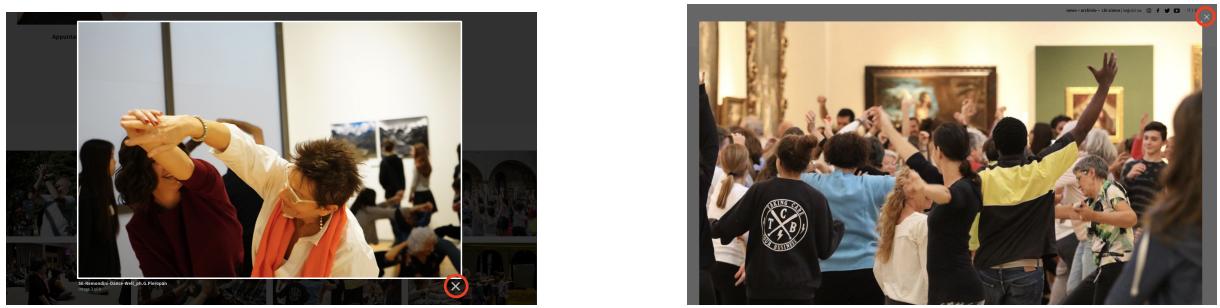


Figure 6: The site is not consistent in the placement of the close button for an image.

One potential issue is the presentation of two similarly formatted buttons in the cards shown on the events page, Figure 7. One button, is simply a textual label with no additional functionality whereas the other button labeled "Informazioni" changes its background on hover and sends the user to another page on click.

Error prevention — Average: 4

The site provides feedback when filling the newsletter subscription form if the user does not provide a valid email. There are some deviations across browsers: on Firefox, the feedback disappears after a few attempts, whereas on Chrome, the feedback persists until the erroneous entry is corrected.

Recognition rather than recall — Average: 2.5

The widespread number of broken links leads to some convoluted navigation paths which would require memory in order to reach a page. For example, from the navigation bar, the page dedicated to "Lirica" events does not show any events of that type. However, if the user accesses all the events from the Festival >> Programma page, the user can use the filter to view only events of type "Lirica" as shown in Figure 8 and in fact see that there exists one such event. This faulty data retrieval leads to a different outcome depending on the navigation path the user took. If the user wanted to find the Lirica event again they would have to rely on memory.

Flexibility and efficiency of use — Average: 1

The site does not make use of any shortcuts or accelerators to customize the experience for more advanced users.

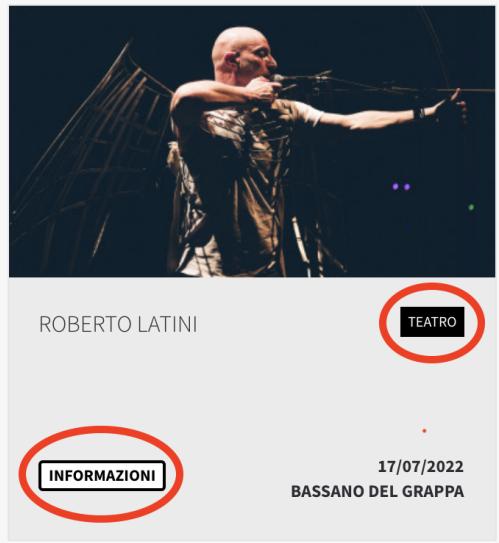


Figure 7: Two seemingly equivalent buttons have different functionalities.

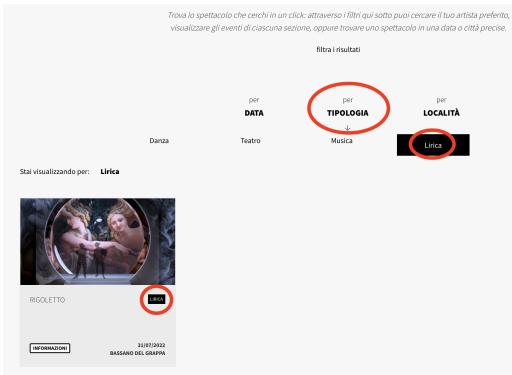


Figure 8: The user can only access *lirica* events by filtering from the Festival >> Programma page, not from the Festival >> Lirica events page.

Aesthetic and minimalist design — Average: 2.5

The aesthetic formatting of bodies of text throughout the site is well done. Long chunks of text are made digestible with creative use of font styles, letter spacing, and font sizes. The sidebar in the "Progetti Eu-ropei" page, however, has some information overload. As shown in Figure 9, the length of the sidebar is driven by the list of *closed* projects. This outdated information should be accessible to the user but it is not necessary to show the user all the group members immediately on the topic introduction page. This long list in the sidebar drives the length of the page and leaves a large chuck of white space in the main section.

Help users recognize, diagnose, and recover from errors — Average: 2.5

The site has a page dedicated to showing the user a 404 message as shown in Figure 3, but this message does not catch *all* erroneous paths and links. Generally, the site still has some broken links that expose the user to mistakes in the site architecture and faulty data retrievals. For example, Figure 11 shows that the Italian version of the site shows no music events in the Festival >> Music events page. As shown in Figure 10 however, music events *do* exist but mistakenly appear in the Festival >> Theater events page. Additionally, the Italian version does provide any feedback regarding this bug, but the English version does, as shown in Figure 11.

Help and documentation — Average: 3.5

Both inspectors noted that the site properly informs the user of the site's cookie policy.

1.4.3 MILE Heuristics

Content: Information Overload

For the most part, the site avoids information overload, but some minor instances of information overload interfere with the look and design of a page. For example, the navigation bar contains text that is too small and crowded for the space allocated. The CSC tab is labeled with the acronym CSC *as well as* the spelled-out term as shown in Figure 15a. This leads to unnecessary crowding of information in a space intended to serve as a quick reference. Another example: the links for the closed projects listed in the sidebar in Figure 9 unnecessarily drives an excess amount of white-space and accommodates long names which often end up spanning multiple lines and add to the crowding.

Navigation: Interaction consistency

The site generally follows a structure: there are pages for events that display events as cards in a grid-like format; there are pages for other informational topics which place links in a sidebar on the left-hand side, make use of a header to show the title of the page, and place bodies of text on the right; and there are pages to describe details for a specific event. There are some minor deviations from this structure, however, that disrupt the flow of the user experience. Also, there are many broken links across the site that are not consistent across the English and Italian versions of the site.

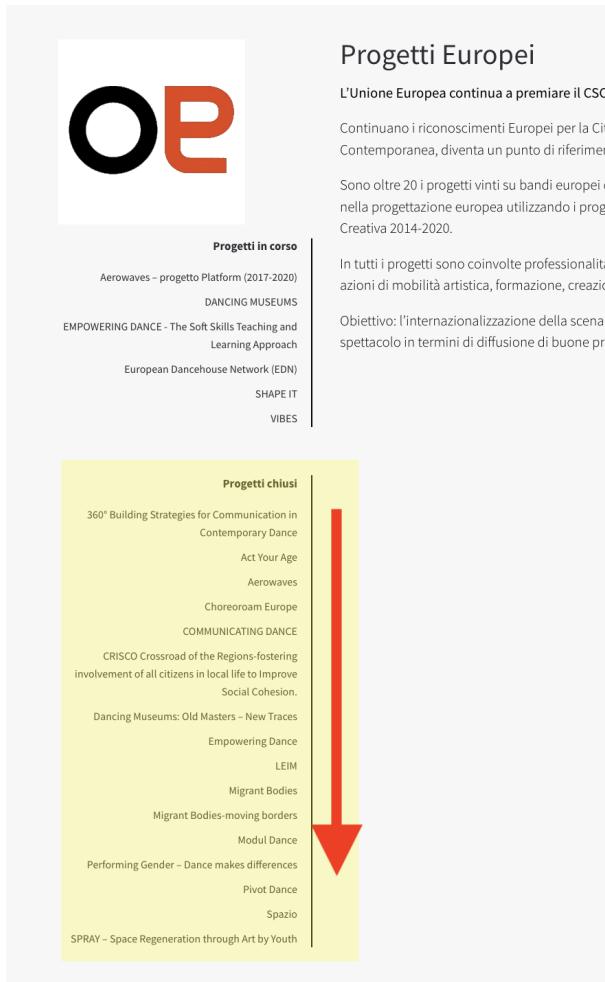


Figure 9: This long list drives the page length, inducing unnecessary white-space on the right side.



Figure 10: Both theater and music events appear on a page seemingly dedicated to listing only theater events.

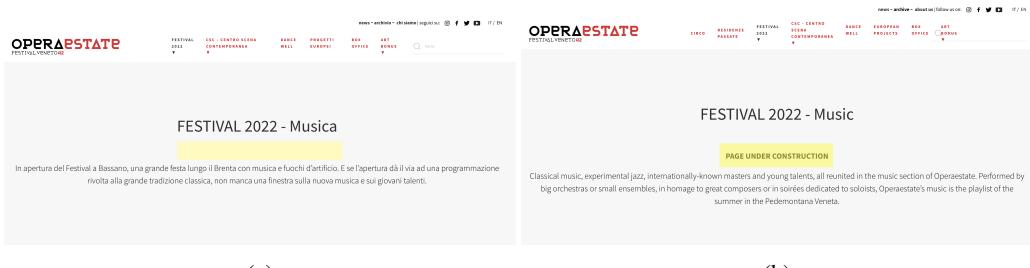


Figure 11: The English and the Italian versions are not consistent in notifying the user they have reached an erroneous state.

Navigation: Group Navigation

Many of the group links are broken throughout the site such as Festival >> Lirica and Festival >> Musica events from the navigation bar that lead to pages that show no events related to the topic. Festival >> Teatro and Festival >> Programma, on the other hand, show events of all kinds. Although all the information needed is available to the user, it is not organized well and the content does not comply with its label.

Navigation: Structural Navigation

Throughout the site, structural links are placed in a sidebar on the left-hand side, however, there are some inconsistencies as demonstrated in Figure 4. The CSC topic shows structural links in a normal font style, orange when active, and right-aligned. Clicking on the "Progetti" link shown in Figure 4a sends the user to another page with the sidebar shown in Figure 4b; the formatting changes completely. Then, from the "Progetti" page, the lack of back button forces the user to use the navigation bar in order to return back to the CSC topic page, which negatively interrupts the user's experience. Lastly, Figures 4d and 4c demonstrate another format used for structural links: text is right-aligned, underlined on hover (Figure 4d), and no provides no indication of the current page.

Navigation: Semantic Navigation

To some extent, the site allows users to navigate between related topics but since the formatting is not consistent, it is not always clear to the user when they are navigating to another topic or navigating within the same topic. This occurs when the user clicks on "Progetti" from the sidebar in the CSC topic introduction page as shown in Figure 12a and then the user lands on the page shown in Figure 17. It seems like the user has jumped to another topic, but, as stated previously, the lack of back button makes the move difficult to reverse. Then, from here, offering the user to navigate to "European Projects" would have been logical since these are two groups that seem related but the site does not offer a navigation path between them outside of the navigation bar.

Navigation: Landmarks

The landmark links in the navigation bar primarily skew the reader to informational pages about the Festi-

val rather than the events related to the Festival. The navigation bar changes, however, between the Italian and English versions of the site as demonstrated in Figure 13. The rationale for this choice is unclear since the links added in the English version are 1) both in Italian and 2) both direct the user to a 404 message as shown in Figure 3. Another critique of the navigation bar is the poor choice of labels. Most notably, the CSC - Cento Scena Contemporanea in Figure 15ais the name for one link but it is quite long and unnecessarily includes both the acronym and the spelled-out version of the term.

Presentation: Text Layout

The site makes good use of space on the page, font size, font style variety, and text placement. There are only a few instances where poor text presentation is problematic such as in the navigation bar as shown in Figure 13. The font used in the navigation bar is quite small and some titles are too long so they overflow to the next line. Visually it is quite clunky and awkward to have a label so long that it spans across three lines. This also happens sometimes in the sidebar as shown in Figure 9. The vertical spacing in the left sidebar does not make it clear to the user if the link spans across three lines or if it is actually three links; the user has to either read the title closely or hover over the text to understand the length of one link.

Presentation: Interaction Placeholder - Semiotics

Although the site makes some expressiveness for its interactive elements, it is not effective in making it clear to the user that an element is in fact interactive. For example, Figure 7 shows a card element with two similar button-link elements, but one is just a label whereas the other is actually a link to another page. As discussed previously, the site only provides a minor indication that the "Informazioni" is a link: the button's border disappears and adopts a very slight bevel shape only on hover. Additionally, all throughout the site, most links that are clickable are underlined on hover. There is a small subset of sidebar links that do not use the underline on hover effect; the site relies on the pointer cursor to indicate to the user that there link is clickable such as in Figure 4b. Relying on only hover effects is not a sufficient amount of expressiveness to indicate to the user that an element is interactive. There is also an inconsistency with the way cards are indicated to be expressive: the cards that represent events such as those shown in Figures 7, 8, and 10 change the cursor to a pointer whereas cards in the News group as in 14 utilize an orange border that appears on hover to indicate that the card is a link.

Presentation: Interaction Placeholder - Consistency

The site minimal use of symbols and icons for interactive elements that are somewhat consistent throughout the system. For example, Figure 5 demonstrates the use of a "+" icon to enable the user to expand and contract text, but which is the only instance of presenting text an accordion style. As discussed before, the site is not very consistent with which hover effect is used to indicate a link is clickable: sometimes text is underlined on hover, sometimes the font color changes on hover, and sometimes nothing happens on hover. Regardless, in most cases, some hover effect is used.

Presentation: Spatial Allocation

The site makes good use of spatial allocation. Chunks of text are separated nicely by varying the body spacing, font type, font style, and font weight. The chosen layout of the text is effective in leveraging spatial allocation to deliver a pleasant user experience. On pages that use card elements, the site used a grid layout which is a great way to leverage the space on the page in a visually pleasing way. Additionally, the layout of content on a page dedicated to an event is executed very well.

Presentation: Consistency of Page Structure

Formatting across pages of the same type is somewhat consistent. In general, the user is exposed to three different formats: pages dedicated to an event, pages with a grid layout to display card components, and pages formatted in two columns: a narrow column to the left with an option for a couple of visual elements then a sidebar with a number of links and a larger right column that contains a title and the main body of text. Limiting the number of page layouts was a good design choice that gives clear indication of the type of information that is being presented to the user: a list of elements, textual information, or logistical information. Beyond this, however, there are some minor discrepancies across pages of the same type that negatively impact the design and can confuse the user. As stated before, the formatting of the sidebar is not consistent throughout the site. When there are absolutely no images in the left-most narrow column in a page formatted for textual information such as in Figure 18, the overall visual presentation changes slightly: the there is nothing other than text presented to the user and the sidebar is directly on the left (ie, there is no visual element to offset the sidebar). The look and feel changes completely the page when visual components are stacked in the left column and offset the sidebar outside the initial visual area of the desktop window. Additionally, there is at least one instance, Figure 16, where a page formatted for textual information begins with a header that spans the entire vertical space, deviating from the two-column

format used for pages with textual information. Moreover, the titles used in pages dedicated to textual information are not consistent: sometimes titles are in all capital letters such as in Figure 18b and sometimes titles use standard capitalization such as in Figure 18a. These inconsistencies make the site seem a little disorganized and detract the site from presenting a cohesive design.

2 User test

2.1 General Method

This section presents the User Testing method and the results. Contrary to the testing method described in Section 1, user testing is task-oriented. Usability properties are measured based on how the system is interacted with by real users. The general approach of user testing is to:

1. Define the profiles of target users that the system should consider
2. Recruit a sample of such users to involve in the study
3. Define a number of tasks to drive the evaluation
4. Set-up a controlled environment to run the test
5. RUN the test; observe the users interacting with the system to complete the tasks
6. Get feedback from the users after the completion of the tasks
7. Analyze observations and data collected to generate results

2.2 Design of the Study

2.2.1 User Profiles

There are a couple of details about the site that drive the definition of user profiles: 1) The site describes a *festival* event, 2) The festival showcases events in the *performing arts* and 3) The festival is located in *Bassano del Grappa, Italy*. With these details in mind, a potential user could be a tourist, an artist, a local resident, a professional in the arts, or similar. For the purposes of this study, two main profiles are identified: users between 21-60 who could be tourists or residents of the area in which the festival is being held and users between 21-60 who have an affiliation with the performing arts and may intentionally seek out the festival. To execute this study, each inspector recruited at least five users distributed across the specified age group and with a variety of interest and affiliation with the arts.

2.2.2 Environment

The setting for the test was kept very simple. Users were tested in neutral spaces that were meant to simulate situations where they would in fact be searching about the festival, i.e, homes and university (settings where most casual internet browsing takes place).

2.2.3 Tasks

Since tasks were defined after the expert inspection, tasks chosen for user testing were designed to highlight shortcomings of the website and test some functionality that is considered crucial to the main objective of the site: informing about the festival. Due to the state of the English version of the site, only Italian-speaking users were recruited. The tasks are translated below:

1. Find the date of the most recent event of type "lirica".
2. List all the cities that are a part of the "Dance Well" program.
3. Sign up for the newsletter.
4. What was the date of the first CSC event in 2020?
5. Which hotels are recommended for those staying in Bassano?

2.3 Execution

The execution of the study involved 1) introducing the user to the test, 2) stating a task to the user, 3) tracking the amount of time it takes for the user to complete the task, 4) noting any observations of the user's behavior, repeating 2, 3, and 4 for all tasks, and 5) debriefing and interviewing the user to collect final thoughts. To introduce the user to the test and walk through each task, test facilitators followed a script in order to minimize the changing variables across tests. Users were supposed to finish each task in 8 minutes or less. Exceeding that time limit was marked as a fail for that task. This adds to a maximum of 45 minutes to complete the tasks. The following variables were agreed upon as the minimum set of observations to note during each test:

- Effectiveness: each task was marked as success, partial or failure depending on if the user completed the task within the maximum allotted time.
- Efficiency: test facilitators marked the amount of time a user took on each task.

As part of the post-test interview, users were also asked to complete a form to get an idea of how the user perceived the site. Users were asked to choose a number between 1 and 5 to represent how much they agreed or disagreed with the following statements:

- I would you use this site often.
- I have found this site unnecessarily complex.
- I think this site is easy to use.
- I would need tech support to use this site.
- I found some functions on this site that were well integrated.
- I think this site has too many inconsistencies.
- I think the majority of people who want to use this system would quickly learn how to use it.
- I found the site uncomfortable to use.
- I feel confident using this site.
- I learned many things while using the system.

2.4 Results

Based on Figure 19d, users tend to fall into one of two different categories: users who spent a relatively long time on tasks T2 and T4 and users who did not. Regardless, all users spent a minimal amount of time on task T3. Combining that with the 100% success rate associated with that task as shown in Figure 19a, all users in this test could successfully sign up for the newsletter. The extended time spent on task T2 along with that task having the lowest success rate (as demonstrated by Figure 19a) point to the assumption that the Dance Well section does not present vital logistical information clearly. Most users assumed that the list of cities in the sidebar in the Dance Well section corresponded to the cities in which the dance classes are held in. Task T4, on the other hand, had the longest average interaction time among all tasks as shown in Figure 19b but observed a success rate close to the average. These results most likely mean that users found it difficult to understand or find information on past events, but after some time, could eventually find what they were looking for. In fact, 7 out of the 10 users commented about how much time the CSC Centro Scena Contemporanea >> Residenze Passate page took to load. Other tasks yielded similar results with figures close to the average.

2.5 Discussion

Many users attempted to utilize the search bar when they could not find what they were looking for by from the navigation bar. This behavior was not anticipated and yielded some interesting observations. The search bar turned out to be quite confusing for users to use and some users found some bugs when trying to leverage the filters provided by the search bar. Regarding the task involving searching an event, one user took an alternate route and downloaded the event brochure to find the requested information. Again, this behaviour was not anticipated and it was discover another avenue in which some users feel more comfortable getting information from a site: downloadable media. Another thing to note, on the page showing

all events, the type of art is labeled on the card component, but when the user navigated to the informational page dedicated to that particular event, the type of art is no longer identified. There was a lot of confusion for users trying to distinguish new events, old events, events associated with the festival, events specific to the CSC program, and so on. In fact, 6 out of 10 users were unsure when finalizing their answer for tasks T1 and T4 .

3 Conclusions

3.1 Comparing Methods

Both methods of evaluating the site revealed different, but equally important, shortcomings that reduced the usability of the site. The majority of the observations that came out of the inspection study involved the faulty navigation patterns and the inconsistencies throughout the site. The user testing, on the other hand, highlighted how the presentation of information easily confused users when trying to find a specific detail about the site. The advantage of performing both types of evaluations is that a heuristic-driven inspection uncovers more systematic issues with the design whereas the results of user testing highlight the consequences of faulty design. When systematic issues are uncovered such as identifying that navigation patterns are not clear or that there are no breadcrumbs, the solution is straightforward. The issues uncovered by user testing, however, can be solved with approaches that have more room for interpretation. User testing can generate more qualitative outcomes as opposed to an inspection so there can be many solutions for any given problem. Additionally, user testing can uncover issues such as a faulty search bar that inspectors may have overlooked during their heuristic-driven evaluations.

3.2 Redesign

The priority should be to first eradicate the broken links throughout the site, especially the English version. Right now, the English version of the site is not useful in providing information about the festival; only limited information about affiliate programs is currently translated and "child" pages route users either back to the Italian version or to the 404 message. The English version of the site should be removed completely, should consistently route erroneous links to the 404 message, or should be completed. Then, the faulty data fetches should be fixed. Given that this is a site dedicated to describing a performing arts festival with events at the focal point, it is unacceptable that the user is presented untrue or misleading information (such as "There are no music events"). Finally, the site should undergo a redesign of its navigation pattern. The confusing navigation pattern is the root of why users had trouble completing seemingly simple tasks. For one, information was not presented in a clear way to help understand which information was about the festival and other logistics and which information was about affiliate programs. To drive this point even further, the navigation bar dedicates only one tab to festival events ("Festival") whereas all the other tabs lead to pages that describe affiliate programs (CSC, Dance Well, Progetti Europei, Art Bonus). Clearly, these programs are important, but right now they occupy more than 83% of the links in the navigation bar, the place for users to quickly reference the most important information. Instead, the Festival occupies less than 17%. When considering a redesign of the navigation patterns, one should also consider redesigning the navigation bar to shift the focal points of the site. The navigation bar should guide users to explore areas of the site with more information about the festival; affiliate programs should be presented as after-the-fact information. After such rework, pesky design details such as page layout inconsistencies, breadcrumbs, and animation/hover effects can be eradicated to be more consistent throughout the site. Fixing such details will elevate the usability of the site and present a more organized, cohesive, and professional design.

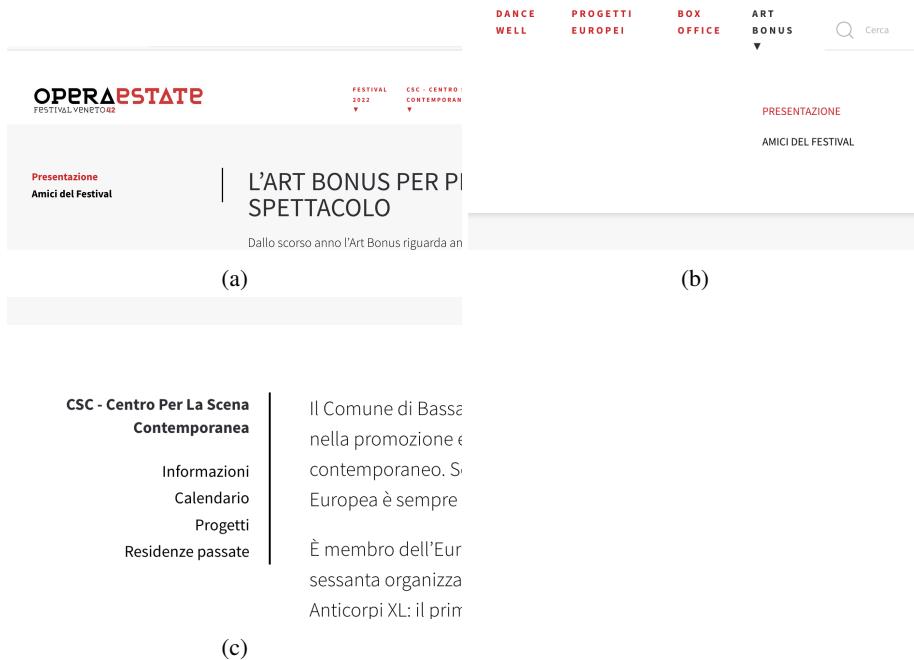


Figure 12: The list of links in the left side bar (a) match the links that drop down from the navigation bar (b). However these links are formatted differently from elsewhere in the site (c).



Figure 13: The navigation bar changes slightly between the English and Italian versions of the site.



Figure 14: The News page, accessed from a discrete link circled in red, lists different articles with a card component.



(b) The options that drop down from the navigation bar match the list of links that appear on the left-hand column.



(c) The English version of the page is still in Italian.

Figure 15



CSC - Centro Per La Scena Contemporanea

Introduction
Events
Projects

Comune di Bassano is a public body in the North East of Italy. Its Centro per la Scena Contemporanea is a dynamic dance house dedicated to the development of the culture of contemporary dance in the Veneto Region and its Operaestate Festival involves 35 cities and presents nearly 300 multidisciplinary performances and events each season in theatres, castles, parks, villas, site specific locations and museums of the territory.

The CSC is supported by MIBAC (the Italian Ministry of Culture), and many of its international projects and cooperations are supported by the Creative Europe, Europe for Citizens and Erasmus+ programmes of the European Union. It is therefore, more and more considered as a reference point for Italy.

Figure 16: The header on this page does not conform to the format of the other pages formatted to present textual content.

The screenshot shows the CSC website's Projects section. At the top, the OPERAESTATE logo and navigation bar are visible. Below, a photograph shows people gathered outside a building with "CSC GARAGE NARDINI" on the sign. The main heading is "CSC - Progetti". A descriptive text follows, mentioning over 20 projects dedicated to performing arts and contemporary dance, many funded by European programs like Creative Europe. On the left, two columns of project titles are listed under "Current Activities" and "Closed Projects".

Current Activities
Choreography Connects
D&D – DANCE AND DRAMATURGY
EXPLORE DANCE – NETWORK DANCE FOR YOUNG AUDIENCE
GREEN LEARNING
PROGETTO LIFT E MINI B.MOTION
RELAZIONI INTERNAZIONALI
SWANS NEVER DIE

Closed Projects
B Project
BOARDING PASS PLUS DANCE
DUO À TROIS VOIX / DUETTO A TRE VOCI
MUSEUM OF HUMAN E-MOTIONS
Operaestate - Boulevard festivals in dialogue
Viaggi coreografici nel mondo di Bosch

Figure 17: NavBar >> CSC Centro Scena Contemporanea >> Projects

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OPERAESTATE
FESTIVAL VENETO 42

CIRCO RESIDENZE FESTIVAL CSC - CENTRO DANCE EUROPEAN ART
PASSATE 2022 SCENA CONTEMPORANEA WELL PROJECTS BOX OFFICE BONUS



Dance Well – movement research for Parkinson

Dance Well – movement research for Parkinson's, was born with the aim of including people with Parkinson's disease through contemporary dance in the artistic and social life of their territories.

It is an initiative promoted since 2013 by the Municipality of Bassano del Grappa with its CSC – Centro per la Scena Contemporanea, member of the European Dancehouse Network.



Appuntamenti Dance Well

Collegno (TO)
Roma

The classes, free of charge and open to all, are held every Monday and Friday morning at the Museum of Bassano del Grappa (after the lockdown every Friday at the botanical garden Giardino Parolini). The Dance Well classes then reached other locations in the province of Vicenza, and they are now held every Tuesday morning and Thursday evening at Teatro Civico in Schio, and weekly at Villa Margherita in Arcugnano. Since then, the practice spread around Italy and around the world: nowadays, classes are held also in Turin, Rome, Florence, Verona (Italy) and in Tokyo, Kyoto and Kanazawa (Japan).

The artistic spaces where they take place, and the source of inspirations that the context brings, distinguish the initiative from many others held in traditional dance studios, rehabilitation rooms or gyms. To underline with even more clarity that **Dance Well is an artistic practice, participants are called Dance Well dancers**.

Several Dance Well teachers lead the classes throughout the year, bringing diverse approaches and styles with their artistic proposals. Additional specific workshops and initiatives are held monthly to develop the culture of dance amongst the participants, and encounters with international dance

(a) Page formatted for textual information, with images.

news - archivio - chi siamo | seguici su: [@](#) [f](#) [t](#) [y](#) [i](#) IT / EN

OPERAESTATE
FESTIVAL VENETO 42

FESTIVAL CSC - CENTRO SCENA DANCE PROGETTI BOX ART
2022 SCENA CONTEMPORANEA WELL EUROPEI OFFICE BONUS

BOX OFFICE

QUALCHE REGOLA DA SEGUIRE

Operaestate Festival 2022 è felice di accogliere il suo pubblico, invitandolo a seguire alcune semplici regole.
Per tutti gli spettatori:

- è consigliato arrivare con buon anticipo sul luogo di spettacolo in modo da agevolare l'ingresso ordinato in sala per non creare assembramenti e per garantire l'inizio puntuale degli spettacoli.
- non è consentito l'accesso a spettacolo iniziato ove questo rechi disturbo agli artisti e al pubblico già presente in sala. Gli spettatori giunti in ritardo saranno invitati ad attendere all'ingresso il primo intervallo utile per entrare. In caso di spettacoli senza intervallo l'accesso sarà consentito solo su indicazione del personale di sala.
- negli spazi di spettacolo si prega di osservare le indicazioni che regolano i posti a sedere che saranno indicate.
- è fortemente consigliato l'acquisto dei biglietti online per tutti gli spettacoli, in ogni spazio coinvolto, sia a Bassano che nei comuni partner, così come da istruzioni che seguono al capitolo "biglietteria e modalità di accesso" e come specificato sul sito di Operaestate.
- è vietato fotografare gli spettacoli con o senza flash ed effettuare qualunque tipo di ripresa audio/video senza autorizzazione.
- è vietato entrare nei luoghi di spettacolo con animali in quanto potrebbero essere di disturbo agli artisti o al pubblico

(b) Page formatted for textual information, without images.

Figure 18: Although adding images in the left column is a minor addition, it changes the look and feel of the page.

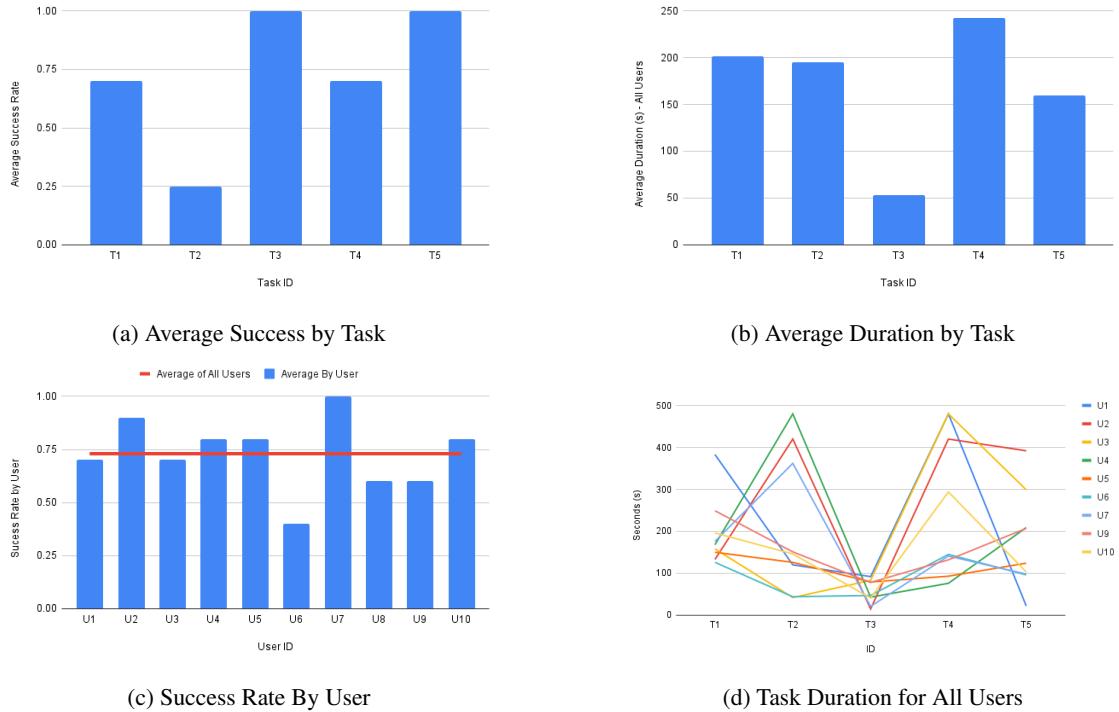


Figure 19: Visualizations of the success rates and the time spent on each task for all users.

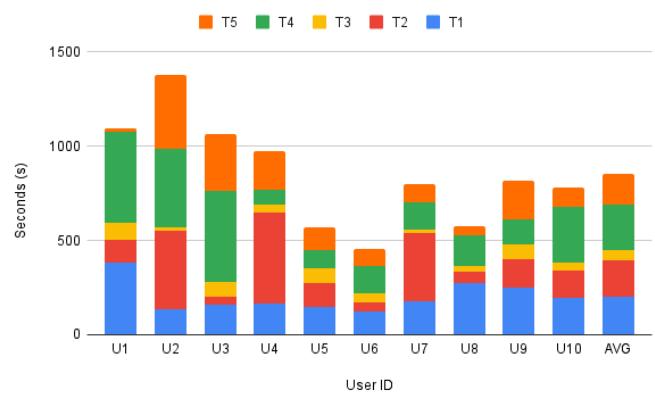


Figure 20: Task Duration By User

4 Annexes

4.1 Annex1

4.1.1 Form for Inspection with Nielsen Heuristics

Inspection form Nielsen

This module has to be used by the inspectors in order to enforce a certain consistency among the scores.

Here all the heuristics will be reported with a short description and a set of question that each inspector has to ask themselves. There is also a general explanation for the score points.

So, when the inspector is choosing the score to assign at one heuristic they have to consider: the heuristic description, the questions related to the descriptions ad the score description itself.

* Required

1. Name of Inspector *

Scores description

- 1- Critical / No information
- 2- Frustrating / Not clear
- 3- Doable / Clear but hard to find
- 4- Easy to do / clear and easy to find

Visibility of system status

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

When users know the current system status, they learn the outcome of their prior interactions and determine next steps. Predictable interactions create trust in the product as well as the brand.

Is it clear what are you doing and where are you doing?

Is it clear where are you now?

It is clear how I got here, the path I followed, can I follow the step backward(Bread crumbs)?

2. Visibility of system status *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

3. Comment *

Match the
between
system
and the
real world

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

Is the language understandable for the user or is it too technical? Does the UI seem intuitive? Is it designed to represent life-like objects?

4. Match the between system and the real world *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

5. Comment *

User control and freedom

Users often select functions by mistake and need to go back to a safe and known state through a clear and visible “exit/GoBack” function so she would not need to start the process from the beginning.

- Does the system allow the user to go back to a safe state when she performs a wrong action?
- Does it show a clear way to exit the current interaction, like a cancel button?
- Does it support Undo and Redo?

6. User control and freedom *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

7. Comment *

**Consistency
and
standards**

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

Standards support consistency but consistency is a broader concept.

Are there any strange symbols or patterns which can get the user confused? (For example, an 'x' symbol that is not used as a 'close' or 'deny' semantic).

8. Consistency and standards *

Mark only one oval.

1 2 3 4

Critical / No information

Easy to do / clear and easy to find

9. Comment *

Error Prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.
Either eliminate error-prone conditions or check for them and notify the users with a confirmation option before they commit to the action.

If you end up on the wrong page, does the site show you a way to go back to your previous position? (or am I forced to resume from the beginning?).

Are there any messages/pop-ups that help the user to know exactly what they are doing in order to prevent errors?

Considering the forms, are there clear explanations to prevent errors in its compilation? Is the form evaluated while the user types the information?

10. Error Prevention *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

11. Comment *

Recognition rather than recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. While using the system information should be visible or easily retrievable.

Does the system help the user to retrieve information? (For example, suggesting their options while searching for something).

12. Recognition rather than recall *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

13. Comment *

Flexibility
and
efficiency of
use

Speed up the interaction with the system for expert user by means accelerators, like short-cut, to allow users to tailor frequent actions.

Does the system provide accelerators, like shortcuts and touch gestures?

Does the system provide personalization by tailoring content and functionality for individual users?

14. Flexibility and efficiency of use *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

15. Comment *

Aesthetic
and
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 ones and decreases their relative visibility.

Interfaces need to be cleared of unnecessary elements and content that do not support the page goals and tasks.

Is every information or stimuli (dis)played on the page are necessary and useful?

Is the user overwhelmed with too much information?

Is the content displayed in a minimal and clear way?

16. Aesthetic and minimalist design *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

17. Comment *

Help
users
recognize,
diagnose
and
recover
from
errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution. These error messages should also be presented with visual treatments that will help users notice and recognize them.

Does the system provide error messages to help the user?
Do the error messages written in an understandable language rather than code messages?

18. Help users recognize, diagnose and recover from errors *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

19. Comment *

Help and
documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide them. Any such information should be easy to search, focused on the user's task, eventually listing the steps to be carried out.

Are the cookie and privacy policies easy to find and to read?
Does it present any kind of help desk?

20. Help and documentation *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

21. Comment *

This content is neither created nor endorsed by Google.

Google Forms

4.1.2 Form for Inspection with MiLe Heuristics

Inspection form MiLe

This module has to be used by the inspectors in order to enforce a certain consistency among the scores.

Here all the heuristics will be reported with a short description and a set of question that each inspector has to ask themselves. There is also a general explanation for the score points.

So, when the inspector is choosing the score to assign at one heuristic they have to consider: the heuristic description, the questions related to the descriptions ad the score description itself.

MiLe are clustered in topics, each section represent a topic.

* Required

1. Name *

Scores description

- 1- Critical / No information
- 2- Frustrating / Not clear
- 3- Doable / Clear but hard to find
- 4- Easy to do / clear and easy to find

Content

The content is closely related to the business of the website and well organized

Information overload

The information provided on the page should be of the right size. The user should not be overwhelmed by information that would make the page unreadable. On the other hand the information provided should be enough to allow the user to understand where to go according of what is looking for.

Is the information in a page too much or too little?

2. Information overload *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

3. Comment *

Navigation

Interaction consistency

Pages of the same category should have the same link and the same interactive functions.

Do pages of the same type have the same links and interaction capabilities?

4. Interaction consistency *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

5. Comment *

Group Navigation

The system should allow a clear way of navigation among and inside groups.

Is it easy to navigate from and among group items: from the list of items of a group to its members, among different groups, among members of the same group?

6. Group navigation *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

7. Comment *

Structural navigation

It should be clear and easy for a user to navigate through the different section of a single topic.

Is it easy to navigate among components (parts) of a topic?

8. Structural navigation *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

9. Comment *

Semantic Navigation

The system should consider that the user want to navigate through related topic, even if they belong to different groups, like Authors and Books in a library web site.

Is it easy to navigate from a topic to a related one?

10. Semantic navigation *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

11. Comment *

Landmarks

There are some pages of the web site that will be more requested than others, such as the home page or the message page in a social network. The system should include landmarks to allow the user to reach those pages in a quicker way regardless of where the users are currently located on the website.

Are landmarks useful to reach key parts of the web site?

12. Landmarks *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

13. Comment *

Presentation

Text layout

The text of the website should be easily readable without the need from the user to enlarge or reduce the layout.

Is the text readable? Is the font size appropriate?

14. Text layout *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

15. Comment *

Interaction placeholders-semiotics

A website could be full of interactive placeholders, such as clickable texts and icons, buttons, interactive images. All of them should be easily recognizable from the user who has to understand what it can or can not interact with.

Are textual or visual labels of interactive elements “expressive”? i.e., do they reflect the meaning of the interaction and its effects?

16. Interaction placeholders-semiotics *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

17. Comment *

Interaction placeholders-consistency

There are multiple types of interactive objects on a website, each one with a different type of action. That is why those objects should provide information with what they do, they have to be consistent with the function they provide. For example a map icon will make the users understand that a map would be opened. If the login page would appear instead, the system would be unclear.

Are textual or visual labels of interactive elements consistent in terms of wording, icon, position, etc.?

18. Interaction placeholders-consistency *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

19. Comment *

Spatial allocation

The images should be positioned in the correct way: the units of the same category should be close and the units of different categories should be far away.

Is the on-screen allocation of contents and visual appropriate for their relevance? Are “semantically related” elements close and “semantically distant” elements far away?

20. Spatial allocation *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

21. Comment *

Consistency of Page Structure

The information of the pages of the same category must have the same background, the same disposition and the same properties, to give the user a visual appropriate for their relevance.

Do pages of the same type have the same lay out (same visual properties of each component and similar organization and lay-out of the various elements)?

22. Consistency of page structure *

Mark only one oval.

1 2 3 4

Critical / No information Easy to do / clear and easy to find

23. Comment *

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4.1.3 Results of Inspection with Nielsen Heuristics

Table 8: Results and Comments of inspection against Nielsen heuristics

ID		Inspector 1		Inspector 2
N1	1	The breadcrumbs are not present in the site. They would have been helpful because overall consistency among the pages is not always maintained. Instead, there is an inconsistent use of highlighting to indicate a link has been clicked.	2	Breadcrumbs are absent from the site. However, when a user navigates into a page from a topic, that topic is highlighted in the sidebar menu which is a helpful indication of status.
N2	2	The language used is appropriate, however, for a novice user it may be difficult to understand what function/purpose of elements displayed on the pages.	4	There is nothing too technical in the jargon used.
N3	1	No, there are no "go back" buttons at all.	1	There is no back button.
N4	4	The hamburger menu has the characteristic icon. In the "Dance Well" page, the + icons are appropriately used to show more content.	3	In event card, there are two buttons that appear to be the same but have completely different functionality: one is a link and the other is just a label. In the "Dance Well" page, the user can enlarge a photo but to exit, the X button is in the bottom-right corner instead of standard top-right positioning. Besides this, all other icons used in the site follow standard conventions.
N5	4	The email subscription form notifies the user when the form is incomplete or filled incorrectly but does not provide the user with feedback on how to correct their inputs.	1	The subscription form prevents the user from submitting the form with erroneous inputs.
N6	4	The user never feels the necessity to remember something in order to get the information they need.	1	Due to some broken links and faulty data retrievals, it is possible for the user to require memory. There are some pages that seem hidden and require a convoluted series of clicks in order to be reached. This is the case for looking up events of type "lirica".
N7	1	No shortcut or accelerators are present in the site.	1	This metric is not relevant to this site.
N8	2	There are examples of information overload such as all the projects listed under "Progetti Chiusi". A drop down menu could mitigate the overload brought on by the unnecessary listing of all closed projects.	3	The information provided is provided in chunks of text that are acceptable in length and are visually "clean". The only occurrence of "crowding" is when all of the old projects are listed in the left-hand side bar under the "european projects" topic.
N9	3	The known errors provide feedback in the form of bubbles or 404 messages, but the system lacks detailed explanations. For example, when there are no events scheduled of a given type, there is no message saying so.	2	404 error codes are presented to the user.

N10	3	The cookie policy is explained, but there is no explanation about the use of the site.	4	Yes the cookie/privacy policies are available and easy to access. There is also a long list of contacts presented to the user under the Contact Us page that is useful to the user. There is no help desk but considering the use case the list of contacts is sufficient. Again, this list of contacts is available in the Italian version but not in the English version.
Average: 2.5		Average: 2.2		

4.1.4 Results of Inspection with MILE Heuristics

Table 9: Results and Comments of inspection against MILE heuristics

ID	Inspector 1		Inspector 2	
M1	4	There are no particular problems with the organization of the content. All the pages show information in an organized way even when there is a lot of text.	3	Sometimes there are instances of information overload. For example, the text in the navigation bar, text is too long, too small, and too crowded for the space allocated. Another example: on the European Projects page, the left bar includes a long list of closed projects which drives a big chunk of white-space on the page. Apart from this, the textual content is usually formatted nicely with good use of line spacing.
M2	4	Yes, all the pages of the same type, if present, have the same links.	3	Pages dedicated to one event are nicely and consistently formatted. However, many links are broken and are not consistent across the Italian and English versions of the site.
M3	2	The navigation is well structured, but the clustering of the events under Festival 2022 is broken: Festival 2022 >> Teatro and Festival 2022 >> Programma are the pages in which the events are shown, even if in Teatro all kinds of events are shown. The other sections have links that are well-structured and functioning. However, the main purpose of the site is to give information about the events and this experience is not easy for a normal user.	2	Not every topic has an introduction page and the format of the structural links differs across topics. Group members of the multiple group events of type X are not accessible from their respective group introduction page. These inconsistencies easily confuse the user.
M4	4	Apart from the pages for the list of events (the grid pages), almost all the other pages have a useful side section that allows the user to navigate among the elements of the same topics.	2	Structural links are not very distinguishable from group links so it is not intuitive for the user to navigate.
M5	3	The navigation between related topics is easy because there are many landmark links: they are complete, and they are usually repeated more than once. It would have been better to add some links to allow the user to navigate through topics without using the landmarks.	3	Due to the confusing in-distinction between group and structural links, the landmark links provides just add to the confusion.

M6	3	The landmarks are plenty and clear. It would be better to consider to cut out some of them in order to make the first impression of the site less complicated. Sometimes the names are not meaningful, for instance under Festival 2022 there are Danza, Teatro and Musica repeated twice, and it's confusing.	4	Yes, the navigation bar is stylistically consistent across all pages and available in all pages.
M7	3	The text is usually big enough, except for the navigation bar which uses a font-size too small for the average user.	3	All text is formatted quite nicely throughout the site EXCEPT for the navigation bar which is a very key resource for the user. Additionally, some of the group and structural links have labels are are awkwardly long and overflow to the next line which clutters the space intended to provide a quick and easy reference to other links/topics.
M8	1	This is a critical aspect of the site. There is a lot of text that is clickable but it's not easy identity. For example, it is not clear if the label TEATRO in the events cards is clickable or not. Moreover, clickable links are made clear that they are clickable only by the underline which appears on hover. There is not static indication that those links are clickable.	3	Yes. The site makes use of change-color-on-hover and make-text-underlined-on-hover to make it clear to the user that a link is click-able and will send the user to a new page. There is not too much use of expressive components, however. There are few to no animations and overall not much to make the site expressive apart from the minor hover effects. In the archive section, group elements have a color border on hover to indicate that the card is clickable, whereas the cards listed in the events page do not interact with the user on hover (even though they are also clickable).
M9	4	The arrows and the plus signs on the website are consistent with the function they provide.	4	Yes. External links are clearly marked (social media icons, "visualize in google maps", etc).
M10	4	The spatial allocation is well done.	4	There is not much use of photos, but the photos uses on a page are relevant.
M11	4	The consistency among the pages is good	3	Formatting is somewhat consistent. Some inconsistencies include: on the theater events page, the cards look different than the cards used in the news page. Besides this, there is consistent grid presentation of cards across the theater events page and the BMOTION events page. Other pages consistently show a link of links/ a sidebar on the left-hand side with text occupying the majority of the page. The headers are a bit inconsistent, however. For example the CSC page has a large header with the logo of CSC taking up most of the space. Other pages however mainly use text titles as headers. Sometimes the titles are in all caps versus sometimes the titles are not in all caps.
	Average: 3.3		Average: 3.1	

4.2 Annex 2

4.2.1 System Usability Survey for User Testing

System Usability Scale

This questionnaire is used just to get an idea of how you perceived the site



destiny.mora4@gmail.com (not shared) [Switch account](#)



* Required

Nome *

Your answer

Vorrei usare spesso questo sito *

1 2 3 4 5

Per niente d'accordo

Completamente d'accordo

Ho trovato il sito inutilmente complesso *

1 2 3 4 5

Per niente d'accordo

Completamente d'accordo

Penso che il sito sia facile da usare *

1 2 3 4 5

Per niente d'accordo

Completamente d'accordo



Penso che avrei bisogno di supporto tecnico per poter usare questo sito *

1 2 3 4 5

Per niente d'accordo Completamente d'accordo

Ho trovato diverse funzioni in questo sito molto ben integrate fra loro *

1 2 3 4 5

Per niente d'accordo Completamente d'accordo

Penso che il sito presenti troppe inconsistenze *

1 2 3 4 5

Per niente d'accordo Completamente d'accordo

Penso che la maggior parte delle persone che vogliono usare il sistema impareranno velocemente ad usarlo *

1 2 3 4 5

Per niente d'accordo Completamente d'accordo

Ho trovato il sito scomodo da usare *

1 2 3 4 5

Per niente d'accordo Completamente d'accordo



Mi sento sicuro ad usare il sito *

1 2 3 4 5

Per niente d'accordo

Completamente d'accordo

Penso di dover imparare molte cose prima di riuscire a usare il sistema *

1 2 3 4 5

Per niente d'accordo

Completamente d'accordo

Submit

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4.2.2 User Testing Form

ID	Task	Elapsed time	Metrics	Comments
1	Trova la data del più recente spettacolo di Lirica			
2	Dimmi dove si tengono e dove si sono tenute TUTTE le classi del programma “Dance well”			
3	Iscriviti alla newsletter			
4	Dimmi qual’è stato il primo evento CSC del 2020			
5	Quali sono gli alberghi consigliati per dormire a Bassano?			

4.2.3 User Testing Raw Data: Success Rates

U-ID	T1	T2	T3	T4	T5	AVG
U1	1	0.5	1	0	1	0.7
U2	1	0.5	1	1	1	0.9
U3	1	0.5	1	0	1	0.7
U4	1	0	1	1	1	0.8
U5	1	0	1	1	1	0.8
U6	0	0	1	0	1	0.4
U7	1	1	1	1	1	1
U8	0	0	1	1	1	0.6
U9	0	0	1	1	1	0.6
U10	1	0	.1	1	1	0.8
AVG	0.7	0.25	1	0.7	1	

Table 10: Success Rate

4.2.4 User Testing Raw Data: Post-Test User Evaluation

Q-ID	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	AVG
Q1	1	1	4	1	1	1	4	1	1	2	1.7
Q2	4	2	1	3	4	3	2	2	4	4	2.9
Q3	1	3	5	3	2	2	5	2	1	4	2.8
Q4	2	1	1	1	4	1	1	1	1	1	1.4
Q5	2	2	4	1	2	3	4	3	4	3	2.8
Q6	3	2	1	1	4	3	2	1	2	1	2
Q7	1	3	5	3	1	2	4	4	5	3	3.1
Q8	5	3	1	3	5	4	1	4	4	4	3.4
Q9	3	3	5	1	3	4	5	3	2	3	3.2
Q10	3	2	1	3	3	4	1	3	3	3	2.6

Table 11: System Usability Scale Results

4.2.5 User Testing Raw Data: Duration in Seconds Per Task, Per User

U-ID	T1	T2	T3	T4	T5	Total
U1	383	120	92	480	22	1097
U2	133	420	15	420	392	1380
U3	158	42	83	480	299	1062
U4	168	480	43	76	209	976
U5	150	126	79	93	124	572
U6	126	44	47	145	96	458
U7	176	362	21	141	98	798
U8	272	63	31	163	48	577
U9	249	151	78	132	207	817
U10	196	146	41	294	103	780
AVG	201.1	195.4	53	242.4	159.8	

Table 12: Duration (seconds) of each task for all users.