



Web Usability Test Report

PROJECT A

General information	
Customer	<Project name>
Created by (Author)	
Preparation date	
Version	
Status	

Revision History					
Version	Description	Author	Date	Approved by	
				Author	Date

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1. Introduction

The project on usability testing was conducted at the Customer's request. The purpose of the assessment was to detect the level of efficiency, performance and satisfaction with which particular users could utilize the product under the defined conditions to reach specific objectives. To achieve the goal, the testing of the portal was performed. According to the usability testing execution plan that included all components of the testing type, problematic areas of the interface, design and technical characteristics of the portal were detected and the recommendations for their removal were provided.

1.1 Goal

The project was a B2B portal designed for creating a new complex technological infrastructure for business affairs. Performed usability testing included the verification of every portal section designed for providing information, ensuring the interaction between users, providing education programs, services packages, and a franchise catalog, enabling online trading platform.

1.2 Usability testing execution structure

The structure of usability testing shows the main parameters and processes included into the notion of usability testing. The structure of usability testing

Site technical parameters	Design requirements	Site usability	Comprehensibility of applied functionality	Other
Layout integrity and correctness	General design structure	Checking of obligatory site attributes	Verification of site forms	Machine and logical focus
Site loading speed	Design of Page elements (header, footer, menu, etc.)	Site navigation	Testing of site applied functionality (product catalog, shopping card, request, etc.)	RSS operation
Site look and feel: - cross browser capacity - multi dimensional capacity - support of mobile devices	Design of content elements (links, images, tables, etc.)	Site content (critical information, advertisements, etc.)		Search functioning
				Integration with social networks

The estimation of project usability	Test results
Suggestions for improvements	Report

1.3 Usability testing plan

1	Checking of site technical parameters
1.1	Layout integrity and correctness
1.2	Site loading speed
1.3	Site look and feel
2	Checking of site usability
2.1	Testing of obligatory site attributes
2.2	Site navigation
2.3	Site content
3	Design requirements
3.1	General design structure
3.2	Design of Page elements
3.3	Design of content elements
4	Comprehensibility of site applied functionality (for functional projects)
4.1	Plan of site applied functionality
4.2	Verification of site forms
4.3	Applied functionality of a certain site. Verification of its usability + presence / correspondence of main attributes (for shopping card / production)
5	Other
5.1	Checking of other functionality

1.4. Tools & Browsers

The list of tools used during the execution of usability testing:

Name	Version	Brief description	Link to resource
Xenu's Link Sleuth	1.4	Xenu's Link Sleuth is a free app that checks that there are no broken links on the website	http://xenus-link-sleuth.en.softonic.com/
LinkChecker	1.1	Add-on plugin for Firefox	https://addons.mozilla.org/
W3C validator	1.3	This validator checks the markup validation of Web documents in HTML, XHTML, SMIL, MathML.	http://validator.w3.org/
Pingdom tools	1.6	Page Test tool helps to analyze the load speed of the websites	http://tools.pingdom.com/f
FireBug	1.21.14	powerful web development tool	https://getfirebug.com/
PageSpeed		PageSpeed Insights analyzes the content of a web page	https://developers.google.com/

The list of browsers used during the execution of usability testing:

Name of device	Browser
PC (Windows 10)	Google Chrome 81
PC (Windows 10)	Edge 44
PC (MacOS)	Mozilla FireFox 38
Samsung Galaxy S10	Latest Google Chrome
iPhone X	Safari 12 or latest
iPad	Safari 12 or latest

2. Test results

2.1 Verification of site technical parameters

- **Layout integrity and correctness.**

The checking of the correspondence of the main portal templates to the layout syntax using W3C validator showed positive results with a small number of errors and warning messages for the majority of templates and pages, except the pages with the description of services. At every page, the testers detected nearly 50-80 issues of syntax mismatch to the standards and rules specified for pages of the XHTML 1.0 Strict format. Probably, the problem was caused by the improperly defined type of the document as during the checking of HTML5 syntax, there were fewer errors. That means that for the proper page processing by a browser, the correct format should be given.

Also, the validation of page arrangement according to the web standards and the fixing of detected errors and warnings provide higher chances for stable and proper page processing by different platforms and various user agents.

- **Site loading speed and verification of service load capacity.**

The checking of site loading speed and its separate elements using Firebug, Pingdom, Yslow, and PageSpeed brought the following results:

Positive:

- loading of main pages takes 3-6 seconds that is close enough to the standard of 4 seconds (in case of a stable Internet connection and the absence of a large number of server requests (see below));
- CSS are located in the document title;
- Images of proper proportions and correct size are provided;
- The request size was reduced and the script execution time was minimized.

Negative:

- Unstable response time for loading of one page (from 3 up to 40 seconds) in different periods of time that confirms the issues with server load capacity
- 11% of all pages were not opened because of the timeout

- **Site look and feel.**

Despite a small number of errors detected in Edge, testers drew to the conclusion that the site supported multi-browser capacity in terms of work opportunities and execution of core tasks. To receive more detailed information on issues, the execution of a full and thorough cross-browser testing is recommended.

The site adaptivity to browsers on mobile and the opportunity to work with the site on mobile devices were confirmed. For more detailed results, the execution of a full functional and design testing on all mobile devices is recommended.

2.2 Verification of site usability

- **Checking of obligatory site attributes.**

Among the obligatory site attributes, there is a logo, information about the portal, copyright and minimal help in a form of contact e-mail address. The access to more detailed information about the company, contact details, information privacy and copyright is complicated by its arrangement on the site. The links to the following attributes are located in Terms of Use that are available only on the authorization page. And this is not obvious for users. According to the general rules, this information should be available on the Main Page or submenu. The portal does not have the information about the rules for working with the site, functionality available for authorized, unauthorized and verified users, available operations with the companies from the catalog, products and services. The QA team recommends to add more prompt messages, FAQ section, and online help.

- **Site navigation.**

In general, the site navigation is clear but in some cases, it complicates the definition of location, returning to the previous page and to the Main Page and shifting between sections. The QA team recommends to add to the menu a link to the Main Page, enable the access to all sections of menu / submenu from all the pages, the presence Breadcrumb navigation, add the Back button.

- **Site content.**

According to the universal requirements, important content is located at the left side of the page, age names are clearly defined on browser pages and in page titles, the presented advertisement has a non-prescriptive character.

2.3 Design requirements

- **General design structure.**

The site design is structured, has a balanced color space, proper representation of the background on all pages.

The QA team singles out that the similarity of functional element is not kept (they have a different design). For users, this complicates the gaining of skills for quick homogeneous operations. At separate site pages, padding, line spacing, and text readability were not maintained.

- **Page elements design.**

Main pages elements: header, footer, main menu, content, similar left and right columns are presented at every page and their color / type / font size and weight / height are similar. But the QA team detected that the long pages did not have To Top element and the test alignment was not common for all pages.

- **Design of content elements.**

The content elements as radio buttons, checkboxes, dialog windows and videos have a standard and stylized look. Also, padding, spacing, fonts and rollover response are standardized.

The design of the following elements link, table, form, buttons, images, sliders was not of one style, arrangement toward the content, readability and others aspects.

2.4 Comprehensibility of site applied functionality (for functional projects)

- **Plan of site applied functionality.**

Generally, the portal and site aim is clear for users, except the purpose of separate site elements. As it has been already mentioned in Section 2.1, to simplify and accelerate the user's execution of the main operation on the site, the QA team recommends to add a user guide and bigger number of prompts.

- **Verification of site forms.**

The site forms are able to operate and ensure the execution of the assigned tasks. But some forms had a range of errors the removal of which would improve the portal usability and user's interaction with the site. The detected issues were the absence of field validation and marking of mandatory fields, the content was not saved after the error message, improper error messages and the absence of information message after data sending.

- **Applied functionality of specific portal sections.**

The majority of main attributes of applied functionality (e.g., images, description, characteristics, price for product page) are available and do not cause any troubles with understanding of their purpose and further use.

2.5 Other

- **Checking of other functionality.**

Apart from the above-described functionality, the QA team tested: operation of Flash, search systems, new materials, proper operation with a browser, engine focus and integration with social networks.

Among the recommendations for improvement, the QA team suggests adding of control elements when watching a video, autoplay of the next lesson after the end of video tutorial, optimization of video loading time, demonstration of a proper message in case of the absence of installed Flash player.

3. List of detected issues

After performing usability testing, 132 issues were founded.

The list of found errors, their full description and their distribution into the components, access are in the project management system Jira (<http://jira.dashboard/>).

The file with the list of errors was downloaded from Jira and is attached to the document.

4. Suggestions

4.1 Navigation usability suggestions

Transparent and effective navigation is one of the main usability factors for the sites. To improve usability of the existing navigation for the project, we suggest the following improvements:

- **Site logo should lead to the site main page.**
As the logo is the element which is present at all site pages (and always placed at the same spot), it is also the most useful for end-users additional way to the main page of the site. This provides extra navigation for the users to the start of the system. Also, linking the logo to the main page of the site is commonly used in the sites worldwide, so it increases level of the users recall;
- **Sitemap should be present and available for the end-users.**
With the constantly increasing number of <Project> site pages, availability of the sitemap for the end-user is crucial. While the main nodes of the system are present in the footer, it will be useful to also have sitemap with the site hierarchy of nodes and higher level of depth present on the separate page (this page can also be linked from the footer). We recommend to apply 1 or 2 max level of depth of subsections for the sitemap, as this was confirmed to be the optimal level for users understanding;
- **Make use of automatic navigation.**
If the website detects that all required information from the user is received - don't make the user click one or two buttons, but process the data automatically instead;
- **Implement "Up" button if the page is big enough.**
But don't obscure other clickable elements with it.

4.2 UI usability suggestions

Balanced and clear User interface is very important to keep users engaged until they've achieved their purpose. To improve usability of the existing UI of the <Project> site, we recommend the following:

- **All site icons should have hint texts.**
With the high usage of the icon elements in the main functionality of the <Project> site, which is used to save space and create compact interface, the availability of the hint text for all the icons is very important. Even if the icon seems to be self explanatory for the developer, the end-users might have different impressions about their purpose. Addition of the hint texts (those appear on hovering over the icons) will increase users accuracy thereby it will increase the level of satisfaction from the system usage;
- **Adjust UI for all devices.**

Mobile, tablets, small and large desktop screens are all used by people. The website should be easy to use and recognizable on all of them. Transition between different screens should also be as seamless as possible;

- **Make important content and navigation points always visible.**
Don't hide them in a carousel that takes some time to display all its content, or inside dropdowns. User should be able to see all important UI elements immediately once the page is loaded;
- **Make important content and navigation points easy to find.**
Frequently accessed elements should be large enough and be on the same place on every page they share, and about on the same place the users are used to see them when using other websites. Getting used to every single website structure can be hard;
- **Distribute the content equally across the page.**
Don't overcrowd some parts of the page with too much content and don't leave a lot of space empty;
- **Color.**
Make all elements contrast enough to be easily distinguishable from each other, but not too bright. Pay special attention to the text - don't put dark text on a dark background or light text on a light background. Also, make sure the colors match the theme of the website and are pleasant to look at;
- **Distinguish clickable and non-clickable elements.**
Make all clickable elements look clickable - elevated buttons, colored links, indicators, etc. The user should look at the elements and know if it's clickable without trying to actually click.

4.3 Content usability suggestions

As the content of the site is one of the major things that the system offers to the potential users, its design and display affects the level of end-users concern, which is one of the main usability indicators. We suggest the following change to be embodied for improvement:

- **Add 'alt' attribute to all graphical elements of the <Project> site.**
To expand the auditory of the end users and include the ones with potential poor connection, and to make sure existing end user will be covered in case of connection problems, addition of the alternative text for the graphical elements (images, videos, animations) is needed. Make sure that the alternative texts are valid descriptions of the corresponding elements, as these texts will represent the elements in case of the problems of elements loading on the end-users side. With valid and clear alt texts, users can gain almost same high experience from the system usage as with the graphical elements themselves which leads to increasing of the efficiency and conversion rates.

4.4 Speed usability suggestions

Time is very valuable. Users should be able to get what they want and get it fast. If they can't get it fast enough, they can find a place where they can get it faster.

- **All pages should be loading fast.**
When the user opens the page, he expects it to load within a couple of seconds, if not immediately;
- **If a page is not loading fast, display a skeleton.**
Skeleton will show the user the structure of the page to let him know in advance where to look at when the content is loaded;
- **If any content is not loading fast, display a loading indicator.**
The user should be aware that the site is in progress of delivering content and he'll get the content eventually. It's better to also let the user know how long he should wait, by using a progress bar for example;
- **Make use of lazy loading.**
Let some tasks run after initial page load to speed things up.

4.5 Notifications and other permissions usability suggestions

The website could do much more with additional permissions, but it has to be responsible for what it asks.

- **Ask for permissions only when it's clear for the user why you need them.**
Otherwise, the user will be concerned about website security level;
- **Use additional permissions with care.**
Don't turn the camera on unexpectedly. Don't send spammy or ads notifications. The user must know the website uses permissions only for the user's benefits.

4.6 Feedback and error handling usability suggestions

Let the user know what's going on and what he can do:

- **Change mouse cursor.**
Make the cursor look different after hovering over links, buttons, text, etc.;
- **Use custom error pages.**
Let the user return from error pages easily, or even add important navigation points to them;
- **Display clear error messages.**
Don't make the user think too much about how he can fix input or other errors. Or event better - try to prevent those errors, for example by autocomplete or autoformatting;
- **Animate elements on being clicked.**

Give the user a confirmation that he has indeed clicked the button and now the magic should happen.

4.7 Personalization usability suggestions

Adjust the website to look or behave better for every separate user:

- **Implement user profiles.**
User profiles may save search history, design settings and many other things. This would let the users to continue their work from the place they stopped at and to switch devices easily.

4.8 Be transparent and easy to talk to

Let the users know you trust them and can be trusted:

- **Post some information about you on the website.**
User photos, emails, phone numbers;
- **Implement a contact form.**
Make it easy to contact you, the easier the better. If it's a chat, don't pop it up over other content - this may irritate the user;
- **Let the user control the information you collect.**
Give an option to unsubscribe from analytics tools if they are not crucial for user experience.

5. Conclusion

Site usability is a complex of means which aim is to create an easy-to-use site clear for users. Usability is a mark of user interface quality that defines how the interface is easy and at the same time effective for utilization.

After QATestLab company has performed usability testing of the portal, the positive and negative aspects of site technical characteristics, usability, design, usability of applied functionality and correspondence to other generally accepted norms and standards were detected.

The test results are presented in the document and in a form of bug reports. Also, the report includes the suggestions for improvement and optimization of the main parameters and characteristics.