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## Test Summary Report

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## 1. **1 Introduction**

The pilot 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

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: <ul style="list-style-type: none"> <li>• crossbrowser capacity</li> <li>• multidimensional capacity</li> <li>• support of mobile devices</li> </ul>	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
Recommendations 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

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

Name	Version	Brief description	Link to resource
<b>Xenu's Link Sleuth</b>	1.3.8	Xenu's Link Sleuth is a free app that checks that there are no broken links on the website	<a href="http://xenus-link-sleuth.en.softonic.com/">http://xenus-link-sleuth.en.softonic.com/</a>
LinkChecker	0.6.7	Add-on plugin for Firefox	<a href="https://addons.mozilla.org/ru/firefox/addon/linkchecker/">https://addons.mozilla.org/ru/firefox/addon/linkchecker/</a>
W3C validator	1.3	This validator checks the markup validity of Web documents in HTML, XHTML, SMIL, MathML.	<a href="http://validator.w3.org/">http://validator.w3.org/</a>
Pingdom tools		Page Test tool helps to analyze the load speed of the websites	<a href="http://tools.pingdom.com/fpt/">http://tools.pingdom.com/fpt/</a>
FireBug	1.10.14	powerful web development tool	<a href="https://getfirebug.com/">https://getfirebug.com/</a>
Yslow	3.1.4	YSlow analyzes web pages and why they're slow based on Yahoo!'s rules for high performance web sites.	<a href="https://addons.mozilla.org/en-US/firefox/addon/yslow/">https://addons.mozilla.org/en-US/firefox/addon/yslow/</a>
PageSpeed		PageSpeed Insights analyzes the content of a web page	<a href="https://developers.google.com/speed/pagespeed/">https://developers.google.com/speed/pagespeed/</a>
COPASO		COPASO is an advanced color palette tool	<a href="http://www.colourlovers.com/copaso">http://www.colourlovers.com/copaso</a>

## 2. Test results

### 2.2. Test summary results

#### 1 Verification of site technical parameters

##### 1.1. 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.

##### 1.2. 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
- the 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 - the absence of server response, in this case within 60 seconds during the simultaneous sending of 30 requires.

#### **Recommendations for improvement of server load capacity:**

- the execution of a full load testing, detection of system bottlenecks to define the requirements to the software and hardware
- the resources (js files) compression for accelerating the process of data pushing
- the use of browser cache
- JavaScript reduction

- merging of images into CSS sprites
- the reduction of redirect number or their caching in a browser
- the reduction of CSS and HTML resources
- the optimization of the order of styles and scripts loading. To parallel the load of CSS files, the external CSS files should be always included before the external JavaScript files.

### 1.3. Site look and feel

After the checking of the main portal pages and functionality in the browsers:

- IE9, IE10
- Opera 12
- Google Chrome 22
- Firefox 15
- Safari 4

despite a small number of errors detected in IE and Opera, the 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 multidimensional capacity was checked and considered to be satisfactory.

The site was also tested on mobile devices:

- iPad iOS 5.1.1
- iPhone 4S

and the site adaptivity to browsers 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. Verification of site usability

### 2.1. 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.

## **2.2. 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.

## **2.3. 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.

## **3. Design requirements**

### **3.1. 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.

### **3.2. Page elements design**

The 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.

### **3.3. 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.

## **4. Comprehensibility of site applied functionality (for functional projects)**

### **4.1. 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.

### **4.2. 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.

### **4.3. 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.

## **5. Other**

### **5.1. 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.

## 2.3. List of detected issues

After performing usability testing, 132 issues were detected.

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

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

### 3 Recommendations

The site is developed in an original style with working functionality and structured content.

For a better effect and usability of utilizing the resources by customers, the following aspects require special attention:

1. Validation of pages layout according to the web standards and fixing of the detected errors and warnings.
2. Improvement of server loading capacity and acceleration of page loading:
  - execution of a full load testing, detection of bottlenecks to define the requirements to software and hardware
  - the resources (js files) compression for accelerating the process of data pushing
  - the use of browser cache
  - JavaScript reduction
  - merging of images into CSS sprites
  - the reduction of redirect number or their caching in a browser
  - the reduction of CSS and HTML resources
  - the optimization of the order of styles and scripts loading. To parallel the load of CSS files, the external CSS files should be always included before the external JavaScript files.
3. Execution of a full and thorough cross-browser testing, fixing of the detected errors.
4. Conduction of a complex and detailed testing on the mobile devices.
5. Adding a user guide, prompts and information about the available functionality for authorized, unauthorized and verified users, information about the available operations with companies from a catalog, products and services.
6. Adding a link to the Main Page, enabled access to all sections of menu / submenu from all the pages, the presence Breadcrumb navigation, add the Back button.
7. Maintaining the similarity of functional and nonfunctional elements (design of one style).
8. Improvement of forms usability:
  - adding fields validation
  - marking mandatory fields
  - saving of content after an error message

- correcting of error messages
- adding of an information message after data sending

#### 9. Optimization of Flash and video players operation:

- adding the control elements when watching a video from the course
- 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.

## 4. 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 recommendations for improvement and optimization of the main parameters and characteristics.