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TYPES OF WEB RESOURCES AND THE FEATURES OF THEIR TESTING

The article describes the classification of types of web resources and explores the features of development and testing of two types (company site and landing page).

With the development of technology, cooperation with readers, customers, users is carried out through interaction on the Internet. Various web resources are created, developed to do this. This method of communication with the target audience has many advantages over live contact, since a large number of users can access the web resources at one time, unlike, for example, visits to an office, a store, etc. where their number is limited by geographical location, space and time of day. However, the lack of quality of the web resource and the level of protection of personal data can greatly spoil the impression of the company or cause a decrease in the number of potential customers. That is why testing plays a big role in the creation and operation of a web resource and is a topical scientific and technical task [1].

Web resources can be categorized into such classifications as business orientation, user accessibility, functionality, and content. The developed systematization of types of web resources is presented in Figure 1.

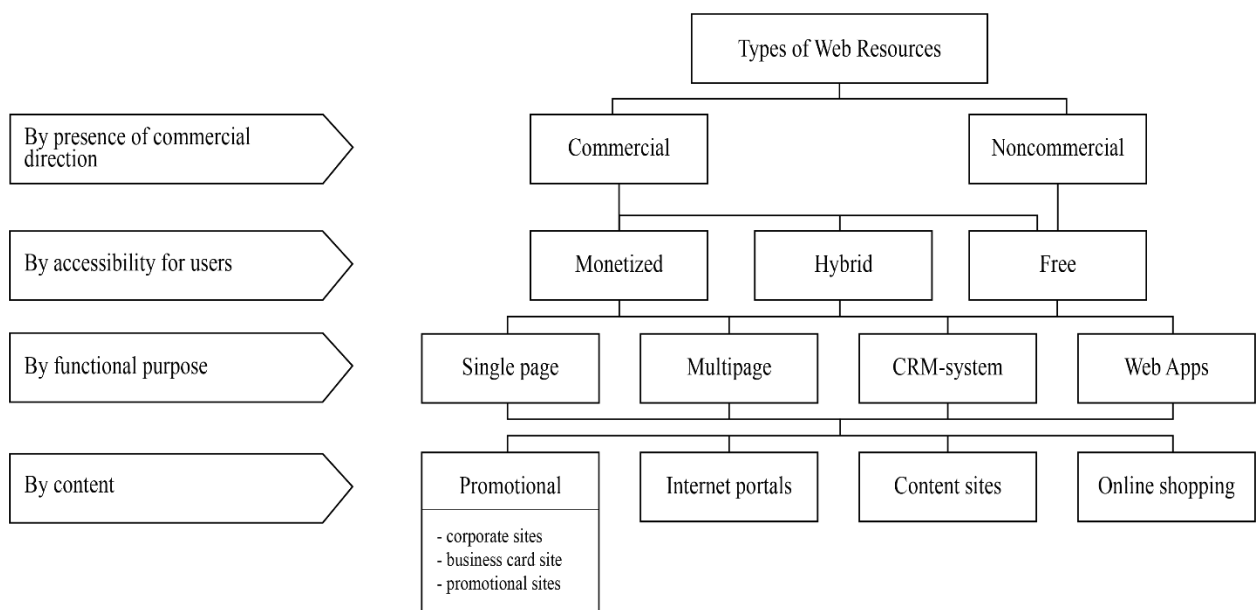


Fig. 1. Systematization of types of web resources

The purpose of this work is to analyze the methods of testing web resources and to develop an algorithm for testing one-page and business-card sites.

The object of the study is the technological process of developing and testing web resources, namely: a business card site and a one-page web resource. The typical title screens of the web resources explored are presented in Figure 2. The business card site contains pages with text information, video information, contact form, pages with posts and pop-ups, each of which is undergoing a testing process.

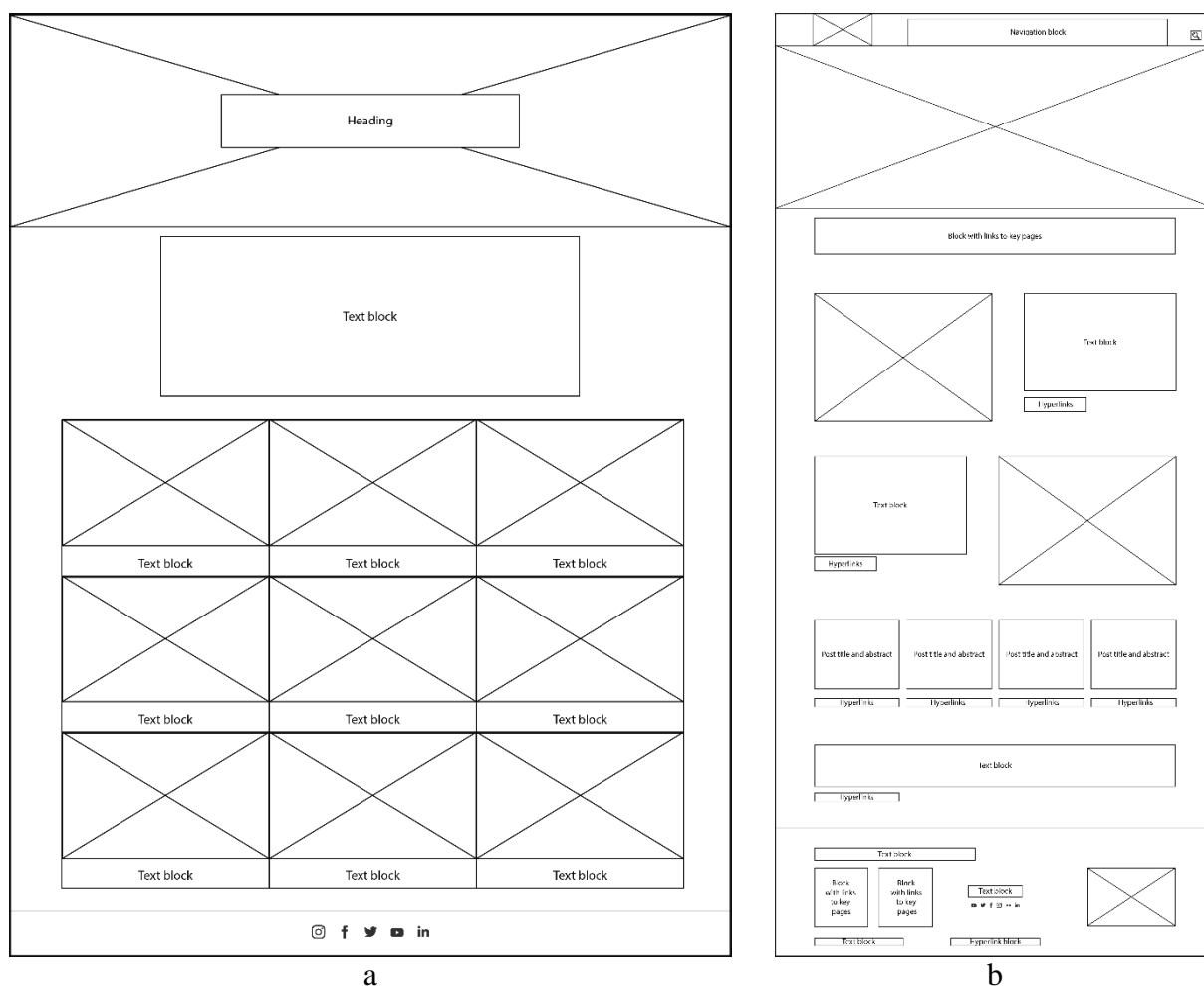


Fig. 2. Typical structure: a) One-page web resource; b) the front page of the business card site

The subject of the study is the modes and parameters of creating and testing web resources.

Testing will be conducted in two modes: manual and automated. Using automated testing methods, test pages will be checked for such parameters as download speed, both the pages as a whole and the individual components, the number and speed of responses to requests to the server, the complexity of the document model, page setup options, and more. Automated testing will be conducted using the PageSpeed Insights and Yellow Lab Tools online services [2,3].

Using the manual testing method, contact forms, hyperlinks and buttons, video playback will be checked. Also, through manual testing, the test pages will be tested for cross-browser and cross-platform, adaptability to different screen sizes.

Group 1 metrics (webpage page volume, number and size of requests to the server, complexity of the document object model (DOM) and its manipulation, presence and indicators of problems with JavaScript content, complexity of cascading style sheet (CSS) and related issues, font characteristics) are of constant importance and are not dependent on the number of checks performed, so the test web resources for this method are checked once.

The metrics of the second group (page load speeds) are not constant, so each page was checked five times and the data were mathematically processed.

Based on the results obtained from the performance of the typical pages of the business card site, a final graph was compiled for a general comparison of the performance of the different pages, depending on the content presented in Figure 3.

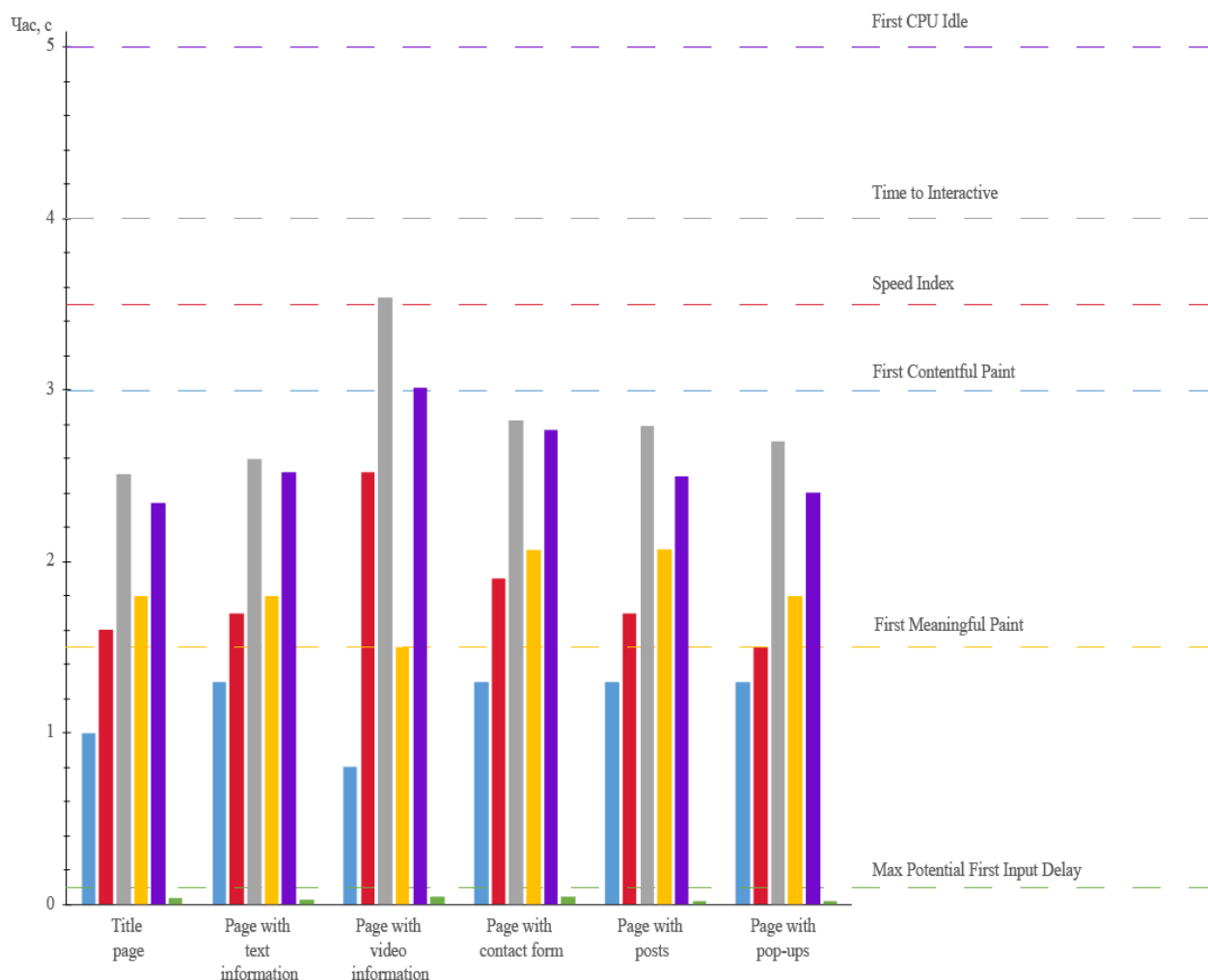


Fig. 3. Page load speed depending on fullness

Thus, it can be concluded that all metrics except the loading time of sufficient content are within acceptable limits. The text page and title page have the fastest load, and the video page have the slowest. To speed up loading times, you should optimize your page components. It is also possible to use technology where all the power goes first to load the main components, and the material that goes below the page is loaded when the user views the page.

The performance for a one-page web property was similarly tested. For this type of web resource, the same pages were created using different means. Thus, one page was created on the basis of CMS of WordPress system, the second using the online platform Tilda, and the third page was created with the constructor Bitrix24 [4 - 6]. On the basis of the obtained data, a generalized graph is presented, which is presented in Figure 4.

Thus, we can conclude that the most optimized pages are created using Tilda.cc, and the worst variant, of the researched ones, is Bitrix24.

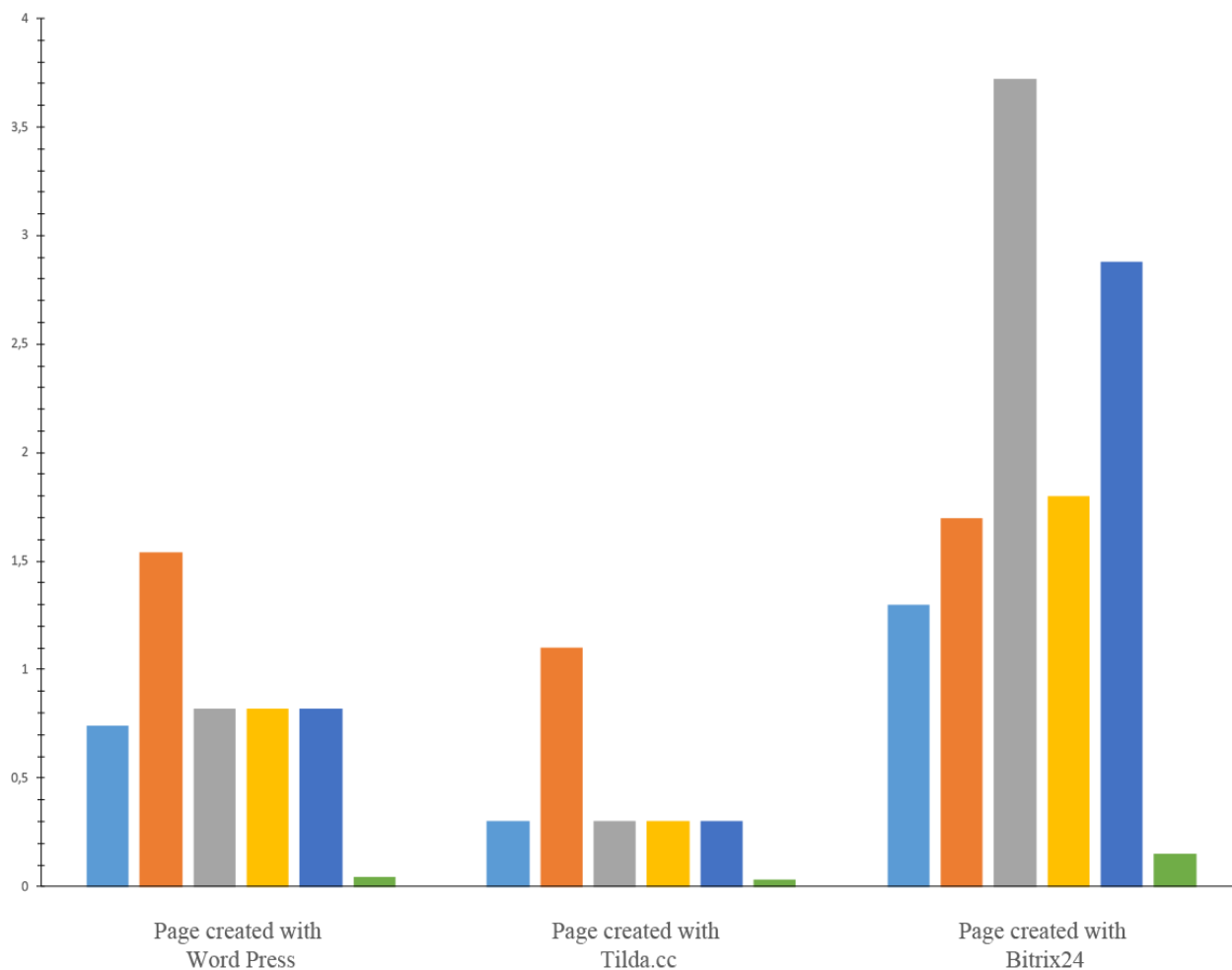


Fig. 4. Page loading speed, depending which technology it made on

However, despite its performance benefits, Tilda has a number of significant drawbacks, it is not a universal system and is intended more specifically to create one-page web resources, while WordPress is a more versatile system that allows you to create more complex web- resources, as well as creating and posting non-standard, personalized blocks on the page, which in turn provides greater variability of the web resources received. In terms of performance, by plugging in special plugins, performing information optimization operations, you can achieve even better results than Tilda.

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