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FEATURES OF SOFTWARE DEVELOPMENT FOR OPTIMIZATION OF INTEGRATED ASSESSMENT BASED ON THE WEBSITE

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Annotation. This article describes the features of software development for optimizing integrated assessment based on a web platform. Software development is a complex process that includes a large number of stages and recommended attributes, and technological progress sets its own capabilities and requirements for software development of varying complexity every year.

Keywords: optimization, software, web development, integrated assessment, information protection.

Introduction. In the context of software development aimed at optimizing the selection process of electronic devices, it is especially important to highlight the resource intensity of the task of selecting a suitable device. This process requires a systematic analysis of many parameters, which takes considerable time when solving a problem in handwriting or partially in handwriting. This paper proposes the use of a comprehensive methodology supported by software tools to simplify the process, reduce decision-making time and increase the objectivity of evaluation through optimization.

Main part. A central role in this development is played by a web platform that provides a user interface for entering and interacting with data in the table «Parameters and names of devices» using JavaScript tools. This mechanism ensures the convenience of users when entering the necessary information, which is then used in the integrated assessment process. The operator of this software is not required to enter formulas and check calculations, because all this is done at the software level. The operator only needs the values of the device parameters, their names and priorities of the importance of technical parameters, which is displayed in the introductory table.

At the backend level of the web platform, the introduction of data through JavaScript tools and subsequent calculation cycles form the basis of the algorithm for calculating a comprehensive assessment. The algorithm is based on assigning variables or arrays of values entered by the operator and executing standard expressions with these parameters according to the algorithm for calculating the selected characteristics, taking into account the nature of the entered values. It is important to note here that conditional, logical and list operators allow you to dynamically implement the selection of the size of the data entry table by the user. This is implemented as efficiently as possible and allows you to optimize the evaluation process. In addition, the allocation of coefficients correlated with each technical parameter allows you to identify the best options.

The evaluation results are displayed in the form of a bar chart, which can be implemented without using the chart library.js using CSS grid display and div blocks. This provides additional opportunities for customization and integration with the overall design of the software. However, there are other options. When considering data visualization tools, the difference between Bootstrap CSS and Tailwind CSS is worth highlighting. Bootstrap provides ready-made components, simplifying the layout, while Tailwind CSS provides a more flexible and configurable approach. Here, the best choice would be Tailwind CSS framework, which allows you to implement flexible functionality, especially important when working with a large number of values and devices. However, as a development stage, it is possible to consider other

frameworks, as well as a standard algorithm for constructing the necessary elements for a comprehensive assessment.

In the section of user input in each cell of the table, it is worth considering the design using modern styles to increase usability. This includes details such as styling input fields, formatting even rows, highlighting the header part of the table in a separate color for better visualization and perception of the entered values. In addition, a useful element of the table is the selection of a checklist of entered data, which gives understanding and serves as a reminder to the operator so that all data is correctly entered into the software.

In addition to the considered aspects of the software, it should be emphasized the importance of its adaptation to various devices, including mobile ones. Adaptation is provided using the @media commands, which allow you to optimize the display of the interface on various screens based on the width of the screen and setting specific settings for each range. This is important, given the variety of devices and providing convenient access to the program's functionality even on devices with limited screen space, allowing you to use the software on both high-resolution monitors and small-screen devices.

Reengineering, in the context of improving the integrated assessment process using this software, is a key element in finding optimal solutions and increasing efficiency. It includes reviewing current processes and introducing innovations to improve the performance of electronic devices. By using reengineering, the software can optimize data entry procedures, automate calculations, and provide additional tools for more accurate and faster evaluation.

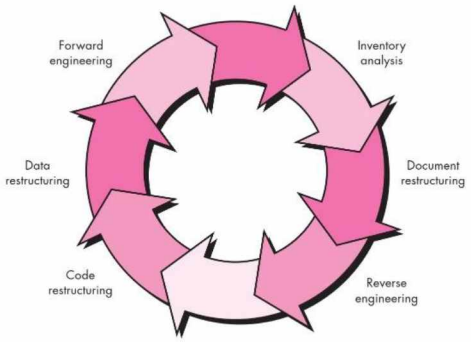

Figure 1 – A software reengineering process model

For the successful implementation of reengineering in this context, effective techniques are the analysis of the current stages of the assessment process, the identification of bottlenecks, as well as the integration of modern technologies and data visualization methods. The software can offer the ability to automatically compare technical parameters with evaluation criteria, as well as the use of intelligent algorithms to provide recommendations on choosing the best options. These measures not only optimize the process, but also significantly reduce the time spent on evaluation, providing faster decision-making in the selection of electronic devices [1].

An important aspect is the possibility of entering only part of the data if the user does not have complete information about the technical characteristics. This function can be implemented by partially filling in required fields, which provides flexibility and simplifies the data entry process. The introduction of validations and hints also helps to reduce errors when entering information.

The use of pseudo selectors in CSS when working with the table and calculation results is an important element for customizing and styling the user interface. For example, using the pseudo-selector «:nth-child» allows you to select certain elements in the table, which can be useful when highlighting cells with a special value. This provides a clear visual representation of the data and improves the perception of the evaluation results.

Pseudo-selectors such as «:hover» and «:active» provide the ability to create interactivity when interacting with elements. For example, when hovering over a specific column or row of a table, you can change the color or highlight key data, which makes visualization more dynamic and intuitive for the user. These pseudo-selectors play a crucial role in creating an interface that

not only provides accurate evaluation results, but also provides convenience and efficiency of interaction with these results [2].

Effective visualization of the entire calculation stage is the key to working correctly with the program, giving the operator a choice between detailed display and collapsed navigation elements. To achieve this goal, the software can offer two modes of presentation of results. The first mode provides a detailed display of each calculation step, allowing the operator to analyze the process in detail and make informed decisions based on complete information. The second mode provides a compact and key representation of the calculation steps using collapsed elements and navigation.

Software updates open up prospects for innovation. The implementation of new features, such as more accurate, faster and resource-efficient data analysis algorithms and integration with modern technologies, including machine learning, complements the functionality, providing higher efficiency and accuracy of estimates. JavaScript can be used to optimize work with a large amount of data, providing asynchronous loading and dynamic interface updates, while CSS gives the application design style and adaptability.

Additional features include improving the user experience through the integration of modern UX/UI solutions. This includes the use of modern design solutions and animations to enhance the intuitive interaction. Support for importing instrument parameters from popular MS Word/Excel catalogs and tables provides ease of use by reading and processing data using JavaScript or TypeScript for further development based on static typing, interfaces, enumeration and other advanced features. These improvements not only optimize performance, but also enrich the user experience, making the application more efficient and attractive to users.

Improving the functionality and visualization of the results of a comprehensive assessment of devices is important for the rational choice of a device for specific needs. It is also possible to display a list of devices according to their quality indicators in descending or ascending order after the calculation results and the display of a bar chart or histogram. It is also possible to filter the initial table with reference to the calculation results in such a way that the operator clicks on the cell with the technical characteristics and filters the devices by values, indicating their location according to the calculation results, which makes it possible to take into account local needs and the greatest efficiency at the same time.

Conclusion. The implementation of this functionality can be carried out through a graphical user interface that offers switching between modes of presentation of results. Navigation elements, such as tabs or a side menu, can be used to choose between a detailed and collapsed view. The bar chart displayed at the end of the process can serve as a key visual component summarizing the evaluation results. This will allow the operator to quickly assess important parameters and, if necessary, proceed to a detailed analysis. This approach provides flexibility in working with the evaluation results and meets the various needs of the operator. this software provides not only powerful tools for evaluating the technical characteristics of electronic devices, but also provides ease of use, adaptation to different devices and flexibility in processing input data.

Thus, the development of software for integrated assessment makes it possible to optimize the process of evaluating complex arithmetic, geometric, or harmonic indicators using programming tools [3]. In this example, the process of receiving input data, calculating based on this data and displaying the evaluation result in the form of a bar chart is designed on the basis of the website.

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