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SELECTION AND JUSTIFICATION OF THE CHOICE OF TOOLS AND HARDWARE REQUIREMENTS OF WEB-BASED INFORMATION APPLICATION

In today's software development market, the choice of tools and the establishment of hardware requirements for the successful development of an information application are justified. Through the analysis of various architectural approaches, we managed to determine that the use of SPA and RESTful API is optimal for achieving our goals. This architecture allows us to create an interactive and convenient service for users, ensuring effective communication between the client and the server side of the application, as well as quick adaptation to changes in user and market needs.

We use a number of key tools and frameworks that are known for their efficiency and flexibility. React.js was chosen to create the user interface due to its widespread use and high performance. The differences in its component structure make the process of developing, testing, and maintaining applications easier and more efficient.

Express.js acts as a framework for processing logic on the server side. This popular tool guarantees high performance and efficiency by supporting various rendering methods, including server-side and static client-side. A convenient routing system simplifies the development and maintenance of projects.The general algorithm of work of the express.js is shown in Fig. 1.

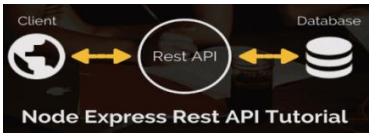

Fig. 1. The general algorithm of work of the express.js

Tailwind CSS was chosen as a methodology for styling components. It uses a modular approach to CSS, which allows you to create local style areas for each component separately, avoid conflicts between styles, and facilitates the development and maintenance of components.Data storage is based on the MongoDB Atlas cloud database, which provides a reliable and scalable way to manage data in document format. MongoDB allows you to flexibly change the data structure without migrating databases, and thanks to MongoDB Atlas, you can easily expand clusters and efficiently process large amounts of data.The general algorithm of work of the mongoDB is shown in Fig. 2.For design and prototyping, the Figma graphical editor is used to help create intuitive and attractive interfaces.

Fig. 2.The general algorithm of work of the mongoDB

Taking into account various aspects such as speed, efficiency, ease of development and support, data storage reliability, and design possibilities, the selected tools allow you to create a functional and attractive information application with a user-friendly interface and optimal performance.The general algorithm of work of the Figma is shown in Fig. 3.

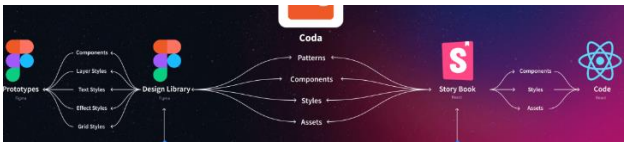

Fig. 3. The general algorithm of work of the Figma

The analysis in the field of web-based information applications has shown that it is important to develop functionality for storing data on publications, their characteristics, as well as users and comments. In addition, mechanisms need to be developed for quick search and selection of publications by parameters, as well as for effective management of publications and user information.Visual Studio Code (VS Code) is an integrated development environment (IDE) developed by Microsoft. It specializes in web development and provides powerful tools for working with HTML, CSS, and JavaScript. VS Code includes a number of useful features such as syntax highlighting, code completion, refactoring, debugging, and automatic syntax checking.

A review of existing analogues has shown that the main functions of a system for web-based information applications are posting publications, searching for publications on the Internet, having a network version and a web interface. It is also important to keep track of comments and import edited user data for convenient use of the application. It would be advisable to implement additional features such as post search and filtering by certain parameters.

References

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