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FORMATION OF THE INFORMATION STRUCTURE OF THE IT PROJECT FOR THE DEVELOPMENT OF AN INTERNET SERVICE FOR FINDING TEMPORARY WORK

The importance of forming an information structure for the IT project of developing an Internet service is determined by the rapid development of technologies and the growth of user requirements for ease of use and efficiency. In light of the constant changes in the Internet environment, the optimal organization of information becomes an important component of the successful implementation of the project. Providing easy access and a clear interface are becoming essential to attract and retain users. The information structure reflects the simplification and optimization of interaction between users and the service, which is critical in a competitive digital environment [1].

Based on the requirements for the IT project, a high-level architecture of the project was developed, which can be seen in fig. 1.

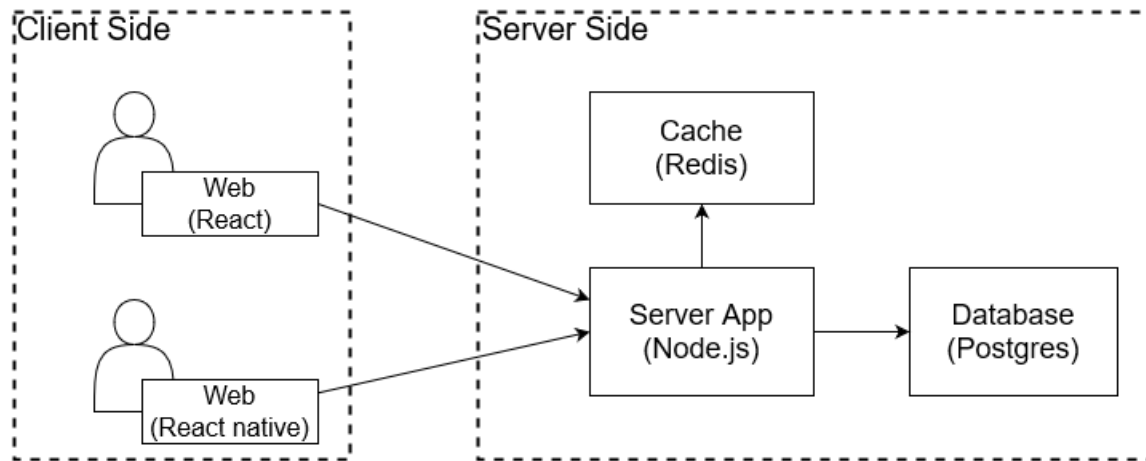


Figure 1 – IT project architecture

When choosing a programming language, javascript was chosen. This was done because at the moment there is an opportunity to write server and user parts using this advantage, which is a plus because it is not necessary to hire different specialists to write different parts of the system.

React was chosen for writing the site and applications. React is a javascript library for creating user interfaces. React simplifies the creation of interactive interfaces [2].

React was chosen because it is the market leader and there are many ready-made solutions and libraries written in React that can be reused in the IT project. Also, React has a fairly large community that supports it.

For writing applications, React native was chosen – a framework that allows you to develop applications for iOS and Android platforms. The advantage of this framework is that there is no need to create applications separately for iOS and Android [3].

To write the server part, Node.js was chosen, which allows you to create back-end applications in the javascript programming language.

A Postgres database was also selected. It is a widely used open-source object-relational database management system.

Also had to add caching to the parts server. This will reduce the load on the database and speed up the server's response to user requests for data. Redis was chosen for this. It is an open-source key-value data store. Data is stored in RAM [4].

Based on the developed conceptual model, a conceptual (Fig. 2) and logical database model (Fig. 3) were developed.

The database consists of the following tables and columns:

- accounts → contains user profiles (id; name; phone; email; password; imageSrc - the path to the user's picture; cityId; address; role - the user's role. Can be Admin, User or Moderator; active - false when registering. Admin must view and confirm the profile so that the user can create an ad or perform work; accountBalance - the amount of money on the user's account for the work performed, or for payment of work).

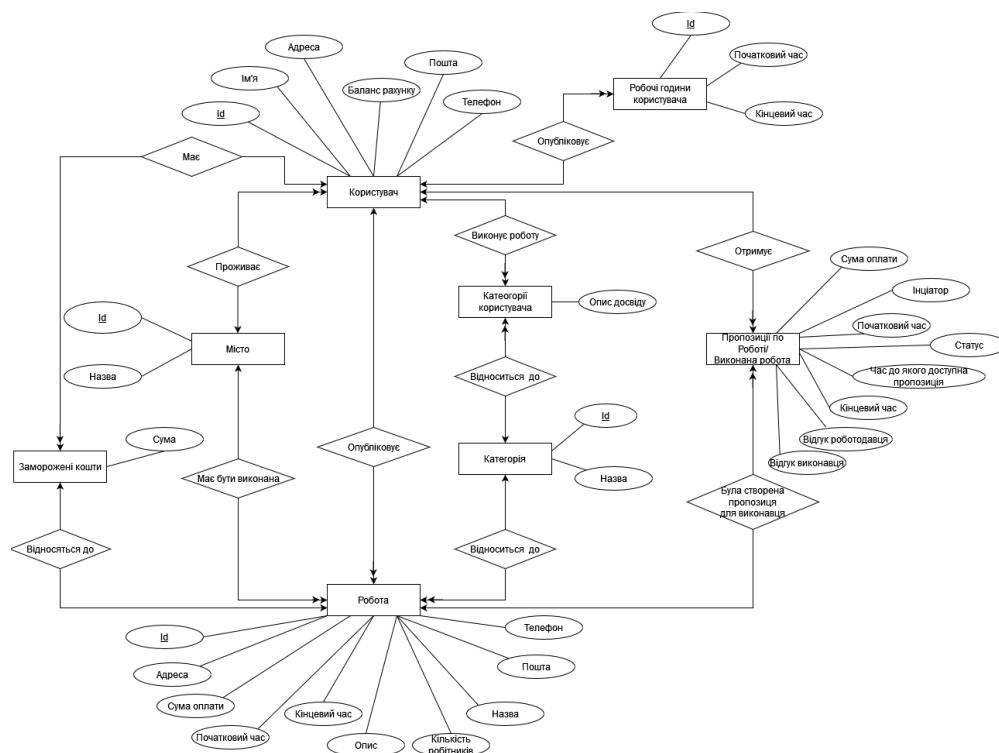


Figure 2 – Conceptual model of the database

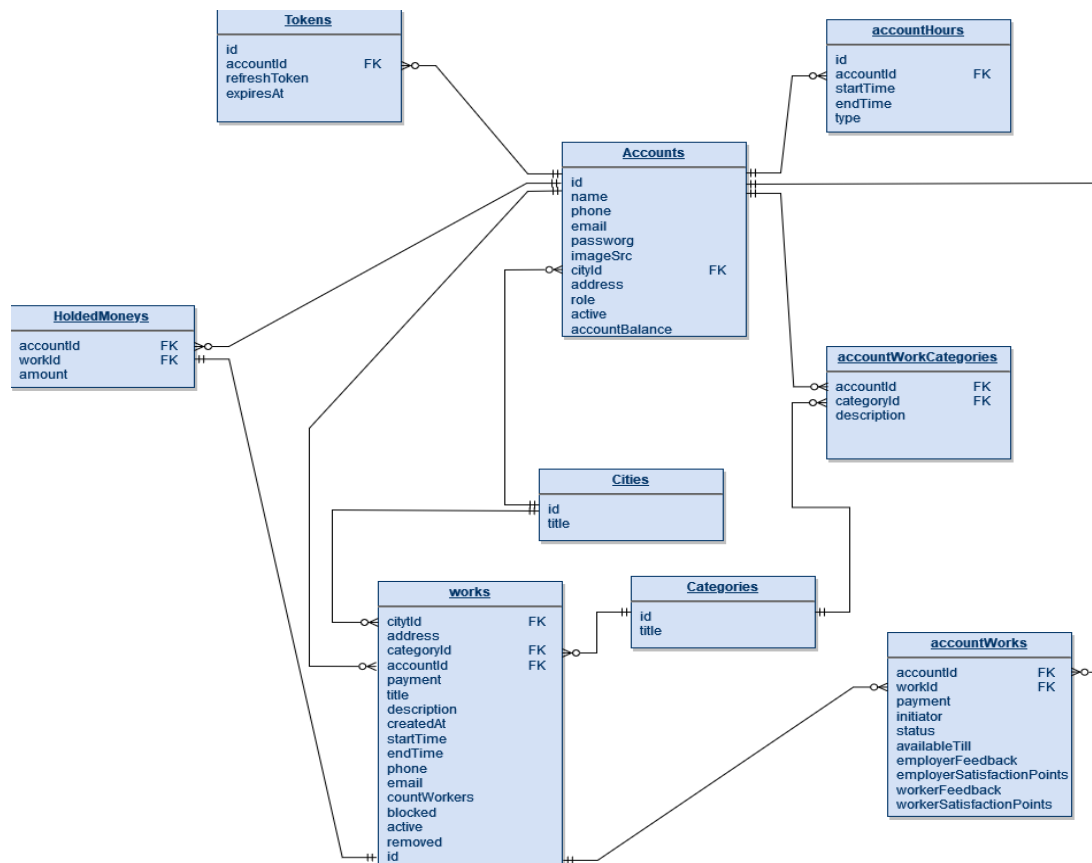


Figure 3 – Logical database model

- tokens → contains tokens required for user authentication (id; accountId; refreshToken; expiresAt - time when the token becomes invalid).
- cities → list of available cities (id; title - city name).
- categories → list of available categories (id; title - category name).
- accountWorkCategories → a list of categories in which the user can perform work (accountId; categoryId; description - a detailed description of the user's experience and skills in this category).
- accountHours → time when the user is available to perform the work (id; accountId; startTime; endTime; type - can have the following values: 1) available - the user is ready to perform the work at the specified time; 2) exception - exception from the time when the user is available, for example lunch, etc.).
- heldMoneys → frozen money of the user. The user's money is frozen when he creates a job. In the future, the money will be used to pay for the work. or they will return if the user deletes the work, or there are no specialists who are ready to

perform it (accountId; workId; amount - the amount that the user must pay in the future for the work performed).

- works → a list of works created by users (id; cityId - the city in which the work needs to be performed; address; categoryId - the category to which the work belongs; payment - payment for the work performed by one person; title - the name of the work; description - a detailed description of the work and skills, which are required for the execution of this work;
- accountWorks → a list of completed works or works that were offered to the specialist (accountId - the account of the user who will perform the work; workId; payment - the amount that the specialist receives for the completed work; initiator - can have the following values: 1) employer - if the user, who created the work offered to perform it to the worker; 2) worker - if the worker offered to perform the work to the user who created the work; status - can have the following meanings: 1) proposed - the job is offered; 2) rejected - the work is approved; 3) approved - job offer rejected; 4) canceled - the work has been cancelled; 5) performed - the work is done; employerFeedback - feedback from the user who created the work about the quality of its execution by the worker; employerSatisfactionPoints - rating from 1 to 5 of the user who created the job; workerFeedback - feedback from the user who performed the work about the conditions of the work; workerSatisfactionPoints - rating from 1 to 5 of the worker.

Thus, the formation of an information structure for an IT project for the development of an Internet service for finding temporary part-time work is a key stage that determines the success and acceptance of the IT project in the market. The importance of this process lies in properly taking into account the needs of the target audience, providing easy access to the necessary information and functionality, as well as creating a convenient and intuitive interface.

The process of forming an information structure involves the analysis of user behavior and needs, the definition of key service functions, the logical grouping and organization of information, the development of a navigation system and interaction with the user.

A properly designed information structure will allow for a convenient and effective search for temporary work for users, which will increase their satisfaction and loyalty to the service. In addition, it will contribute to increasing the competitiveness of the project on the market and its successful implementation. Thus, the importance of the correct formation of the information structure is key to achieving IT project goals and meeting user needs.

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FORMATION OF CONCEPTUAL AND LOGICAL DATABASES FOR THE PROJECT OF CREATING A WEB PLATFORM FOR AUTOMATED VERIFICATION AND EVALUATION OF WRITTEN TESTS

Since the developed web platform will work with a large amount of unstructured data, MongoDB was chosen as the database. MongoDB is a document-oriented NoSQL database [1]. Why MongoDB is the best fit:

1) document-oriented storage. since MongoDB is a NoSQL database that stores data in a document-oriented format using a JSON-like format (known as BSON). This makes it suitable for storing and manipulating large amounts of textual data, as there is a natural correspondence between the data storage format and the data itself;