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## **TASK AND PROJECT MANAGEMENT METHODOLOGY IN ORDER TO OPTIMIZE BUSINESS PROJECT MANAGEMENT PROCESSES**

The purpose of the study is to develop a modern web application for task and project management, which will contribute to the optimization of project management processes, increase the efficiency of teamwork and transparency of task performance. The object of research is: a web application for project management that supports authentication, sprint planning, task and participant management.

The design method is structural and functional analysis, component modeling, development using the approach of server rendering of components. The analysis of the subject area was carried out, analogues were studied, their advantages and disadvantages were identified, the concept of the application was created and its functionality was implemented.

The web application supports registration and authentication via email and social networks, multi-factor authentication, profile editing, creating and managing projects, sprints, and tasks, and, most importantly, it can be used by teams for effective project management. The process of developing a web application for project management in order to optimize project management processes involves the creation of a comprehensive solution.

As part of the study, a modern web application Sprintly for project management was developed, aimed at optimizing project management processes.

The relevance of the work is due to the growing need for effective tools for organizing teamwork, planning sprints and managing tasks in the context of the dynamic development of information technology and the IT industry. The developed application meets modern requirements for computer information systems, providing flexibility, transparency and automation of routine processes.

The practical value of the study lies in the possibility of implementing the developed application in IT companies, startups, educational institutions, and other organizations that require effective project management.

The app allows you to increase the transparency of teamwork, optimize the planning of sprints and tasks, as well as reduce the time for routine operations thanks to automation.

In today's world, project management is a key aspect of successful organizations. Optimizing project management processes with the help of modern technologies allows you to increase the efficiency of teamwork, ensure transparency in task performance, and achieve set goals within the established deadlines.

The development of web applications for project management is becoming increasingly relevant, as such tools help teams plan, track, and coordinate their activities in real time. The goal of the research is to create a web application for project management that will provide a convenient and effective tool for organizing teamwork, planning sprints, creating and tracking tasks, and managing project participants.

To implement this project, a modern technology stack was used: Typescript, Next.js for the frontend, Supabase as a backend platform.

The work includes analyzing existing solutions in the project management market to determine their advantages and disadvantages, as well as developing and implementing new features that will improve the user experience and efficiency of the system.

Before the development began, planning was carried out: a set of functional and non-functional requirements was created, a logical and physical database model was developed, as well as UML diagrams of use cases and activities.

Figma technology was used to plan the visual part. After the application is implemented, testing will be conducted to verify that all functional requirements are met correctly and there are no errors.

The main functionalities of the web application include:

1. registration and authentication: users can create accounts through email or social networks, log in and enable multi-factor authentication for increased security;
2. profile management: ability to edit personal data and avatar;
3. creation and configuration projects: users can create projects, add logos, choose a project type, and change parameters;
4. member management: owner the project can invite new participants by email and remove existing ones.
5. plannings prints: creating sprints with a goal, description, start and end dates;
6. task management: creation, editing, generation of task descriptions using language model, filtering and assignment of tasks within sprints with parameters: name, description, type, status, performer, time estimate.

The results of testing functional requirements confirmed the operability and compliance of the system with the specifications, which certifies its readiness for practical use.

In further research, it is planned to expand the functionality of the application, including the addition of analytical reports, integration with artificial intelligence tools to predict the timing of tasks, and support for a multilingual interface.

### **References:**

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