

DESIGN AND IMPLEMENTATION OF PROJECT MANAGEMENT APPLICATION IN REACT.JS

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Abstract

In this paper, we're going to explore the field of project management, which is an organized method of effectively accomplishing our objectives that goes much beyond a list of chores. We think that efficient goal-achieving and positive impact-making are more important aspects of good project management than just finishing duties. Our application aims to enable teams and organizations to operate more productively; it's not simply about software. Our extensive functionality and user-friendly interface make project administration less complicated. We make it unnecessary to retain manual records, lower the possibility of mistakes, and allow for instantaneous decision-making.

Key words: project management, ReactJS, design.

JEL: O3, Z0

1. Introduction

A wide range of duties are included in project management, such as task definition, task organization, and close task execution monitoring. Planning, resource management, budgetary control, time management, quality assurance, and upkeep of thorough project documentation are all part of it. It's about making sure we accomplish our objectives quickly and effectively.

Project management requires more than just spreadsheets and manual procedures in the fast-paced world of today. It calls for an advanced information system that can give thorough project and task descriptions.

Why does this matter? All projects, no matter how big or little, require a variety of professionals, resources, and moving components. Handling all of these details by hand can be difficult, error-prone, and inefficient most of the time. This is the role that our project plays.

Our React.js application aims to empower teams and organizations to operate more productively and efficiently—it's not just about code and design. By offering necessary features including project and task registration, contractor administration, and thorough reporting, we want to simplify project management.

Our goal in attending to these demands is to help initiatives and, eventually, the organizations that depend on them succeed. Our initiative is a response to actual project management difficulties, not merely a piece of software.

2. Main features and functionality

Our React.js application is made to provide you an extensive feature set that will revolutionize project management. Let's examine a few of the main features:

Registering Projects and Tasks:

The process of registering projects and the duties related to them is made easier by our system.

You may simply add project details, such as a unique project code, name, description, client information, start and finish dates, and project status, whether you're managing a single project or a portfolio of them. You can be sure that all your active tasks are clearly visible to you thanks to this feature.

Contractor and Expert Management:

The secret to a successful endeavor is teamwork. You may register contractors and assign them to particular project tasks using our application. In addition, specialists that are either inside or external to your company may be registered and managed. By ensuring that the appropriate individuals are assigned to the appropriate duties, this promotes efficient project execution.

Reporting and Insights:

Our application's capacity to provide informative reports is among its most useful features. You can keep an eye on how activities are being completed, assess how prepared they are, and see how project costs are being managed. You may use this reporting feature to make well-informed decisions, allocate resources effectively, and monitor project progress.

The importance of these features is found in their capacity to make project management seem less complicated. They make it unnecessary to preserve handwritten records, lower the possibility of mistakes, and facilitate decision-making in real time. Our goal is to enhance the efficiency and streamliness of project management by offering a user-friendly interface and strong functionality.

We'll go more deeply into the particular features, showing how our application satisfies the pre-established requirements. We go further into these features.

Let's examine the core of our product, which is how it makes project registration and related activities simpler.

Our system makes it simple for users to browse and search for projects, which simplifies the process of managing projects. We can help you with any kind of project, from specifics to an overview of all your active projects. A number of criteria, such as the project code, name, client, start and finish dates, and status, are available for searching through projects. This guarantees that you will be able to find the information you want fast.

Several key data elements are used to characterize each project in our system.

- To distinguish projects within the system, each project has its own code.
- The project name ensures clarity in project management by serving as a unique identifier.
- A project description enables thorough comprehension.
- The name of the project customer is registered; they can choose from the list of clients for projects that have already been registered in the system, or they can register as a new client.
- The project's start and finish dates determine how long it will take to complete.
- The state of a project can be indicated by its status, which might be "New," "In progress," "Terminated," "Frozen," or "Completed."
- An essential element is the hourly rate, which represents the amount paid to a participant for each hour of labor completed.

Usually, a project consists of several tasks, each of which requires careful attention. With the help of our program, tasks inside projects may be defined, providing an organized method of managing project activity.

- The names assigned to each assignment give clarification on what it entails.
- The desired outcome of each activity is outlined in the task description.
- There are start and finish dates to make sure every task is completed within the project's allotted time.
- The three priority levels—High, Medium, and Low—help you differentiate between important and non-important chores.
- There are several possible task statuses, including "Scheduled," "Pending approval," "Approved," "In progress," "Rejected," and "Completed." The state of newly created tasks is "Planned."
- A task's readiness is expressed as a percentage between 0 and 100. The readiness of new tasks begins at 0.
- Only when a job is in the "Completed" stage may hours worked on it be recorded.

We've made project and task management easier with these features, putting all the information you want at your fingertips.

The capacity to see and modify project data is essential for project management. That's exactly what our program does, giving you the resources, you need to efficiently manage your tasks.

An easy-to-use interface is offered by our system to view and amend project data. It's crucial to remember that editing data is only permitted in certain situations.

Editing project data is possible, however there are certain limitations. The only conditions under which you can change project data are those that do not include "Terminated," "Completed," or "Frozen." This restriction makes sure that data is only changed while the project is still active, avoiding unintentional modifications to finished or abandoned projects.

In order to enable effective project tracking, our program does more than just enter data; it also visualizes specific project information.

- You can quickly view how many days are left until each task's deadline or, in the event that it has already passed, how many days it is behind schedule. A precise schedule for work completion is provided by this feature.
- Furthermore, each project is given a thorough review by our system, complete with both summary and detailed data. The overall number of tasks, the total number of hours done, and the project's total cost determined by the number of hours worked are all included in this overview.

Our program makes sure you have a real-time grasp of the state of your projects and the advancement of specific tasks by offering these visualization options.

One of the most important aspects of project management is tracking project status. Our program makes this process easier by giving precise guidelines for altering the status of a project. Let's see how this operates.

Changing a project's status in our system complies with pre-established guidelines. These guidelines are intended to encourage effective project management and guarantee that status updates correspond with the project's advancement.

The following are instances of when a project may change from one state to another:

- Once a project is marked as "New," it may go on to "In progress," "Terminated," or even "Frozen." This makes it possible to manage new initiatives with flexibility.
- The project may be at the "In progress," "Completed," "Terminated," or "Frozen" stages at this point. The project's progress from the planning to the execution phases is represented by this shift.
- If the project status is "Terminated," it can be changed back to "In progress," which allows you to restart projects that were previously put on hold.
- Likewise, in case a project is designated as "Frozen," it has the ability to revert to "In progress," thus providing project managers flexibility.
- Projects remain in their final state after they are marked as "Completed" since they cannot be altered after that point.

Emphasizing the significance of user confirmation in the process of changing a status is crucial. Verification by users guarantees that the modifications correspond with the project's real advancement. This prevents unintentional status changes by adding an additional degree of responsibility and control.

Our tool streamlines project status management by imposing these guidelines and requesting user consent. This gives you a methodical and well-defined approach to efficiently monitor the advancement of your project.

Having the proper professionals on board is crucial in the field of project management. Our application makes it easier for experts—internal and external—to register, ensuring that the proper people are working on your projects.

For specialists, our system offers a simple and easy registration process. We've planned the procedure to be easy and effective, whether you're collaborating with professionals from outside the company or team members from within.

Let's examine the information related to experts in more detail:

- Name, Last Name, and Surname: An essential component of the expert's registration is their personal data. In order to make sure you can quickly recognize them in your project management system, this includes their whole name.
- Expert Type: distinct backgrounds can produce distinct experts, as our approach acknowledges. They may be external experts who work with your team on projects or internal experts who are currently employed by your company.
- Data Registration: Our application goes beyond simply registering professionals that work for your company. You have the option to register the pertinent expert's data if they are not yet included in the system. This guarantees that you may include outside specialists into your project management procedures with ease.

Our application facilitates the process of selecting the best team members for your projects by streamlining the registration procedure for specialists and offering comprehensive information about them. Our system makes sure you always have access to the necessary knowledge, whether you're working with in-house resources or outside specialists.

Viewing and editing experts' data is crucial after they've been registered in your project management system. With the help of our program, which offers a thorough platform for efficiently managing expert knowledge, you may accomplish exactly that.

Our solution is intended to make accessing and modifying expert data easy and effective for users. This guarantees you the freedom to easily lead your group of professionals.

We go one step further with our application, which lets you see expert data and their involvement in projects. You can see how your specialists are contributing to your projects using this graphic.

- You may examine comprehensive details about each expert, such as their kind (internal or external), name, and more. This makes it possible for you to comprehend the knowledge that your company possesses.
- The system also provides details on the projects that each expert is working on. You may easily keep track of the expert's contributions to several projects with the help of this graphic, which highlights their involvement.

This feature facilitates efficient cooperation among your project teams while also making the administration of expert data easier. It guarantees you have an understandable picture of your specialists and their responsibilities, which is essential for a project's effective completion.

Effective cooperation and data protection are based on secure access to the project management system. It's simple to utilize our program, which makes sure that only authorized users may access the system.

Our user login method, which requires a username and password, establishes access to our system. This is how it operates:

- Username: Every user in the system is uniquely identified by their username. In the registration procedure, this username is chosen or entered.
- Password: Users must provide a password linked to their username in order to maintain security. Only the user knows this password, which is kept private.
- Authentication: The system checks the credentials to make sure the user is allowed to access the system after the username and password have been entered.
- Access Granted: The user is granted access to the project management system following a successful authentication process. With this access, they can operate in accordance with their permissions and function inside the system.

By requiring a login, you can safeguard your project data and uphold the integrity of your project management procedures by limiting system access to only those who are allowed.

We'll close to review the main ideas we covered and emphasize how our application successfully satisfies project management requirements.

- We began by outlining the meaning and idea of project management. It's about efficiently achieving goals, not just a list of duties.
- We emphasized the necessity of an information system for efficient project management, particularly in the fast-paced world of today.

- A number of essential features are included in our React.js-built application, such as the ability to register tasks, projects, specialists, and contracts.
- We underlined the significance of reporting as it enables you to monitor job preparedness and efficiently control project expenses.
- We investigated project and task registration, comprehending the information related to every project and the specifics of task administration.
- To ensure that you can manage your projects efficiently, we spoke about accessing and modifying project data.
- The topic of changing a project's status was discussed, emphasizing the guidelines for doing so and the value of user approval.
- We made sure you have the correct personnel on your team by going through the expert registration procedure.
- We discussed how to see and amend expert data as well as how the system shows the experts' involvement in projects.
- Finally, we went over how users may log in to the system securely.

Our application aims to enable teams and organizations to operate more productively; it's not simply about software. Our extensive functionality and user-friendly interface make project administration less complicated. We make it unnecessary to retain manual records, lower the possibility of mistakes, and allow for instantaneous decision-making.

3. Conclusion

To sum up, our application offers a thorough response to the problems associated with project management. It is intended to streamline and improve the efficiency of project management while giving you access to all the resources you require for success.

We think that efficient goal-achieving and positive impact-making are more important aspects of good project management than just finishing duties.

Literature

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