GALGOTIAS
U N I V E R S I T Y

PROMANAGER

Project Report submitted in
partial fulfillment for the award
of the degree of

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE & ENGINEERING

Submitted by

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IN BRANCH OF STUDY WEB DEVELOPMENT

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Under the Supervision of

G. Nagargan
(Professor)

GALGOTIAS UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

Certified that this project report **"PROMANAGER"** is the bonafide work of

"**MOHAMMAD USAID SIDDIQUI and SUNIl KUMAR BORAN"** who

carried out the project work under my supervision.

SIGNATURE OF DEAN

Dean of School

SIGNATURE OF SUPERVISOR

Project Supervisor

Approval Sheet

This thesis/dissertation/report entitled "Promanagerr" by Mohammad Usaid Siddiqui and Sunil Kumar Boran are approved for the degree of Bachelor of Technology in Computer Science and Engineering.

Examiner(s)

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Supervisor (s)

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Chairman

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Date:_____

Place:_____

Statement of Project Report Preparation

1. Thesis title: **PROMANAGER**

1. Degree for which the report is submitted: **BACHELOR IN TECHNOLOGY: COMPUTER SCIENCE AND ENGINEERING**

3. Project Supervisor was referred to for preparing the report.

4. Specifications regarding the thesis format have been closely followed.

5. The contents of the thesis have been organized based on the guidelines.

6. The report has been prepared without resorting to plagiarism.

7. All sources used have been cited appropriately.

8. The report has not been submitted elsewhere for a degree.

(Signature of the students)

Name:

Roll No.:

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DECLARATION

Project title: **PROMANAGER**

Degree for which the project work is being submitted **Bachelor of Technology in Computer Science and Engineering.**

I declare that the presented project represents largely our ideas and work are in our own words. Where other ideas or words have been included, we have adequately cited and listed the referenced materials. This report has been prepared without resorting to plagiarism. I have adhered to all principles of academic honesty and integrity. No falsified or fabricated data have been presented in the report. I understand that any violation of the above will cause disciplinary action by the Institute, including revoking the conferred degree is conferred, and can also evoke penal action from the sources which have not been properly cited or from whom proper permission has not been taken.

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CERTIFICATE

It is certified that the work contained in this project entitled "event Management Web Application" submitted by **Mohammad Usaid Siddiqui (19021011567) and Sunil Kumar Boran (19021011354)**, for the degree of Bachelor of Technology in Computer Science and Engineering is based on their own work carried out under my supervision and this project work has not been submitted elsewhere for any degree.

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ACKNOWLEDGEMENT

This project is ready within the partial fulfillment of the need for the degree of Bachelor in computing and Engineering. The satisfaction and success of the completion of this task would be incomplete without heartfelt thanks to people whose constant guidance, support, and encouragement made this work successful. In doing this undergraduate project we have been fortunate to have help, support, and encouragement from many people. We would like to acknowledge them for their cooperation. Our first thanks go to Galgotias University to design such a worthy syllabus and make us do this project. I am thankful to our vice-chancellor Dr. Preeti Bajaj for providing the necessary infrastructure, labs, and also meeting to carry out this project. I special thanks to our professor and associate dean Mr. G. Nagargan for his support and valuable suggestions regarding this project work. The journey of the project has been great and very exciting where we've created, learned, and experienced as many beneficial things as we could.

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Kumar Boran

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ABSTRACT

To develop a project in the field of web development which tracks a list of projects currently in development at an organisation. Features a centralized dashboard with a list of sub-tasks and progress meters for each task, so each member remains well-informed about the current status of the work. The application will provide a seamless experience throughout both desktop and mobile platforms by leveraging PWA technologies and cloud database.

CHAPTER-1: INTRODUCTION

1.1 Introduction to our project

The title of our project is "Promanager". We present to you a web application that helps the users to track projects within an organization. The application is designed in such a way that it is easy to use and efficient for both small-scale and large-scale organizations. The application that we plan to develop is an event management web application that works seamlessly across both mobile and web platforms. The application will be made using React, which is a Javascript library, that will ensure the various components are **fast, scalable, and simple**. It only works on user interfaces in the application.

1.2 The problems that we faced

The problems that came in our way while working on the project surely helped us to learn a lot from them. So, before we began to assemble our application our group faced numerous difficulties. We characterize our difficult assertion as follows:

- As we are students so our knowledge of the frameworks is limited, so it became difficult for us to bring the idea completely out through our code.
- To make the framework handily oversaw and can be gotten.
- To make the UI as simple as possible for the users to use the application efficiently.
- To make the changes in the code depending upon the feedback that was provided by our friends who took the initiative to test the application.

1.3 Objective

- To achieve the graduation degree by completing all the required courses.
- To learn about the basics of Web-Based Applications by designing the website.
- To get a clear experience of making and deploying a web-based

application that uses Cloud Services for storing and processing
the user's data and fetching data using APIs.

1.4 Features of project

The application we create is useful in many ways as it helps organizations to manage
tasks in a way that is clutter-free and thus, efficient. It provides all the details about
the projects that are being worked upon, the different members involved within a
project, the tasks given to each member, status of the task given and so on. The
detailed components for our application are listed as:

- **Login module:** This is the first page that is displayed on the website when
  opened. For login, we have used the Google Firebase authentication because
  it is easy to implement and fairly secure. This is well suited for small-scale
  projects like the one we are working on.
- **The Project Dashboard:** The main dashboard is the main area where all the
  projects can be viewed together and can be easily taken look at. This will
  help the user to view all the ongoing projects at a single place.
- **Central Chat System:** We will be creating a separate centralized chat system
  which will help to keep members in a project on the same page.

CHAPTER-2: BACKGROUND KNOWLEDGE

The idea to work on this project was conceived in our minds when we were working on a college project from our homes and it became difficult for us to always keep all the things in our minds. After a lot of brainstorming, we came up with this idea for the project. This application is basically for groups who want to achieve a common goal but fail to manage the project and keep track of things in an efficient manner.

There are so many task managers available that all have a bunch of great and intuitive features. However, in pursuit of more features - there seems to be an excess of clutter involved which makes navigating and even coming to grips with the various systems an exercise in pain.

With promanager, we aim to put professionalism at front and center. However, we also wanted to make the software friendly for projects that utilize agile software methodology - as plans constantly keep changing to reflect user's needs. This is exactly why we have included task trackers and most importantly, a chat system that is centralized so as to keep all members on the same page.

We have also extensively done research on design techniques for the project, so as to keep user attention and productivity at peak. Almost everything can be done within a handful of clicks, and the same sentiment can be shared on mobile platforms too. We have leveraged the power of progressive web application technology to implement a seamless transition to mobile, so productivity isn't hindered by one's choice of a platform.

CHAPTER-3: ANALYSIS AND DESIGN

3.1 Implementation

The full code for the project will shortly be uploaded to the GitHub profile, so you can take a look at it there.

Choosing editor

Some code editors, such as Visual Studio Code, Atom, and Sublime, are intended expressly for writing and modifying code lines in front-end development. Each one has advantages and disadvantages. The Subscription Builder program is implemented in Visual Studio Code in this project. Visual Studio Code is a fantastic tool for speeding up development progress because of its built-in Git support and terminal, quick extension installation, and well-formatted Prettier extension.

Package Management

NPM (Node Package Manager) is a tool for creating and managing JS libraries. Thousands of libraries or just a component that may be reused for a certain UI or functionality are shared in the Javascript community by developers. It assists new projects in avoiding the need to rewrite a fundamental component, library, or framework, such as the ReactJS library, Express,... Npm makes it simple for developers to perform commands, download and utilize libraries, and publish packages to share with the community.

Yarn, a package management system created by Facebook, is used in this application. Facebook provides Yarn, which can be used offline, and node modules libraries using the same package installation structure across all machines, but npm is difficult and distinct.

Timeline

The timeline is where you can display all of the actions with specified dates that take place during the year. Those actions are pre-planned as part of a marketing effort to assist clients in increasing the number of subscribers to their concert. In essence, a timeline is a calendar of events created based on the experiences of Vertics' clients in order to provide the best tactics for customers to develop their business by selling more tickets.

This schedule for Vertics must meet the following criteria:

- Activities in a timeline should be color-coded to distinguish between completed and outstanding tasks.
- The status of activities will be determined by the activity's task deadlines.
- Activities that are in the same phase should be segregated from activities that are in a different phase.
- Each phase should be assigned a state to indicate whether it is complete, active, or pending.
- Each action in the Timeline should have an end date and a sequence.

Task Management

After activities to support a marketing campaign have been specified, tasks are generated to make the activity processable. Tasks that are relevant to each activity are provided. The state of an activity is determined by the status of all of its tasks.

To complete one activity and go on to the next, the user must first complete all of the tasks.

- For a better user experience, task information should be displayed in a popup modal.
- The task modal should include a discussion of workloads and queries.
- The status of a task can be altered from Not begun to Progress to Waiting for confirmation to Completed.

Screenshots Of Finished Modules (Still Beta):

Login Module: Handles logging in and logging out users through Firebase authentication:
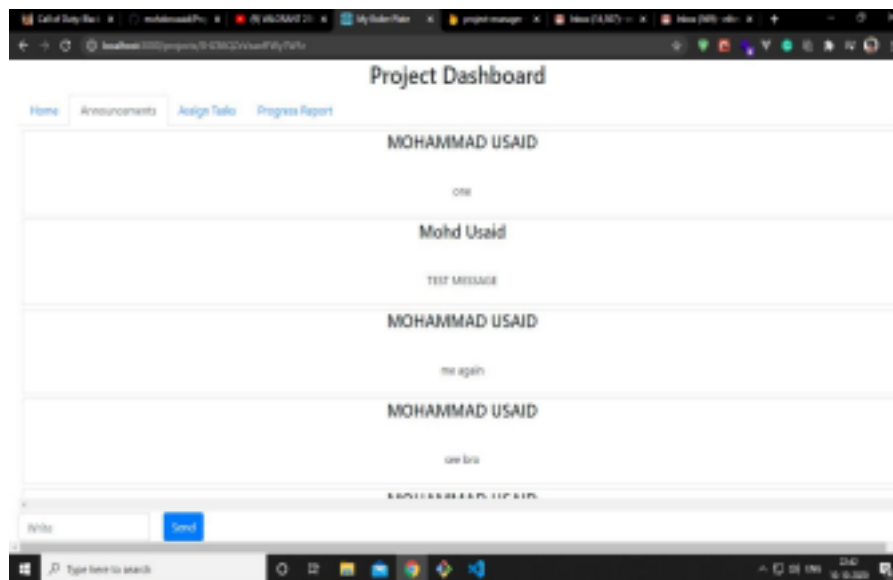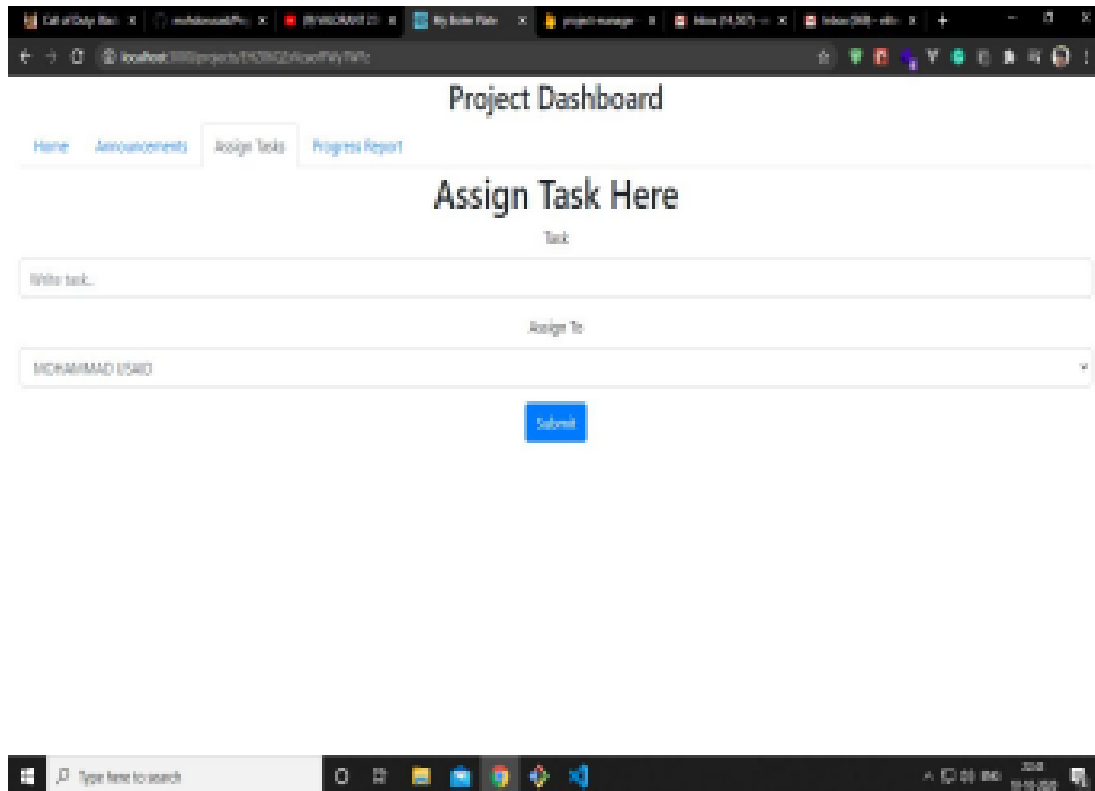
Dashboard Module: Handles the list of projects (events) that a user has initiated and the ones he/she is a part of.
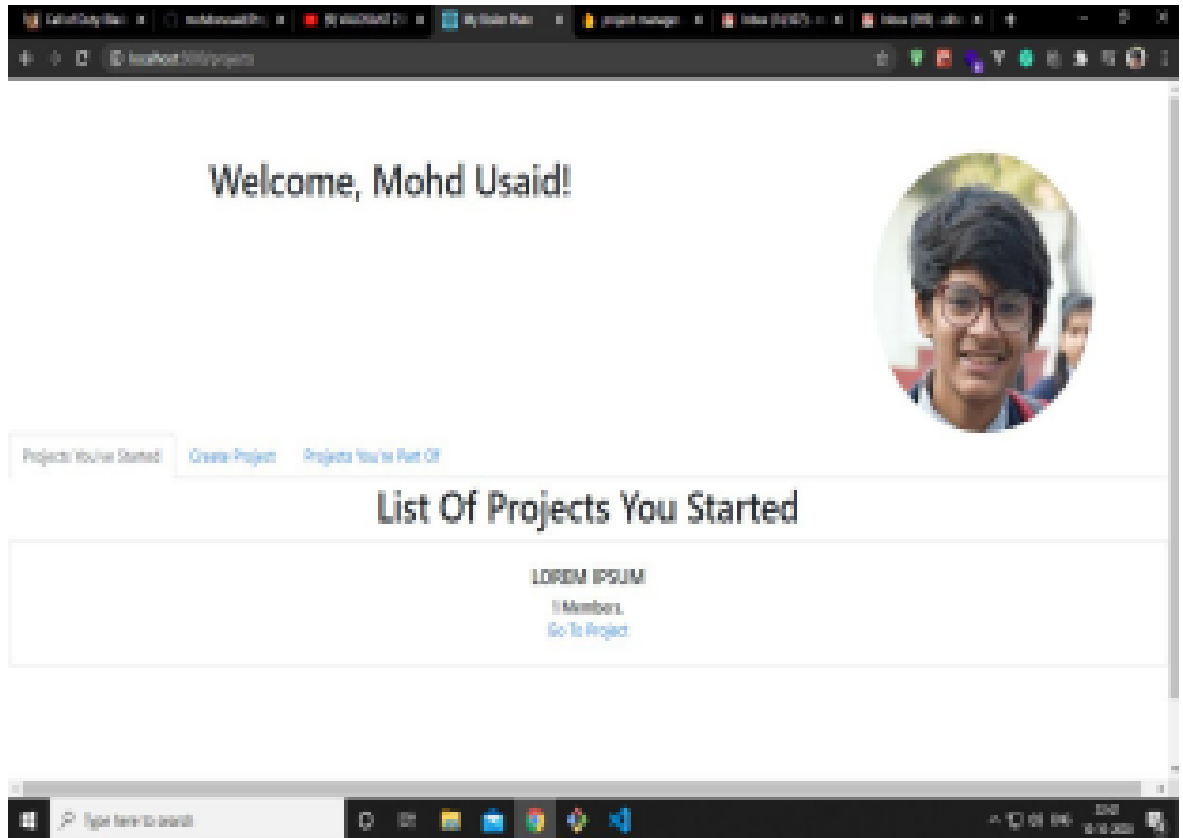
Task Assignment Module: A form that allows a user to assign tasks to other users, which on submission gets displayed under assigned tasks on the assigned user's dashboard.

CHAPTER-4:TOOLS AND TECHNOLOGY USED

4.1 Development Tools

4.1.1 Microsoft's Visual Studio Code (VS Code)

Visual Studio Code is an open-source incorporated advancement climate (IDE) from Microsoft made for Windows, Linux, and macOS. It is utilized to create comfort and graphical UI applications alongside Windows Form application, sites, web applications, and web administrations in both local codes along with oversaw code for all stages upheld by Microsoft Window, Windows Mobile, Windows CE, .NET Framework, .NET Compact Framework, and Microsoft Silverlight. VMS improves on the fundamental tanks of making, investigating, and conveying applications. We preferred Visual Studio code over any other IDE because it combines the simplicity of the source code with the powerful developer tooling for code completion and debugging.

4.2 Technology Used

4.2.1 ReactJS

ReactJS is a Javascript library that is taken into use to build applications interacting with user interfaces. React is one of the most popular libraries to make front-end of the application because:

    1. It is easy to learn for the developers.

    2.   it provides component reusability so this helps to write minimum code thus saving a lot of time.

React is good-to-go while developing dashboards or data display tools with some additional development tools like Ant. design or airframe. For this project, component reusability, an abundance of external libraries available, as well as popularity in development groups were the leading factors behind the choice.

4.2.2 Redux

Redux is an open-source javascript library that is widely used to manage the state of the application. It is commonly paired with other javascript libraries like React itself for building interactive user interfaces. With the implementation of Redux in any application, the state of the app is kept in a store where each component of the application access any state which it needs from the store. React has now incorporated hooks and new and more efficient tools such as Recoil are available for developers to utilize. However, the popularity of Redux and its compatibility with libraries like react-redux-firebase far outweigh the marginal performance improvements that newer toolsets bring.

4.2.3 Google Firebase Authentication

Google firebase authentication provides back-end services and easy-to-implement SDKs, which validate the users before they use the application. It supports user validation through Gmail accounts, other email accounts, mobile numbers, and other identification providers like Twitter, Facebook, etc. This is required so that the application can firmly save the data of the user and the user may get the same experience across all the other devices used to access the application. For this project, we sought to use the Google OAuth service in the project since most users already have mails logged into browsers which makes the user onboarding process much faster. While there's always an option to develop user authentication modules by scratch, it always comes with an inherent risk of potential security flaws which can pose a big threat to the privacy of the user base.

4.2.4 Google Firebase Cloud Storage

Google Firebase is an application for mobile and web development platforms that are obviously owned by Google. While using Firebase in our projects, we use cloud storage to store the user data on the cloud server of the firebase. It is basically used for storing and supervising the data which is spawned by the application user. The Firebase SDK allows the application developers to work with

Firebase and incorporate the cloud storage functionality through some lines of code. The Cloud Firestore is a great tool for storing unstructured data and allows for great flexibility for applications such as this which are sure to scale and change from time to time. Cloud Firestore is a NoSQL database, and all of the data is stored in a cloud server hosted by Google. While there might be some concerns as the ownership of data belongs to another organization, the ability to get up and running at no additional cost of spinning up servers and maintaining them far outweighs the demerits.

CHAPTER-6: DEBUGGING AND TESTING

6.1 Purpose of Testing and Debugging

The literal meaning of testing is to know whether the software (be it any application) is working according to the developer's desire. It is done to highlight the general shortcomings in the software and whether or not the desired outcome is being produced by the application. While the process of debugging is essentially nothing but the way to find out the bugs that are present through the code which creates hindrance in the application's smooth working. For this project, we tried to minimize any design flaws and security issues that might originate from using technology and systems built specifically for the task at hand. Using Redux as a state management tool helped mitigate any issues that crop up with state transfers in front-end development. Similarly, security flaws were minimized to great extents with the use of Google's firebase authentication service. Since Firebase encapsulates most of its workings within well-defined, easy-to-use, and modular functions, any issues that might crop up with security were almost non-existent. Another advantage of going for the open-source route is community aid in reporting any flaws in the design and bugs. Github has a detailed system for issues, and users and developers can report any issues on the official repository. Those willing to contribute to the application have an easy-to-setup repository, and the changes can be integrated into the codebase with a simple pull request.

CHAPTER-7: CONCLUSION AND LESSON LEARNT

7.1 Project Limitation

Just because we were not fully aware of the technological trends in the market and also because of having lesser knowledge in the areas that we all were working upon and also because of not having that much time. Initially, the project was made by us simply for our learning and when we were halfway into the project we thought why not release this for the general public. The limitations for the product are listed as:

- Other applications that are present provide a better interface and some additional features as well.
- It requires frequent modification so that people will stick to our web app.

7.2 Future Enhancements

There are many things that the future additions of our web application will have, and most of them will be based on user feedback. With proper user feedback, there will be a wider window for our and the application's improvement

- We will add emojis to the chat section for a better experience.
- We will add project templates for user comfort.
- There we add a public profile for everyone so that people add their feedback for the location to show to other people.

7.3 Lessons we learned from the project

Throughout the making of the project, the whole team encountered several challenges and it helped us to learn more about coding and the implementation of code. Here is the list of the major learning from this project.

- We learned a lot about the IDE that is Visual Studio Code which we used to write our code. Working on such a complex project helped us know more about the IDE and how helpful it can be for writing long codes.
- The project also helped us to know more about various Javascript libraries like ReactJS, Redux, etc.
- We also learned a lot about how to implement Google Firebase cloud storage and Authentication.
- This helped us to work as a team, even when things slipped out of our hands we kept our cool and dealt with all the problems as a team.
- Lastly, this also helped us learn more about how to fetch the data from API and then display the needful data on the webpage and hide the rest of the data, which is not required by the user.

7.4 Conclusion

We can say that the objective or the scope of the application is to help the users to stay up to date when it comes to managing projects. This application has been developed keeping in mind the various people who have the problem of easily forget what all things they have to do when they are present at a specific place. For example, when a person is present at a specific place and they have some work in that area for the next time they visit that same place, that person can easily use their location to add a note in the web application, and that task will pop up with an alert whenever they are present in that specific location. All the other updates for the application will be released based on the user feedback, aiming to eradicate any flaws present in the current version, just to make the application more efficient in terms of working and design.

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