

**APPENDIX 1**



**LOCATION-BASED TASK REMINDER**

*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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(19021011567)**

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**IN  
BRANCH OF STUDY  
WEB DEVELOPMENT**

**SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

**Under the Supervision of**

**Mr. Amit Kumar  
( Associate Professor )**

**APPENDIX 2**



**SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

**BONAFIDE CERTIFICATE**

Certified that this project report “**LOCATION-BASED TASK REMINDER**” is the bonafide work of “**ANGAD TEWARI and SURAJ CHAUDHARY**” 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 “Location-based task reminder” by Angad Tewari and Suraj Chaudhary 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: **LOCATION-BASED TASK REMINDER**
  
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: **LOCATION-BASED TASK REMINDER**

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 **Angad Tewari (19021011568) and Suraj Chaudhary (19021011760)**, 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 Dr. Amit Kumar 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.

Angad Tewari  
Suraj Chaudhary

## **ABSTRACT**

In today's world, people are all caught up in their work and tend to forget things easily. Personal task reminders have been indispensable for modern people, in order to remind them of their tasks under specific circumstances. Traditional paper-based reminders based on the calendar in Cell phones are more efficient and gaining popularity, but such reminders are mostly triggered by time. In many situations, tasks are only meant to be performed at a specific location.

Therefore, in the research, we develop a location-based personal task reminder for Web- Application which uses the Google Maps API to fetch the user location. To distinguish our work from existing ones that rely solely on GPS technology, we intend to use the Google Maps API to fetch the user location. The web application will be made using React, which is a Javascript library, that will ensure the web page to be fast, scalable, and simple. It works only on user interfaces in the application. This system uses the user's longitude and latitude values to mark the location, when the user reaches the entered location, if there is any pre-existing task under that location, then it pops up with an alert.

This way instead of having all the tasks written under one name, the tasks can be managed easily.

# CHAPTER-1: INTRODUCTION

## 1.1 Introduction to our project

The title of our project is “Location-Based Task Assignment”. We present to you a web application that helps the users to work efficiently by helping them remember their tasks. The application is designed in such a way that it lets the user enter the tasks based on the location. The application that we plan to develop is a location-based personal task reminder which uses the Google Maps API to fetch the user location. The web application will be made using React, which is a Javascript library, that will ensure the web page to be **fast, scalable, and simple**. It only works on user interfaces in the application. This system uses the user’s longitude and latitude values to mark the location, when the user reaches the entered location, if there is any pre-existing task, which might be entered by the user earlier, then that task pops up with an alert.

## 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 shows the details about the services that are being offered and their respective charges. It provides all the details about the services that they wanted to avail in the respective time and also for the workers to find their respective services. 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 Main Dashboard:** The main dashboard is the main area where all the tasks can be put together and can be easily taken look at. This will help the user to view all the entered tasks at a single place with the location being displayed for which they are meant to be.
- **Google Map Assistance:** We will provide google maps assistance so that it is more relaxing and comfortable for the user to reach its location. This will enable the user to use the location to add any task.

## **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 the people who are rather absent-minded and are prone to forget things easily.

Nowadays, due to the heavy workload be it at the office place or at home, people are so caught up in all the things that they tend to miss out on a lot of things easily, they only keep things in their minds as long as those things are before their eyes hence to overcome this problem, the application will use the user's location to help them add the tasks so that whenever they are present on that location again it will automatically pop up as an alert so that they don't miss out on their work.

In general, we can classify tasks broadly into two categories:

- (a) Time-based task
- (b) Location-based task

If a location is time-based, we mean that the task should be carried out at a specific time span or in specific time duration. On the other hand, we have location-based tasks, that are required to be carried out when we are present at a specific location. For example, if a person visits a specific place, say a supermarket, and sees things that he might require in the coming days, so he may simply use the application to jot down that thing as a reminder, and the application automatically saves that task in its storage and it will only pop-up when that person visits that place again.

This application works to remove those obsolete pen-paper task reminder methods by introducing a newer and better method to keep things noted down. In this case, setting a time-based alarm is quite inappropriate because the timing may not be accurate, instead of having a time-based trigger point, the application provides a location-based trigger point.

## **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.

To make the application easy to contribute and perform, we went with Facebook's ReactJS. For fetching the user's current location and also uses the Google Cloud Platform to store the data which would be entered. And the Database services we used were Firebase (both authentication and storage). The most important thing, which is the backbone for this project is the Google Maps API, which is used to fetch the location of the user. The location of the user is used to set the task reminder and it also acts as the trigger for the reminder to pop-up, whenever the user is present at that very location or maybe in close proximity of that location.

# 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.

#### **4.2.5 Google Maps API**

The Google Maps API allows for the embedding of Google Maps onto web pages of outside developers, using a simple JavaScript interface or a Flash interface. It is designed to work on both mobile devices as well as traditional desktop browser applications. The API includes language localization for over 50 languages, region localization and geocoding, and has mechanisms for enterprise developers who want to utilize the Google Maps API within an intranet. The API HTTP services can be accessed over a secure (HTTPS) connection by Google Maps API Premier customers.

# 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.
- This application is only useful for those who are working with a limited number of members.
- 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 location for a better UI.
- We will add 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 completing their tasks. This application has been developed keeping in mind the various people who have the problem of easily forgetting 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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