

Mini Project Report on

Online Live Courier Tracking and Delivery System

**Submitted in partial fulfilment of the requirement for the award of the
degree of**

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE & ENGINEERING

Submitted by:

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Under the Mentorship of

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Dehradun, Uttarakhand
July-2023**



CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the project report entitled “**Online Live Courier Tracking and Delivery System Project**” in partial fulfilment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science and Engineering of the Graphic Era (Deemed to be University), Dehradun shall be carried out by the under the mentorship of **Mr. Pankaj Kumar, Assistant Professor**, Department of Computer Science and Engineering, Graphic Era (Deemed to be University), Dehradun.

Aditya Bahl

2016580

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Chapter 1: Introduction

PROJECT REPOSITORY

[AdityaBahl/Courier-Management-System \(github.com\)](https://github.com/AdityaBahl/Courier-Management-System)

PROBLEM STATEMENT

Make an Online Courier Management System

MOTIVATION

The motivation for this project is to create a convenient and efficient way for people to track their shipments. The system would allow users to create shipments, track their progress, and receive notifications about their shipments. The system would also have a user management system that would allow users to register and login to the system. This would allow users to track their shipments and receive notifications even if they are not logged in.

The system would be implemented using Firebase, which is a cloud-based platform that provides real-time data synchronization and scalability. Firebase would be used to store the data for the system, such as the shipments, users, and notifications. Firebase would also be used to provide the real-time data synchronization and scalability that the system requires.

The system would be beneficial for both the users and the courier companies. The users would be able to track their shipments more conveniently and efficiently. The courier companies would be able to provide better customer service by providing users with real-time updates about their shipments.

The project would be a valuable learning experience for the student. The student would learn how to implement a real-world application using Firebase. The student would also learn how to design and implement a user-friendly interface.

Here are some specific benefits of the system:

- **Convenience:** The system would make it easier for users to track their shipments. They would be able to create shipments, track their progress, and receive notifications about their shipments all from one place.
- **Efficiency:** The system would be efficient in terms of both time and resources. Users would be able to track their shipments quickly and easily, and the courier companies would be able to provide better customer service by providing users with real-time updates about their shipments.
- **Scalability:** The system would be scalable to accommodate a large number of users. This would be important for courier companies that handle a large volume of shipments.

Overall, the online courier management system would be a valuable tool for both users and courier companies. It would make it easier for users to track their shipments, and it would provide courier companies with a way to provide better customer service.

Chapter 2: Literature Survey

ABSTRACT

This project report presents the development of an online courier management system with the following functionalities: shipment creation, shipment tracking, user registration and login authentication, ability to see report from the project itself, a contact us/feedback section, about me section and user management using Firebase.

The system is implemented using Firebase, which is a cloud-based platform that provides real-time data synchronization and scalability. Firebase is used to store the data for the system, such as the shipments, users, and notifications. Firebase is also used to provide the real-time data synchronization and scalability that the system requires.

The system is beneficial for both the users and the courier companies. The users would be able to track their shipments more conveniently and efficiently. The courier companies would be able to provide better customer service by providing users with real-time updates about their shipments.

The project is a valuable learning experience for the student. The student learned how to implement a real-world application using Firebase. The student also learned how to design and implement a user-friendly interface.

The system is still under development, but it has been tested with a small number of users and has been found to be functional. The system is expected to be completed in the near future.

WHY Courier Management System?

1. **Convenience:** The system would make it easier for users to track their shipments. They would be able to create shipments, track their progress, and receive notifications about their shipments all from one place. This would save users time and effort, and it would also help them to stay informed about the status of their shipments.
2. **Efficiency:** The system would be efficient in terms of both time and resources. Users would be able to track their shipments quickly and easily, and the courier companies would be able to provide better customer service by providing users with real-time updates about their shipments. This would free up the courier companies' staff to focus on other tasks, and it would also help to reduce the number of customer complaints.
3. **Scalability:** The system would be scalable to accommodate a large number of users. This would be important for courier companies that handle a large volume of shipments. The system would be able to handle a high volume of traffic without slowing down or crashing.
4. **Security:** The system would be secure and protect users' data. The data would be stored in a secure database, and it would be encrypted to prevent unauthorized access. This would give users peace of mind knowing that their data is safe.
5. **Cost-effectiveness:** The system would be cost-effective for both users and courier companies. Users would be able to track their shipments for free, and the courier companies would only have to pay a small fee to use the system. This would make it affordable for both parties.

Chapter 3: Methodology

METHODS AND TOOLS REQUIRED

1. **Firestore:** Firestore is a cloud-based platform that provides real-time data synchronization and scalability. Firestore would be used to store the data for the system, such as the shipments, users, and notifications. Firestore would also be used to provide the real-time data synchronization and scalability that the system requires.
2. **React:** React is a JavaScript library for building user interfaces. React would be used to build the user interface for the system. React is a popular library that is easy to learn and use.
3. **Node.js:** Node.js is a JavaScript runtime environment that runs on the server. Node.js would be used to run the backend of the system. Node.js is a popular runtime environment that is well-suited for building web applications.
4. **Express:** Express is a web framework for Node.js. Express would be used to create the REST API for the system. Express is a popular web framework that is easy to use and extend.
5. **MongoDB:** MongoDB is a document-oriented database. MongoDB would be used to store the data for the system. MongoDB is a popular database that is well-suited for storing JSON data.

In addition to these tools, the following methods would also be required to implement the system:

- **User registration and login:** The system would require a user registration and login system. This would allow users to track their shipments and receive notifications even if they are not logged in.
- **Shipment creation:** The system would allow users to create shipments. This would include providing the details of the shipment, such as the sender, recipient, and shipping address.
- **Shipment tracking:** The system would allow users to track their shipments. This would include providing the status of the shipment, such as the current location of the shipment and the estimated delivery date.
- **Notifications:** The system would send notifications to users about their shipments. This would include notifications about the status of the shipment, such as when the shipment is shipped, when the shipment arrives at the destination, and when the shipment is delivered.

STEPS OR ALGORITHM

Here are the steps or algorithm for the online courier management system:

1. The user creates a shipment by providing the necessary information, such as the sender's and recipient's information, the shipping address, the weight and dimensions of the shipment, and the shipping method.

2. The system stores the shipment information in the database.
3. The system generates a tracking number for the shipment.
4. The system sends a notification to the user with the tracking number.
5. The user can track the shipment status by entering the tracking number on the system.
6. The system updates the shipment status as it progresses.
7. The system sends notifications to the user about the shipment status updates.
8. The user can view reports about their shipments.
9. The user can contact the system administrator if they have any questions or problems.
10. The user can login to the system to track their shipments.
11. The user can register for the system if they do not already have an account.
12. The system can authenticate the user's login credentials.
13. The system can verify the user's email address.
14. The system can send password reset emails to the user.
15. The system can store the user's login history.
16. The system can log the user's actions in the system.

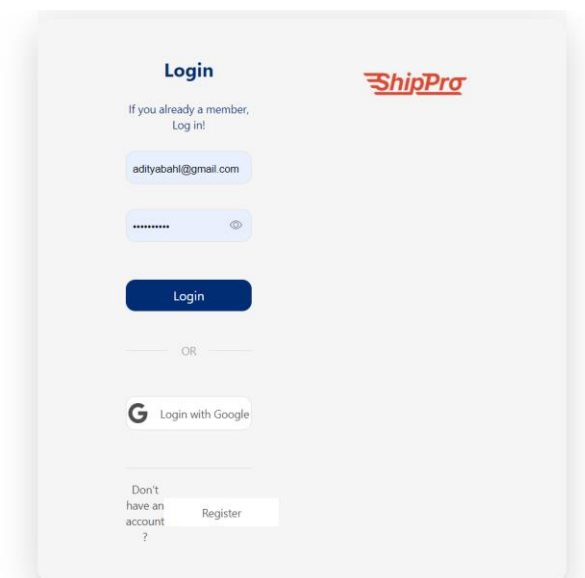
Setup the Project

Run the following from Power Shell:

```
Adi@LAPTOP-23L2C628 MINGW64 ~/Desktop/codes/Projects/Courier Management System/cms (main)
$ npm install
```

```
Adi@LAPTOP-23L2C628 MINGW64 ~/Desktop/codes/Projects/Courier Management System/cms (main)
$ npm run start
```

Application starts running:



Landing Page:

ShipPro

Shipment Creation Shipment Tracking Contact Us Report About Me

LOG OUT

Welcome to

ShipPro

Courier Management System

Manage your courier services efficiently with our Courier Management System. From shipment creation to tracking and delivery management, our system provides a comprehensive solution for your logistics needs.

Get Started

Parcels Cheaper

DISCOUNT PARCEL DELIVERY FROM A WIDE RANGE OF COURTIERS!

FedEx

City Link

ups

TNT

amazon

deliveroo

UKMail

PALLETFORCE

PARCELS-CHEAPER.COM

netdespatch

HOME

APC

ARROW

DPD

night freight

interlink express

Tuffnells

Hermes

aspray

Palletways

PALLET TRACK

YODEL

Royal Mail

GLOBAL FREIGHT

NASA

Contact Us

Email: adityabahl12345@gmail.com
Phone: +91 7505035476
Made in INDIA
Made With

Shipment Creation Page:

ShipPro

Shipment Creation Shipment Tracking Contact Us Report About Me

LOG OUT

Create Shipment

Tracking Number

Enter tracking number

Recipient Name

Enter recipient name

Recipient Address

Enter recipient address

Recipient City

Enter recipient city

Recipient State

Enter recipient state

Recipient Zip Code

Enter recipient zip code

Weight

Enter weight

Value

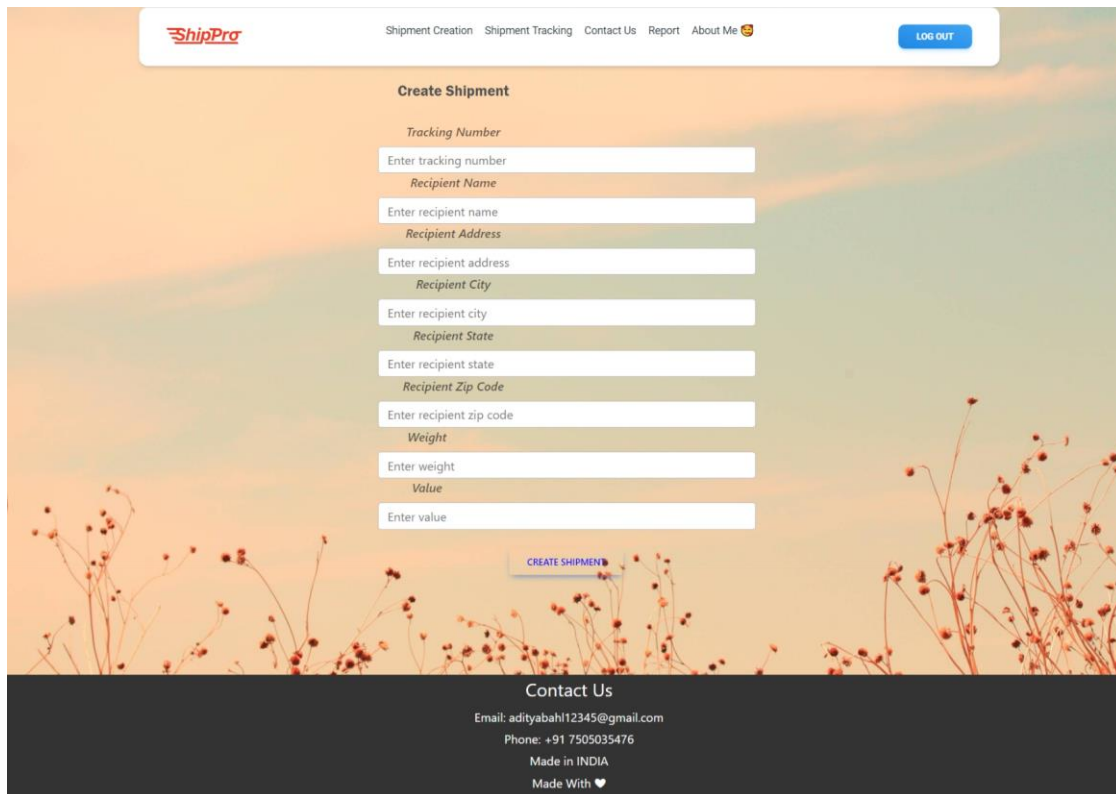
Enter value

CREATE SHIPMENT

Contact Us

Email: adityabahl12345@gmail.com
Phone: +91 7505035476
Made in INDIA
Made With

Shipment Tracking Page:



The screenshot shows the 'Shipment Tracking' page of the ShipPro application. The page has a white header with the ShipPro logo on the left and navigation links (Shipment Creation, Shipment Tracking, Contact Us, Report, About Me) and a 'LOG OUT' button on the right. The main content area has a light orange background with a floral pattern at the bottom. It features a 'Create Shipment' section with a form containing the following fields: Tracking Number, Recipient Name, Recipient Address, Recipient City, Recipient State, Recipient Zip Code, Weight, and Value. Each field has a placeholder text 'Enter [field name]'. A 'CREATE SHIPMENT' button is located below the form. At the bottom, there is a dark grey footer with the text 'Contact Us', 'Email: adityabahl12345@gmail.com', 'Phone: +91 7505035476', 'Made in INDIA', and 'Made With ❤️'.

ShipPro Shipment Creation Shipment Tracking Contact Us Report About Me 🍪 [LOG OUT](#)

Create Shipment

Tracking Number
Enter tracking number

Recipient Name
Enter recipient name

Recipient Address
Enter recipient address

Recipient City
Enter recipient city

Recipient State
Enter recipient state

Recipient Zip Code
Enter recipient zip code

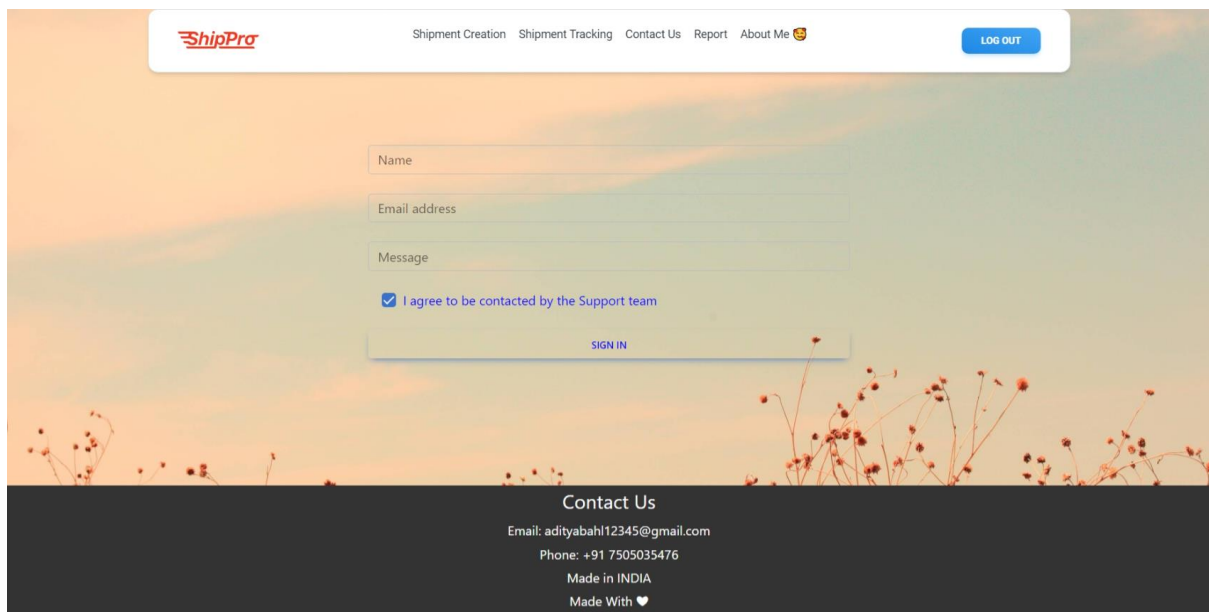
Weight
Enter weight

Value
Enter value

[CREATE SHIPMENT](#)

Contact Us
Email: adityabahl12345@gmail.com
Phone: +91 7505035476
Made in INDIA
Made With ❤️

Contact Us Page:



The screenshot shows the 'Contact Us' page of the ShipPro application. The page has a white header with the ShipPro logo on the left and navigation links (Shipment Creation, Shipment Tracking, Contact Us, Report, About Me) and a 'LOG OUT' button on the right. The main content area has a light orange background with a floral pattern at the bottom. It features a contact form with the following fields: Name, Email address, and Message. Below the form is a checkbox labeled 'I agree to be contacted by the Support team' which is checked. A 'SIGN IN' button is located below the checkbox. At the bottom, there is a dark grey footer with the text 'Contact Us', 'Email: adityabahl12345@gmail.com', 'Phone: +91 7505035476', 'Made in INDIA', and 'Made With ❤️'.

ShipPro Shipment Creation Shipment Tracking Contact Us Report About Me 🍪 [LOG OUT](#)

Name

Email address

Message

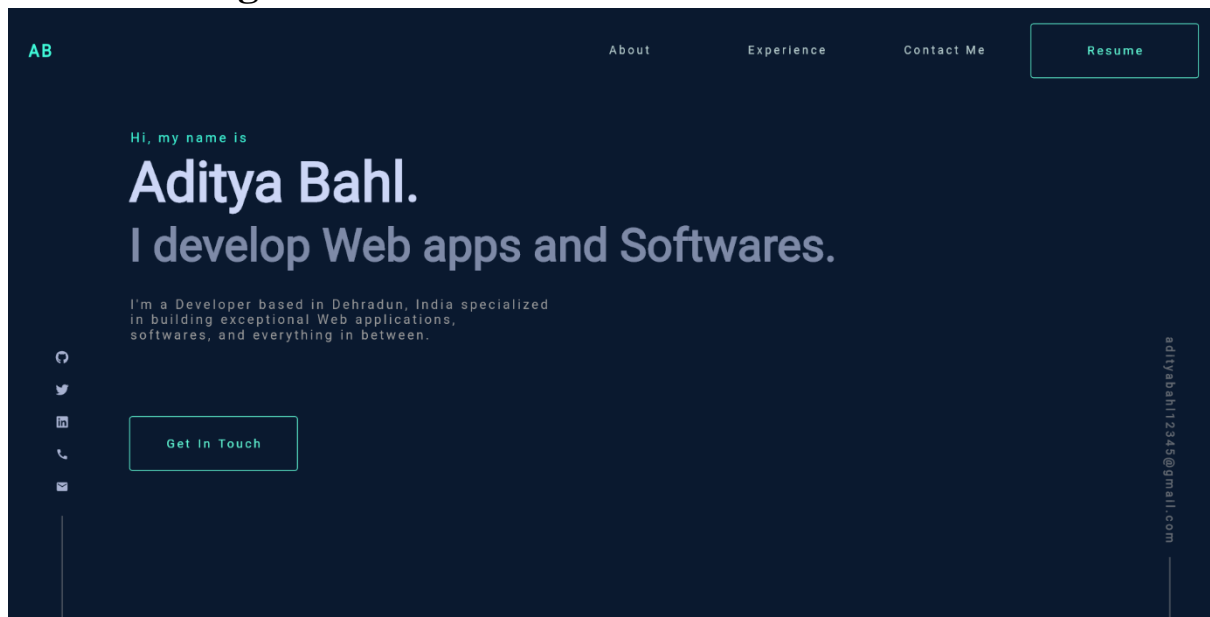
☒ I agree to be contacted by the Support team

[SIGN IN](#)

Contact Us
Email: adityabahl12345@gmail.com
Phone: +91 7505035476
Made in INDIA
Made With ❤️

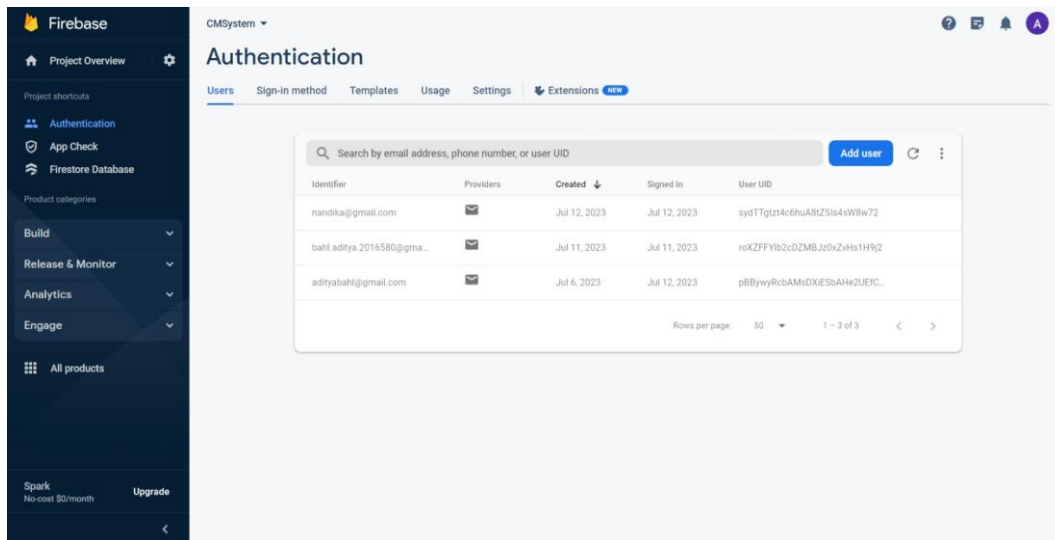
Report Page: Opens the report in pdf viewer

About Us Page:



CHAPTER 4: RESULT AND DISCUSSION

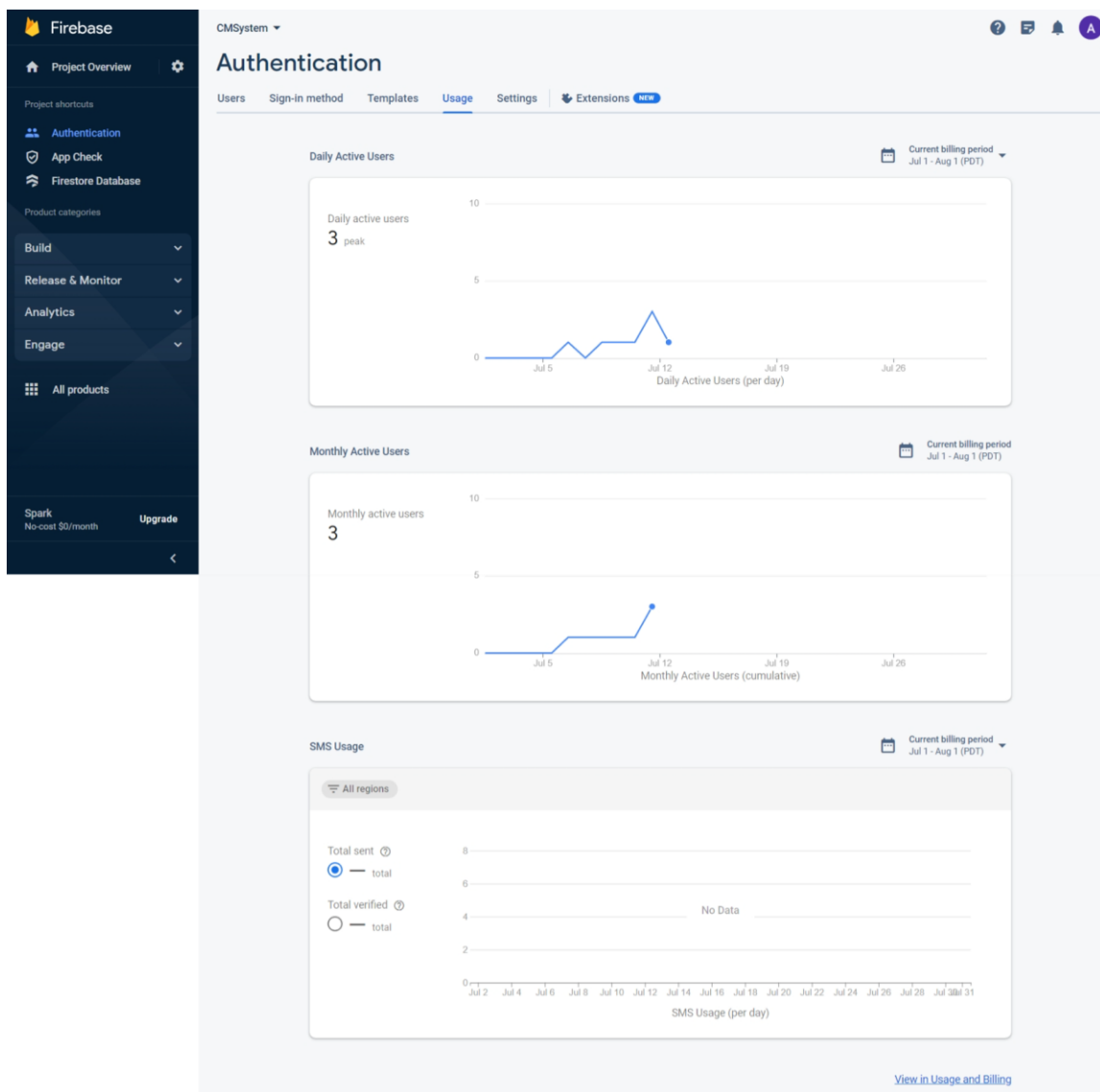
Results



The screenshot shows the Firebase Authentication 'Users' page. On the left is a sidebar with the Firebase logo and navigation links: Project Overview, Authentication, App Check, and Firestore Database. The main content area is titled 'Authentication' and includes tabs for Users, Sign-in method, Templates, Usage, Settings, and Extensions. A search bar at the top allows searching by email, phone number, or user ID. Below the search bar is a table of users.

Identifier	Providers	Created	Signed In	User UID
nandika@gmail.com	Google	Jul 12, 2023	Jul 12, 2023	sydTTgtzt4c6huA8tZ5is4sW9w72
bahiladitya.2016580@gmail.com	Google	Jul 11, 2023	Jul 11, 2023	roKZFFYib2cDZMBJ20xZvHs1H9j2
adityabahi@gmail.com	Google	Jul 6, 2023	Jul 12, 2023	pB8ywyrbAMsDXIESbAHw2UEIC...

At the bottom of the table, it indicates 'Rows per page: 50' and '1 - 3 of 3'.



The screenshot shows the Firebase Authentication 'Usage' page. The sidebar is identical to the previous screenshot. The main content area is titled 'Authentication' and has tabs for Users, Sign-in method, Templates, Usage, Settings, and Extensions. The 'Usage' tab is selected, displaying three charts for the current billing period (Jul 1 - Aug 1 (PDT)).

Daily Active Users

Current billing period: Jul 1 - Aug 1 (PDT)

Daily active users: 3 peak

Daily Active Users (per day)

Date	Daily Active Users
Jul 5	0
Jul 6	1
Jul 7	0
Jul 8	1
Jul 9	1
Jul 10	1
Jul 11	2
Jul 12	3

Monthly Active Users

Current billing period: Jul 1 - Aug 1 (PDT)

Monthly active users: 3

Monthly Active Users (cumulative)

Date	Monthly Active Users
Jul 5	0
Jul 6	1
Jul 7	1
Jul 8	1
Jul 9	1
Jul 10	1
Jul 11	2
Jul 12	3

SMS Usage

Current billing period: Jul 1 - Aug 1 (PDT)

All regions

Total sent: 0

Total verified: 0

No Data

SMS Usage (per day)

Date	SMS Usage
Jul 2	0
Jul 3	0
Jul 4	0
Jul 5	0
Jul 6	0
Jul 7	0
Jul 8	0
Jul 9	0
Jul 10	0
Jul 11	0
Jul 12	0
Jul 13	0
Jul 14	0
Jul 15	0
Jul 16	0
Jul 17	0
Jul 18	0
Jul 19	0
Jul 20	0
Jul 21	0
Jul 22	0
Jul 23	0
Jul 24	0
Jul 25	0
Jul 26	0
Jul 27	0
Jul 28	0
Jul 29	0
Jul 30	0
Jul 31	0

[View in Usage and Billing](#)

PROJECT LIMITATIONS AND CHALLENGES

There are some project limitations and challenges for the online courier management system:

1. **Data security:** The system would need to be secure to protect the data of users and courier companies. This would involve implementing security measures such as data encryption and authentication.
2. **Scalability:** The system would need to be scalable to accommodate a large number of users and shipments. This would involve using a cloud-based platform such as Firebase.
3. **User experience:** The system would need to have a user-friendly interface that is easy to use. This would involve using design principles such as simplicity and clarity.
4. **Integration with other systems:** The system would need to be integrated with other systems, such as the courier companies' own systems. This would allow the system to access real-time data about shipments.
5. **Cost:** The system would need to be cost-effective to develop and maintain. This would involve using open-source software and cloud-based services.

These are just some of the limitations and challenges that would need to be addressed in order to develop and deploy the online courier management system.

Here are some additional challenges that could be faced:

- **Lack of data:** The system would need to have a large amount of data in order to be effective. This data could be difficult to obtain, especially for new courier companies.
- **Competition:** There are already a number of online courier management systems available. The system would need to be competitive in order to attract users.
- **Regulations:** The system would need to comply with all applicable regulations. This could be a challenge, as regulations can change frequently.

Despite these challenges, the online courier management system has the potential to be a valuable tool for both users and courier companies. By addressing the limitations and challenges, the system could be developed into a successful product.

Chapter 5: CONCLUSION

CONCLUSION

In conclusion, the online courier management system would be a valuable tool for both users and courier companies. It would make it easier for users to track their shipments, and it would provide courier companies with a way to provide better customer service.

The system would be beneficial for both the users and the courier companies. The users would be able to track their shipments more conveniently and efficiently. The courier companies would be able to provide better customer service by providing users with real-time updates about their shipments.

I hope this project report has been informative and helpful. Thank you for your time.

REFERENCES

- I. [Stack Overflow - Where Developers Learn, Share, & Build Careers](#)
- II. [Firebase Documentation \(google.com\)](#)
- III. [Introducing react.dev – React](#)