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Teacher-Student Marketplace

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Abstract: In today's educational landscape, having access to expertise is a vital element of achieving academic success. However, many students, teachers, and parents encounter difficulties when seeking the necessary support. This can lead to unanswered questions, hindering progress and causing frustration. Additionally, some students may be reluctant to ask questions in a classroom environment, and teachers may be unable to provide personalized assistance to all students. To address these challenges, there is a growing need to empower students, teachers, parents, and the broader community to discover and connect with experts who can offer guidance on a wide range of topics. This paper aims to explore ways in which technology and digital platforms can be utilized to create opportunities for people to connect with experts both online and offline and to incentivize experts to share their knowledge and expertise. By doing so, we hope to enhance access to education and support for students and teachers alike, ultimately contributing to the success of academic endeavors.

Keywords*:* Next.js, PostgreSQL, APIs, web development, front-end development, back-end development, server-side rendering, database management, API integration, web application development.

INTRODUCTION

Access to expertise is a critical factor in achieving academic success. However, many students, teachers, and parents often face difficulties in finding the necessary support when they require it. This results in unanswered questions, hindering progress and causing frustration. Additionally, some students may feel hesitant to ask questions in a classroom setting, and teachers may not always be able to provide individualized support to each student due to time constraints.

To address these challenges, there is a growing need to empower students, teachers, parents, and the wider community to discover and connect with experts who can provide guidance on a wide range of topics. This can be achieved through technology and digital platforms, which have revolutionized the way we connect and share information.

In the modern era, technology has enabled us to access information from anywhere in the world, at any time. Digital platforms have facilitated communication, collaboration, and the exchange of ideas across geographical and cultural boundaries. These developments have made it possible to connect students, teachers, and parents with experts who can offer guidance and support on a wide range of academic topics.

The benefits of leveraging technology and digital platforms in education extend beyond access to expertise. By using these tools, we can create engaging and interactive learning experiences that cater to diverse learning styles. Furthermore, digital platforms can provide personalized learning experiences, which allow students to learn at their own pace and on their own schedule. This flexibility can improve student engagement and motivation, leading to better academic outcomes.

Therefore, this paper aims to explore ways in which technology and digital platforms can be leveraged to create opportunities for people to connect with experts both online and offline. By doing so, we hope to improve access to education and support for students, teachers, and parents alike. Through our efforts, we can help bridge the gap between those who seek knowledge and those who have it, ultimately contributing to the success of academic endeavors.

OVERVIEW

Access to quality education is crucial for academic success, and finding the right support and guidance is often challenging for students and teachers. In many cases, students are hesitant to ask questions in a classroom setting, and teachers may not have the resources to provide individualized support to all students. To address these challenges, a platform that connects students and teachers in an efficient and effective way is needed.

The proposed platform is designed to provide a seamless way for students to find teachers and tutors who have the necessary skills and experience to guide them through their studies. Through this platform, students can easily search for and connect with teachers who match their specific requirements. Teachers can create a detailed profile, highlighting their skills, experience, and pricing, allowing students to make informed decisions about their choice of teacher.

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The platform offers a location-based service that helps students find home tutors in their nearby area. Students can post their requirements, and teachers can view the requirements and contact the students directly. The platform includes filters that allow students and teachers to search based on specific criteria, making it easier to find the right match.

To make the platform more user-friendly, it includes a well-maintained feed for both teachers and students, where they can see the latest requirements and updates from the platform. This feature helps to keep both teachers and students up to date-and engaged with the platform.

In conclusion, the proposed platform is designed to make it easier for students to find quality teachers and tutors, and for teachers to connect with students who require their services. By providing a simple and effective way to connect students and teachers, this platform can help to improve access to quality education and support for students and teachers alike.

METHODS OF DEVELOPING WEB APP

The development of a web application using NodeJS and PostgreSQL involves several stages, including

A. PROJECT SETUP

This phase involves the creation of a project folder, the installation of necessary packages, and the setup of the PostgreSQL database. The project folder contains all the source code files and assets required for the application. Necessary packages like Express, Sequelize, and other dependencies are installed using package managers like npm or yarn.

B. DATABASE DESIGN

The database design stage involves creating a schema for the database and defining the relationships between the different entities in the application. This phase helps to ensure that the database is well-organized and efficient, enabling easy data retrieval and management.

C. SERVER-SIDE DEVELOPMENT

The server-side development phase involves the creation of server-side scripts that handle client requests and perform the necessary operations on the database. The server-side scripts are written using NodeJS and the Express framework. The server-side scripts interact with the PostgreSQL database using Sequelize, an Object-Relational Mapping (ORM) library.

D. CLIENT-SIDE DEVELOPMENT

The client-side development phase involves creating the user interface for the application using HTML, CSS, and JavaScript. The client-side scripts are written using a front-end framework like React or NextJS, which interact with the server-side scripts through APIs.

E. TESTING AND DEBUGGING

The testing and debugging phase involves ensuring that the application functions as intended and is free of errors or bugs. This phase involves running tests and debugging tools to identify and fix any issues in the application.

F. DEPLOYMENT

The deployment phase involves making the application available to the end-users. This phase involves deploying the application on a web server, setting up the necessary configurations, and making sure that the application is accessible to the users.

In summary, the process of developing a web application using NodeJS and PostgreSQL involves project setup, database design, server-side and client-side development, testing and debugging, and deployment. Each of these stages is critical to the success of the application and requires careful planning and execution.

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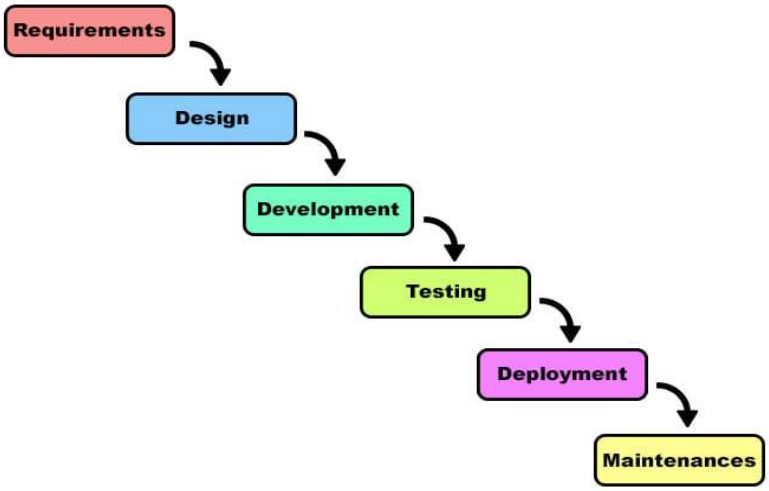
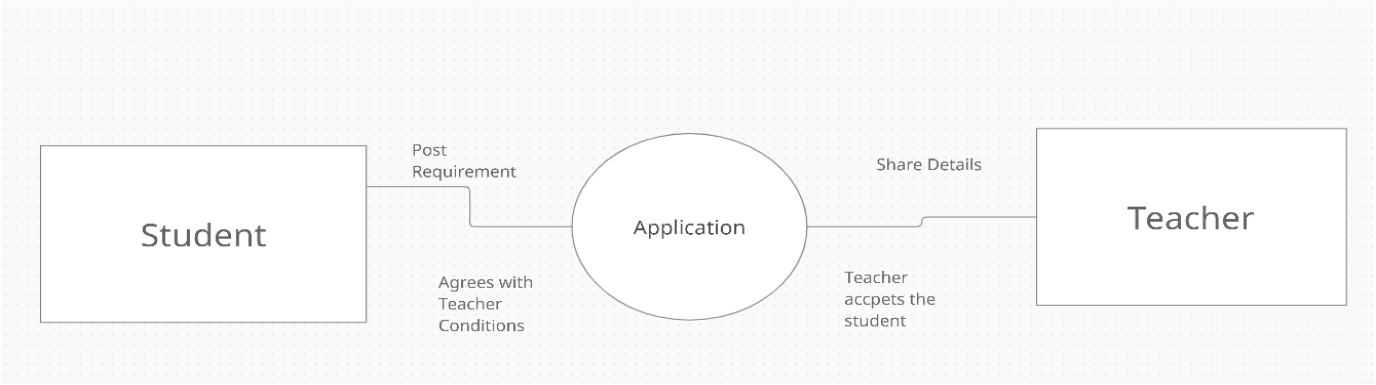
BLOCK DIAGRAM



Process of Making Web Application



FLOW CHART

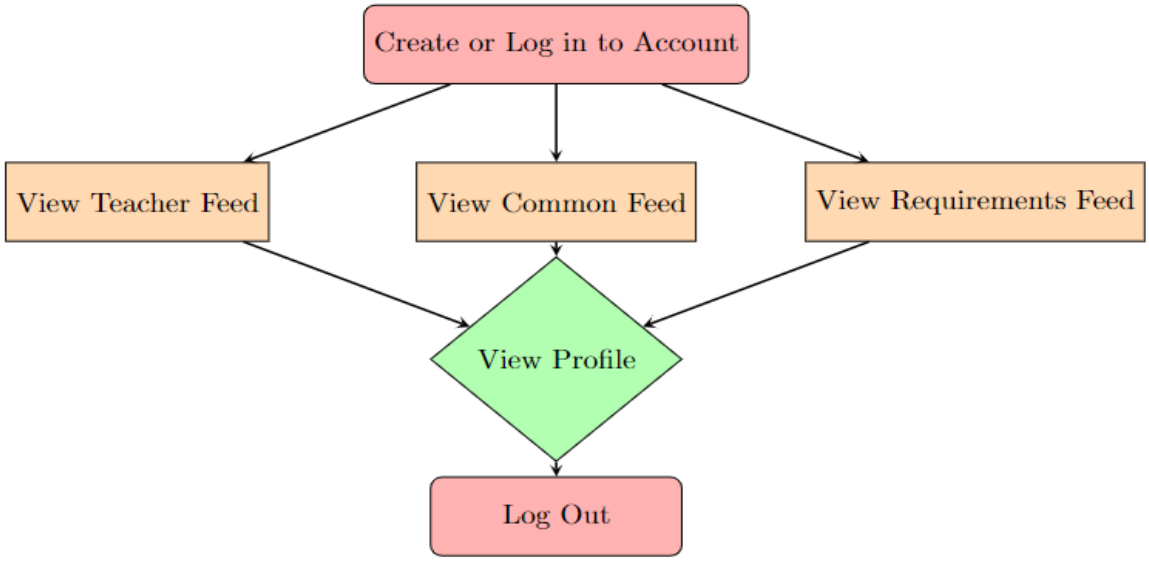


FIG 2: FLOW-CHART OF THE METHODOLOGY USED FOR DEVELEOPING WEB APP

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- User creates an account or signs in if they already have an account.
- Upon signing in, the user is directed to the home screen where they can see three different feeds:
  - Common feed: contains posts from both students and teachers
  - Teacher's feed: contains posts exclusively from teachers
  - Requirements feed: contains posts from students regarding their requirements
- The user can click on any post to view more details or click on the profile picture to view the user's profile.
- The user can log out of their account at any time.
- This process is designed to provide a seamless experience for users as they navigate through the various feeds and interact with posts and other users. The flowchart serves as a visual representation of this process, helping users to easily understand how to use the platform.

SOFTWARE USED

A. React.js

React.js is a popular JavaScript library for building user interfaces. It provides a component-based approach to building reusable UI elements. React.js is used in this project for the client-side rendering of the web application. It helps in creating an interactive UI that responds quickly to user input.

B. Next.js

Next.js is a popular React framework for building server-side rendered web applications. It provides features like automatic code splitting, server-side rendering, and static site generation. Next.js is used in this project for server-side rendering and optimizing the performance of the web application.

C. Node.js

Node.js is a popular JavaScript runtime environment that allows developers to run JavaScript on the server-side. It provides an event-driven, non-blocking I/O model that makes it efficient and lightweight. Node.js is used in this project for the backend development and API implementation.

D. JavaScript

JavaScript is a popular programming language used for web development. It provides a flexible, dynamic, and powerful way of adding interactivity to web pages. JavaScript is used in this project for both client-side and server-side scripting.

E. TailwindCSS

TailwindCSS is a popular CSS framework that provides a set of pre-defined classes to style HTML elements. It allows developers to rapidly prototype and build responsive user interfaces. TailwindCSS is used in this project for styling the web application.

F. Express.js

Express.js is a popular Node.js framework that provides a set of features for building web applications and APIs. It provides a robust set of HTTP utilities and middleware for creating a scalable and efficient web application. Express.js is used in this project for creating the backend API and handling HTTP requests.

G. Vercel

Vercel is a cloud platform for deploying web applications. It provides a simple and scalable infrastructure for deploying web applications with ease. Vercel is used in this project for hosting and deploying the web application.

H. Supabase

Supabase is an open-source alternative to Firebase. It provides a set of tools and services for building scalable and secure web applications. Supabase is used in this project for managing the PostgreSQL database and handling user authentication.

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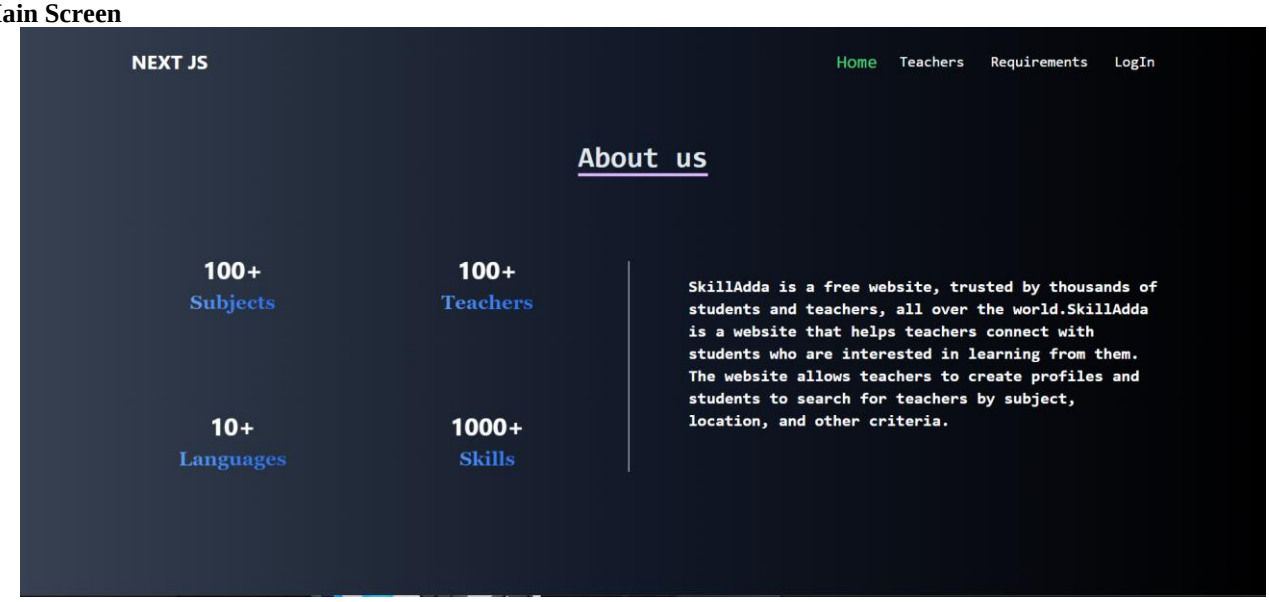
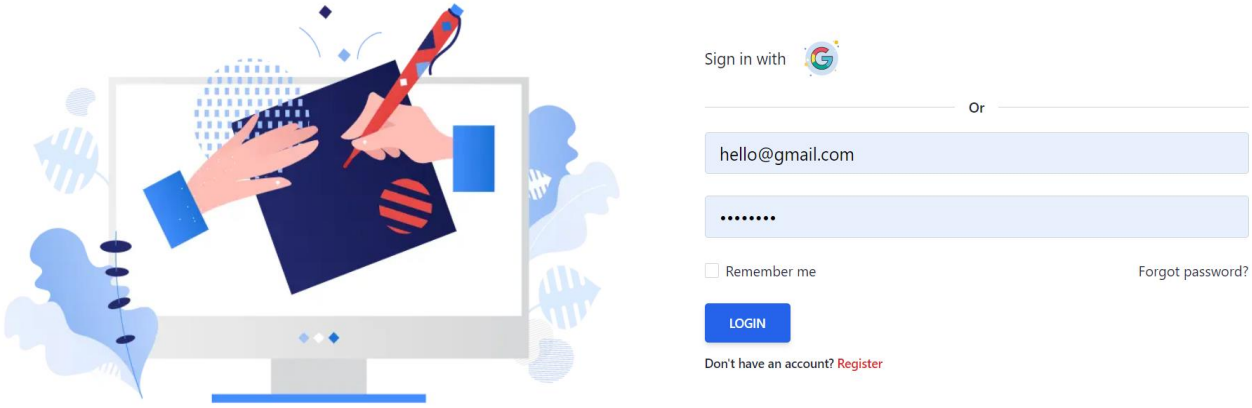
RESULT ANALYSIS

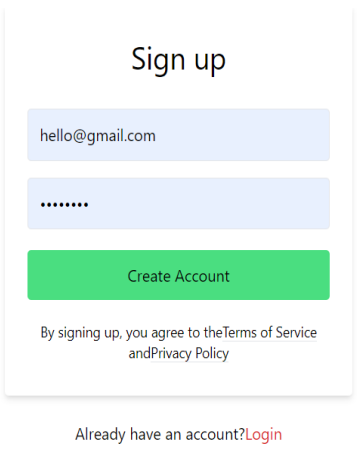
A. Main Screen



B. Login Page



SIGN UP PAGE



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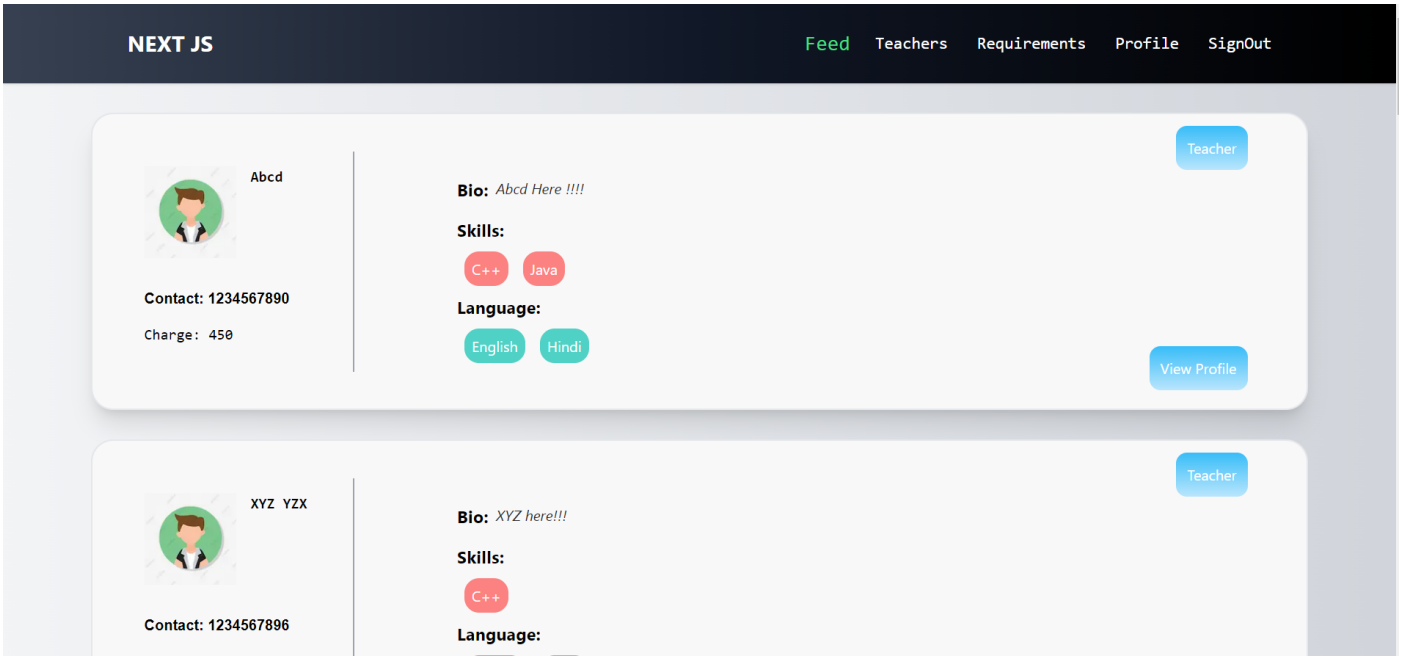
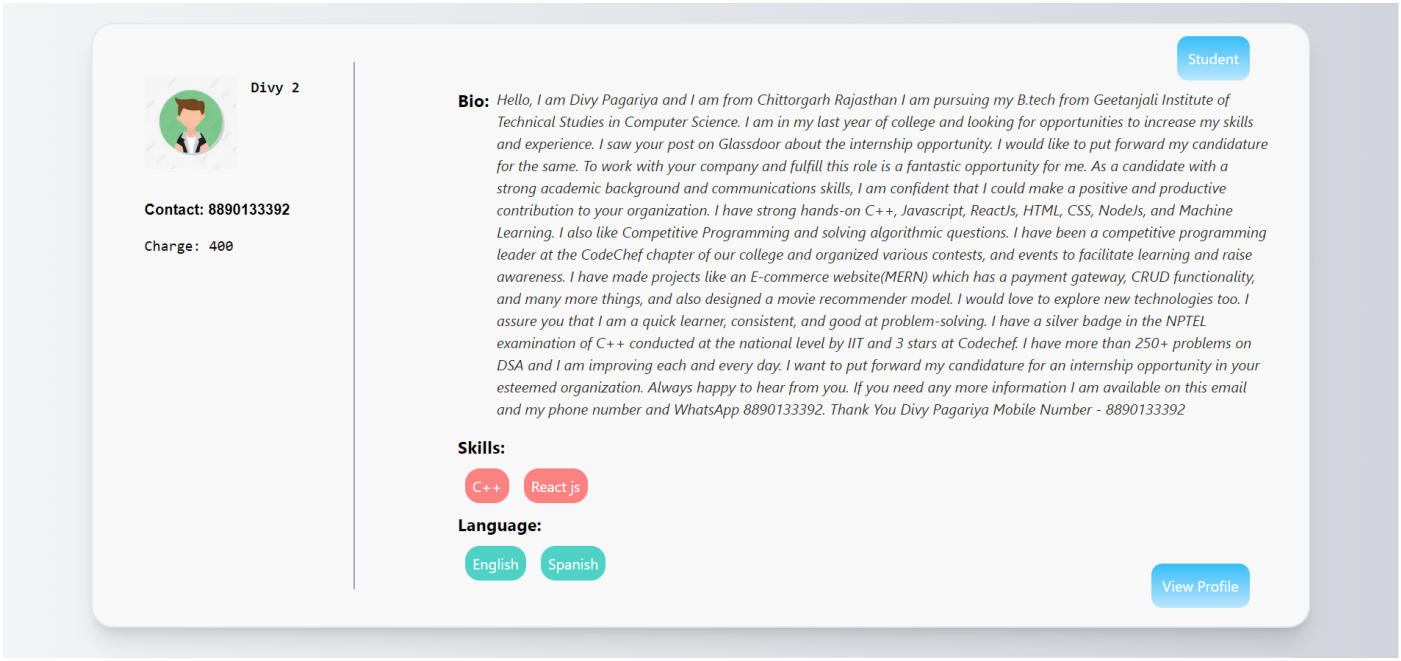
C. Common Feed For Students and Teachers



D. Data Card for Teachers



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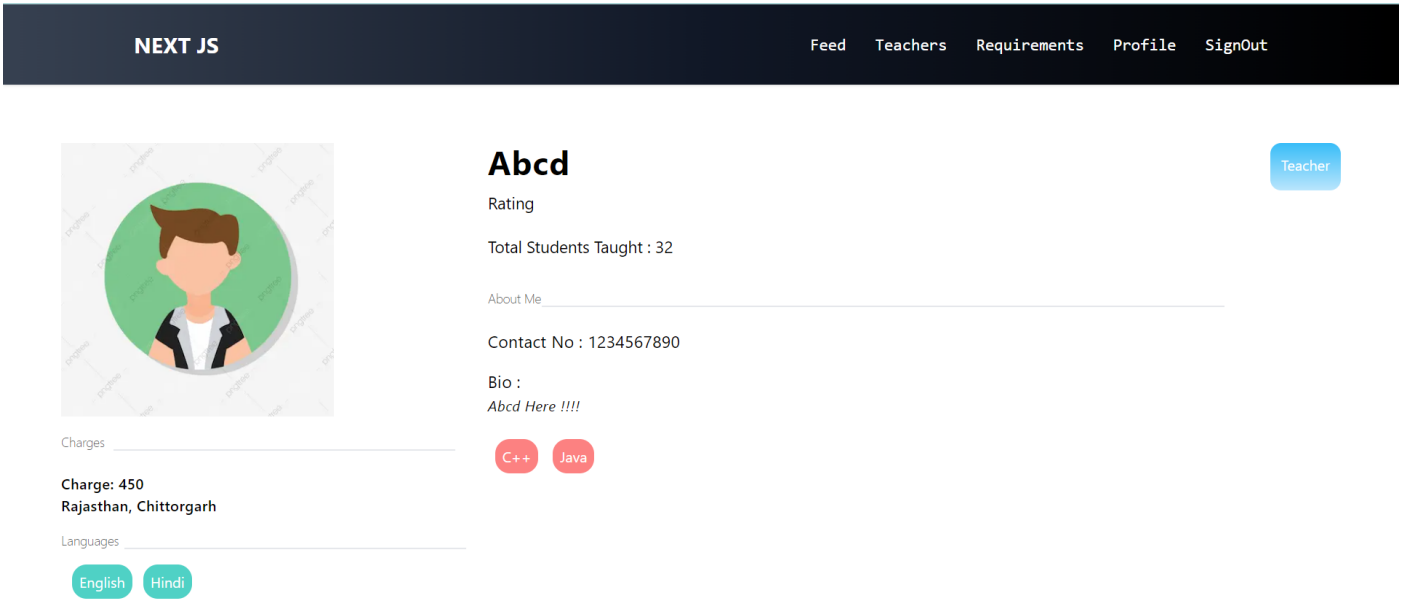
E. Profile Page



CONCLUSION

In conclusion, the project has successfully achieved its objective of creating a user-friendly platform for students and teachers to interact and share information. Through the use of various technologies like React.js, Next.js, Node.js, TailwindCSS, Express.js, and Supabase, we have developed a robust and scalable web application.

The system has provided students with access to multiple feeds that cater to their needs, including a Common feed, a Teachers' feed, and a Requirements feed. Moreover, the system has enabled students to view user profiles and log in/out of their accounts.

Overall, the project has been successful in achieving its goals and has demonstrated the effectiveness of using modern web development technologies to create a user-friendly and efficient system.

REFERENCES

[1] "React.js Documentation." React, Facebook, https://reactjs.org/docs/getting-started.html.
[2] "Node.js Documentation." Node.js, Node.js Foundation, https://nodejs.org/en/docs/..
[3] "Next.js Documentation." Next.js, Vercel, https://nextjs.org/docs/getting-started.
[4] "TailwindCSS Documentation." TailwindCSS, Tailwind Labs, https://tailwindcss.com/docs.
[5] "Supabase Documentation." Supabase, Supabase, https://supabase.io/docs/.