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Students Mentoring System

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ABSTRACT: This project is entitled "Student Mentoring System " a web-based application designed for handling Mentorship Services. This application is developed using React Native, CSS, JavaScript, and Google Firebase and provides guidance and support to a mentee to help them develop professional and personal skills. E-mentoring uses computerized mediums to transfer knowledge and skills from teacher to student. It focuses on student and faculty relationships. It helps mentors to access their students more efficiently. It is a client-server model which acts as an interface between teacher and student. E-mentoring is fundamentally developed to improve the performance of students by assisting mentors to understand the problem of student more efficient and easily. The purpose of this study was to examine the way in which good mentorship relationships aid in the sense-making processes that shape student's development of a larger narrative. The primary goal of E-Mentoring is to improve student performance by addressing their needs more efficiently. By leveraging technology, mentors can gain insights into students' difficulties and provide timely assistance, ultimately enhancing their learning experience and academic outcomes.

I. INTRODUCTION

The Students Mentoring System is the primary goal of facilitating effective communication and collaboration between mentors and students. The system empowers admin as the key figures responsible for creating and managing mentor and student accounts. Administrators have the authority to assign mentors to students based on their compatibility and specific mentoring requirements. Within the system, administrators are responsible for creating and assigning unique identification numbers to both mentors and students. By creating mentor and student IDs, administrators establish a structured framework for managing and tracking the mentoring relationships. Administrators can create mentor accounts and gather relevant information about their expertise, availability, and areas of specialization. Similarly, administrators create student accounts, gathering essential details such as academic information, areas of interest, and goals they hope to achieve through mentoring. The admin module in the system plays a crucial role in the pairing process. Administrators utilize their understanding of mentor profiles and student requirements to assign suitable mentors to students. By leveraging their expertise and insights, administrators ensure that the mentor-student pairs are well-matched and can facilitate effective mentoring relationships.

II. EXISTING SYSTEM

A possible disadvantage is that if the mentor-mentee relationship is forced, such as when a supervisor assigns an experienced employee as mentor to a student, it is possible that the two may not hit it off, or that the mentor may feel he doesn't have the time to fulfill the role while still carrying out his normal job duties. A staff can't provide guidance to each student in the situation like pandemic. It will take more time to give counselling to every mentee in the offline mode of mentorship. In some cases, the mentees matching process on mentorship platforms may not be perfectly aligned with the needs and preferences of both mentors and This can result in mismatched pairs, leading to ineffective mentorship relationships. Limited mentor availability: Mentorship platforms may face challenges in maintaining a diverse pool of available mentors, leading to limited options for mentees and potential delays in finding suitable matches. Lack of personalized guidance: Despite offering communication channels, some platforms may not adequately facilitate personalized guidance and support, resulting in mentees feeling underserved or lacking in individualized attention. Technical issues: Technical glitches or platform instability may disrupt mentor mentee interactions, causing frustration and hindering the effectiveness of the mentoring relationship. Mentor turnover: High turnover rates among mentors can disrupt continuity in mentorship relationships, impacting the consistency and quality of support provided to mentees.

III. PROPOSED SYSTEM

The proposed computerized mentoring system offers remote access for mentors to guide students virtually, overcoming geographical barriers and facilitating convenient communication. With features like messaging and video conferencing, students can seek guidance without feeling shy, enhancing accessibility and comfort. The system ensures Efficient time management for mentors with busy schedules, allowing them to prioritize and Respond to student queries effectively. Enable documentation and tracking functionalities mentors and students to monitor progress and maintain continuity in their mentoring relationships. Overall, this system promotes personalized support, fosters meaningful mentor student interactions, and supports students' academic and personal growth. Increased Accessibility for Shy Students: The system provides a comfortable platform for shy students to seek guidance, promoting inclusivity.

3.1 BASIC WORKING

The Students Mentoring System has been envisaged in the institution with a unique motto of inclusive development of students. Every Teacher in the institution acts as a mentor of a specific batch of students at the point of entry stage and guides them through the entire period of the course duration till the mentee completes the course. The Mentor-Mentee dichotomy is carved in such a fashion that the Mentor establishes a strong relationship with the Mentee in multiple roles as a caring parent, intelligent guide and affectionate companion. A Mentor is the most trusted and meaningful point of contact for the Mentee. Mentor-mentee relationship is expected to last lifelong. Ultimately, the Mentor and the institution may achieve better behavioral changes in the student and mold him/her as a dutiful citizen of the country. A mentoring system was introduced in the institution to provide a better understanding of individual students and bring out their highest potential. It also appears to be the most effective method for reducing disciplinary actions. Every year students are divided into groups; each group consists of 15 to a maximum of 20 students. Each group is assigned a teacher or mentor who is responsible for collecting the academic or non performance of individual students. The teacher or mentor is given necessary information regarding his/her mentees and is expected to offer guidance and counseling as and when required

3.2 DESIGN METHODOLOGY

Designing a methodology for student mentoring systems involves a systematic approach aimed at fostering effective communication, personalized guidance, and continuous improvement. Firstly, it's essential to understand the diverse needs of students, considering factors like academic goals, learning styles, and personal interests. This understanding forms the basis for designing a flexible framework that accommodates varying mentoring approaches. Incorporating technology can enhance accessibility and scalability, allowing for virtual meetings, progress tracking, and resource sharing. Moreover, establishing clear objectives and guidelines ensures both mentors and mentees are aligned in their expectations and responsibilities. Regular feedback loops facilitate adjustments and refinement of the mentoring process, ensuring its relevance and effectiveness over time. By adopting a holistic approach that combines empathy, adaptability, and innovation, the design methodology for student mentoring systems can create meaningful and impactful learning experiences.

IV. SYSTEM ARCHITECTURE

The system architecture of a student mentoring system encompasses the structural design and organization of its components to facilitate seamless interactions between mentors and mentees. At its core, this architecture typically includes a user interface for both mentors and mentees, providing access to features such as profile management, scheduling, and communication tools. A robust backend infrastructure supports functionalities like data storage, retrieval, and analytics, enabling the system to handle large volumes of information securely. Integration with external services, such as learning management systems or academic databases, enhances the system's capabilities and enriches the mentoring experience.

The basic architect diagram is given below:

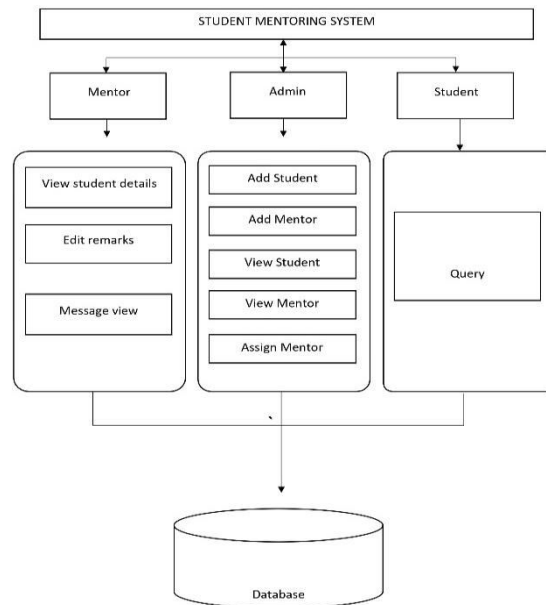


Fig-1: Architect Diagram

4.1 DFD DIAGRAM

A Data Flow Diagram (DFD) for a student mentoring system provides a visual representation of how data flows within the system, depicting processes, data stores, and data sources. At the center of the diagram are the processes involved in the system, such as mentor-mentee matching, scheduling sessions, and feedback collection. Data stores represent where data is persisted, such as databases for user profiles, session logs, and resources. Data sources signify external entities interacting with the system, including students, mentors, administrators, and external databases. In the context of a student mentoring system, the DFD diagram would illustrate how student and mentor information flows through various processes. For instance, when a student requests mentoring assistance, their request would flow from the student interface to the matching process, where algorithms determine the most suitable mentor based on criteria like expertise and availability. Once a match is made, data regarding the mentorship sessions, including schedules, session notes, and progress reports, are stored in the system's database.

Similarly, feedback from both mentors and mentees can be captured through the system's interface, contributing to ongoing improvement and refinement of the mentoring process. Administrative processes, such as user management and system maintenance, are also depicted in the DFD to illustrate their role in supporting the overall functionality of the system.

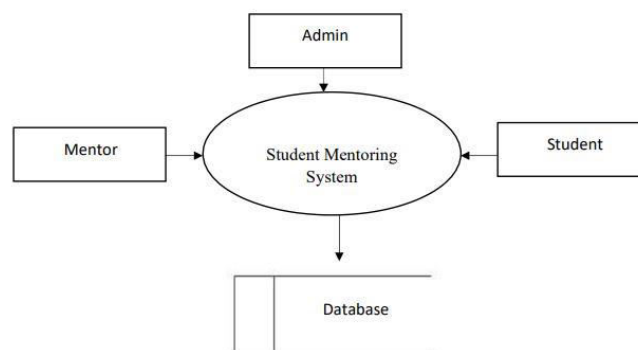


Fig-2: Data flow diagram

V. IMPLEMENTATION

Implementing a Students mentoring app requires careful consideration of various components to ensure a seamless user experience and robust functionality. Here's a concise outline of the system implementation process for a student mentoring app. The foundation of the student mentoring app lies in its database, which stores information about movies, user accounts, reviews, ratings, and more. Implementing an efficient database schema is crucial for scalability and performance. Utilizing relational databases like MySQL or PostgreSQL can provide the necessary structure for data storage and retrieval. The backend serves as the brains of the application, handling user requests, business logic, and data processing. Implementing the backend involves building RESTful APIs to facilitate communication between the client-side interface and the server. Technologies like Node.js with Express or Django can be used to create a robust backend infrastructure. Key functionalities to implement include user authentication, movie management, review/rating submission, and data validation. The frontend is what users interact with, so it's essential to create a responsive, intuitive, and visually appealing user interface. Implementing the frontend involves using web technologies like HTML, CSS, and JavaScript frameworks such as React.js or Angular.js. The frontend should provide features for browsing movies, reading reviews, submitting ratings, and interacting with other users.

VI. RESULTS

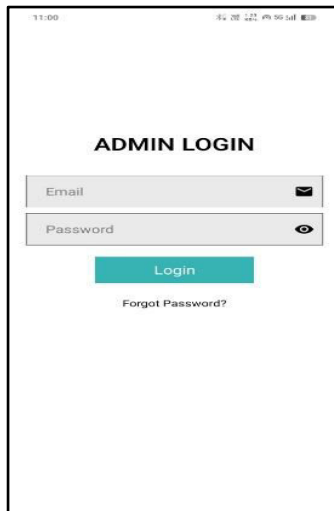


Fig-3: Admin Login



Fig-4: Mentor Login

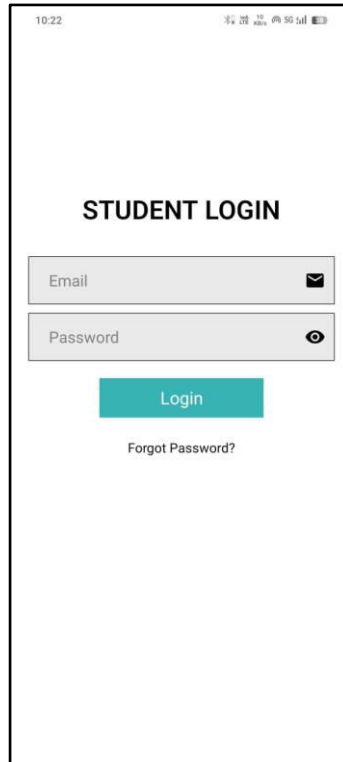


Fig-5: Student Login

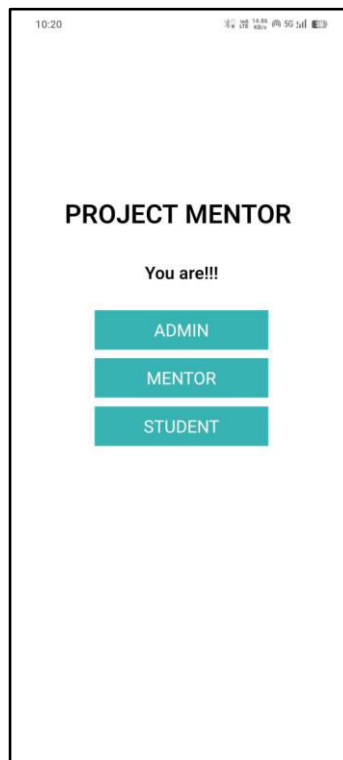
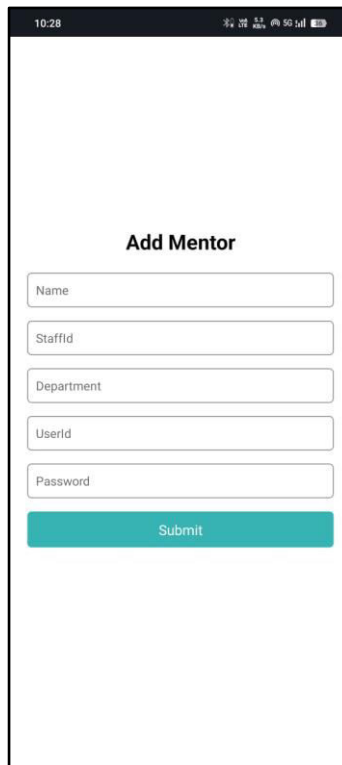


Fig-6: Home Page



10:28

Add Mentor

Name

Staffid

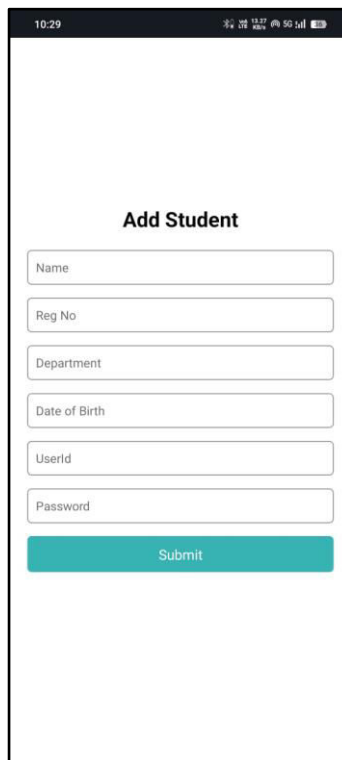
Department

Userid

Password

Submit

Fig-7: Add Mentor



10:29

Add Student

Name

Reg No

Department

Date of Birth

Userid

Password

Submit

Fig-8: Add Student

VII. FUTURE SCOPE

Looking ahead, integrating React Native into our student mentoring app presents exciting opportunities for future enhancements. With its cross-platform compatibility, we aim to reach a wider audience by ensuring seamless performance across both iOS and Android devices. React Native's component-based architecture enables us to create a visually appealing and intuitive user interface, enhancing user engagement and interaction. Leveraging React Native's capabilities, we plan to optimize the app's performance, improving speed, and efficiency for a smoother user experience. Offline support will be a key focus, allowing users to access content and perform actions even without an internet connection. Push notifications will enhance user engagement by delivering timely updates and alerts, keeping users informed about new movie releases, personalized recommendations, and interactions with their reviews. Additionally, integrating React Native with native modules will enable us to leverage platform-specific features and functionalities, further enhancing the app's capabilities. Advanced analytics will provide valuable insights into user behavior and preferences, empowering us to make data-driven decisions to optimize the app for maximum user satisfaction and retention. Finally, prioritizing accessibility features will ensure that the app is usable and enjoyable for all users, promoting inclusivity and accessibility for a diverse audience. Through these enhancements, we are committed to creating a more immersive, engaging, and accessible experience for users worldwide.

VIII. CONCLUSION

This system concludes to have a great impact on the educational platform and student mentoring aspects. The above are the outcomes of the application. It can access by any number of users. Simultaneous login from more than one place . Advanced tools can be used for this application. When adding more features like video / audio we can move to web application. Our further enhancement is develop this application in IoS platform and planning to accessed as a offline app. All these from a single application is a great deal of success, and attaining the needed users are the main goal of this application. This system can improve the current situations of all the students who has difficulty improving their skills and activities. The mentorship will bloom into a useful connection if both participants are a symbiotic match. the development of a Students Mentoring System using React JS provides an effective solution for enhancing educational support. By leveraging the power of collaboration and technology, the system aims to foster meaningful mentor-student relationships, promote academic success, and empower students on their educational journey.

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