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INTEGRATED DIGITAL MENTOR-MENTEE INTERACTION PLATFORM

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Abstract: Mentoring is one of the most complex and classic teaching tools that has potential for learning educational technology. There will be a particular focus on motivating, encouraging students to improve. Electronic Mentoring System is an interface between mentors and mentees rather than face-to-face interaction. It is client-server-based model which serves as an interface between mentors and mentees. The e-mentoring system is mainly used in undergraduate programs whereby each faculty called mentor assigns 18-20 students termed as mentee. The main objective of this program is to develop a positive relationship between the mentors and the students at large. Doing this can be done using online based software which comprises of three major components namely; the Admin Module, Mentor Module, and Mentee Module. Admin module shall also provide an administrative dashboard for user management, assignment of mentor-mentee pairs, feedback monitoring and reporting. Mentor module – View his agreed mentees ask them questions update progress view resources. Mentor module – a simple interface where pupils can look up their own details ask some questions leave comments or post information, they consider helpful to others

Index Terms **-** Adding details, assigning mentor-mentee, feedback system, Query management, Profile details.

I.INTRODUCTION

The role of mentoring is a core component in the process of student support and educationally related success within the changing educational technology landscape. Face to face mentorship has enjoyed a lot of recognition due to its tremendous influence on students' motivation and performance. However, as digital communication affects the way people interact with each other, there is an urgent need to adapt and reinvent mentoring for better use of electronic platforms.

To address this gap, our project; the E-Mentoring System, Mentor Connect System takes advantage of technology to minimize the distance between mentors and mentees. This particular model is server based creating strong interfaces that are used for long term connections which goes beyond physical place boundaries. This system is meant for undergraduate programs only where 18-20 students are allocated per lecturers thereby assuring personalized advice and assistance.

In order to keep this program dynamic, we focus more on personal connection fostering not just learning but also motivation and development among students. The E-Mentoring System retains traditional mentorship values but incorporates electronic communication as an extension into the digital era.

The Mentor Connect system while employing digital tools retains the spirit of traditional mentoring. The platform prioritizes trust and positive relationships between mentors and mentees, recognizing that the human factor is a key aspect to successful mentorship. This system combines the advantages of electronic communication with the core tenets of traditional mentoring to provide a well-rounded student support system.

II. EXISTING WORK

In the existing system of mentoring in educational institutions, mentorship activities mostly depend on manual processes and paper-based documentation. Faculty mentors generally engage in face-to-face interactions with their assigned mentees having meetings and counselling on academic, personal and career related issues. However, these interactions may be limited by time and availability factors whereby mentorship relationships are often confined to a specific timeframe; say a semester or an academic year. The means of communication between mentors and mentees is mainly through arranged meetings or office hours which lacks provision for ongoing or asynchronous communication beyond these formal sessions. Subsequently, continuity as well as depth of mentoring relationships may be compromised especially during holidays or periods of institutional closure when physical meetings cannot take place.

In addition, the use of paper-based documentation in maintaining mentorship records and progress reports is associated with

several issues. These include limited access to the data as well as its organization and security. The mentors might find it hard to recall how their mentees are progressing, their objectives, or even what they have said over time, which results in inefficiencies leading to disparities in mentoring.

Additionally, the current mentoring system is characterized by a manual approach, limited communication channels and lack of continuity in the mentor-mentee relationships. This can be viewed as an uncoordinated way of mentoring that affects effectiveness of the whole process while also creating a gap between mentors and mentees hence hinder establishment of meaningful and sustained relationships required for student success and well-being.

Disadvantages:

The existing mentoring system in educational institutions suffers from several disadvantages:

- Manual Processes: The use of manual systems to arrange meetings, keep records, and documents progress can be tedious and prone to mistakes. Faculty mentors may face difficulties when effectively managing and monitoring mentorship activities which results to incongruities and inefficiencies in the mentorship process.
- Limited Communication Channels: Communication between mentors and mentees is mainly restricted to physical interactions during scheduled meetings or office hours. This shortcoming hampers maintenance of regular contacts between mentors and their respective mentees hence timely addressing of issues or concerns especially during such times as university closure or breaks.
- Lack of Continuity: Mentorship relationships often last only for a given period say a semester or an academic year thus there is no continuity in the relationship between mentors and mentees. Once an agreed span ends, mentorship links could fail leaving mentees without ongoing support nor guidance. Dissociated Mentorship Experience: The discontinuous nature of mentorship practices as well as the short time that mentors spend with their charges may result in a disjointed and inconsistent mentorship experience for student mentees. Therefore, they may not be able to foster meaningful relationships with mentors and get the most out of mentoring.
- Data Management Challenges: Keeping track of the progress of mentees using journals places many barriers in front of accessibility, organization, and security concerns when it comes to storing these records at all times. Therefore, mentors find it difficult to keep up with what is happening to their students regarding their goals, subsequent assessments, and feedback given; this affects mentorship efficiency.
- Lack of Accessibility: The current system may not be open to all scholars particularly those who are geographically displaced, busy or have mobility problems. This reduces the extent and inclusivity of mentoring programs by leaving out students who could actually utilize such support. All in all, these weaknesses call for a more streamlined accessible comprehensive approach towards mentorship within learning institutions that uses technology to overcome existing limitations while enhancing the capacity for all stakeholders involved in providing mentor-mentee relationships.

III. PROPOSED WORK

The suggested framework in the Mentor Connect System (E-Mentoring System) project covers creation, implementation and control of an all-in-one digital platform which is aimed at making mentoring more effective with respect to undergraduate students as well as faculty. It consists of three main modules; namely Admin, Mentor and Mentee, each of which have different roles that facilitate communication and support throughout the whole mentoring program. These below are some of the areas covered by this project:

System Architecture and Design:

- Client-Server Model: The system will be developed using a robust client-server architecture to ensure scalability, security, and efficient data management.
- User Interface (UI): Designing intuitive and user-friendly interfaces for Admin, Mentors and Mentees that would guarantee smooth navigation across various devices.

Admin Module:

- Access Control: The admin module will have comprehensive access to all other modules, ensuring centralized control and management.
- Student Management: Admins can add, update, and manage student details, ensuring accurate and up-to-date records within the system.
- Staff Management: Admins can also add, update, and manage staff (mentors) details thus enabling easy mentor allocation as well as tracking. Feedback Management: Admins can view feedback students give about their mentors and thus improve mentoring quality.

Mentor Module:

- Authentication: Mentors will provide necessary credentials when logging into the system to ensure that they access safely their respective functionalities.
- Student Details: Mentors can look at their assigned mentees' detailed information, profiles and academic records.
- Query Management: To enable prompt delivery of messages between mentors and mentees, tutors are able to see queries from learners in order to reply them promptly.
- Remarks and Status Updates: Tutors are given a chance to make remarks about how far a student has improved in his academics as well as update the status of a student through giving appropriate personalized feedback to assist track improvement.

Mentee Module:

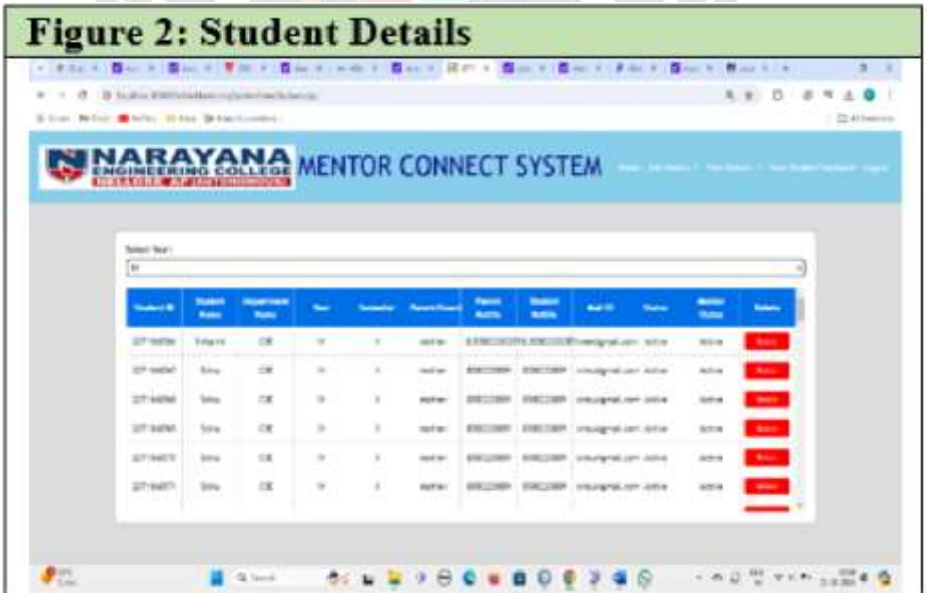
- Authentication: Mentees will log into the system with valid username and password so as to protect their personal accounts from unauthorized access or unwanted hacking
- Profile Management: Mentees can have a look at their own profiles and update them whenever necessary thus ensuring currency of information contained therein.
- Query Posting: Mentees can post questions for discussion by their mentors, hence maintaining an active communication channel with them.
- Feedback Submission: Mentees can comment on their mentor work, thereby allowing summaries about what went on during counselling encounters.

IV. EXPERIMENTAL RESULTS

Figure 1: Admin Login

This is the login page for admin and it is similar to mentor and mentee. There are few more modules involved in this system.

Figure 2: Student Details



This fetches list of students based on the year.

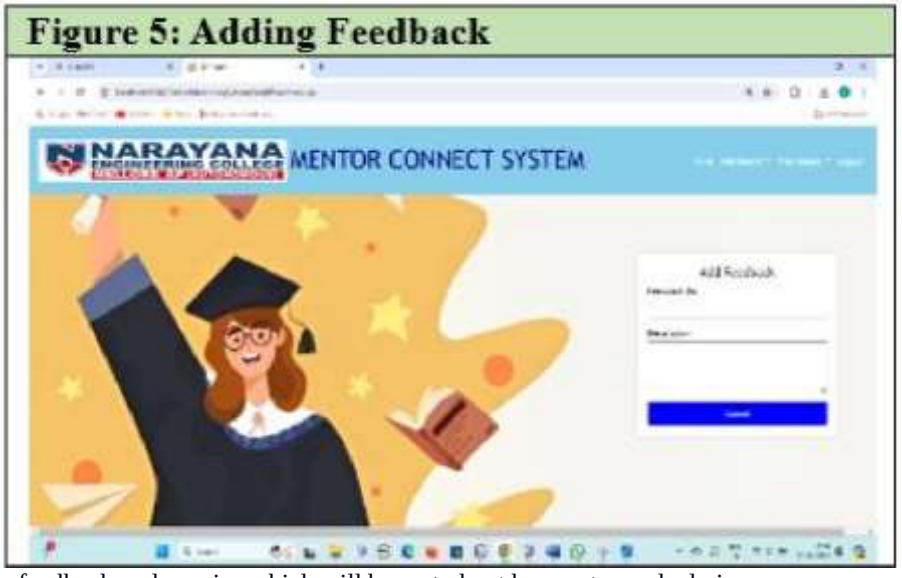
Figure 3: Assign Mentor

In this way a mentor will be assigned to a series of mentees or students.

Figure 4: Student Profile

This page displays the student profile details and the staff profile details also looks the same.

Figure 5: Adding Feedback



Here we can also add our feedback and queries which will be sorted out by mentor and admin.

V. CONCLUSION

The Mentor Connect System represents a comprehensive and innovative solution to address the evolving needs of college students in the digital age. By leveraging technology, this system bridges the gap between traditional mentoring models and the modern demands for accessibility, personalized guidance, and holistic support.

The system empowers administrators with powerful tools for user management, mentor-mentee assignment, feedback monitoring, and program analytics, enabling data-driven decision-making and continuous improvement. Mentors benefit from a dedicated platform to access mentee information, respond to queries, track progress, and provide personalized guidance, while

mentees can actively engage with their assigned mentors, seek support, and share feedback, fostering a collaborative and supportive learning environment.

The implementation of the Mentor Connect System involves the integration of cutting-edge technologies, including modern web frameworks, databases, and secure communication channels. Rigorous testing and deployment strategies ensure the system's functionality, reliability, and scalability, while comprehensive documentation and support resources facilitate seamless adoption and usage. By embracing the power of technology and fostering meaningful mentorship connections, the Mentor Connect System has the potential to revolutionize the mentoring experience in higher education. It empowers students to reach their full potential, navigate the complexities of academic and personal growth, and develop the skills and confidence necessary for future success.

As the educational landscape continues to evolve, the Mentor Connect System stands as a testament to the power of innovation in creating inclusive, accessible, and transformative learning experiences. Its impact extends beyond the boundaries of a single institution, paving the way for a broader adoption of digital mentoring solutions that enhance student outcomes and contribute to the overall advancement of higher education.

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