Online Mentor Mentee System using Full Stack Development

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Abstract- Mentoring is one of the finest strategies to increase an organization's capacity for knowledge transfer. The traditional mentoring process's manual nature could result in unanticipated costs, such as the time required to plan the mentoring session and keep track of the student's data. This program proposes an online, centralized mechanism for knowledge exchange between mentees and mentors. This system offers educational institutions an effective and well-organized platform for digitally storing student information, enabling easy data portability and tracking student development and mentorship programs.

I. INTRODUCTION

The process of mentoring has a significant impact on any organization's ability to succeed. The Online Mentor-Mentee System is a procedure that facilitates communication between mentors and mentees by storing and retrieving student data. A system that documents students' achievements and interactions with mentors has become crucial in the constantly changing field of education.

Mentoring is crucial for personal and professional development, offering mentees the direction and support necessary to achieve their objectives and navigate their paths. Consider a mentor as a confidant or counselor, generously providing expertise and experience to contribute to the mentee's growth and future success. In this field of education, a sophisticated system had established to meticulously maintain students' academic records and personal information semester after semester. The system intended to provide mentors with effortless access to this volume of information; nevertheless, it also facilitates their ability to oversee, monitor, and stay informed about the most recent developments in their mentees' academic journeys. In addition to supporting individuals in attaining their full potential, this mentoring connection had a tremendous impact on the overall achievement of the organization. The unique connection between a mentor and a mentee inspires an office culture that values continuous learning, adaptability, and the importance of the organization.

II. FRONT END

2.1 HTML

Developing web pages using the markup language and HTML. HTML is a combination of hypertext and markup language. Hypertext defines the link between webpages, whereas markup language describes the text document inside the tag that defines the structure of webpages. HTML is used to design the structure of webpages that shows in online, creating web pages using its features and tags. Hyperlinks used to establish connections between pages. It consists of the building parts, such as the Doctype declaration, HTML, Head, Title, and body elements.

2.2 CSS

The web pages can have styles applied to them using CSS. It's employed to presentable webpages. This convenience is the rationale behind employing it to streamline the process of presenting webpages. Styles come in three varieties: inline, embedded (also known as internal), and external (also known as linked). Every web page can employ one or more different styles. Inline CSS components are attached to the body section and include the CSS attribute. The HTML file's head section contains the CSS ruleset. Style properties reside in a different CSS file called External CSS. A vital component of any website is its style. It raises user interaction levels and improves the overall quality and design of the website.

2.3 JAVASCRIPT

JavaScript is a flexible programming language used for web development. It is well-known for its ability to generate dynamic web applications. Variables, which hold a variety of data kinds such as numbers, strings, Booleans, objects, and arrays, are the central components of JavaScript. JavaScript functions are essential because they are reusable code blocks that carry out particular tasks. Control flow constructs allow programmers to manage how their code is executed, such as if statements, loops, and switches.

III.BACK END

3.1 PYTHON

Python is a computer language that allows users to access databases through their web browser. It is less concerned with the page's visual design and more with the reasoning behind a website's response to user input. Python is a server-side programming language. Thus, the user's browser receives an HTML file from a web server and then runs the embedded PYTHON code instructions before receiving the HTML code and PYTHON code output. A webpage with dynamic content is the result.

3.2 MYSQL

A key component of web-based applications is the open-source relational database management system known as MySQL Server. Since data is saved and shared over the internet, databases and associated tables are often the primary building blocks of websites and applications. MySQL Data is utilized by social networking websites like Facebook, Twitter, and Google, as they are specifically developed and optimized for this purpose. All these reasons lead to MySQL servers being the recommended choice for web applications.

IV. LITERATURE SURVEY

All research aims to develop an electronic mentorship system that monitors students' data. I also tried to provide guidance, counsel, and advice to help the mentees reach their professional or personal objectives. It's similar to having a reliable friend or advisor who imparts knowledge and skills to support the development and achievement of the mentee. Below is a summary of the research's principal contributions.

4.1.TITLE: E-MENTORING SYSTEM APPLICATION
AUTHORS: Javeriya Farheen , Dr. Sunanda Dixit
In this paper, the authors describe mentoring as a conventional method of transferring knowledge and skills from a recognized professional to a less experienced person in an organization. At one of the eminent universities in the UK, junior students are mentored by senior students in the institution, using face-to-face mentoring and guiding them through interactions facilitated by an electronic application program. By working with faculty members involved in the curriculum, the organization supported this endeavour and encouraged research on how to begin this program. Most businesses these days have some mentorship initiative or program. Traditional mentoring programs (such as face-to-face mentoring) typically involve one person (as a mentor) and a set of 18 to 20 students (mentees). Each mentee to whom the mentor receives maintains some record. The mentor is aware of every action taken by the mentee. In order to meet and gather information about their mentees' progress and curriculum activities, mentors make special calls to them. The paper containing this information also includes the mentees' complete histories and details. To contextualize this idea, E-mentoring is a desktop and Android application designed to help mentors better understand the challenges that mentees encounter and ultimately help improve student performance.

4.2. TITLE: DETERMINING OF COMPATIBLE DIFFERENT ATTRIBUTES FOR ONLINE MENTORING MODEL

AUTHORS: Pratya Nuankaew, Punnarumol Temdee
 In this paper they described the relationship between mentor and mentee can be called in different names such as the consulting model, the coaching model, and the mentoring model. Early works of mentoring model, the model is constructed based on the similar personality between mentor and mentee. Consequently, many works have been focuses on determining the model for matching common attributes between the mentors and the mentees. On the other hand, there is also the belief that the matching between the mentors and the mentees should not concern only the common attributes. This paper also believes in this latter view that the matching between the mentor and the mentee should also consider the different attributes that can be compatible among mentor and mentee. Instead of looking for the common attributes between mentor and mentee, this paper aims to determine the different attributes which are compatible between mentor and

mentee. More specifically, the proposed attribute is named compatible different attribute. Two sets of compatible different attributes are proposed in this paper including attribute for the mentor and the mentee respectively.

4.3. TITLE: PEER-MENTORING IN DESIGN PROJECTS IN PROJECT-BASED LEARNING (PBL) AT FIRST-YEAR ENGINEERING COURSE

AUTHORS: J. Gadad, V. Talageri, P. Baligar and G. Joshi

The current work-in-progress publication can discuss the peer mentorship program. For first-year engineering students enrolled in KLE Technological University's (India) Project-Based Learning (PBL) course "Engineering Exploration," this program offers committed mentoring support. Both the procedure and the result are the main topics of the course. In this course, students apply the engineering design process to tackle interdisciplinary design issues. They create a mechatronic prototype to address the specified design issue. Students encounter difficulties when solving problems; these typically start in the concept design stage and get much difficulty when it comes to the actual implementation or prototype building stages. Following class, students usually work on group projects in the Tinkering lab, a dedicated prototype space. More than 1100 students complete more than 275 transdisciplinary projects annually. It is difficult for the fifteen faculty members and three instructors to meet this enormous demand, particularly during the prototype building period. Hence, students need a support system in tools and equipment, services, and mentoring to complete their design projects on time while attaining the intended learning outcomes. Mentors In Tinkering lab (MITRA), a peer mentoring program, was formally launched in 2017 following a semester-long experimental run. We provide an advanced, meticulous, and well-developed version of the program in this paper that includes to its difficulties, assessment, and outcomes. Here, we describe the peer mentoring program's process: call-for the program, induction, screening, immersive training and deployment of the mentors, program monitoring, and celebration of their success. This program had evaluated by analysing its impact on stakeholders: mentors, mentees, and faculty members. Five faculty members with experience of more than three years in teaching engineering exploration course and seventeen mentors (sophomores, juniors, and seniors) were involved in the study. The data were analysed using descriptive statistics and thematic analysis.

4.4 TITLE: E-MENTORING FOR SOFTWARE ENGINEERING : A SOCIO-TECHNICAL PERSPECTIVE

AUTHORS: Erik H. Trainer, Arun Kalyanasundaram, James D. Herbsleb

One of the best educational strategies is mentoring, which has enormous potential for teaching of software engineering. On the other hand, if done incorrectly, it can result in unhealthy relationships between mentors and mentees and discourage them from pursuing careers in software engineering. In this qualitative research study using interviews, we examine how socio-technical features of software impact the formation of social bonds deemed essential to accomplishing the two purposes of mentoring: improving technical competence and cultivating interpersonal skills. While mentees working on non-user facing software primarily develop links important for building technical competence, we find that mentees working on user facing, interdependent software form a balance of ties that help both aims. Work practices that create opportunities for unstructured contact between mentees and community members, such as code review in a mentee cohort, can help to overcome this imbalance. Our findings have implications for task definition in software engineering e-mentoring program schemes.

V. SYSTEM ANALYSIS

EXISTING SYSTEM

Even though it is being updated with modern technologies and utilizes resources from the past, the present project is nevertheless generally reliable and unstable. Since they are unsafeguarded, the mentee's details become available to everyone. There isn't now a way for either the mentor or the mentee to receive updates on planned organizational meetings. We intend to add a few additional features to improve our project.

DRAWBACKS OF EXISTING SYSTEM

Some disadvantages of the existing system include the following:
• Due to the handmade nature of the process, it takes longer.
• The amount of work is significant.
• It's challenging to keep records current over time.
• Managing a substantial amount of data by hand presents difficulties.

PROPOSED SYSTEM

Mentors can contact their mentees by logging in and accessing their profiles on the website. If communication with the mentee is needed, the mentor gets notified instantly via the portal. Mentors can monitor their mentee's academic progress, communicate with them, and stay informed about upcoming organizational events through the same site. Time restrictions and timely communication are the main goals of this project. This concept will enable the mentor and mentee to communicate as required.

ADVANTAGE OF PROPOSED SYSTEM

The following are some benefits of the suggested system:
• Better instruction for each student.
• Keeping an eye on the everyday accomplishments and activities of the students.
• Superb venue for showcasing student competencies. Student information is readily available.
• It is possible to save and update marks.

PROPOSED SYSTEM METHODOLOGY
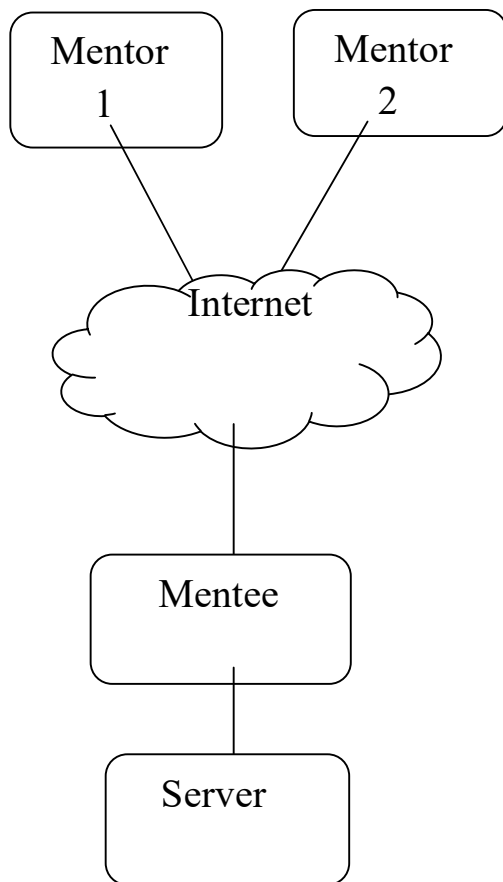
VI.MODULE DESCRIPTION

<u>ADMIN MODULE</u>
ADMIN LOGIN
One approach to gaining specific administrative access is using the admin login. With this admin login, the website administrator has complete authority. The administrator can add, modify, or remove data from the database. The administrator can update the database with new instructors or students.

UPDATES

The administrator of this module can perform several functions, such as updating mentors and mentees. This module allows you to edit and add details about the mentor and mentee.

MENTOR

The mentor details section of this module allows you to access the teacher's general information. Linkable under the mentor's name is the mentee's information. Editing becomes easy whenever a new faculty member joins the module.

MENTEE LIST

Visit the mentee details often; this is the outcome of this module. This module allows the mentor to view the student's details, edit them, and delete them.

MENTEE FEES

Mentors can update their mentees' fees in this section. The status update indicates payment if the mentee has paid; if not, the status update indicates that payment is not received. The details of the paid cash are likewise visible to us. This module seems easily configurable, allowing for additional editing.

MENTEE ATTENDANCE

Depending on how many mentoring hours the mentee has attended overall, the mentor may add a status to the mentee, such as present or absent. This module aids in verifying the enrollment of students.

MENTEE HOSTEL

Mentors can see, update, and remove data related to student hostels using this module. The hostel page provides details such as the student's information, hostel name, room number, accommodation type, cost per bed, and availability.

MENTEE TRANSPORT

This module allows the mentor to view, modify, and remove the student's transportation data. The transport page has the following attributes: student name, bus number, bus stage, and bus route.

EVENTS

This module's primary goal is to list forthcoming events. Future events can be added to the calendar basics in this module, keeping people informed about upcoming activities. Additionally, it allows users to set reminders for specific events, ensuring timely participation.
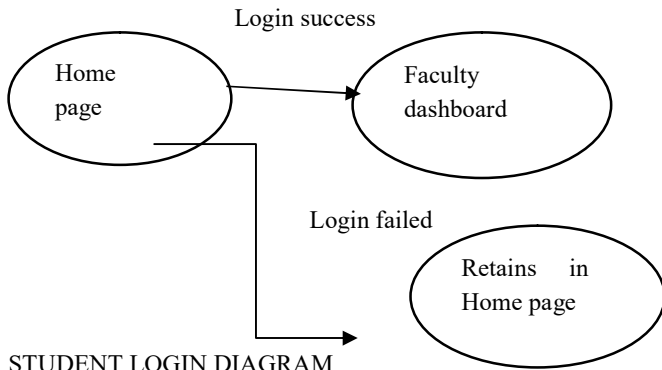
ADMIN LOGIN DIAGRAM
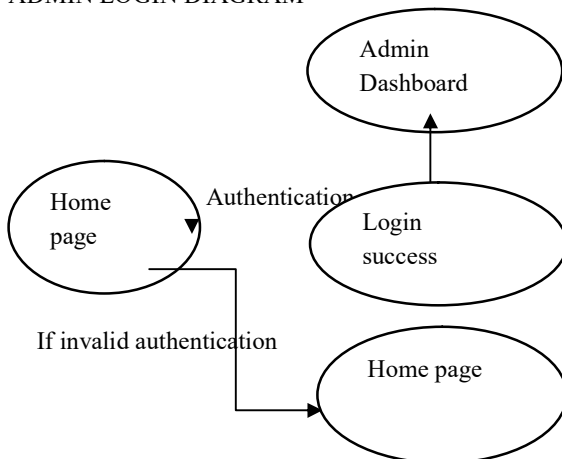
FACULTY MODULE
FACULTY LOGIN

Every college faculty member has a different username and password. These usernames and passwords allow them to access the website. They can access the portal by inputting their password and authenticated username. They can edit the student details in addition to seeing them. They are still unable to update the webpage with new instructors or students.

STUDENT MODULE
STUDENT LOGIN

All students enrolled in the institution had access to the portal through their username and password. Students will be redirected to the mentor-mentee dashboard upon successfully logging in. They can view all the information and the forthcoming activities on the website. Students cannot, however, change or remove their information via the student login.
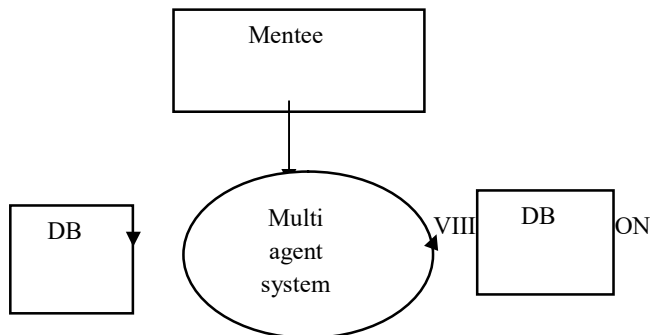
FACULTY LOGIN DIAGRAM

STUDENT LOGIN DIAGRAM
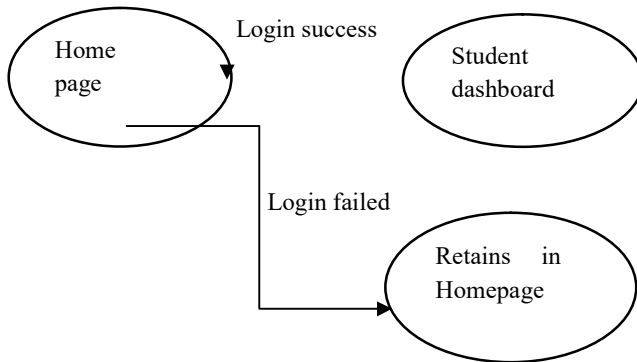
VII. OVERALL ARCHITECTURE DIAGRAM

We worked hard to make the concept of the traditional mentor-mentee system that is now in use in society as clear as possible. Next, we went over the idea behind the present online mentor-mentee program. We then went into great detail about the suggested system and all its components.We also briefly overview the technology used to develop our recommended solution. If this system properly works, data entry takes less time. This online mentor-mentee approach is easy to implement. This online mentor-mentee system could be helpful to many organizations that must keep track of student information. This system will be capable of managing an online mentor-mentee system, regardless of their scales. This project can grow and improve even further with the addition of fresh and innovative features.

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