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AN ENHANCED COMMUNICATION PLATFORM BETWEEN ALUMNI AND EXISTING STUDENTS USING SMART WEB APPLICATION

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Abstract: **Alumni are college or university graduates. Every university desire to maintain contact with all of its graduates. During graduation, alumni typically give their contact information. Alumni typically relocate from their home to a location close to their place of employment after landing a job. Alumni typically don't update their contact information, including new phone numbers and addresses, for alumni. Alumni, however, typically continue to use their study-related social media account after graduating. In order to improve mentoring between alumni and students, this article suggests integrating specific data mining and social networking aspects into alumni systems. This research effort has two main contributions: a framework for smart alumni systems and implementation of this system. This framework broadens the definition of stakeholders to include current students, admin in addition to alumni. The framework encourages social networking-style interactions among different stakeholder groups for tasks including career development and mentorship. In the proposed framework, data mining's primary goal is to offer suggestions for creating connections amongst stakeholders, which will help existing students receive better mentorship; its secondary goal is to analyze the findings from university and departmental surveys. A web-based interface for the proposed smart alumni system has been developed. The prototype incorporates alumni, academic, and student stakeholder roles and enables messaging, groups, and friends social networking capabilities. This system was created using techniques such as MySQL, HTML, CSS, Java Script, jQuery, PHP, and AJAX to deliver a reliable portal system. The best result of the proposed system testing was the high overall satisfaction rate. Although the implementation's findings showed that the system requirements and the supplied data were largely compatible and suitable.**

Keywords: **Alumni Portal, Alumni Platform, Web Application, Smart Alumni System**

I. INTRODUCTION

Alumni and universities can interact and communicate simply using social media. In particular, social networking platforms let users interact with other users and converse more effectively, which helps to weave a web of relationships between them [1]. Many institutions have been found to abuse paper record keeping techniques in their student information systems. These procedures are outmoded and have a variety of shortcomings for maintaining student data. These flaws are as follows: "First off, it takes the pupil a very long time to receive the knowledge. The information should be posted on the notice board, so the student must check there to confirm it. Paper records are not only cumbersome to acquire, update, and re-file, but they also represent non-value-added operations [2]. Due to a lack of "integration and collaboration" between the pertinent institutions, the traditional system is therefore insufficiently effective and unable to satisfy the wants and needs of the beneficiaries (students). It is also unable to supply information on time. This article underlines the importance for a "integrative adaptive" approach activities to fulfill the

objectives and requirements of students' records and registration in a way that can improve the current student portal system.

It will be simpler for the administrative staff of the school or institution to keep track of alumni who are active on social media after they have graduated thanks to a system known as a social networking system. Social networking platforms also let users communicate information with one another, for instance by posting material there [3]. The name, email address, phone number, and home address of alumni can also be found via this method.

The primary objective of the current thesis is to develop a Students and Alumni Web Portal in order to protect data validity and integrity, increase productivity, and give staff and students the best opportunity to utilize ICT for the successful completion of all tasks and operations within the college. The intellectual solution to an issue that has become so crucial in complex organizations, especially in university environments, is provided by the suggested student portal system [4].

II. LITERATURE REVIEW

In order to create a suggested gateway system, the current thesis is based on studying multiple contexts. In order to fulfill the requirements, the researcher has utilized both qualitative and quantitative research methods. Mijic and Jankovic [5] propose a potential fix for the information system for keeping track of alumni information and how it might help to advance and innovate study programs.

Myrick et al [6] piloted e-mentoring system for nursing program, and a small sample (15-25 mentors) successfully completing the five-month program and responses are positive. A survey was conducted by Bakio glu et al. [7] among 142 volunteers who were all Marmara University Atat urk Education Faculty graduates. The survey's results showed that graduates needed a tracking system, a career planning center, and an alumni association. They also said they were open to being contacted online and that providing recent graduates with employment opportunities as well as sharing their professional experiences and career advice would lead to more effective outcomes.

System administrators and employees are permitted to oversee alumni, including viewing their social media activity status. Through this system, they are also able to send messages to alumni, remove messages, and receive messages from alumni on social media. Due to features like real-time messaging to a single person or multiple pals at once, low cost, and privacy, WhatsApp has become increasingly popular [8].

Alumni of Harvard University can log in to the alumni portal [9] to connect with current students or other alumni, as well as to use the search feature. The portal also offers details about current and upcoming events and initiatives, including but not restricted to professional webinars and networking events. Alumni can get to know about the clubs and shared interest groups.

The work mentioned above makes innovative attempts to enhance student or alumni-based networks systems, but their communication capacities are severely constrained, and they fall short of realizing the full potential of widespread contacts between students, alumni, and universities. This thesis seeks to fix all of those issues.

This paper is organized as follows. In Section III, methodology of the proposed system is described. In Section IV, designing diagram proposed and implementation is provided in Section V. The evaluation of this proposed smart application explained in section VI. Finally, conclusion and future work are presented in Section VII.

III. PROPOSED METHOD

A. Proposed System Model

According to its physical design, the suggested system for this study contains three complementary sections, as shown in Fig. 1. The smart alumni portal system, which allows for online communication with alumni and present student, is included in the first section. The second section focuses on managing alumni and present student communication in planning and decision-making procedures as well as other significant college processes by admin dashboard.

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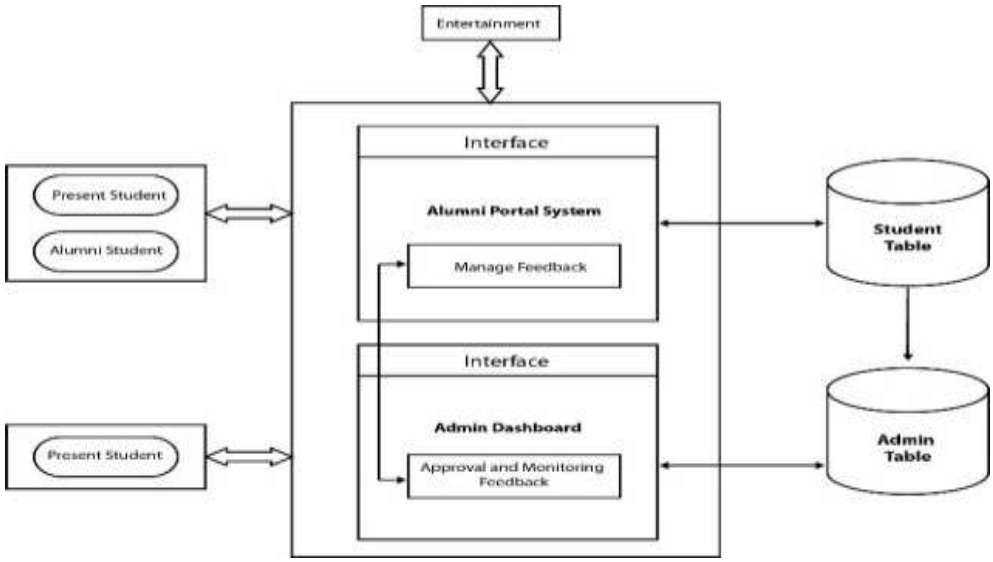

Fig. 1. Overview of the proposed system architecture

B. Workflow Chart of the Proposed Model

The full working procedure among present students, alumni, and admins is described in this chart. A detailed explanation chart is depicted in Fig. 2. There are three levels or three types of users in this smart application: present student, alumni and admin.

Present student: By completing the registration process, the current student can ask any alumni or all alumnae any question. They can view job postings or other event-related posts that have been posted by alumni.

Alumni: Similarly, alumni can post any event or job-related thing. All posts or questions posted by current students or alumni are pending in the admin corner.

Admin: The admin can approve or reject any question or post. All approvals and rejections are confirmed via email. Present student or alumni got the admin's response through this verification mail.

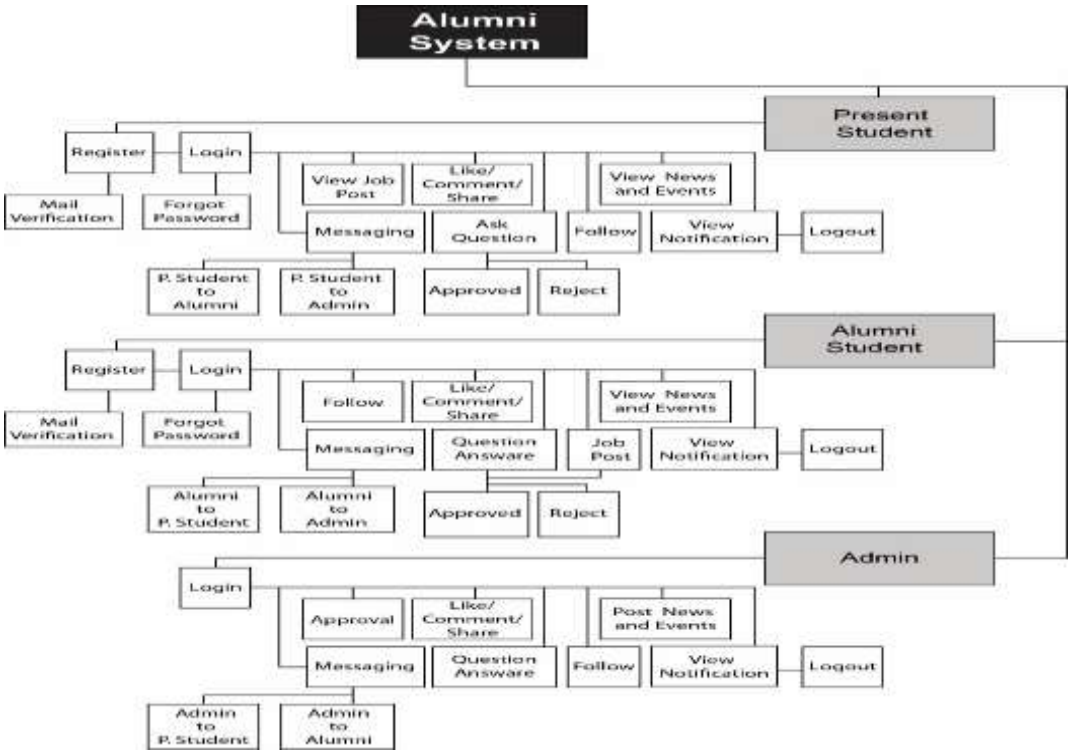

Fig. 2. Workflow chart of the proposed system architecture

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IV. DESIGN DIAGRAM AND ARCHITECTURE

A. Entity Relationship (E-R) Diagram

An Entity Relationship (ER) Diagram is a form of flowchart that shows the relationships between "entities" like people, things, or concepts within a system [10]. The E-R diagram of proposed system depicted in Fig. 3. ER Diagrams are most frequently used in the disciplines of software engineering, business information systems, education, and research to build or troubleshoot relational databases. They are sometimes referred to as ERDs or ER Models, and they use a predetermined collection of symbols, such as rectangles, diamonds, ovals, and connecting lines, to show how entities, relationships, and their attributes are interconnected.

B. Data Flow Diagram (DFD)

The data flow diagram displays data inputs, outputs, storage locations, and routes between each destination using predefined symbols such rectangles, circles, and arrows as well as brief text labels [11].

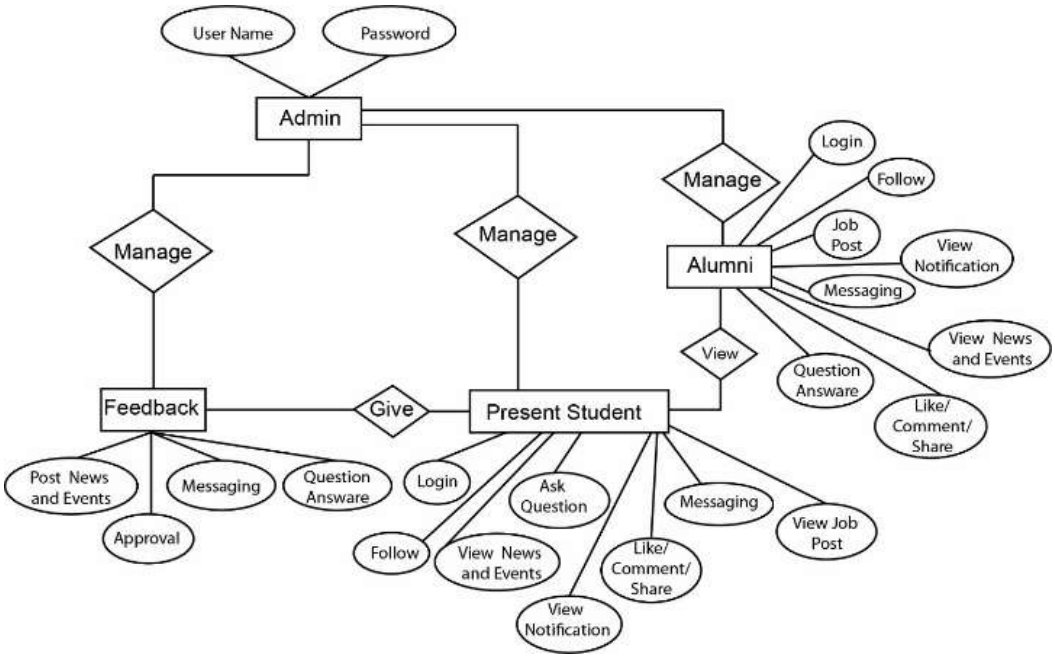

Fig. 3. Entity Relationship (E-R) Diagram

The DFD of proposed alumni system illustrates in Fig. 4. Here the users input to the system and the output information to the Present students, alumni Students and Admin are the users of the system.

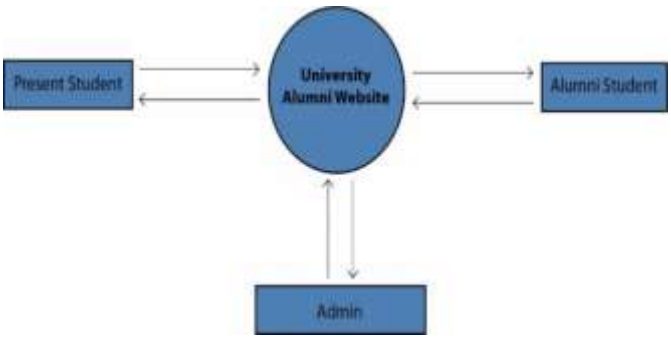

Fig. 4 Data Flow Diagram (DFD)

C. Use-Case Diagram

A use case diagram is quite simple in nature and depicts two types of elements: one representing the business roles and the other representing the business processes [12]. Let us take a closer look at use at what elements constitute a use case diagram. In this system there are three Use-Case diagrams are utilized: present student, alumni and admin level Use-Case diagram. In Fig. 5 the Use-Case diagram of proposed is depicted.

D. Software Architectural Design

In this system, the GUI (Graphical User Interface) is the user interface via which the user may send a query and receive the appropriate responses from the alumni. A platform for user-database communication is provided by the GUI. The software architectural design depicted in Fig. 6.

Registration Module: In this module, the user can register onto the portal. The GUI is made attractive with the help of CSS. JavaScript is used for validating the input fields that will be feuded by the user.

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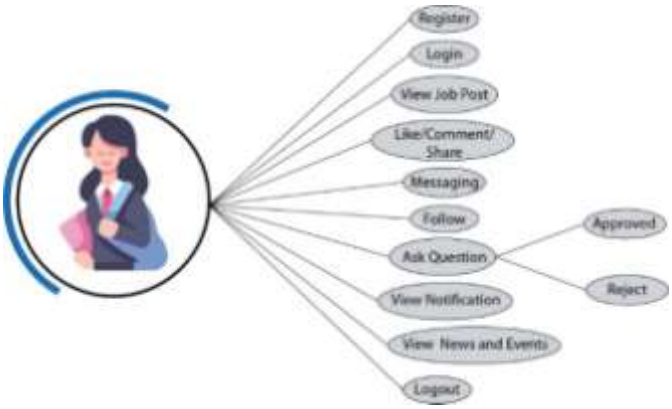
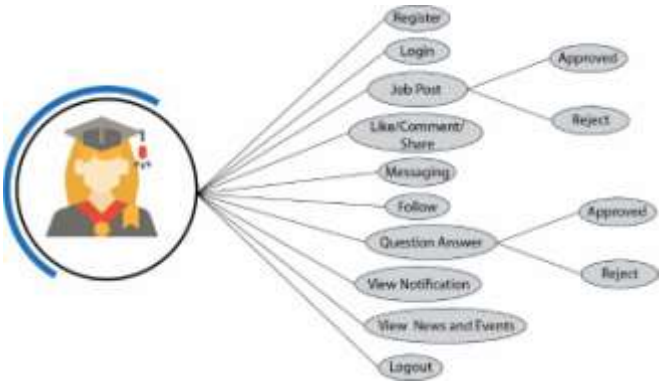
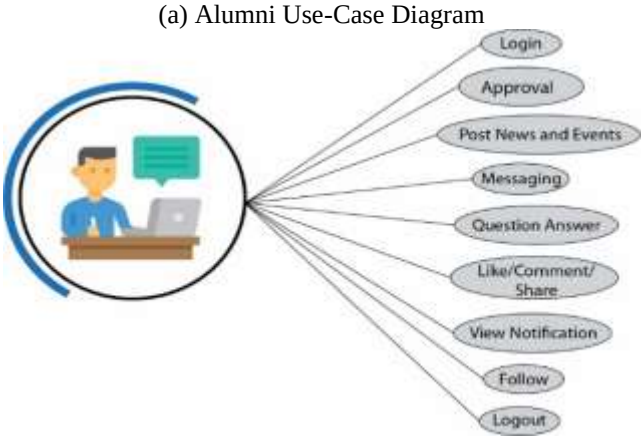


(a) Present students Use-Case Diagram



(a) Alumni Use-Case Diagram



(a) Admin Use-Case Diagram
Fig. 5 a. Present students Use-Cse b. Alumni Use-Case c. Admin Use-Case

Chat Module: The chat module is made with the help of PHP. The users can chat with each other for their benefitted users can see the registered members online and accordingly chat with them.

Post module: Users are able to submit anything is on their minds using the post module. Here, opinions and ideas will be shared and exchanged. Questions and ambiguities about jobs and internships can be well-explained. According to the user's needs or preferences, the post may be distributed throughout all departments or uploaded department-by-department. Users can "like" posts, and if they have a response to a question or an opinion on an ongoing discussion, they can utilize the reply feature to share it.

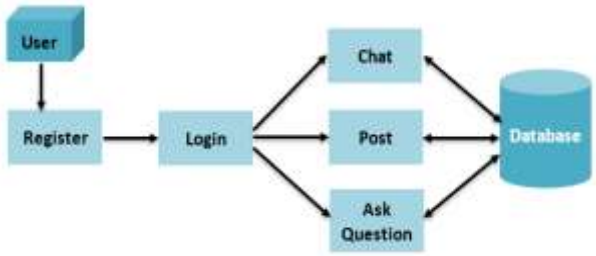


Fig. 6 Software architectural design

V. IMPLEMENTATION

A. Platform Setup

Supportive Operating Systems: Windows XP onwards and Linux any flavors [13].

B. Software Setup

The Software Requirements in this project includes: MySQL, HTML, CSS, Java Script, jQuery, PHP AJAX, PhpMyAdmin and Apache [14].

C. Hardware Setup

Hardware Required for Project Development: 1 GB Ram, 40 GB Hard Disk Minimum and Intel Core [15].

D. User Interface

The elements of this portal are displayed on the home page, including a login button so that ways to connect so that junior and graduate students can connect; job postings; and other special events. The home page is the thing that makes the whole website very attractive. The Home Page is shown in Fig. 7.

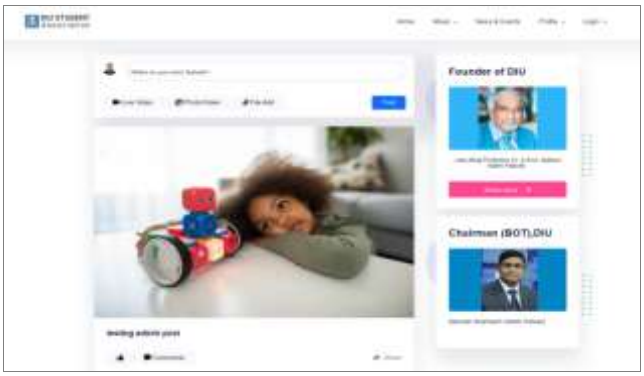


Fig. 7 User Interface

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VI. RESULT ANALYSIS AND EVALUATION

A. System's Compatibility

After completing this smart application, feedback will be taken from all the technical stakeholders. More than 100 technical guys who are directly connected with this system gave their opinions about this application individually. Based on this feedback, they figure out the overall compatibility of this system. Fig. 8 depicts the compatibility of the proposed system. The feedback taken according to major four aspects:

- Bug-Free Environment
- Ensuring Security
- Sustainability
- Complexity Avoiding

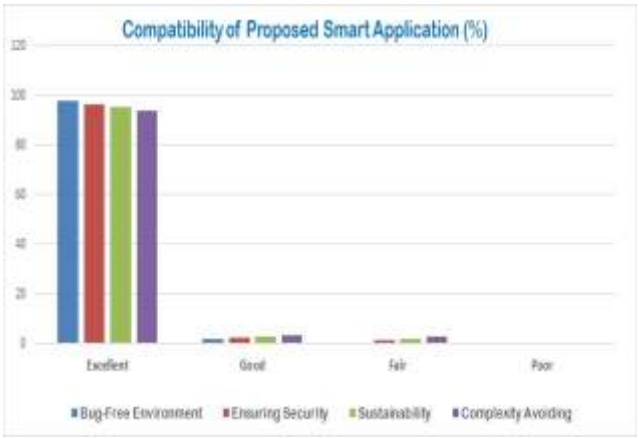

Fig. 8 System's Compatibility

B. System's Performance

The performance of this system is measured by the ultimate end users of this application. Basically, there are three categories of users who access this application: current students, alumni, and admins or on behalf of authorities. More than 1,000 end users gave their feedback to optimize the performance of this application. Fig. 9 depicts the performance of this system. To measure the performance end user gave their feedback based on four major aspects:

- User Friendly
- Design and Outlook
- Maintainability
- Cost Effective.

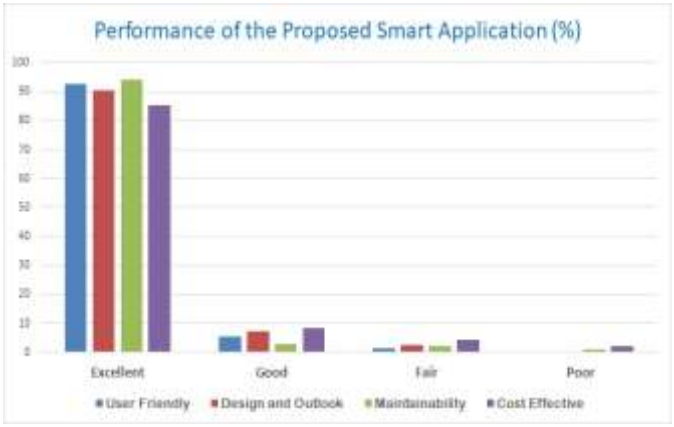

Fig. 9 System's Performance

VII.CONCLUSION

This system has been developed successfully to incorporate all the requirements. Appropriate care has been taken during database design to maintain database integrity and to avoid redundancy of data. This project was intended to help tackle the unemployment issues among the youth in Bangladesh by means of providing an online recruitment portal. The findings from the pilot study show that there is a demand for such a system to be implemented in Bangladesh. The main objective of the application is to help computer science students understand the basics of Core PHP, MySQL, HTML, CSS, Booth Strap, JavaScript, and jQuery. The following results have been achieved after completing the system and relate back to the system's objective. This entire figure below is the appearance of my job portal home page project. The following section describes the work that will be implemented with future releases of the software: Training management, career counseling, video resume, and integration with in-store touch screen devices such as the iPad, Android, and Microsoft.

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