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Training and Placement Cell Automation

Amit Kumar Singh[1*], Ayush Kaushik[2], G. V. Chandana[3], A. Chitra[4], M. Mala[5]
[1,2,3,4]Student, Department of Computer Science and Engineering, AMC Engineering College, Bengaluru, India
[5]Assistant Professor, Department of Computer Science and Engineering, AMC Engineering College, Bengaluru, India

***Abstract*: The objective of the project is to automate the training and placement unit of AMC Engineering College by minimizing manual work and enhancing optimization, abstraction, and security. The proposed solution is a web application that can be accessed by authorized personnel throughout the organization via secure login credentials. The application will have features that cater to both students and administration staff. Students will be able to fill out a registration form, and the information will be stored in the system for future reference. Once registered, students won't have to repeat the process, making it a one-time exercise. The system will enable administration staff to manage student information related to placement, including maintaining their details, generating a list of requested candidates, and searching for information posted by students. The benefits of this project are evident: it will reduce manual work and enhance efficiency, allowing the college to achieve full IT deployment. It will also enable quick access to placement-related activities, making the process more convenient for both students and staff. In summary, this project has the potential to streamline the Training and Placement unit of AMC Engineering College, making it more efficient and effective.**

***Keywords*: AMCEC, file system, training and placement cell automation, alumni connect, career prediction.**

1. Introduction

The Internet and the World Wide Web have revolutionized how information is accessed and how users can take action based on that information. In the field of training and placement, the Internet has enabled students and companies to manage the placement process with the active involvement of the Placement Coordinator. As a result, a web-based training and placement management system has been developed. This online system provides information on placement providers and the placements they offer, allowing students to view and assess their opportunities.

AMCEC (AMC Engineering College) is committed to providing its students with comprehensive information on available vacancies and how to prepare for their work integrated learning experience. An online training and placement management system has been designed to help students at AMCEC register and fill out the application form easily. The data can be retrieved effortlessly in no time, making it a user-friendly platform. The registration form captures personal details, educational qualifications, and professional skills, while the job details of placed students will be provided by the administrator.

The web-based system enables job providers and Placement Coordinators to take effective actions based on the information they have viewed. The administrator plays a pivotal role in this project, providing approval for student registration and updates. Overall, the online training and placement management system is a valuable tool that streamlines the placement process and empowers students with access to relevant information about their future employment opportunities. The system ensures transparency and efficiency in the placement process.

2. Existing System

The current system used by AMCEC (AMC Engineering College) for training and placement management suffers from several shortcomings. The system relies heavily on manual work, increasing the chances of errors and making it time-consuming. Additionally, the interface between students and administrators is human-driven, leading to several inefficiencies. The records are stored in modified access sheets, making sorting and searching difficult. The process of updating records is also ambiguous, leading to duplication and data redundancy issues.

Moreover, due to a lack of alertness, students may miss out on training and placement opportunities. The system suffers from synchronization problems as there are limited interfaces between students and the training and placement department. The system also fails to maintain alumni records, adding to the existing problems.

The above issues with the current system demand an urgent need for a more efficient and automated solution. An online training and placement management system can address these issues by streamlining the placement process, reducing manual intervention, improving accuracy, ensuring data security, and providing real-time updates to students. The new system will offer a user-friendly interface and hierarchical storage of records, enabling efficient searching and updating of data. With a more synchronized and efficient system, students will be better equipped to take advantage of the training and placement opportunities provided by AMCEC. The new system will ensure transparency and reduce errors, promoting a seamless training and placement process.

3. Problem Definition

The current Training and Placement system at AMCEC

*Corresponding author: amitkumar7870644@gmail.com

(AMC Engineering College) is entirely manual, requiring administrators to manually search through records for details, which is time-consuming and challenging as the number of users increases. The system has several limitations, including a high probability of errors due to human intervention. The interface between students and the Training and Placement Officers (TPOs) is extensive, which makes the system time-consuming.

The records are stored in modified access sheets, making sorting a problem, and since the files are not stored in a hierarchical format, searching is a significant challenge. Updation of records is difficult and ambiguous, leading to data redundancy. Additionally, students are not informed about Training and Placement activities, which leads to missed opportunities.

The Access sheets are not optimized, and the system cannot take acknowledgements from students attending specific events, causing confusion at the last moment. There are few interfaces between students and the Training and Placement department, and there is no record of past students, leading to communication gaps between past or present students and the Training and Placement department.

4. Proposed System

The proposed Online Training and Placement System management system aims to provide users with increased ease and efficiency in adding and retrieving information. The system will cater to three main types of users: administrator, student, and HR. The administrator will have the most significant privileges, including functions such as updating, approval, and sending information to students regarding placements. They can also view and approve various application forms. Students can register and view their details, while the placement officer can log in through the HR section and view the details of HRs, placed students, and training details.

The proposed system aims to address all the limitations of the existing system while introducing additional features. It is a cost-effective way of automating the manual processes of the existing system, helping the AMCEC (AMC Engineering College) organization to compete in the existing competitive world. The proposed system intends to achieve the following:

- *Online Registration:* The traditional manual registration process at AMCEC is time-consuming and prone to errors. The proposed system will automate registration through online registration by students themselves.
- *Security for Administrator:* The files containing data stored in Access file sheets are not secure as they can be accessed by anyone using the computer. To protect confidential data, the proposed system will implement special security measures.
- *Optimized Sorting of Data:* The existing modified access sheets are not efficient, resulting in the selection of students with aggregates above the required percentage. The proposed system will optimize the sorting of data to ensure that only the desired results are obtained.
- *Hierarchical Structure of Departmental Data:* The existing separate storage of data for each department's classes causes searching problems and data duplication. The proposed system will implement a centralized hierarchical structure to address these issues.
- *Instant Notification to the Student:* The current notification method, notice boards, is unreliable. The proposed system will notify students via email and mobile SMS.
- *Alumni Database:* The existing alumni data is insufficient and inaccessible to students. The proposed system will establish a proper method of storing alumni data and students can contact their alumni's using the alumni connect facility.
- *Career Prediction Tool:* This tool helps individuals identify potential career paths based on their skills, interests, and personality traits. The tool analyzes data about the individual and matches it with information about various careers, including job outlook, required education and experience, and job duties. The goal of the tool is to help users make informed decisions about their career paths and choose a career that aligns with their strengths and goals.

In summary, the proposed Online Training and Placement System management system will introduce a more efficient, automated, and secure system to the existing manual processes at AMCEC. It aims to provide users with increased ease and efficiency while addressing the limitations of the existing system and introducing new features.

5. Design Details

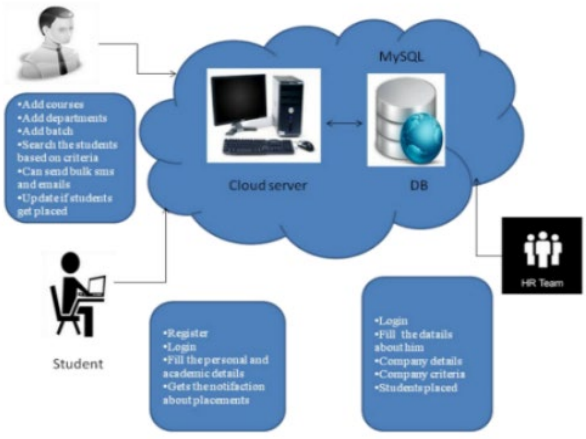

Fig. 1. Design details of each module

In the training and placement cell automation there are following module and their design details are as follows:

A. Student Module

The student module in the online training and placement management system allows students to register and apply for placements. Upon registration, the student fills in the placement registration form, providing personal details such as name,

USN, course, email, mobile number, and password. An account activation link is then sent to the student's email for them to activate their account. Once activated, the student can login to the system and fill in the academic registration form, which contains personal details and educational qualifications.

After filling the application form, the student downloads it and submits it to the placement cell. Once submitted, the student will no longer be able to log in to their account. This feature is intended to prevent students from accessing their account and changing their details. The placement officer then verifies the details of the student and can choose to inactive the student's account if the information is correct. If the student needs to make changes or updates to their details, they must meet with the placement officer to do so.

By providing a secure and verified platform for student registration and application, the online training and placement management system ensures that the process is efficient and accurate. The system allows for easy submission and verification of application forms, and the feature of inactivating student accounts prevents unauthorized changes to student details.

B. Admin Module

The training and placement management system includes an Admin module, which is primarily managed by the Training and Placement Officer (TPO) who serves as the system administrator. The TPO can log in to the system using a username and password and will be directed to the dashboard, where they can access the complete details of all students from various courses and departments.

The TPO has the authority to add newly added courses, departments, and batches, as well as view the complete list of existing ones. Additionally, they can filter the students based on specific requirements, such as the students whose aggregate is greater than 65% in BE, 70% in PUC, and 10th grade. They can use the search option to search for students based on their name, mobile number, USN, email, and registration ID.

The TPO can also send bulk SMS and emails to the students by filtering the students as needed. Once a student submits their application form to the placement cell, a unique registration ID will be generated for that student. The TPO can use this ID to verify the student's details and eligibility for placements.

The TPO can also send templates to eligible students via email, which includes a unique registration ID. The students need to take a printout of the template and attend the placements. These measures ensure that the students' details are accurate and prevent any unauthorized modifications to their records.

C. HR Module

The HR section of the online training and placement management system can be accessed by the placement officer with their login credentials. This section maintains all information related to the HRs. The placement officer can add the names of newly visiting companies to the system's database and assign them to specific years, along with the company's criteria.

The placement officer is responsible for mapping students to companies, which involves updating the placement details of students who have secured a position in a company. Additionally, the placement officer can maintain information about HRs, including their names, mobile numbers, email addresses, company names, and HR levels. The TPO can also add and maintain details of other college TPOs in this section.

Furthermore, the placement officer can maintain information about workshops and training programs held in the college. The admin has the option of downloading all the details related to HRs, placed students, training details, and assigned companies into an Excel sheet. This feature provides an efficient way to manage the placement process and to keep track of all the relevant information.

6. Implementation

The term "Implementation" encompasses a wide range of activities, from the development of a basic application to the complete replacement of a computer system. However, the procedures involved are largely similar. The implementation process includes all the activities that are necessary to transition from old systems to new ones. The new system may be a completely new replacement for an existing manual or automated system, or it may be a major modification to an existing system.

The approach and timeline for implementation are determined at the outset. Once the system is developed, it is thoroughly tested, and users are trained on the new procedures. Proper implementation is crucial to providing a reliable system that meets the organization's requirements. The career prediction app has also been implemented in this project. A friendly career advisor one requires for their career growth. Logical Regression has been used to find this prediction.

A. Use Case Diagram

A Use case is an explanation of set of sequence of events graphically. It is rendered as an ellipse with rock-solid line up as well as lone its name. Use case diagram is a behavioral diagram that shows a set of use cases and actors and their relationship. It is a relationship among the u

se cases and actors. An actor represents a real-world object.

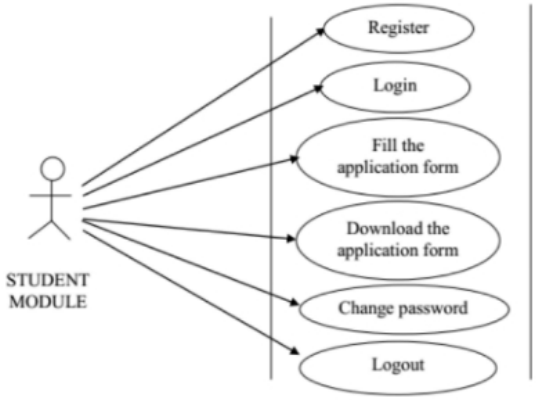

Fig. 2. Use case diagram for student module

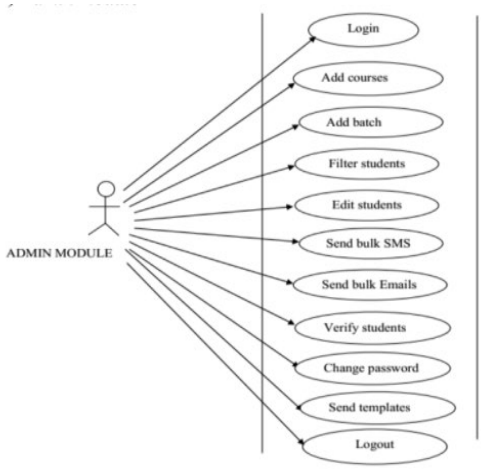

Fig. 3. Use case diagram for admin module

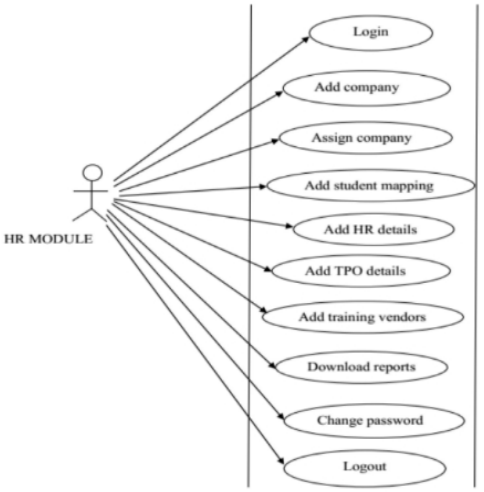

Fig. 4. Use case diagram for HR module

7. Results

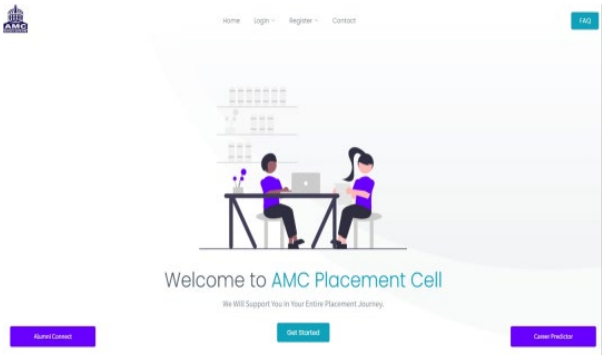

Fig. 5. Interface of the application

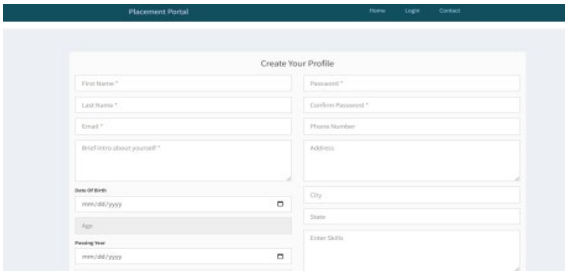

Fig. 6. Student's profile creation page

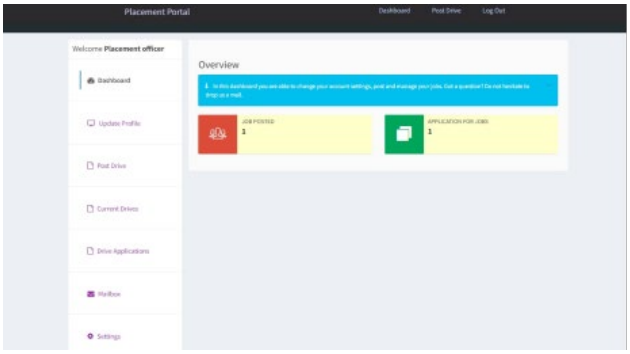

Fig. 7. Placement officer's dashboard

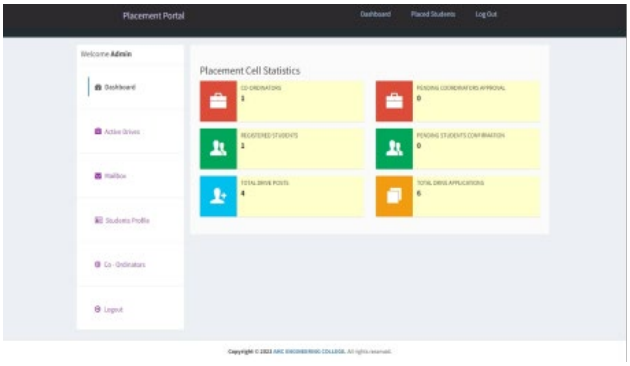

Fig. 8. Admin's dashboard

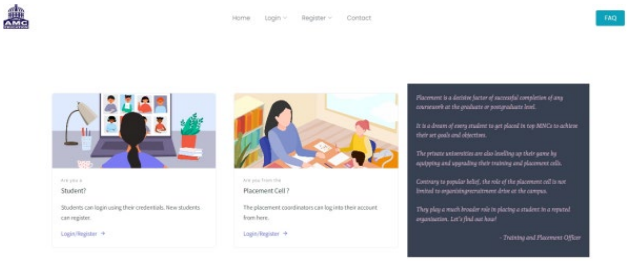

Fig. 9. A view of the application

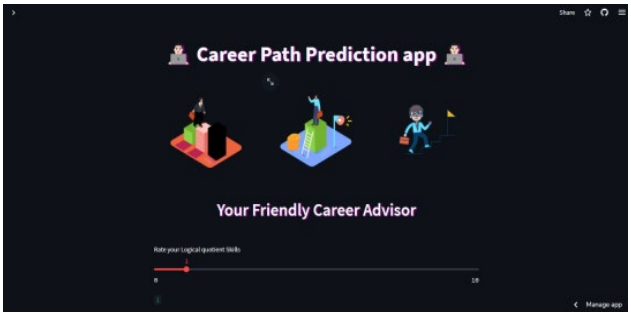

Fig. 10. Career path prediction app

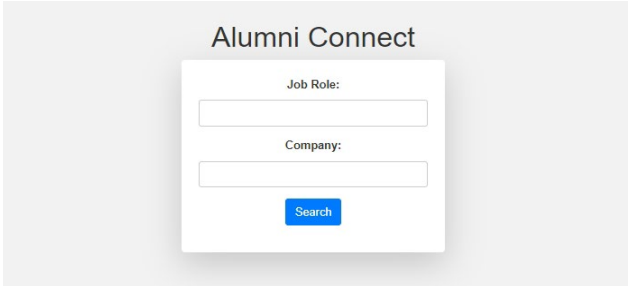

Fig. 11. Career option prediction

8. Conclusion

The current system heavily relies on manual work, which makes it susceptible to errors and makes it time-consuming to implement changes. Additionally, searching and updating student data is a major challenge and there are no reliable notification methods available to communicate information to students except for the notice board.

In contrast, the proposed online training and placement management system seeks to automate all processes including registration, updating, and searching. It offers a comprehensive solution to the challenges encountered by the existing system.

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