

A Project report on

MERN BASED PLACEMENT MANAGEMENT PORTAL

A Dissertation submitted to JNTU Hyderabad in partial fulfillment of the academic requirements for the award of the degree.

Bachelor of Technology

in

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CERTIFICATE

This is to certify that the Major Project Phase I report entitled "**MERN Based Placement Management Portal**" being submitted by N. Srikanth Reddy (20H51A0570), N.Krishna Koushik(20H51A05L3), N. Sathwik(20H51A05E9) in partial fulfillment for the award of **Bachelor of Technology in Computer Science and Engineering** is a record of bonafide work carried out his/her under my guidance and supervision.

The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree.

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ABSTRACT

The MERN Based Placement Management Portal is a web-based Placement Management System developed using the MERN Stack, designed to streamline and simplify the placement process for educational institutions. This indispensable tool enables the placement cell, students, and administrators by providing a centralized platform for efficient communication and data management.

With the MERN Based Placement Management Portal, students can easily access and maintain their interest's details, eliminating the need for manual paperwork and saving valuable time. Through the application, students can select companies based on their individual interests, skills, and qualifications. Along with these the student can submit their certifications. And the interesting fact about our Portal is it consists of DSA Tracker where the students can solve problems, and check their progress.

The system leverages the power of the MERN Stack (MongoDB, Express.js, React, and Node.js) to ensure a robust and scalable solution. MongoDB serves as the database for storing student information, preferences, certifications and problems, while Express.js and Node.js handle the backend logic. React, on the other hand, takes care of the frontend, providing an intuitive and user-friendly interface.

CHAPTER 1

INTRODUCTION

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INTRODUCTION

1.1 Problem Statement

The problem we're addressing is the inefficiency of manual placement processes within educational institutions, where paperwork consumes time and causes missed opportunities. Our solution is a MERN-based centralized portal, a game-changer in education placement. It streamlines communication, eliminates manual tasks, and introduces a DSA (Data Structures and Algorithms) tracker. This portal saves time and offers an overall approach to optimize placement processes. It empowers students and administrators with an intuitive platform, transforming the education placement experience.

1.2 Research Objective

- ❖ The objective of a placement management system is to streamline the process of managing placements, internships, job opportunities and performance of students involved in the placement process within an organization or educational institution.

1.3 Project Scope and Limitations

Project Scope:

1. Student Management:

The MERN Based Placement Management Portal offers a comprehensive platform for students to efficiently manage their placement-related data, including interests, company preferences, qualifications, and certifications. This feature simplifies the placement process by eliminating the need for manual paperwork.

2. Job Listings:

The system provides an extensive database of job listings, allowing students to browse and select companies that align with their interests and qualifications. This centralized job listing feature streamlines the job search process and enhances students' opportunities.

3. Application Management:

The portal facilitates the application process, enabling students to apply to their preferred companies seamlessly. This application management system ensures a systematic approach to company applications and offers a centralized view of application status.

4. DSA Tracker:

A notable feature of our portal is the DSA Tracker, which empowers students to enhance their data structures and algorithms skills. It offers a platform for problem-solving and progress tracking, contributing to their overall professional development.

Limitations:

1. Educational Institution Specific:

The MERN Based Placement Management Portal is tailored for educational institutions, limiting its application to the context of academic placement processes.

2. Dependence on Internet Connectivity:

The portal relies on internet connectivity, which may pose challenges in regions with unreliable or limited internet access.

3. Maintenance and Updates:

Regular maintenance and updates are necessary to keep the system efficient and secure, which requires dedicated resources and attention to ensure its continued functionality and relevance.

CHAPTER 2

BACKGROUND

WORK

CHAPTER 2

BACKGROUND WORK

2.1 Manual Process:

2.1.1. Introduction:

The existing solution for managing the placement process in educational institutions primarily relies on manual work and is characterized by a labor-intensive and time-consuming approach. Placement officers traditionally send Google Forms or similar survey tools to students, requesting them to indicate their interest in attending specific campus drives or placement events. This method aims to gather student preferences and data to facilitate the placement process.

2.1.2. Merits, Demerits and Challenges:

Merits:

- **Data Collection:** It allows for data collection on student preferences for specific companies and events.
- **Low-Cost:** Using existing, free survey tools like Google Forms can be cost-effective for educational institutions.

Demerits:

- **Manual Work:** The process heavily relies on manual work, involving the distribution and collection of surveys, which can be time-consuming for both students and placement officers.
- **Error-Prone:** Manual data entry and interpretation of student responses can lead to errors and inconsistencies in managing the placement process.
- **Scalability:** This approach may struggle to scale with a large number of students and companies.

Challenges:

- **Time and Effort:** The manual distribution and collection of forms demand a significant investment of time and effort from both students and placement officers.
- **Data Integrity:** The manual nature of this method can introduce errors, affecting the

accuracy and integrity of the collected data.

- **Limited Features:** It lacks features like a comprehensive database, certifications submission, and DSA tracking, which are essential for modern placement processes.

2.1.2. Implementation of Manual Process:

To implement this existing solution, placement officers create Google Forms or similar surveys tailored to each campus drive or event. The collected data is then processed and analyzed manually by the placement cell to determine which students should be shortlisted for specific opportunities. However, this approach faces challenges such as data integrity issues, time constraints, and limited insights into student performance. As a result, there is a clear need for a more streamlined and automated solution like the MERN Based Placement Management Portal to improve efficiency and reduce manual work in the placement process.

2.2. Placement Management System for Campus Recruitment:

2.2.1. Introduction:

In the context of educational institutions and their placement processes, an existing Placement Management System serves as a valuable tool for placement cells, students, and administrators. However, this system lacks some critical features, such as a DSA Tracker and certificate upload option.

2.2.2. Merits, Demerits and Challenges:

Merits:

- The existing Placement Management System offers a centralized platform for communication and data management, benefiting both placement cell personnel and students.
- It allows students to access and maintain their placement-related information, eliminating the need for cumbersome manual paperwork.
- The system enables students to express their preferences and qualifications, facilitating the selection of companies that align with their interests.

Demerits:

- The system lacks essential features like a DSA Tracker, which is crucial for monitoring and enhancing students' data structures and algorithms skills. This absence limits the system's capacity to support students in problem-solving and skill development.
- Additionally, the system does not provide an option for students to upload their certifications, potentially leading to inaccuracies in the representation of their skills and qualifications.

Challenges:

- The absence of a DSA Tracker hinders placement officers' ability to track students' daily performance and evaluate their problem-solving skills, making it challenging to gauge their true capabilities.

2.2.3. Implementation of Placement Management System for Campus Recruitment:

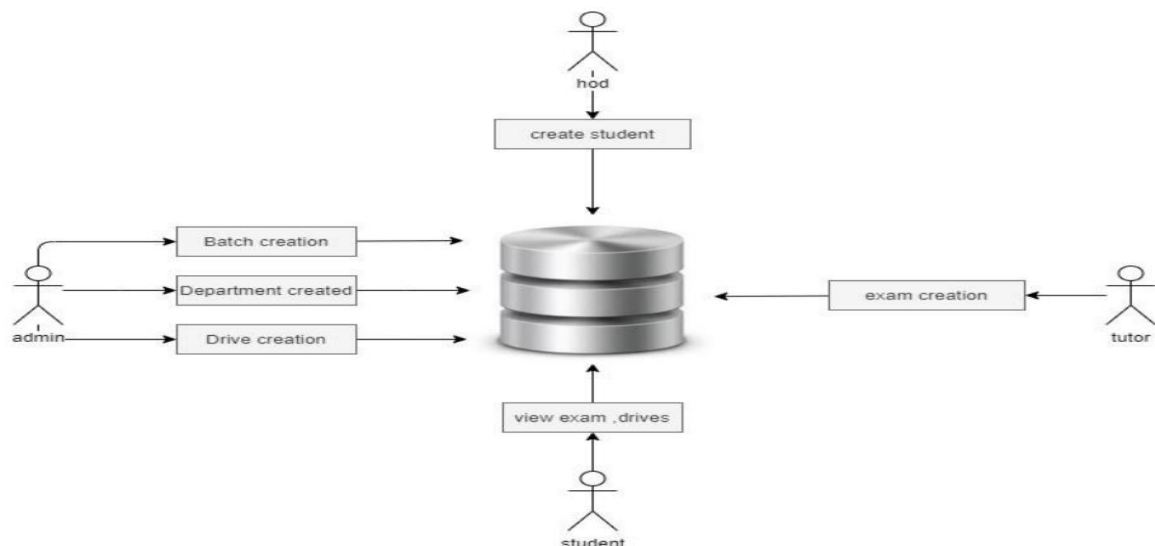


Fig 1. Architectural Diagram

To address these limitations and enhance the existing Placement Management System:

- Integrate a DSA Tracker into the system, allowing students to practice problem-solving and enabling placement officers to monitor their progress.
- Implement a feature that enables students to upload their certifications, providing a more accurate representation of their skills and qualifications.
- Ensure that these enhancements are seamlessly integrated into the system, maintaining a user-friendly interface for students and administrators.

2.3. Placement Management System:

2.3.1. Introduction:

In the realm of placement management systems, there exists an alternative solution that provides only partial support for managing student requests to attend campus drives. This system falls short of offering placement officers the crucial functionality of accepting or rejecting student requests, resulting in a less versatile approach to managing campus placements within educational institutions.

1.3.2. Merits, Demerits and Challenges:

Merits:

- This system allows students to express their interest in attending campus drives and submit their applications.
- Basic communication between students and the placement cell is facilitated, offering a straightforward method for students to apply for various opportunities.

Demerits:

- The system lacks the essential capability for placement officers to accept or reject student requests. This omission limits the placement officers' ability to efficiently manage and control the student application process.
- There is no structured system for confirming or denying student participation in campus drives, leading to potential organizational issues and delays.

Challenges:

- The absence of an accept/reject mechanism hinders placement officers' ability to effectively screen and manage student participation, which can result in a less organized and streamlined placement process.
- This deficiency may lead to issues in terms of tracking student participation and making informed decisions about student applications.

2.3.2. Implementation of Placement Management System:

To enhance the functionality of the existing system and allow placement officers to accept or reject student requests for campus drives:

- Introduce a feature for placement officers to easily accept or reject student requests, enabling better management and control.

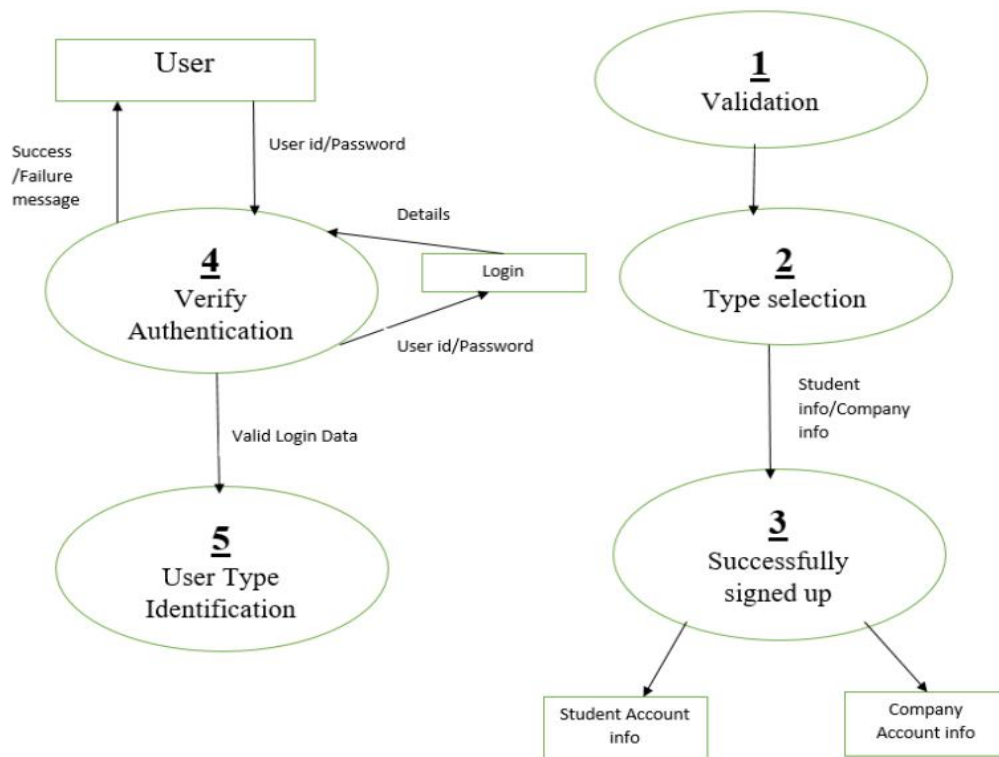


Fig 2. Data Flow Diagram

CHAPTER 3

RESULTS AND DISCUSSION

CHAPTER 3

RESULTS AND DISCUSSION

3.1 Results & Discussion

1. The existing systems focuses on managing the placement processes while maintaining the student details.
2. The Manual Process is time consuming and a lot of complexity occurs while maintaining the student information.
3. The Placement Management System for Campus Recruitment manages placements with maintaining student information and placement cell related information, but it does not maintain students resumes and certifications they are done.
4. The Placement Management System maintains student information and receives applications from students, but not specify the approval status to the students.

CHAPTER 4

CONCLUSION

CHAPTER 4

CONCLUSION

4.1 Conclusion and Future Enhancement

The 'MERN Based Placement Management Portal' is a comprehensive solution designed to streamline and optimize the college placement process. It serves as an invaluable tool for the placement cell, significantly reducing manual workload.

One of its key features is the storage of essential data pertaining to students and their dream companies, offering a comprehensive overview of students' preferences and performance. This information is instrumental for placement coordinators in the efficient shortlisting of candidates for specific companies, ensuring a better match between students and their desired career paths.

In essence, our application simplifies the entire placement process by providing a user-friendly interface and powerful features that enhance decision-making and save time. It's a versatile and indispensable platform for managing the complex task of college placements.

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