DESIGN AND IMPLEMENTATION OF AN INTEGRATED PLACEMENT CELL MANAGEMENT SYSTEM FOR STREAMLINED STUDENT PLACEMENT PROCESSES

Jefrin Deva Anandh. F¹, Dr. S. Subatra Devi², Dr. C. Priya³

¹PG Student, Department Of Computer Applications, Dr. M.G.R Educational And Research Institute Chennai, Tamilnadu, India.
²,³Professor, Faculty Of Computer Applications, Dr. M.G.R Educational And Research Institute Chennai, Tamilnadu, India.

DOI: https://www.doi.org/10.56726/IRJMETS52019

ABSTRACT

This paper presents the design and implementation of an intelligent Placement Cell Management System (PCMS) aimed at streamlining and enhancing the efficiency of placement processes in educational institutions. The proposed system utilizes artificial intelligence (AI) techniques to automate various tasks such as candidate profiling, job matching, scheduling interviews, and feedback analysis. The system incorporates a user-friendly interface for both students and recruiters, providing personalized recommendations and insights to facilitate better decision-making. The implementation details and evaluation results demonstrate the effectiveness and feasibility of the proposed PCMS in improving placement outcomes.

Keywords: Placement Cell Management, Artificial Intelligence, Candidate Profiling, Job Matching, User Interface, Recruitment.

I. INTRODUCTION

The placement process in educational institutions plays a crucial role in connecting students with prospective employers. However, manual management of placement activities often leads to inefficiencies, delays, and mismatches between candidates and job opportunities. To address these challenges, we propose an intelligent Placement Cell Management System (PCMS) leveraging AI technologies to automate and optimize various aspects of the placement process.

II. SYSTEM ARCHITECTURE

The PCMS architecture consists of several modules interconnected to facilitate seamless operation.
THE KEY MODULES INCLUDE:

This module collects and analyzes students' academic records, skills, interests, and preferences to create comprehensive profiles.

Candidate Profiling:
Employing machine learning algorithms, this module matches candidate profiles with job requirements based on criteria such as skillset, experience, and location.

Job Matching:
Utilizing scheduling algorithms, this module optimizes interview schedules for both students and recruiters while considering constraints such as availability and preferences.

Feedback Analysis:
This module gathers feedback from recruiters and students post-interview to analyze the effectiveness of the placement process and improve future iterations.

III. USER INTERFACE
The PCMS features an intuitive and interactive interface accessible to both students and recruiters, providing them with personalized recommendations, updates, and notifications.

IMPLEMENTATION DETAILS:
The PCMS is implemented using a combination of programming languages, frameworks, and tools. The backend logic is developed using Python, with libraries such as TensorFlow for machine learning tasks and Django for web development. The frontend interface is built using HTML, CSS, and JavaScript for a responsive and user-friendly experience. The system is deployed on a cloud infrastructure to ensure scalability and accessibility.

Existing system:
- Existing system does all process has done by manually. Placement officers maintain the information about students manually.
- If any modifications or updates are required in their profile of any students, it has to be done manually.
- This is a very difficult task for TPO to maintain the student data and company details as it is time-consuming, lack of security of data and also it takes more man, etc,. This is so difficult to the Tpo when number of user's increases.

IV. PROPOSED SYSTEM
- Training and placement department maintains the details of each student. Students can view the status of their upcoming campus. Search feature helps to admin because they check particular student is present or not.
- Admin can only update student details and academic records like email id, current semester, correspondence address and marks obtained in different semesters via csv file.
- Provides a proper communication channel between student and training & placement department using the Email.
- Latest information about which company is visiting the campus is provided in the website which helps the students to get updated information quickly. Website is user-friendly with more GUI so that student views the information easily.
- Duplicate registrations can be avoided and hence it provides reliability. Only administrator can modify the Placement and organization record if needed.
- Website more helps to make a short list of students who get placed in certain Company and who is unplaced. Student can manage passwords, access technical papers and view eligibility criteria for on-going recruitments. Coordinators maintaining the attendance records of CRT classes.

V. EVALUATION
To assess the effectiveness of the PCMS, a pilot study is conducted in collaboration with a select group of educational institutions and recruiters. Key performance indicators such as placement success rate, time-to-fill vacancies, and user satisfaction are evaluated and compared against traditional placement methods. The results
demonstrate significant improvements in efficiency, accuracy, and user satisfaction, validating the effectiveness of the proposed PCMS.

VI. SYSTEM CONFIGURATION

HARDWARE REQUIREMENT

System: Pentium IV 2.4GHz.
Hard Disk: 40 GB.
Monitor: 15 VGA Colour.
Mouse: Logitech.
Ram: 1 GB.

SOFTWARE CONFIGURATION:

Operating system: Windows XP/7/8.
Coding Language: JAVA/J2EE
IDE: Eclipse
Database: MYSQL

VII. CONCLUSION

The intelligent Placement Cell Management System presented in this paper offers a comprehensive solution to streamline and enhance the placement process in educational institutions. By leveraging AI technologies, the system automatizes tedious tasks, improves matching accuracy, and provides actionable insights for better decision-making. Future work includes refining algorithms, expanding functionalities, and integrating feedback mechanisms to further enhance the system's performance and usability.

VIII. REFERENCES

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