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HIRESTREAM: THE NEXT-GEN JOB PORTAL WITH WEBINARS, INTEGRATED INTERVIEWS, AND AI ASSISTANCE

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ABSTRACT
The college placement process is a critical stage in the academic career of a student but is often riddled with inefficiencies, inadequate communication, and a lack of unified resources thereby resulting in students unfamiliar with the companies they are approaching, do not know any about their application status, and cannot find legitimate resources to prepare. This creates a subdued atmosphere, and lack of interaction with seniors, alumni or even answering basic questions compounds the issue which results to a disjointed placement process.
Campus Crew aim is to be a one-stop digital solution for all the hassles in the college placement process among students, TPOs, and recruiters. Features include job postings by TPOs, real-time tracking of applications, and centralized access to placement resources, among others, making Campus Crew an all-around solution that bridges this huge gap in communication gaps. Students can also apply to several firms at a time, track their application progress, and monitor all their applications at one place.
Campus Crew also offers new features such as student-led webinar requests. In this regard, seniors and alumni can lead a web-based session with the students relating to that particular company and cater to their concerns regarding it through live or on-demand video streaming. It promotes interactivity between students and alumni through a specific chat feature whereby users have their queries solved, become guided in real-life experiences, and get career advice. The Campus Crew addresses the gap between academic theory and real-world success through its collaboration linking students with alumni who have effectively gone through the placement journey.
Campus Crew promises to offer an open, effective, and student-centric placement ecosystem with a study material repository, webinar hosting facilities, and effortless integration of all placement-related activities. This paper describes the motivations behind Campus Crew, the issues it addresses, and its minute implementation using contemporary technologies such as React, JavaScript, Node.js, and PostgreSQL. The process of placing is revolutionized and alumni networks are leveraged in Campus Crew. It results in a more effective preparation of students with minimized overhead for the TPOs and eventually better recruitment system through the colleges.

Keywords:
placements, company, Hirestreame, Job Portal

I. INTRODUCTION

A. About Placements and College Recruitment

College placements play an important role in bridging the academic learning process and professional careers. Through college placements, students can apply learning in practically real situations, thereby paving a path for future career profiles. Campus recruitment is, in fact, a joint effort between placement officers, students, and recruiters to identify and nurture talent. Nevertheless, the placement process often faces issues like poor transparency, lousy communication, and fractured resources. The traditional recruitment model involves several phases like advertising job postings, verification of applications, shortlisting of candidates, and interview conduction. Yet, despite all of this, this recruitment process is weakened by archaic ways of communication and resource management, thus missing opportunities for students as well as recruiters. This modern digital age presents an urgent demand for innovation and adjustment of such systems to fulfil the expectations of a technologically competent generation.

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B. The Role of Technology in Modern Placements

With technological progress, digital platforms have emerged as significant catalysts for change in various domains, including recruitment. Platforms that integrate real-time updates, artificial intelligence-driven insights, and collaborative tools can significantly enhance the placement process. HireStream utilizes these capabilities by offering features such as real-time application tracking, interactive webinars, and personalized artificial intelligence assistance. Through webinars taken by alumni and experts, students will be able to get a more in-depth understanding of company cultures, roles, and expectations. Through this facility, the placement resource also gets centralized and makes it easier to access study materials, mock interviews, and company profiles. Technological advancements not only improve efficiency but also elevate the overall placement experience.

C. Motivation

The idea of HireStream was born out of the need to fill the lacuna in current collegiate placement systems. Traditional approaches are heavily reliant on manual processes, leading to communication breakdowns, delayed updates, and dissatisfaction among all stakeholders. Some of the key motivating factors include:

- Closing Communication Gaps: Many students miss out on critical opportunities due to lack of awareness about job openings, organizational requirements, or their application status.
- Improve Readiness: Students have poor access to learning materials, advice, and counseling for preparing themselves for placements, which puts them at a disadvantage.
- Leverage Alumni: Alumni would have excellent know-how about organizational expectations and interviews, but a proper platform has not been there for students to engage with the alumni.
- Reduce Administrative Burdens: Placement officers spend a significant amount of administrative time in application management, conducting interviews, and record-keeping.

HireStream would focus on an ecosystem that would be transparent, efficient, and collaborative for both the students and placement officers while creating value for the recruiters.

II. LITERATURE SURVEY

A. Literature study

In the current professional landscape, there is intense competition in every field, including the job market. A job portal is a website dedicated to providing online information for both recruiters and job seekers. Such portals facilitate the process of matching suitable employees with appropriate organizations. For job seekers, the portal displays a list of companies based on their educational qualifications, experience, and preferences. For recruiters, it provides access to suitable candidates from a large pool of applicants. The objective of this application is to develop a system to enable interaction between employers and applicants. [1]

The proposed online job portal system provides its members with various facilities and services related to job information and online application submission. The objective of the proposed system is to serve as an appropriate platform for individuals seeking employment while enhancing the convenience of job searching. Furthermore, the job portal facilitates direct communication between employers and potential applicants. The primary purpose of this portal is to streamline the process of posting and managing job vacancies. All job postings will be conducted online, offering employers a more efficient method of publishing their vacancies directly on the web. The web interface is integrated into the system to optimize the review and management processes of job applications, thereby enhancing the efficiency of the entire recruitment process. Additionally, employers can readily access their required resumes. This approach significantly reduces the time required for the hiring process.[2]

Currently, there is a rat race in every profession. The job market is no exception. A job portal is a website exclusively dedicated to the online information about recruiters as well as job seekers. A job portal facilitates the finding of an appropriate organization by both job seekers and recruiters. For a job seeker, on the basis of their educational qualification, experience, and other preferences, a job portal would depict a list of companies in front of a job seeker. For a recruiter, it gives appropriate candidates from lakhs of numbers. The objective of this application is to develop a system to enable interaction between employers and applicants. The determination is to allow communication between the interested parties and complete the task of recruitment quickly. [3]

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This paper examines a technology that facilitates expeditious implementation of the placement management system in colleges. In contrast to the traditional system, it may expose students and Training and Placement Officers (TPOs) to various challenges such as insufficient details, inadequate security, and issues associated with manual operations. The objective of the Placement Management System website is to address the limitations of the traditional placement system. It enables end users to register online through their CMSys (College Management System) account, which is a college website created for attendance, term test marks, and other purposes. Users can access information about companies, apply to those of their choice, and receive frequent updates regarding placements from the college TPO. This system mitigates the risk of missing placement opportunity updates. College placement officers are not required to separately collect information for each student, as it is automatically updated upon student registration. The project is primarily a website that is readily accessible via mobile devices.[4]

The advantages of automated systems have reached unprecedented levels, resulting in the automation of numerous manual processes. Due to the current demand for automated systems, educational institutions such as colleges are transitioning their manual or semi-automated systems to fully computerized operations. One such system pertinent to colleges is the automation of the placement process. This project aims to develop a web application for the placement cell. The Placement Management System offers functionality through two distinct modules for students and placement officers. It provides students with the capability for online registration, allowing them to upload their academic and personal information. Students will have access to individual portals for updating information as needed and can view current and future job postings on their dashboard. Placement Officers, in turn, will be able to utilize the system to manage student data as well as hiring company data related to available positions. The benefits of the system include providing enhanced facilities and consolidating all placement-related tasks, previously carried out on various platforms, into a single application. This will establish an effective communication channel for both placement officers and students, thereby reducing redundant work. Additionally, email alerts can be sent to students when new activities occur, ensuring that no important announcements are overlooked.[5].

B. Understanding from Survey:

The literature surveyed thus calls for efficient, feature-rich platforms to rectify the inefficiencies in placement and recruitment processes. Such systems, by utilizing automation, real-time updates, and inclusive features, can change the job application and placement ecosystem. Moreover, the focus on alumni interaction, role-based functionality, and a student-centric approach resonate well with modern educational and professional demands. The findings strongly support the objectives and design principles of HireStream.

C. Challenges of Current Methods

Traditional placement and recruitment in colleges pose several inefficiencies, including fragmented communication, lack of real-time updates, and inefficiencies due to manual processes. These inefficiencies make it difficult for students to get the right knowledge about companies, scarce preparation resources, and poor interaction with alumni. Further, placement officers are encumbered by the sheer volume of applications and coordination of recruitment activities.

Moreover, its lack of technical integration, in the form of AI-driven insights, centralized data management, or real-time notification, hinders the overall functioning of the system. The limited platforms for conducting webinars or events also disallow students a chance to find insights from their recruiters and even alumni.

These challenges underscore the pressing need for a holistic solution such as HireStream, which leverages advanced technologies to optimize the recruitment process, facilitate seamless communication among stakeholders, and equip students with essential tools and resources to achieve successful placements. HireStream is going to redefine the campus placement ecosystem by making it more efficient, transparent, and accessible.

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III. PROPOSED METHODOLOGY

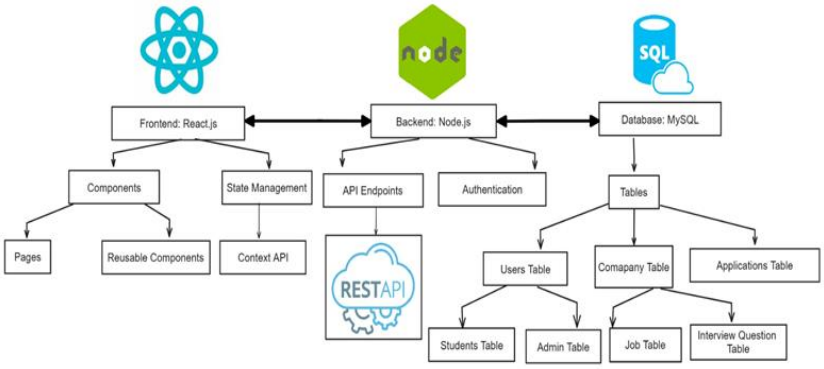

Fig 1: Architecture Design

The proposed system, HireStream, is a comprehensive and user-friendly platform, meant to address the setbacks present in conventional placement processes and to streamline campus recruitment activities. Design and Development of a Web Application Software that Integrate Advanced Features will Benefit All Stakeholders-Students, Placement Officers, Recruiters

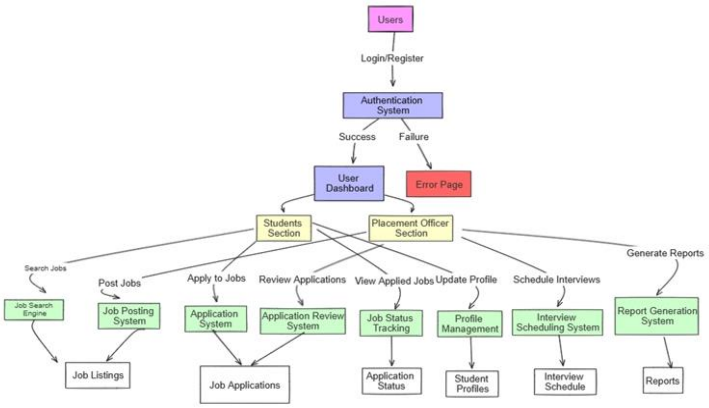

Fig 2: Data flow Diagram

1) System Architecture

The system is designed as a multi-user system with separate roles and responsibilities:

- Students: Register, update profiles, apply for jobs, check application status, access resources, and interact with alumni.
- Placement Officers (TPOs): Manage job postings, verify student applications, and track recruitment progress.
- Recruiters: Post job vacancies, view candidate profiles, and manage recruitment stages.
- Alumni: Share experiences, host webinars, and provide mentorship to students.

The backend is built using Node.js and Javascript, while the frontend is built using React with Javascript. PostgreSQL is used as the database, providing robust and secure data management..

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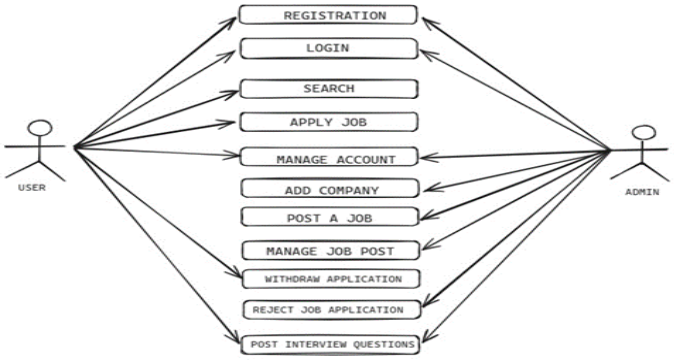

Fig 3: Use case Diagram

Figure 3 presents the Use Case Diagram for the HireStream platform, depicting the interactions between two primary actors: the User (job seekers) and the Admin (placement officers). Users can register, log in, search for jobs, apply to postings, manage their accounts, and withdraw applications. Admins oversee platform activities such as adding companies, posting job openings, managing applications, rejecting applications, and sharing interview preparation resources. The bidirectional relationships reflect seamless communication, enabling users to engage with job opportunities while admins efficiently manage the recruitment process. This diagram highlights the platform's core functionalities, promoting a streamlined and structured hiring workflow.

2) **Core Features and Workflow**

2.1 STUDENT MODULE

- Registration and Profile Management: The students create an account and manage their academic, personal, and professional information.
- Job Applications: Students can browse job postings, apply for jobs, and track their application status in real-time (e.g., applied, shortlisted, rejected).
- Webinar Voting and Participation: The students can vote for webinars based on companies or topics. After recognizing the demand, the requested webinars will be managed and live streamed on the platform.
- Alumni Interaction: Students can directly interact with alumni through chat or forums for guidance on placements and career-related queries.
- Access to study material, company profile, mock tests, and interview tips in centralized access.

2.2 PLACEMENT OFFICER (TPO) MODULE

- Job Posting Management: Placement officers can create, edit, and delete job postings along with other information such as eligibility criteria and deadlines.
- Application Verification: The TPO verifies all the applications received by the relevant recruiters.
- Event Scheduling: Placement officers can schedule placement-related events, such as webinars or interviews, and can notify students with this information through the platform.
- Performance Analytics: Access to dashboards reporting on student engagement, job application, and recruitment.

2.3 RECRUITER MODULE

- Job Postings: Recruiters can post job openings, stating the qualifications and skill sets needed.
- Candidate Search: Recruiters can filter student profiles based on skills, qualifications, and other criteria.
- Interview Scheduling: Interview scheduling with students would be quite smooth through the platform.

2.4 ALUMNI MODULE

- Mentorship and Counselling: Alumni can register to share their experiences, answer queries from students, and provide career guidance.
- Webinar Hosting: Alumni can host webinars about company cultures, job roles, and interview tips.

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• Networking Opportunities: Alumni can interact with other alumni and students through the communication tools of the platform**.**

3) **Technical Implementation**

3.1 BACKEND DEVELOPMENT

- Node.js : The backend handles business logic, role-based access, and APIs for frontend communication.
- Database Design: PostgreSQL is used for storing structured data, such as user profiles, job postings, and application details.

3.2 FRONTEND DEVELOPMENT

React : Ensures a responsive, scalable, and dynamic user interface.

3.3 AI INTEGRATION

- Recommendation System: AI algorithms will analyze user preferences and profiles to suggest relevant job postings, study materials, and webinars.
- Chatbot Support: An AI chatbot is provided to guide the students through the portal, FAQs, and placement tips.

3.4 REAL-TIME NOTIFICATIONS

- Students, placement officers, and recruiters receive real-time updates about job postings, application statuses, and upcoming events through push notifications and emails.

3.5 SECURITY AND SCALABILITY

- Authentication and Authorization: Role-based access control (RBAC) is used to allow users to only access data and features relevant to their roles.
- Data Encryption: Encrypted data to ensure confidentiality and security.
- Scalability: The system is designed to handle high user traffic, ensuring seamless operation during peak placement seasons**.**

4) Implementation Phases

1.Requirement Analysis:
Understand needs of students, TPOs, recruiters and alumni.
Identify key challenges of the current system and map those to platform features.

2. System Design
Detail architecture and DB schema.
Design UI wireframes

3. Development
Backend and Frontend development by using the preferred technologies.
Integration of APIs and AI-based functionalities

4. Testing
Unit, Integration, and system testing to confirm that the developed platform works accordingly.
User acceptance testing with real stakeholders.

5. Deployment and Maintenance:
Deploy the platform on a scalable cloud service.Regular updates and support to fix bugs and add new features..

5) **Expected Outcomes**

• Improved Student Experience: Students have a one-stop shop for applying to jobs, accessing resources, and interacting with alumni.
• Streamlined TPO Tasks: Placement officers are able to work on applications, events, and job postings.
• Efficient Recruitment Process: Recruiters save time with tools to filter candidates and schedule interviews seamlessly.
• Stronger Alumni-Student Network: Structured interaction fosters guidance and mentorship opportunities.

The approach HireStream implements is to redesign the college placement process, thus making it speedier, smarter, and effective for all concerned.

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IV. CONCLUSION AND FUTURE DIRECTIONS

The proposed platform, HireStream, addresses the major challenges faced in traditional college placement systems by offering an innovative, technology-driven solution. The platform integrates modules for students, placement officers, recruiters, and alumni, providing a seamless and unified experience for all stakeholders. The key features include real-time job application tracking, webinar hosting, AI-driven recommendations, and alumni interaction, which make HireStream a comprehensive and efficient solution for streamlining the recruitment process.

It helps bridge the gaps in communication, resource accessibility, and mentorship, making sure that students are better prepared for placements, recruiters find the best candidates more easily, and placement officers manage their activities with ease. With HireStream's emphasis on automation, user engagement, and security, it paves the way to a smarter, more transparent placement ecosystem.

Future Directions

The future development of HireStream focuses on enhancing its functionality and user experience through innovative features and broader outreach. AI-powered tools, such as personalized mock interviews and feedback systems, will be integrated to better prepare students for placements. Gamified learning elements, including quizzes and rewards, will motivate students to engage actively with study materials and develop essential skills. The platform will be designed to offer comprehensive insights into company cultures, hiring trends, and alumni success stories, empowering students to make well-informed career decisions. Integration with professional networks like LinkedIn will allow students to showcase their profiles and achievements directly to recruiters. Additionally, a dedicated mobile application will be developed to ensure a user-friendly experience for students on the go. The platform will emphasize expanding international job opportunities by providing students with global exposure. Advanced data analytics will be utilized to support placement officers in making data-driven decisions and optimizing recruitment strategies. Ultimately, it will serve as a tailored SaaS solution, offering colleges a fully customizable platform to meet their specific needs and ensuring widespread adoption across institutions nationwide.

REFERENCES

[1] Al-Hammadi, Mustafa & Pawar, Virendra. (2021). Recommender System for Online Job Portal.
[2] Srivastava, M., & Singh, S. (2023). ONLINE JOB PORTAL. International Research Journal of Modern Engineering and Technology (IRJMETS). Students, Department of Computer Science and Engineering, School of Management Sciences, Affiliated with APJ Abdul Kalam Technical University, Lucknow, Uttar Pradesh, India.
[3] Kopuri, Keethana & Mujtaba, Gulam & Aqueel, Hussain & Jabeen, Azbar & Shavali, T & Tech, B & Shavali, Shaik. (2021). A Online Job portal management system. 3.
[4] Sayyed, M., Umatiya, F., Zehera, S., & Pappu, S. (2020). COLLEGE PLACEMENT MANAGEMENT SYSTEM. International Journal of Creative Research Thoughts (IJCRT). 1Student, 2 Student, 3 Student, 4 Assistant Professor, Computer Engineering Department, Rizvi College of Engineering, Mumbai, India.
[5] Rizvi, F. T., Khan, N. A., Upadhyay, S., Suryawanshi, S., & Pappu, S. (Year). PLACEMENT MANAGEMENT SYSTEM.JETIR. 1Undergrad Student, 2Assistant Professor, 3Associate Professor, Computer Engineering Department, Rizvi College of Engineering, Mumbai, India.