MITRA PLACEMENT PORTAL

Shravani Kolhe[1], Devalya Gite[2], Priyanshu Khodke[3], Vaibhavi Lakade[4], Dr. Nikkoo Khalsa[5]

Electronics and Telecommunication, Prof. Ram Meghe Institute of Technology and Research, Prof. Ram Meghe Square, Anjangaon Bari Road, Badnera, Amravati, Maharashtra, India.

***

ABSTRACT

The MITRA Placement Portal is designed to automate the traditional training and placement management process. It serves as an application for Training & Placement Officers (TPOs) to manage student placement-related information efficiently. The system allows students to log in, update their personal and academic details, upload resumes, and access placement preparation materials. Additionally, an assistance portal is available where students can post queries to TPOs and coordinators. An important feature of this portal is the Company Tab, which enables recruiters to shortlist students based on predefined eligibility criteria. Students can log in to update their personal and academic details, upload resumes, and access placement preparation materials. An assistance portal allows them to raise queries to TPOs and coordinators. The system also includes a Company Tab, enabling recruiters to shortlist students based on eligibility criteria, making the hiring process smoother. The portal helps in managing corporate relationships, notifying students about job opportunities, monitoring selection progress, and ensuring seamless coordination between all users. It keeps track of student and company records, allows eligibility-based searches, and enables admins to insert or delete records as needed. This system reduces manual efforts, minimizes paperwork, and enhances coordination between students and the placement cell. It also facilitates job notifications, corporate interactions, monitoring of selection progress, and communication among users. The Placement Management System efficiently tracks student and company records, allowing searches for eligible candidates while providing admins the ability to insert or delete records. This system was built using HTML, CSS, JavaScript, Bootstrap for the frontend, and Python with MySQL for the backend, utilizing Django and Flask frameworks.

INTRODUCTION

The "MITRA Placement Portal" is a comprehensive web-based platform designed to optimize the placement process at PRMIT&R. This project addresses the need for a streamlined and efficient system to manage student data, facilitate seamless interaction with recruiters, and track placement records effectively. The MITRA Placement Portal is designed to make campus placements more transparent, accessible, and efficient. In today's fast-changing job market, helping students transition from education to suitable careers is crucial. This portal provides a structured solution to simplify and improve the placement process for both students and educational institutions. This introduction highlights four key features: Student Registration and Database Creation, Exporting Data into Excel and Applying Filters, Tracking Placement Records, and Verification of Student Data. The main objective is to build and launch a comprehensive placement portal that enhances students' employability. Through this project, we aim to create an easy-to-use web platform that connects job seekers with employers while providing valuable tools and resources to improve students' career readiness.

The project focuses on designing and developing the portal, implementing user engagement strategies, analyzing its impact on employability, and ensuring long-term sustainability. The Placement Management System helps Training & Placement Officers (TPOs) efficiently handle large student records and streamline the process of shortlisting eligible candidates based on company criteria. It also ensures optimal use of both hardware and software resources, making placement management more organized and effective. The project is focused on designing and developing an intuitive portal, implementing strategies to engage users, analyzing its effectiveness in improving employability, and ensuring long-term sustainability.

1. LITERATURE SURVEY

1. This system gives a very efficient way of placement for students. In this system, the student does their registration in a very simple manner and the placement officer can easily get

the information of students. The system can thus easily access the eligible students. In this system, information regarding the campus is sent to the student automatically. In overall architecture, data is stored and then as per rules and condition data is obtained and processing is applied on it such as making the report and sending mail to the student. The developed System can guarantee to keep the records safe and private which is stored in the database. It converts unstructured data into structured data and sorted format. All these are contributing to the control of the system. The TPO is the main admin of the system. Other important users of the training and placement system are student, company, and forum for which the system designed . Online Recruitment Platforms: An analysis of popular online recruitment platforms like LinkedIn, Indeed, and Naukri.com, examining their features, user interfaces, and success rates Emerging Technologies: Exploration of emerging technologies such as AI-powered matching algorithms, blockchain for secure data management, and virtual reality for immersive job fairs

2. Placement support focuses on the automation of the placement cell. Authorizing the resumes, communicating about the varied job openings to the scholar community, managing the company relationship for inviting them for the placements, creating the location metrics, monitoring the progress of the choice process and communicating with different users. This system is often used as an application by the college to manage the student information concerning placements. Also helps companies coming for campus recruitment to ascertain student details. Before coming for the campus, companies can get information about eligible students alongside interested students

3. Success Factors of Portals:

- User-Centric Design**:** Intuitive interface, easy navigation, personalized recommendations, and mobile accessibility are crucial for user engagement.
- Comprehensive Job Listings**:** Detailed job descriptions, company profiles, and relevant keywords are essential for accurate job matching.
- Strong Employer Engagement**:** Features that incentivize employer participation, such as easy job posting, candidate filtering tools, and communication channels.
- Data-Driven Insights**:** Analytics and reporting features to track placement trends, identify skill gaps, and inform career guidance initiatives.
- Integration with Career Services**:** Seamless integration with existing career counseling services, workshops, and mentorship programs.

4. Existing Placement Systems and their Limitations:

Traditional Methods:

- Campus Placements: While effective, these often involve manual processes, limited reach, and potential for bias.
- Job Fairs: Can be time-consuming for both students and companies, with limited interaction opportunities.
- College Placement Offices: Limited resources and personnel can hinder efficient job matching and personalized guidance.

5. User Experience Design:

- Usability Testing: Conduct user testing throughout the development process to gather feedback and ensure the portal is easy to use and navigate.
- Accessibility: Design the portal to be accessible to users with disabilities, adhering to accessibility guidelines (e.g., WCAG).
- Personalization: Tailor the user experience to individual student needs and preferences.
- Gamification: Incorporate gamification elements to motivate student engagement and participation.

In the existing Placement system, maximum work goes manually and is an error-prone system, takes time for any changes in the system. This big problem is the searching; sorting and updating of the student data and no any notification method available for giving information to the student except the notice board. The proposed system gets automated in the online registration all the user, activation of the user and deactivation of the user, personalization to the user, resources to be provided online, communication between the users, and gives online feedback. The admin can see the user information and will validate it, generate the student list based on company criteria; company details can be provided to the user, searching and sorting can be done, and reports to be generated. Alumni data to be maintained. Overall, all the process of the training and placement department is automated

6. E-Placement Portals

Several colleges and universities have adopted electronic placement systems, where students can register, apply for jobs, and track their placements. However, these platforms often lack seamless integration between students and recruiters, leading to inefficiencies and communication gaps.

2. OBJECTIVE

2.1 Organizing Placement Drives on Campus:

Students should take advantage of placement drives to explore job opportunities, understand what employers are looking for, and identify key skills needed for their future careers. Career

fairs provide a great chance to practice networking, improve communication skills, and learn how to present themselves effectively to potential employers.

2.2 Ensuring Transparency: To keep students, recruiters, and placement officers informed, the system provides real-time updates on job openings, applications, and placements. This ensures everyone has clear and easy access to important information throughout the hiring process.

2.3 Automation and Efficiency: Automating key processes like profile creation, job applications, and communication between students and companies helps reduce errors and saves time. This streamlines the placement process, making it faster and more efficient for everyone involved.

2.4 Data-Driven Insights: To offer analytical tools for placement officers to monitor student performance, track placement statistics, and identify areas of improvement, thereby optimizing the placement process.

2.5 To provide recruitment to students: Student recruitment should be recognized as a key component in the sustainability and success of an institution and must be a prime responsibility of an institution's strategic plan. Equipping the Training and placement office to recruit the qualified students and the right number of students is critical to the long-term sustainability of an institution, and IT plays a Important Role.

2 PROBLEM IDENTIFICATION

The development of the **MITRA College Placement Portal** aims to address several existing problems and challenges in traditional college placement processes

- Manual and Time-Consuming Processes
  Problem: Most colleges still rely on manual processes such as handwritten forms, face-to-face interactions, and spreadsheets to manage placement activities. These processes are not only slow but also prone to human error.
  Impact: The inefficiency of these methods results in delays, mistakes in data handling, and an overall cumbersome experience for students, placement officers, and recruiters.
- . Lack of Real-Time Communication
  Problem: In traditional systems, communication between students, placement officers, and recruiters is often disconnected. Students may miss deadlines or fail to get timely updates regarding job applications and interviews.
  Impact: This lack of communication can lead to missed opportunities, confusion, and dissatisfaction among all parties involved.
- . Limited Access to Placement Opportunities
  Problem: Students may not have access to a wide variety of job opportunities or may not be aware of relevant roles that match their skills. Similarly, recruiters may not have an effective way to search through a broad pool of candidates.
  Impact: Both students and recruiters face limitations in terms of finding the best opportunities and candidates. This results in suboptimal placements and missed chances for growth.
- Inefficient Candidate Evaluation
  Problem: Evaluating candidates manually, especially when dealing with a large number of applications, is often inefficient. Placement officers and recruiters may miss key details, or students might have difficulty tracking their progress.
  Impact: The manual evaluation process leads to inconsistencies in candidate assessments and delays in finalizing job placements. This also causes frustration for both students and employers.
- Data Security and Privacy Concerns
  Problem: Traditional systems may not offer robust security features for handling sensitive student data, such as resumes, personal details, and interview results. This raises concerns about data protection and privacy.

3 METHODOLOGY

4.1. System Design

The MITRA platform is designed using a modular approach, where different components are created as independent modules that work together:

A. Student Module Once the student login, they can create and edit their profile. They can handle their profile by putting all the information. They create the profile by entering their personal, academic information, and also can upload his/her resume. They will come to know about forthcoming company through notification and student can be apply to the Company if student is eligible to the company. student can also view, download the visited company aptitude

B. Admin Module He is the principal of the university. He is the administrator of this system. he is able toview the student details of all departments. he is able to upload the required material for the student. he can communicate with the Students, HoD and Departmental coordinator through communication wall. He can feed the notification about the events that will be conducted by the T&P cell, also about upcoming company.

4.2 Technology Stack

MITRA utilizes modern web technologies for its development:

- **Frontend**: HTML, CSS, JavaScript, Bootstrap (for a responsive user interface).
- **Backend**: Node.js with Express for API handling.

- **Database**: MySQL for storing student, company, and placement data

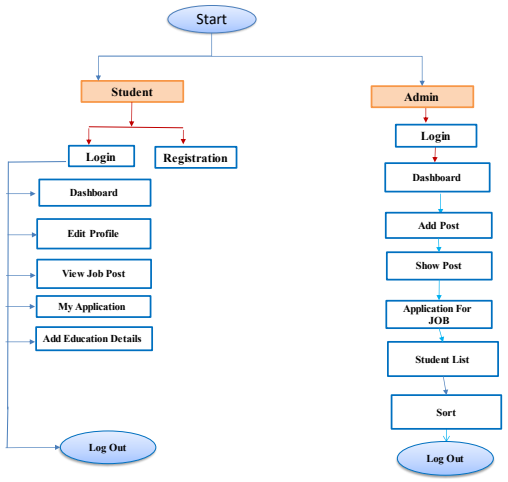
4.3 User Experience

The design of the platform is user-centric. Feedback loops are implemented throughout the development process, allowing continuous refinement based on user input. The platform is designed to be intuitive and simple, with minimal training required for students and recruiters.

1. Block Diagram

The block diagram represents the overall system architecture o. It typically includes the main components and their interactions.

Here's a simplified version:



User Interface (Frontend)

- Description: The frontend is responsible for presenting the user interface to students, recruiters, and placement officers. It allows them to interact with the system. The frontend includes web pages, forms for registration, job application portals, dashboards for placement officers, and recruiter management screens.
- Technologies: HTML, CSS, JavaScript, Bootstrap.

Student Module

- Description: This module manages the student's profile, job application process, and tracking of placement progress.
- Functionality:
  - Registration and profile creation (student details, resume upload).
  - Search and apply for jobs.
  - Track application status and placement results.
  - Communicate with recruiters and placement officers.

Placement Officer/Admin Module

- Description: This module allows placement officers or administrators to manage student data, monitor the placement process, and communicate with both students and recruiters.
- Functionality:
  - Manage student profiles, verify details, and monitor placement progress.
  - Handle placement statistics and report generation.
  - Coordinate interviews and placements.
  - Manage recruiter access and monitor their activities.

Database (Backend)

- Description: The database stores all the essential data, including student information, job listings, application statuses, recruiter details, and placement outcomes. The backend serves as the central storage and data management unit.
- Functionality:
  - Store student profiles, resumes, and application data.
  - Store job postings, recruiter information, and interview details.
  - Maintain data related to placement results and feedback.

4 RESULTS AND SCREENSHOTS

Following snapshots shows the implementation results of the proposed system :

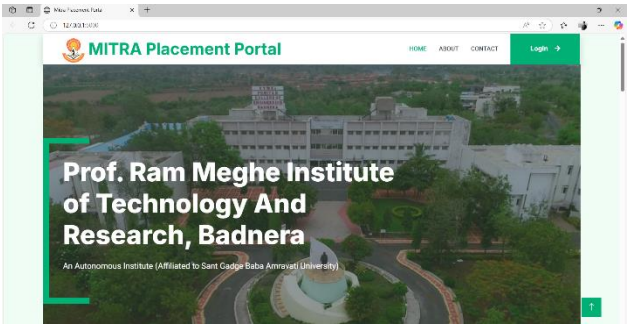


Fig. 2 Home Page

Fig 4 is the homepage of the project from where we can navigate to other pages of the website i.e., about, campus, PMS etc.

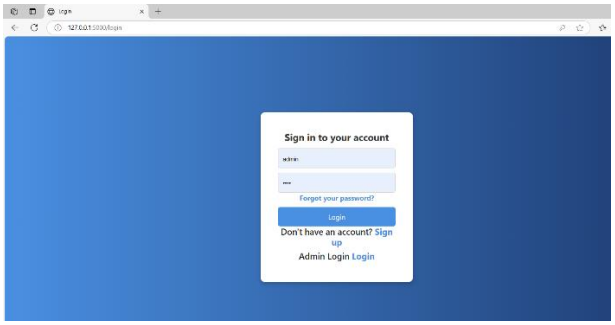


Fig. 3 Student Login

Fig 5 is the login page of the student where the student can log-in into his account using his login credentials.

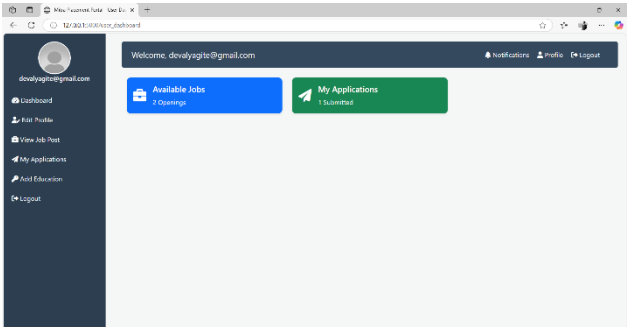


Fig. 4 Student Dashboard

When the student successfully login's then student dashboard will appear. Here the student can add his personal and academic details. He can also view the notifications from the department

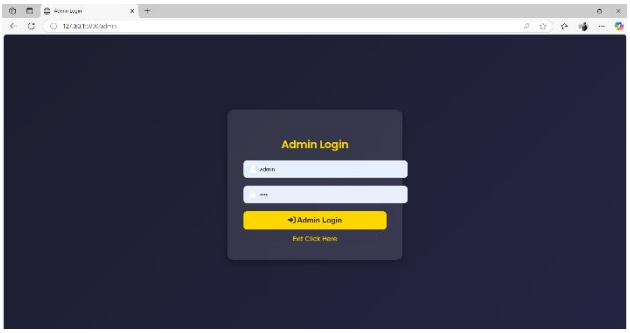


Fig. 5 Admin Login

Fig 5 is the admin login page where principal can login using his credentials and manage all the users.

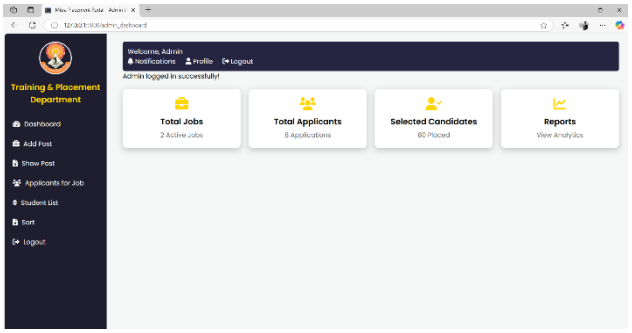


Fig. 6 Admin Dashboard

5 IMPLEMENTATION

6.1 Simulation

- **Python**
  - A high-level, interpreted language known for its simplicity and readability.
  - Uses Flask as a micro-framework for web development.
  - Supports various libraries such as Flask-SQL Alchemy (ORM), Flask-Login (authentication), and Flask-WTF (form handling).

Framework

- **Flask (Python Web Framework)**
  - A lightweight, easy-to-use web framework for building RESTful APIs and web applications.
  - Uses WSGI (Web Server Gateway Interface) to communicate between the web server and Python applications.
  - Provides a built-in development server for testing locally.
  - Features:
    - **Routing** (@app.route('/home'))
    - **Templating** (Jinja2 template engine – {% for item in list %} {{ item }} {% end for %})
- **Form Handling** (Flask-WTF)

Database Integration (SQL Alchemy ORM) **Server**

- **XAMPP (Cross-Platform Apache, MySQL, PHP, and Perl)**

- A local development server that includes Apache (Web Server) and MySQL (Database Server).
- Provides phpMyAdmin, a GUI for managing MySQL databases.
- Even though Flask runs on Werkzeug, XAMPP is useful for MySQL integration.
- Can be started via the XAMPP Control Panel.

Database

- **MySQL (Relational Database Management System - RDBMS)**
  - Stores structured data in tables using SQL queries.
  - Can be accessed using Flask-MySQL or SQL Alchemy ORM.
  - Supports CRUD (Create, Read, Update, Delete) operations.

Basic Flow

· **User requests a webpage** → Browser sends a request to Flask.

· **Flask handles the request** → Calls a function (@app.route) that processes data.

· **Database interaction (if needed)** → Fetches/stores data in MySQL.

· **Jinja2 renders templates** → HTML page is dynamically generated.

· **Response is sent back** → The user sees the webpage.

6. 2 Workflow Diagram

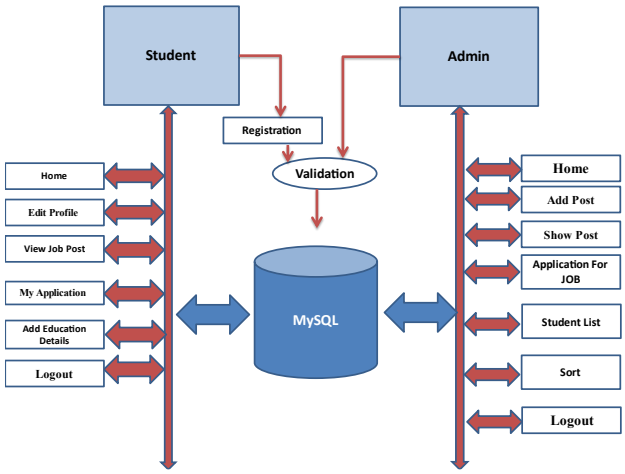


Fig. 6 Admin Dashboard

7. CONCLUSION

The College Placement Portal successfully enhances the campus recruitment process by automating job postings, student applications, eligibility verification, and placement tracking. The system streamlines communication between students, recruiters, and administrators, ensuring an efficient, transparent, and data-driven placement experience.

Key benefits include:

- Automated eligibility checking, reducing manual efforts.
- Centralized student and recruiter database for seamless operations.
- Real-time notifications improving student engagement.
- Resume Builder aiding in professional profile creation.
- Placement analytics and reports providing insights for administrators.

By replacing traditional manual processes with a web-based digital solution, the portal enhances efficiency, accessibility, and accuracy, ultimately leading to improved placement rates and student success.

REFERENCES

Below is a list of references formatted according to the literature survey:

[1] Suraj Trimukhe, Anil Todmal, Kanchan Pote, Monali Gite, Asst. Prof. S.S. Pophale, "Online Training and Placement System", *International Journal of Advanced Research in Computer Science and Software Engineering*, Volume 7, Issue 4, April 2017.

[2] Prof. Rupali Komatwar, Swapnil Kamble, Mihir Khedekar, Kishor Walzade, "Placement Support System", *International Journal of Advanced Research in Computer and Communication Engineering*, Vol. 5, Issue 1, January 2016.

[3] R. Gupta, K. Verma, "Enhancing Campus Placements through AI-Powered Matching Algorithms", *Proceedings of the International Conference on Computational Intelligence and Networks, IEEE*, 2020.

[4] D. Patel, S. Mehta, *Automated Placement Systems and Career Portals: A Practical Guide*, Springer Publications, 2019.

[5] R. Singh, A. Sharma, "AI-Driven Placement Portals: Transforming Campus Recruitment", *International Journal of Emerging Trends in Engineering Research*, Vol. 8, Issue 3, March 2021.

[6] P. Deshmukh, V. Kulkarni, S. Joshi, "A Study on Online Placement Management Systems and Their Effectiveness", *International Journal of Computer Applications*, Vol. 176, Issue 2, Februa