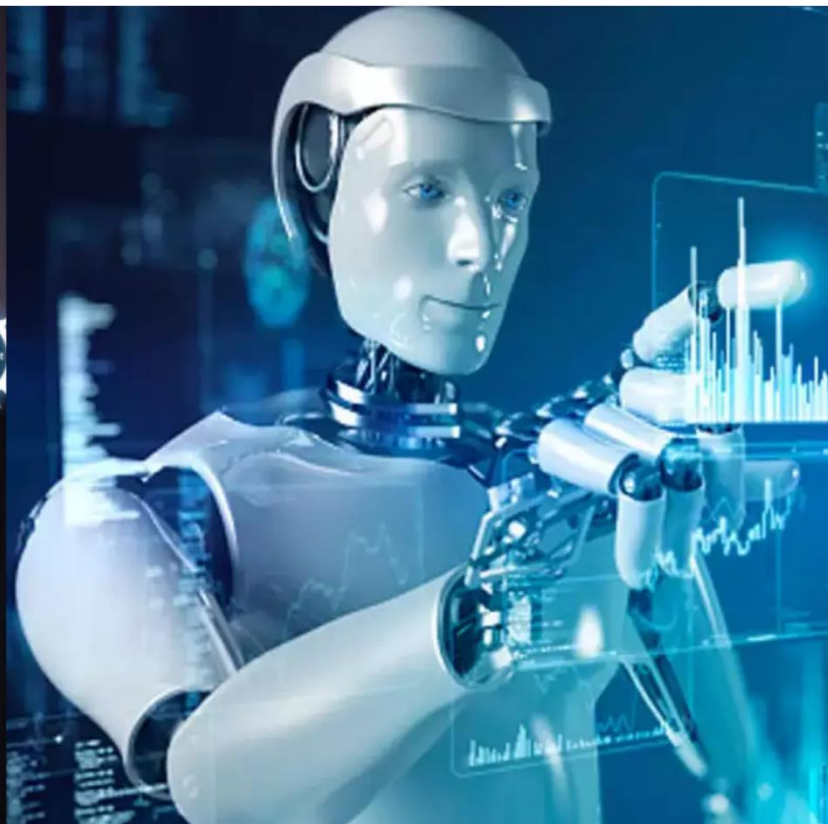




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Mitra Placement Portal

Shravani Kolhe¹, Devalya Gite², Priyanshu Khodke³, Vaibhavi Lakade⁴, Dr. Nikkoo Khalsa⁵

U.G. Student, Department of Electronics and Telecommunication, PRMIT&R, Badnera, Amravati,

Maharashtra, India^{1,2,3,4}

Associate Professor, Department of Electronics and Telecommunication, PRMIT&R, Badnera, Maharashtra, India⁵

ABSTRACT: The traditional training and placement management procedure is intended to be automated by the MITRA Placement Portal. It functions as a tool to help Training & Placement Officers (TPOs) effectively handle data pertaining to student placement. Students can access placement preparation materials, upload resumes, update their academic and personal information, and log in to the system. Students can also submit questions to coordinators and TPOs via an assistance portal. Students can upload resumes, access placement preparation resources, and change their academic and personal information by logging in. It maintains student and business records and permits eligibility-based searches to add or remove data as necessary. Using the Django and Flask frameworks, this system was constructed with Python and MySQL for the backend and HTML, CSS, JavaScript, and Bootstrap for the frontend.

I. INTRODUCTION

A sophisticated web-based infrastructure called the "MITRA Placement Portal" was created to streamline PRMIT&R's placement procedure. This project tackles the need for a simplified and effective system to properly track placement records, handle student data, and enable smooth communication with recruiters. The MITRA Placement Portal aims to improve the efficiency, accessibility, and transparency of campus placements. It is essential to assist students in making the transition from school to appropriate employment in the rapidly evolving work market of today. For both students and educational institutions, this site offers an organized way to streamline and enhance the placement process. Four main aspects are highlighted in this introduction: tracking placement records, exporting data into Excel and applying filters, creating databases and registering students, and verifying student data. Building and launching an extensive placement platform that improves students' employability is the primary goal. Our goal with this project is to develop a user-friendly online platform that links companies and job seekers while offering useful tools and resources to help students become more prepared for the workforce. The portal's design and development, user interaction tactics, employability analysis, and long-term sustainability are the main objectives of the project. Training & Placement Officers (TPOs) can more effectively manage extensive student data and expedite the process of shortlisting qualified applicants based on business requirements with the aid of the Placement Management System. Additionally, it guarantees the best possible use of software and hardware resources, which improves the efficiency and organization of placement management. The project's main objectives are to design and create an easy-to-use portal, put user engagement techniques into action, assess how well it improves employability, and guarantee long-term sustainability.

II. LITERATURE SURVEY

[1] This technique provides pupils with a very effective method of placement. With this approach, students may register in a very easy way, and the placement officer can quickly obtain the students' information. Thus, the qualifying kids are easily accessible to the system. Under this system, students automatically receive campus information. Data is first saved in the overall architecture, after which it is retrieved and processed in accordance with regulations and conditions, such as creating reports and mailing students. Records recorded in the database can be kept private and secure thanks to the established system. It sorts and transforms unstructured data into structured data. [2] The automation of the placement cell is the main goal of placement support. approving the resumes, informing the scholar community about the various career opportunities, managing the firm relationship to invite them for placements, developing the location metrics, keeping track of the selection process's progress, and corresponding with various users. The college frequently uses this system as an application to handle student data related to placements. aids in gathering student information for businesses visiting college for recruitment. Companies can obtain information about qualifying students and prospective students before visiting the campus. [3] A number of essential components that improve portal efficacy and user pleasure are considered success criteria. To guarantee high user engagement, a user-centric design is

crucial, with features like an intuitive interface, simple navigation, tailored recommendations, and mobile accessibility. With thorough job descriptions, company profiles, and pertinent keywords that enable precise job matching, comprehensive job listings are important. Features that encourage participation, such as simple job posting, candidate vetting tools, and efficient communication routes, are also essential for strong employer engagement. Furthermore, data-driven insights—such as analytics and reporting tools—assist in identifying skill shortages, tracking placement patterns, and bolstering career counseling programs. Last but not least, effective portals provide smooth integration with career services, combining current mentorship, workshops, and counseling programs to offer users comprehensive help. [4] Despite their continuous use, existing placement systems—especially traditional methods—have a number of drawbacks. Campus placements are frequently successful, however they usually entail manual procedures, have a small audience, and could be biased. Another popular approach, job fairs, can be time-consuming for both businesses and students and provide little chances for deep engagement. College placement offices frequently struggle with a lack of staff and resources, which can limit their capacity to offer students individualized coaching and impede effective job matching. [5] An important factor in a placement portal's efficacy is user experience design. To get feedback and make sure the portal is simple to use and navigate, usability testing should be done at every stage of development. Accessibility is another major aspect, requiring the portal to be created in conformance with accessibility requirements (e.g., WCAG) to support users with disabilities. By customizing features and information to each student's requirements and preferences, personalization improves the user experience. Gamification components can also be used to encourage student participation and engagement. [6] Portals for e-placements : Electronic placement systems have been implemented by a number of colleges and universities, allowing students to register, apply for employment, and monitor their placements. However, there are frequently inefficiencies and communication gaps on these platforms due to the absence of smooth interaction between recruiters and students. Portals for e-placements enable students to register, apply for jobs, and track placements online, but often face inefficiencies and communication gaps due to limited interaction between recruiters and students.

III. METHODOLOGY

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 to view 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.

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.

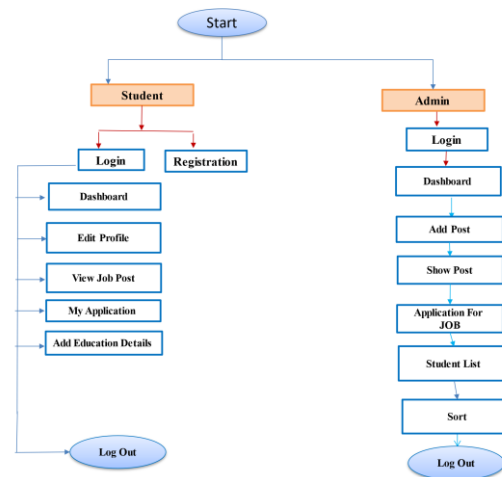
User Experience

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. 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.

IV. EXPERIMENTAL RESULTS

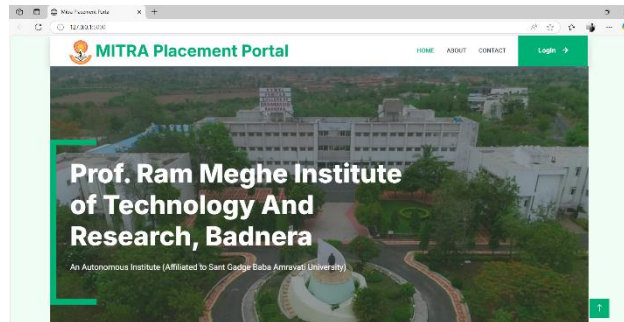


Fig. 1 Home Page

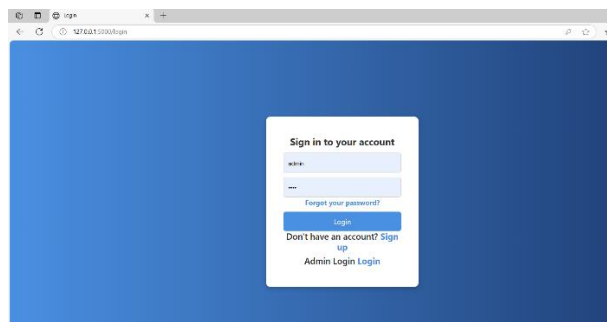


Fig. 2 Student Login

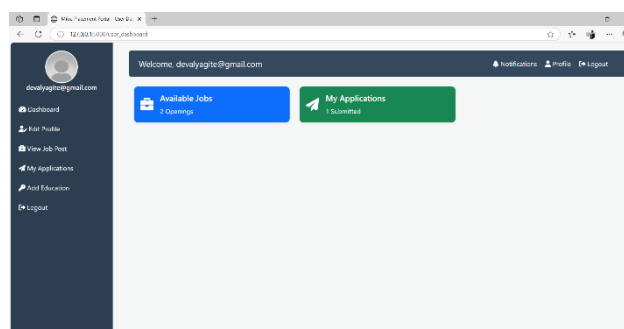


Fig. 4 Student Dashboard

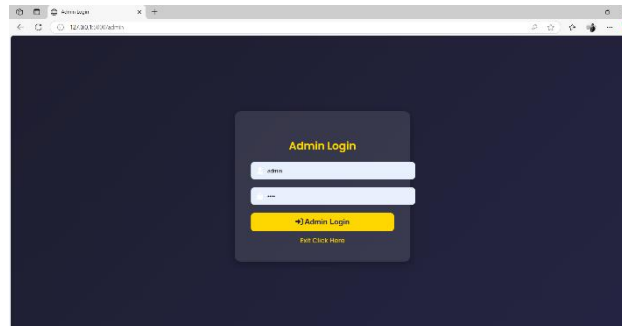


Fig. 5 Admin Login

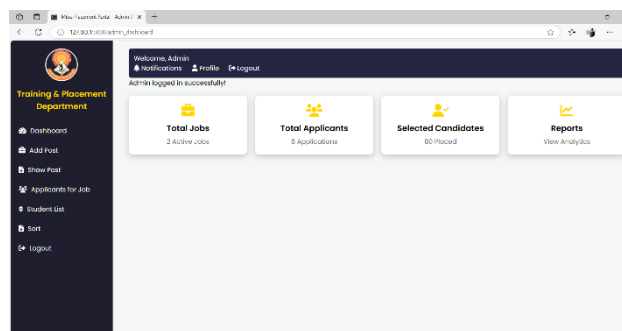


Fig. 6 Admin Dashboard

V. IMPLEMENTATION

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-SQLAlchemy (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** (SQLAlchemy 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.

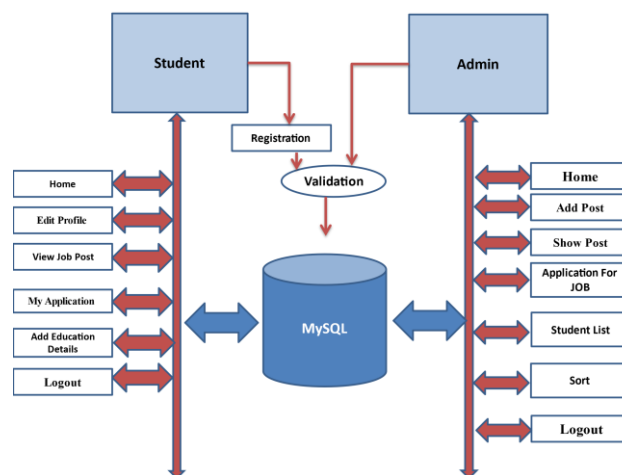


Fig. 7 Admin Dashboard

VI. CONCLUSION

Through the automation of job listings, student applications, eligibility verification, and placement tracking, the College Placement Portal effectively improves the campus recruitment process. The technology facilitates communication between administrators, recruiters, and students, guaranteeing a data-driven, transparent, and effective placement process. The portal improves accuracy, accessibility, and efficiency by substituting web-based digital solutions for manual processes, which eventually results in higher placement rates and better student success. In conclusion, the College Placement Portal stands as a comprehensive solution to the challenges faced in traditional campus recruitment systems. By automating key processes such as job listings, applications, eligibility checks, and placement tracking, it not only reduces administrative workload but also enhances overall efficiency. The integration of features like a centralized database, instant notifications, a resume builder, and insightful reporting tools ensures that all stakeholders—students, recruiters, and administrators—are better connected and more informed. Ultimately, the portal leads to a more accurate, accessible, and streamlined placement process, contributing to increased placement rates and greater student success.

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