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Next-Gen Career Preparation Ecosystem

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ABSTRACT: In today's competitive job market, students often face challenges in preparing for aptitude tests, coding interviews, and resume building due to the lack of a unified and structured platform. Most existing systems focus on individual aspects of preparation and fail to provide a complete learning environment.

To address these issues, this project introduces the Next-Gen Career Preparation Portal, a web-based platform designed to support students in all stages of placement preparation. The system provides topic-wise aptitude, coding, and interview questions, along with mock interview functionality and a resume builder integrated with an ATS (Applicant Tracking System) analyzer to improve resume quality.

Additionally, the platform includes a unique reward-based contribution system where students can submit questions. After admin validation, users are rewarded with coins that can be used in the store section. The system also provides discussion forums and query sections to encourage collaborative learning and knowledge sharing.

The proposed system improves preparation efficiency, enhances user engagement, and provides a structured and interactive environment for career development.

I. INTRODUCTION

Placement preparation plays a crucial role in shaping a student's career, especially for those pursuing engineering and technical education. Many students face difficulties in preparing for aptitude tests, coding interviews, and technical rounds due to the lack of proper guidance and structured resources. Most students depend on multiple platforms for different aspects of preparation, which makes the process time-consuming and less effective.

Existing platforms generally focus on specific areas such as coding practice or aptitude training, but they do not provide a complete solution that integrates all the necessary features required for placement preparation. Additionally, students often lack opportunities for real-time practice, resume evaluation, and peer interaction, which are essential for improving performance and confidence.

To overcome these challenges, the Next-Gen Career Preparation Portal is developed as an all-in-one platform that combines learning, practice, evaluation, and community interaction. The system provides topic-wise questions, mock interviews, resume building with ATS analysis, and a collaborative environment where students can share knowledge and participate in discussions.

The main objective of this project is to create a structured, user-friendly, and interactive platform that helps students improve their skills, track their progress, and prepare effectively for placements.

II. EXISTING SYSTEM

Existing career preparation systems mainly focus on individual aspects such as aptitude training, coding practice, or resume building. Many online platforms provide coding problems and aptitude questions, but they do not offer a complete and integrated environment for placement preparation.

Most coding platforms help students improve problem-solving skills but lack features like mock interviews, resume analysis, and real-time feedback. Similarly, aptitude preparation websites provide question banks but do not offer structured learning paths or performance tracking.

Resume-building tools are also available, but many of them do not include ATS (Applicant Tracking System) analysis, which is important for improving resume visibility during job applications. Additionally, these platforms do not provide guidance on how to optimize resumes according to industry standards.

Another major limitation of existing systems is the lack of community interaction and contribution mechanisms. Students are usually passive users and do not get opportunities to share knowledge or contribute content. Moreover, there is no reward-based system to motivate users, which reduces engagement and participation.

Due to these limitations, students often have to switch between multiple platforms, making the preparation process inefficient and less organized. This highlights the need for a unified system that integrates all essential features into a single platform.

III. PROPOSED SYSTEM

The proposed system, *Next-Gen Career Preparation Portal*, is a web-based platform designed to provide a comprehensive solution for student placement preparation. The system integrates multiple features such as aptitude practice, coding challenges, mock interviews, resume building, and community interaction into a single platform. The system is divided into two main modules: Student Module and Admin Module.

The **Student Module** allows users to access topic-wise aptitude, coding, and interview questions, enabling structured learning and practice. Students can also participate in mock interviews to gain real-time experience and improve their confidence. The platform includes a resume builder with an integrated ATS analyzer, which helps students create optimized resumes that meet industry standards.

A unique feature of the system is the contribution mechanism, where students can post questions. These questions are reviewed by the admin, and if found valid, students are rewarded with coins. These coins can be used in the store section to access additional resources or benefits, which encourages active participation and engagement.

The **Admin Module** is responsible for managing the overall system. The admin can add or delete users, upload and manage questions, validate student contributions, assign rewards, and handle user queries. This ensures the quality and reliability of the platform.

By combining learning, practice, evaluation, and reward-based engagement, the proposed system provides a structured and interactive environment that improves student preparation and overall performance in placements.

IV. METHODOLOGY

The methodology of the proposed system explains how different modules work together to provide an effective career preparation platform. The system is divided into several modules, each responsible for specific functionalities.

i. Data Collection

This module is responsible for collecting aptitude questions, coding problems, and interview questions from reliable sources. The collected data is organized topic-wise to make it easy for students to access and practice. It ensures that the content is accurate, relevant, and useful for placement preparation.

ii. Content Management System

This module manages the storage, organization, and retrieval of all questions and learning materials. It allows the admin to upload, update, and delete content efficiently. The system ensures that the data is well-structured and easily accessible to users.

iii. User Interaction Module

This module handles all user-related activities such as practicing questions, attending mock interviews, building resumes, and participating in discussions. It provides a smooth and interactive experience for students and helps them track their progress.

iv. Reward System

This module implements a coin-based reward mechanism. Students can contribute questions to the platform, and after admin validation, they are rewarded with coins. These coins can be used in the store section, which motivates students to actively participate and share knowledge.

v. Admin Control System

This module allows the admin to manage users, validate submitted questions, assign rewards, handle queries, and maintain the overall system. It ensures proper monitoring, quality control, and smooth functioning of the platform.

V. SYSTEM ARCHITECTURE

System architecture defines the overall structure of the proposed system and explains how different components interact with each other. The Next-Gen Career Preparation Portal follows a multi-layered architecture that ensures efficient communication between users, application logic, and data storage.

The system consists of three main layers: User Interface Layer, Application Layer, and Database Layer.

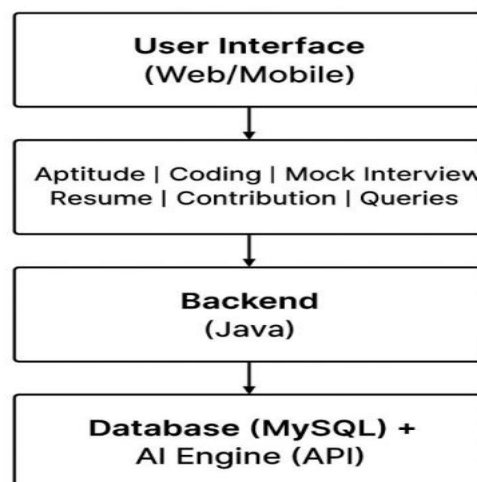
The **User Interface Layer** provides interaction between users and the system. It allows students and administrators to access various features such as aptitude practice, coding challenges, mock interviews, resume building, contribution system, and query handling through a user-friendly interface.

The **Application Layer** handles the core functionality of the system. It processes user requests and manages modules such as aptitude, coding, mock interviews, resume builder, contribution system, and query management. This layer ensures smooth execution of all system operations using backend technologies.

The **Database Layer** is responsible for storing all the data related to users, questions, rewards, resumes, and system activities. It uses MySQL for efficient data storage and retrieval and integrates with an AI-based engine through APIs for resume analysis and intelligent processing.

The architecture is designed to be scalable, secure, and easy to maintain. It supports modular development, allowing changes in one module without affecting others, thereby improving system performance and reliability.

The architecture clearly shows the interaction between the user interface, application modules, backend processing using Java, and data storage in MySQL integrated with an AI engine.



VI. RESULTS AND OUTPUT

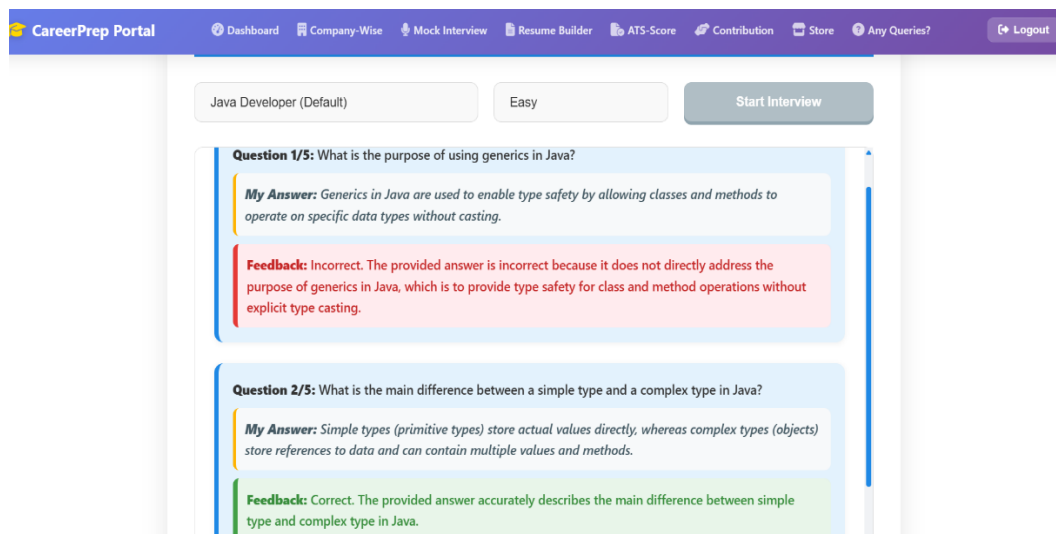
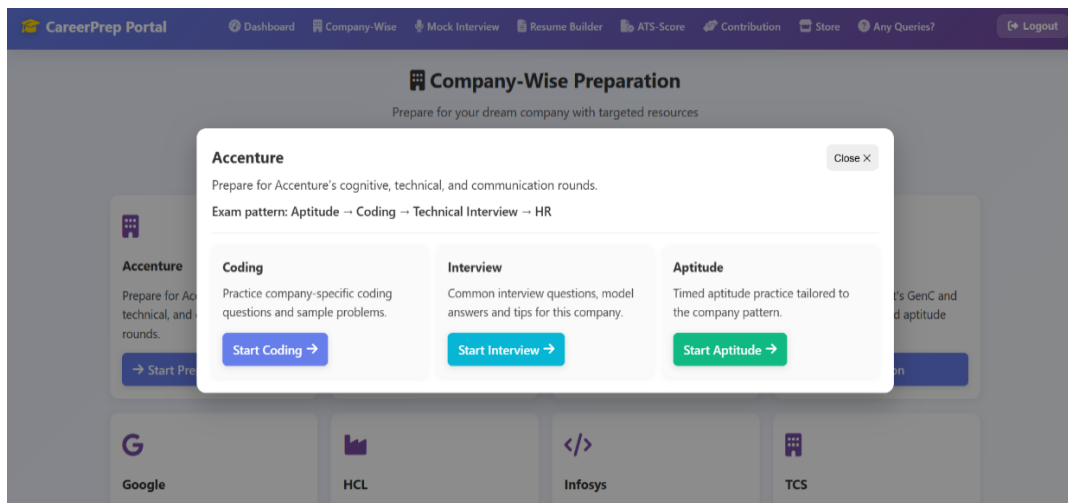
The developed system successfully integrates multiple features required for placement preparation into a single platform. The system provides a user-friendly interface where students can easily access aptitude questions, coding problems, and interview preparation materials.

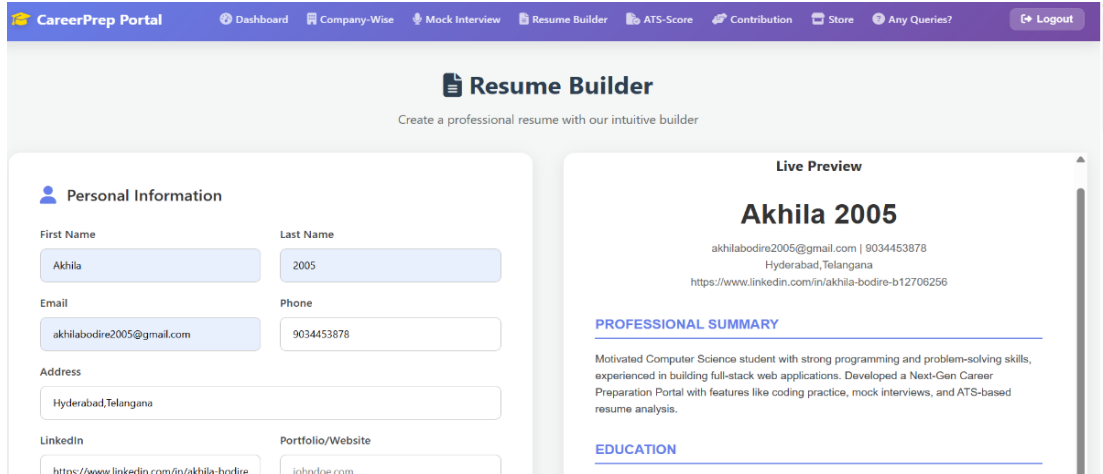
Users can participate in mock interviews, build resumes using the ATS analyzer, and contribute questions to the platform. The reward system encourages active participation by providing coins for valid contributions, which can be redeemed in the store section.

The discussion forum and query section enable collaborative learning and help students clarify their doubts. The admin module ensures proper management of users, validation of content, and smooth system operation.

Overall, the system improves student engagement, enhances preparation efficiency, and provides a structured environment for career development

Student Module





CareerPrep Portal | Dashboard | Company-Wise | Mock Interview | Resume Builder | ATS-Score | Contribution | Store | Any Queries? | Logout

Resume Builder

Create a professional resume with our intuitive builder

Personal Information

First Name	Last Name
<input type="text" value="Akhila"/>	<input type="text" value="2005"/>
Email	Phone
<input type="text" value="akhilabodire2005@gmail.com"/>	<input type="text" value="9034453878"/>
Address	
<input type="text" value="Hyderabad,Telangana"/>	
LinkedIn	Portfolio/Website
<input type="text" value="https://www.linkedin.com/in/akhila-bodire"/>	<input type="text" value="info@fse.com"/>

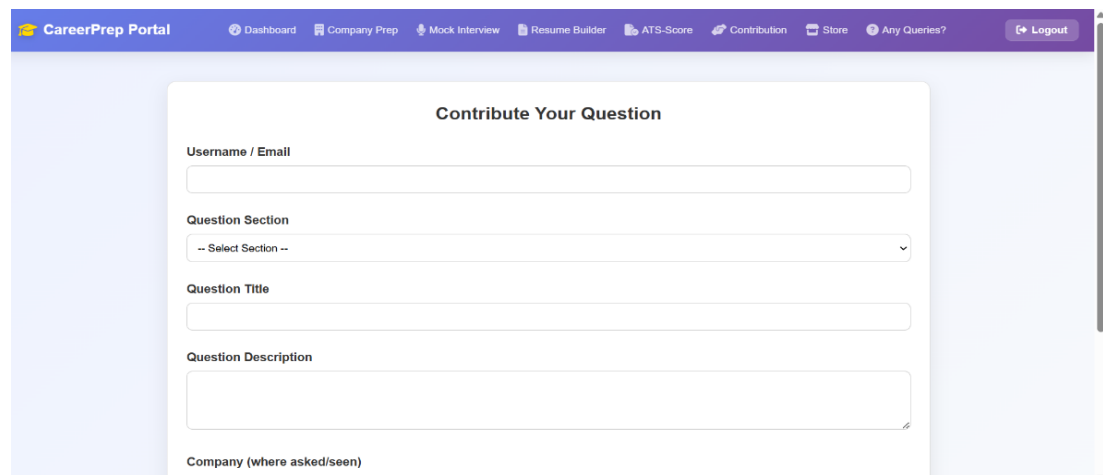
Live Preview

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PROFESSIONAL SUMMARY

Motivated Computer Science student with strong programming and problem-solving skills, experienced in building full-stack web applications. Developed a Next-Gen Career Preparation Portal with features like coding practice, mock interviews, and ATS-based resume analysis.

EDUCATION



CareerPrep Portal | Dashboard | Company Prep | Mock Interview | Resume Builder | ATS-Score | Contribution | Store | Any Queries? | Logout

Contribute Your Question

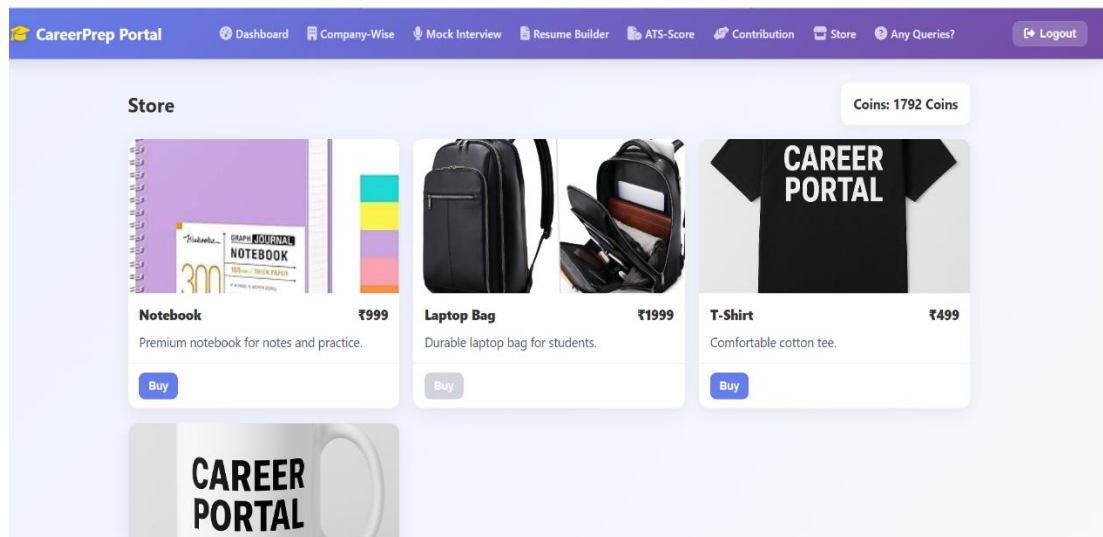
Username / Email:

Question Section:

Question Title:

Question Description:

Company (where asked/seen):



CareerPrep Portal | Dashboard | Company-Wise | Mock Interview | Resume Builder | ATS-Score | Contribution | Store | Any Queries? | Logout

Coins: 1792 Coins

Notebook

₹999

Premium notebook for notes and practice.

Buy

Laptop Bag

₹1999

Durable laptop bag for students.

Buy

T-Shirt

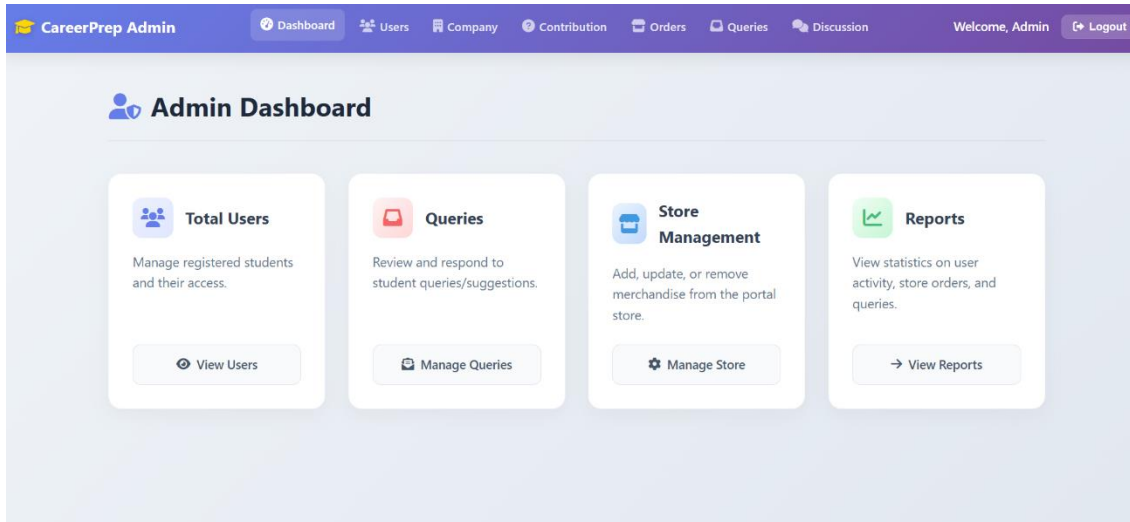
₹499

Comfortable cotton tee.

Buy

CAREER PORTAL

Admin Module



VII. CONCLUSION

The Next-Gen Career Preparation Portal provides a comprehensive and integrated solution for students preparing for placements. It combines multiple features such as aptitude practice, coding challenges, mock interviews, resume building with ATS analysis, and a contribution-based reward system into a single platform.

The system successfully addresses the limitations of existing platforms by providing a structured and user-friendly environment for learning and practice. The inclusion of a reward mechanism encourages students to actively participate and share knowledge, thereby improving engagement and collaboration.

Additionally, the platform enhances student confidence and preparation efficiency by offering real-time practice and evaluation. The admin module ensures proper management of content and users, maintaining the quality and reliability of the system.

Overall, the proposed system creates an effective and interactive ecosystem for career preparation, helping students improve their skills and perform better in placement opportunities.

VIII. FUTURE SCOPE

The Next-Gen Career Preparation Portal can be further enhanced by introducing advanced features and improvements to increase its effectiveness and scalability.

Future enhancements may include the integration of AI-based mock interview analysis, where the system can evaluate student performance and provide personalized feedback. The platform can also be improved by adding personalized learning recommendations based on user performance and progress.

Additionally, company-specific preparation modules can be introduced to help students prepare for particular organizations. The system can be extended into a mobile application to improve accessibility and user convenience.

Real-time performance tracking dashboards and analytics can be implemented to help students monitor their progress more effectively. Integration with external job portals and APIs can also be considered to provide real-time job updates and opportunities.

These improvements will make the system more intelligent, user-friendly, and suitable for real-world applications.

REFERENCES

- [1] A. Varshney, R. Saini, and A. Sharma, "Artificial Intelligence in Recruitment and Talent Acquisition," IEEE Conference on Computational Intelligence and Human Resource Applications, 2023. Available :
<https://ieeexplore.ieee.org/document/10074768>
- [2] K. Ramesh, L. Martinez, and P. Gupta, "Intelligent E-Learning Systems Using Machine Learning and Predictive Analytics," IEEE International Conference on Advanced Learning Technologies, 2022. Available :
<https://ieeexplore.ieee.org/document/9832148>
- [3] L. Thomas, P. Verma, and S. Rao, "A Unified Platform for Aptitude, Coding, and Interview Preparation Using Intelligent Recommendation Models," IEEE Conference on Educational Technology and Online Learning (ETOL), pp. 201–209, 2024
- [4] M. Patel, J. Souza, and F. Khan, "Automated Resume Screening and Candidate Ranking Using NLP and Machine Learning," IEEE International Conference on Data Science and Engineering, 2021. Available :
<https://ieeexplore.ieee.org/document/9523036>
- [5] S. Mehta, R. Kulkarni, and D. Banerjee, "AI-Driven Mock Interview Systems for Enhancing Technical Skill Assessment," IEEE International Conference on Artificial Intelligence and Virtual Learning (AIVL), pp. 88–95, 2023



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