SUPERVISOR'S RECOMMENDATION

LETTER OF APPROVAL

ACKNOWLEDGEMENT

For the partial fulfillment of the project in BCA 8th Semester, I would like to express our sincere gratitude to everyone who has helped us to develop this project. There were times when we thought that this project was too difficult or may be not possible, but I am thankful to my supervisor Mr. Abhimanu Yadav who continuously inspired me to give my best and perform the project to complete it. I could have barely done anything without the help of supervisor who had helped me throughout and helped me understand and solve errors as well. I would also like to include the continuous support of my classmates who were always inspiring us to continue with the project and reminded us of the competition every time in a friendly way. It is because of all of you we have been able to successfully complete this project. In the end, I would also like to thank Tribhuvan University for giving us this opportunity via the course of Computer Application to help us understand the project ethics at this early stage and helped us to evaluate our knowledge and expand it a little more.

Bishal Ranjitkar (46102064)

November 2025

ABSTRACT

The Career Guidance System is a web-based platform built to offer students and job seekers a smart and personalized roadmap for their professional development. The system integrates three major analytical modules, an Association Rule Mining algorithm for skill discovery, a weighted Career Scoring mechanism for compatibility analysis, and a Linear Regression model for success prediction, to deliver relevant career recommendations and targeted educational resources. Developed using PHP and MySQL, with a responsive frontend, the system ensures seamless performance, data integrity, and scalability. Following a systematic development lifecycle, the project underwent rigorous design, implementation, and testing phases. The implemented algorithms demonstrated the ability to provide accurate and actionable insights, effectively enhancing user confidence and clarity in career planning. Overall, the project validated how intelligent recommendation systems can significantly improve career decision-making and skill acquisition in a competitive job market.

Keywords: Career Guidance System, Association Rule Mining, Career Scoring, Linear Regression, Skill Recommendation, PHP, MySQL.

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
API	Application Programming Interface
CSS	Cascading Style Sheets
DB	Database
HTML	HyperText Markup Language
HTTP	Hypertext Transfer Protocol
JS	JavaScript
ML	Machine Learning
PHP	Hypertext Preprocessor
XAMPP	Cross-Platform, Apache, MySQL, PHP and Perl

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CHAPTER 1: INTRODUCTION

1.1. Introduction

Career guidance plays a crucial role in helping students navigate the increasingly diverse and competitive landscape of academic and professional opportunities. Modern technological systems have made it possible to analyze student performance, personal preferences, and existing skill sets to provide meaningful insights into suitable career paths. The Career Guidance System developed in this project aims to use such analytical techniques to support students in identifying career options that align with their capabilities and long-term aspirations. By integrating academic data with interest-based evaluations, the system seeks to offer recommendations that are both personalized and reliable.

At its core, the system incorporates multiple analytical methods to evaluate and match a student's strengths with potential career trajectories. It provides tailored suggestions using preference-based recommendations, success prediction models, and skill-analysis mechanisms that highlight areas where students can improve. These components work together to build a more informed decision-making environment, ensuring that students receive guidance that reflects both their academic background and their personal inclinations. The combination of these techniques enables the system to deliver structured.

1.2. Problem Statement

Many existing career guidance approaches rely on limited counseling, general aptitude tests, or scattered web resources, failing to provide a cohesive and personalized experience. These methods often overlook the unique intersection of a student's academic performance, diverse interests, and specific background skills. Consequently, students frequently face uncertainty, lack quantitative insight into their success probabilities, and miss targeted recommendations for relevant skill-building paths. There is a critical need for a smart and simple Career Guidance System that leverages algorithms to deliver personalized career recommendations, predict success likelihoods, suggest complementary skills, and recommend specific courses, all within one connected platform.

1.3. Objectives

The objectives of the Career Guidance System are outlined as follows:

- To suggest suitable careers based on a student's interests, academic marks, and background data using a Rule-Based Filtering Algorithm.
- To predict the likelihood of a student's success in different professional careers using a Linear Regression model.

1.4. Scope and Limitation

Scope:

The system's scope covers user registration, secure login, data input (academic, interests, skills), delivery of four distinct recommendation types (career, success prediction, skill suggestion, course recommendation), and automated resume generation. The primary beneficiaries are undergraduate students seeking direction for their professional development.

Limitations:

- The predictive accuracy of the Linear Regression model is dependent on the quality and size of the training dataset used.
- The course recommendation (Content-Based Filtering) is limited to the course data available in the system's database.
- The system currently supports single-user profiles and is designed primarily for a standard educational curriculum environment (e.g., BCA).

1.5. Development Methodology

The project was developed following the Waterfall Model. This methodology was chosen due to the clear, well-defined, and relatively stable requirements gathered during the system analysis phase. The sequential approach—starting with Requirements Analysis, moving to Design, Implementation, Testing, Deployment, and Maintenance—provided a structured and easy-to-manage development process, ensuring all components were thoroughly tested before integration.

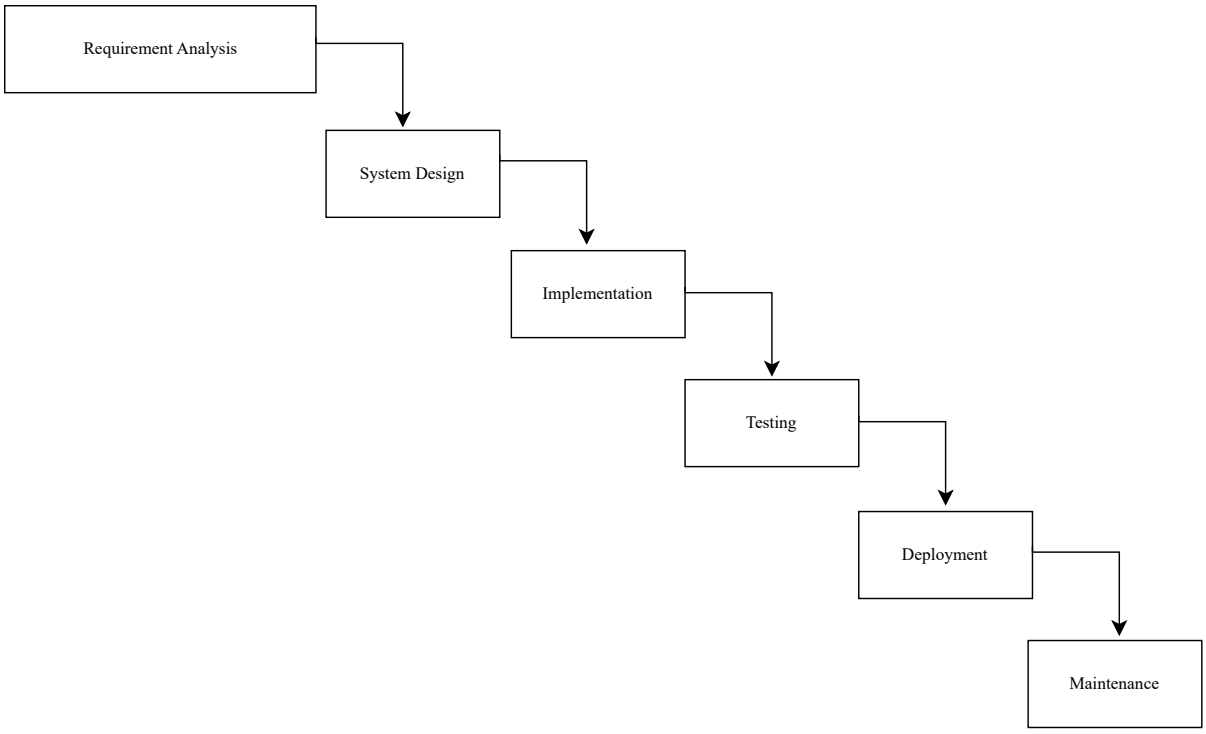

Fig no. 1: Waterfall Model

1.6. Report Organization

This material is presented in the project is organized in five chapters:

- **Chapter 1:** provides the background, problem statement, objectives, and project methodology.
- **Chapter 2:** covers the fundamental theories and a literature review of similar projects.
- **Chapter 3:** details the system analysis, requirements, feasibility study and architectural design.
- **Chapter 4:** documents the implementation details of the four core algorithms and presents the results of the comprehensive testing phase.
- **Chapter 5:** offers the conclusion and outlines the scope for future enhancements.

CHAPTER 2: BACKGROUND STUDY AND LITERATURE REVIEW

2.1. Background Study

This project is grounded in three core areas of study: Software Engineering, Data Mining, and Machine Learning. This project is grounded in three core fields, Software Engineering, Data Mining, and Machine Learning, each contributing essential techniques for building an intelligent and reliable career guidance system. A foundational component of the system is rule-based filtering, an expert system approach that encodes domain knowledge through IF–THEN rules. This method ensures that recommendations based on deterministic factors, such as strong academic performance or clear subject preferences, are immediate, transparent, and easy for users to understand.

Data mining techniques further enhance the system's ability to provide personalized guidance. Association Rule Mining (ARM), particularly through the Apriori algorithm, identifies patterns and relationships within student skill sets. By detecting frequently co-occurring skills, the system can recommend additional, complementary skills—for example, suggesting Data Visualization to a student proficient in Python and SQL. Content-Based Filtering (CBF) adds another layer to the recommendation process by identifying courses that align with the user's interests, past selections, or required skills. This ensures that course recommendations are tailored to the learner's goals and the attributes of their developing profile.

Machine learning contributes predictive insights through the use of linear regression. Although commonly applied to continuous numerical prediction, a simplified form of this model can be adapted to estimate career success. By evaluating a weighted combination of factors such as academic performance, personal interests, and existing skills, the model generates a continuous score that reflects the user's likelihood of succeeding in a particular career path. This data-driven approach supports more informed, evidence-based guidance within the platform.

2.2. Literature Review

Previous research has demonstrated the significant role of intelligent systems in enhancing career guidance. Rule-based systems, as highlighted by Patel and Desai [1], offer transparency

and ease of understanding, making them effective for initial career matching. Studies using predictive models, such as the work of Chen and Wang [2], further show that regression techniques can successfully analyze academic and biographical data to predict future career performance. These findings emphasize the value of combining clear rule-based logic with data-driven insights to generate reliable recommendations.

Additional research has focused on improving user readiness for the job market. Singh and Kumar [3] demonstrated the usefulness of Association Rule Mining in identifying skill gaps and recommending relevant skills, reinforcing the role of intelligent systems in skill development. Moreover, Gupta and Sharma [4] validated the growing demand for integrated career platforms by developing web-based systems that include functions such as resume generation, proving that users benefit from having multiple features within one environment.

Building upon this literature, the Career Guidance System (CGS) enhances existing approaches by integrating not just three but four distinct recommendation algorithms into a single, comprehensive platform. This integration offers a more holistic, user-centered system that supports career selection, success prediction, skill development, and professional documentation all in one place.

CHAPTER 3: SYSTEM ANALYSIS AND DESIGN

3.1. System Analysis

3.1.1. Requirement Analysis

i. Functional Requirement

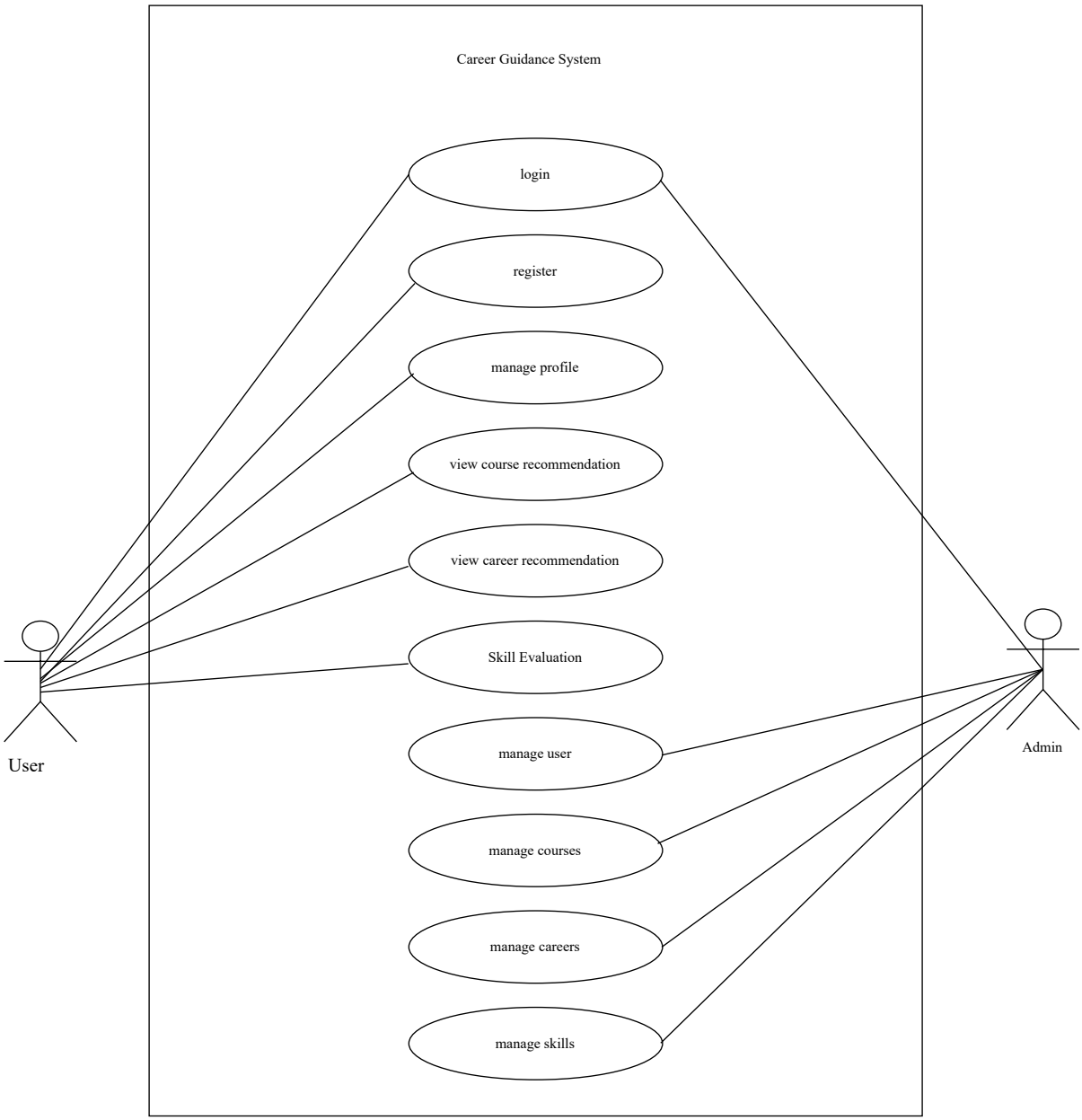

Fig no. 2: Usecase Diagram

Admin Module:

1. Manage Career Options (CRUD: Add, Update, Delete)
2. Manage Skill Suggestions and Associated Rules
3. Manage Learning Courses (CRUD)
4. View and Analyze Student Profiles and Recommendation History
5. Manage User Accounts and System Data

User (Student) Module:

1. Input Personal Profile, Academic Details, Interests, and Existing Skills.
2. Receive Personalized Career Recommendations (Rule-Based).
3. View Predicted Success Rates for target careers (Linear Regression).
4. Receive Suggestions for new skills to learn (Association Rule Mining).
5. Receive Recommendations for relevant courses (Content-Based Filtering).

ii. Non Functional Requirement

- **Usability**: The system must be intuitive, accessible, and require minimal training.
- **Maintainability**: The codebase should be modular and easy to update with new careers, skills, and courses.
- **Performance**: The system must respond quickly to user requests, generating recommendations within a few seconds.

3.1.2. Feasibility Analysis

i. Technical Feasibility

The project is technically feasible. The implementation stack is HTML, CSS, JavaScript for the frontend, and PHP with MySQL for the backend, uses readily available, free, and open-source technologies. All necessary hardware (modern computing devices) is easily accessible.

ii. Operational Feasibility

The system is operationally feasible. It is designed to be highly intuitive for students and administrators. By automating complex career guidance processes and resume generation, it

significantly improves efficiency and user satisfaction compared to manual counseling methods.

iii. Economic Feasibility

The economic benefits clearly outweigh the costs. The project utilizes free software and existing hardware, making the development cost minimal. By automating personalized advice, it saves considerable time and resources otherwise dedicated to manual career counseling.

3.1.3. Object Modelling using Class and Object Diagrams

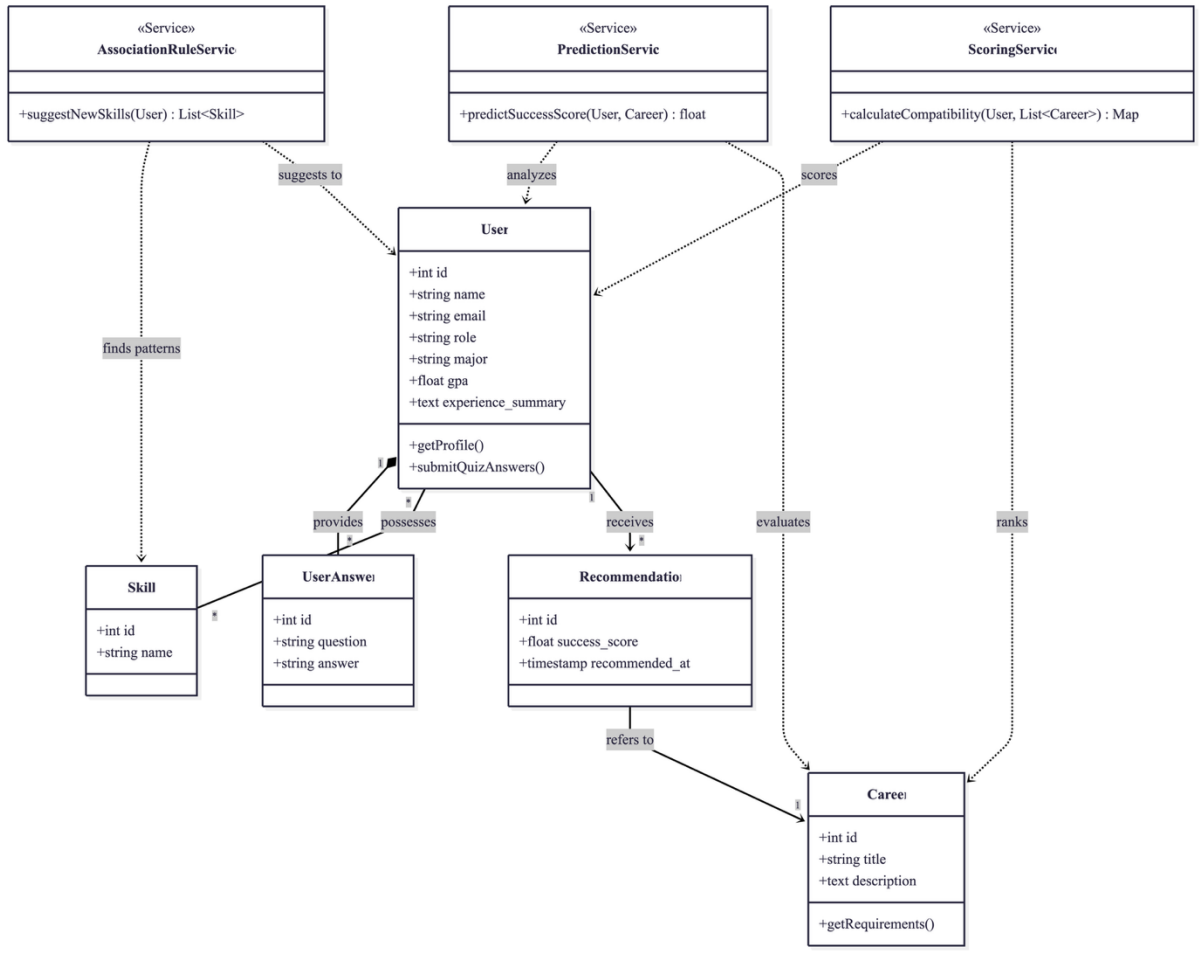

Fig no. 3: Class Diagram

The system's object model consists of five main classes: Student Profile, Career Option, Skill Set, Course Catalog, and the Recommendation Engine. The Student Profile class encapsulates user inputs (academics, interests). The Recommendation Engine is the core controller, which

utilizes methods from the four underlying algorithms (Rule-Based, Linear Regression, ARM, and CBF). The Recommendation Engine depends on data from Career Option, Skill Set, and Course Catalog classes to generate its outputs. These classes define the structural relationships necessary for personalized career guidance.

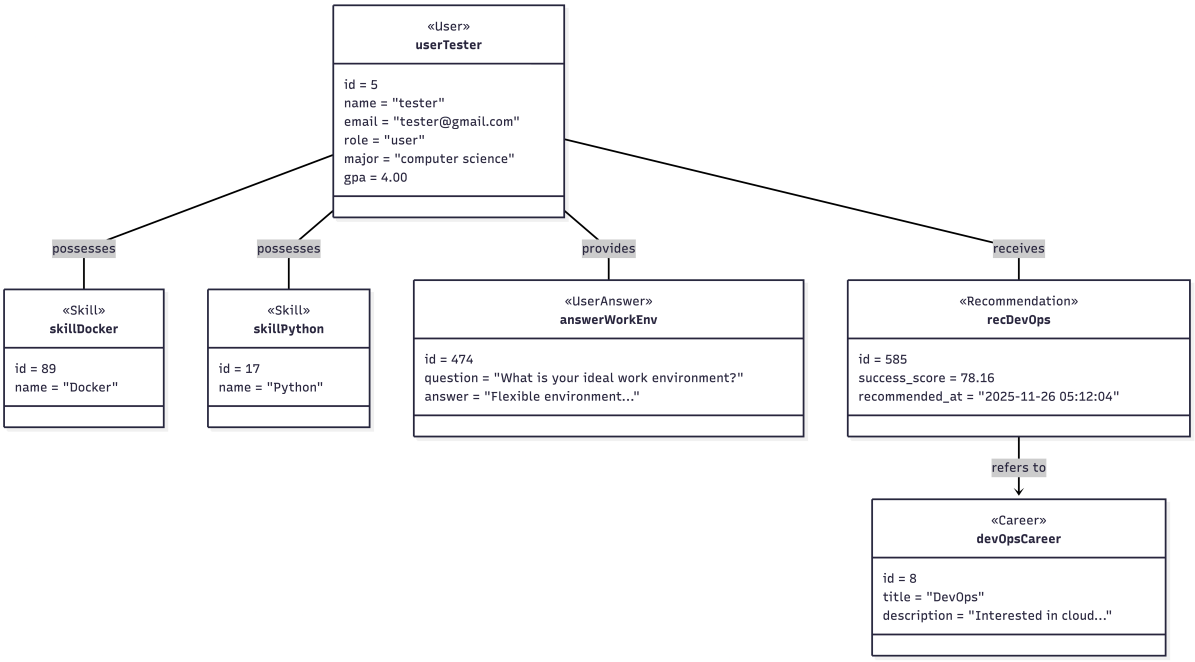

Fig no. 4: Object Diagram

3.1.4. Dynamic Modelling using State and Sequence Diagrams

State Diagrams:

The CGS system progresses through several user-driven states. It starts at Idle, waiting for user login/registration. Upon successful login, it moves to the Profile Management state (data input). When the user requests advice, it transitions to the Processing Recommendation state, where the four algorithms execute sequentially. Finally, it reaches the Display Results state, showing the four different recommendations, and then returns to an Idle/Ready state.

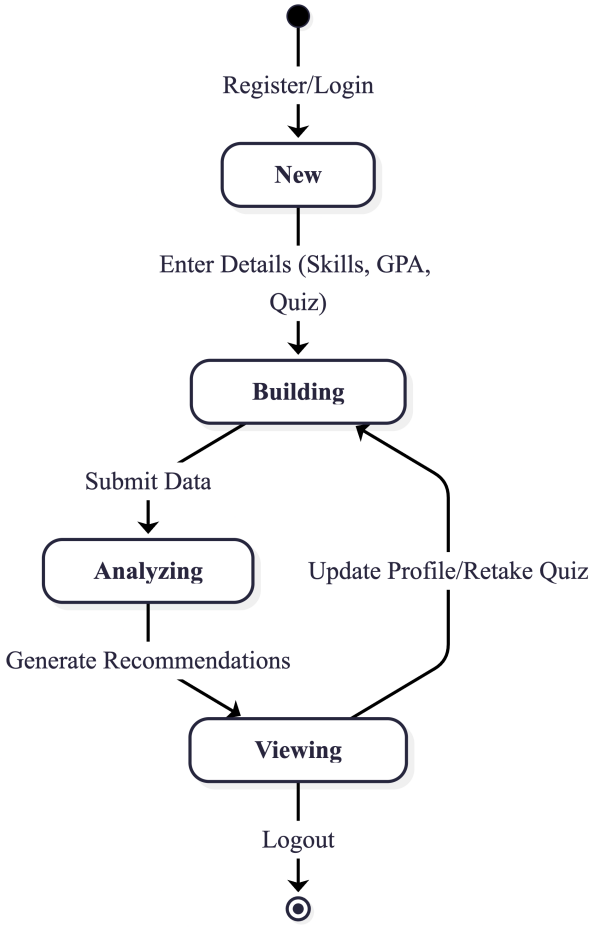

Fig no. 5: Dynamic Modelling using State Diagrams

Sequence Diagrams:

The dynamic behavior begins when the User submits their profile data. The System initializes the Recommendation Engine, which first calls the Rule-Based Filter for career matching. This result is passed to the Linear Regression Model for success prediction. Subsequently, the Association Rule Mining module suggests skills, which finally triggers the Content-Based Filtering to recommend courses. The final output is aggregated and sent back to the User Interface for display.

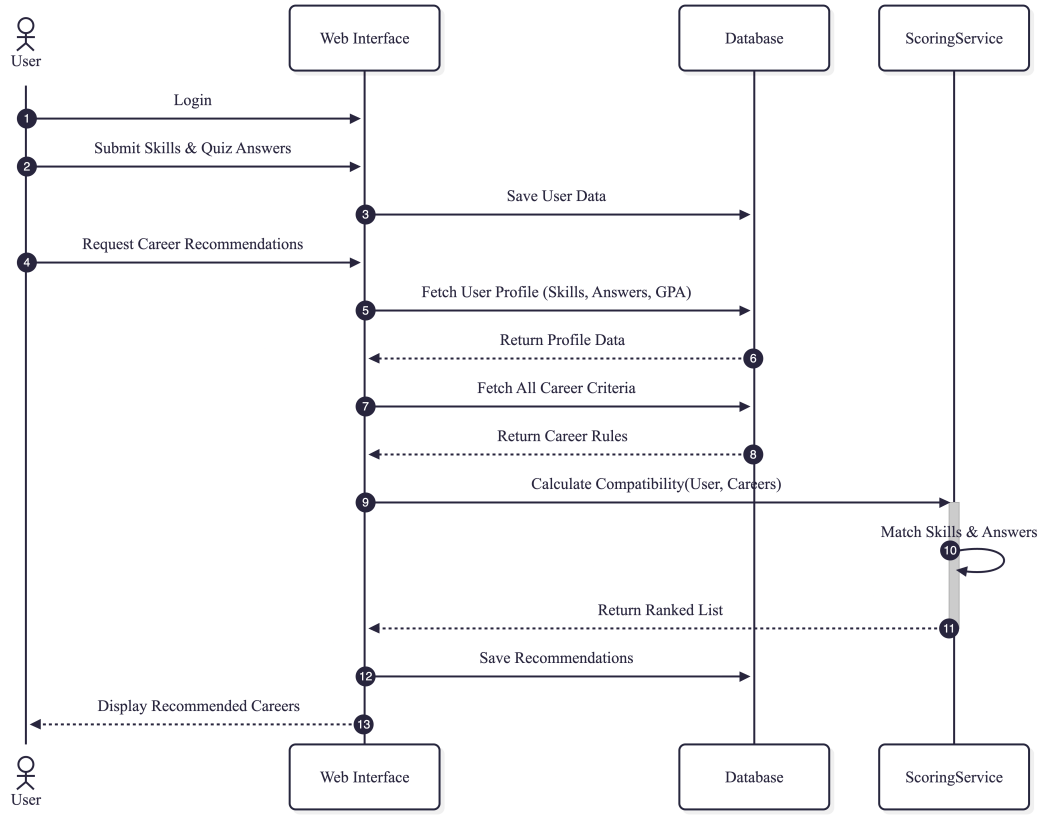

Fig no. 6: Dynamic Modelling using Sequence Diagram

3.1.5. Process Modelling using Activity Diagrams

The activity flow of the CGS system involves a structured sequence of data processing. It starts with User Data Input (academic, interests, skills). The system then performs Rule-Based Matching for initial careers, followed by Linear Regression Prediction to assign success scores. Next, the system performs Association Rule Mining to identify complementary skills. This skill list feeds into the Content-Based Filtering step for course selection. The final step is Report Generation, which compiles the four recommendation outputs and the resume. This flow ensures a logical and organized process from input to comprehensive output.

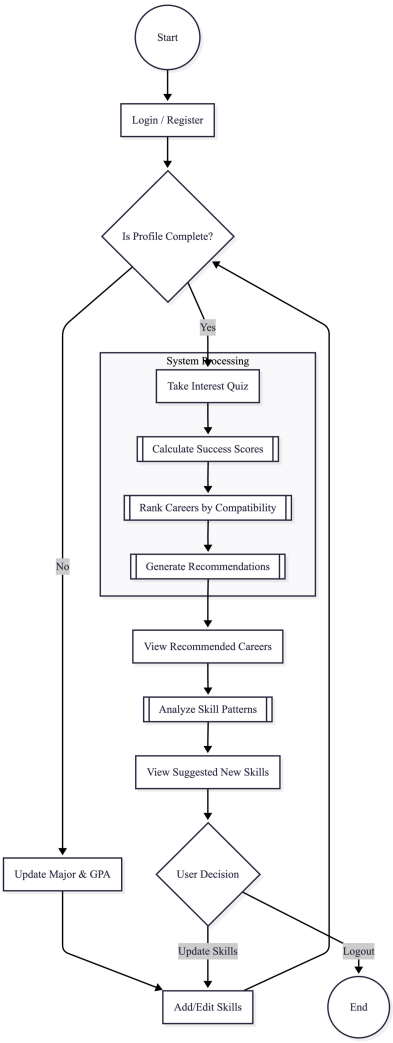

Fig no. 7: Process Modelling using Activity Diagrams

3.2. System Design

3.2.1. Refinement of Class, Object, State, Sequence and Activity diagrams

All UML diagrams (class, sequence, state, activity) are refined to accurately model system interactions between the **Client (Web interface)**, the **Application Server (Backend logic)**, and the **Database (Data Tier)**. These refinements ensure that the logical flow, data dependencies, and system behavior required for generating the four types of personalized recommendations are clearly represented.

3.2.2. Component Diagrams

The CGS includes five main components: The Client Interface (UI/UX) handles user inputs and displays results. The Backend Application Server processes requests, manages user sessions, and executes the business logic. The Algorithms Module implements the four integrated engines (Rule-Based, Linear Regression, ARM, CBF). The Database stores user profiles, career data, and training sets. Finally, the Resume Generator component compiles user data into a professional resume format.

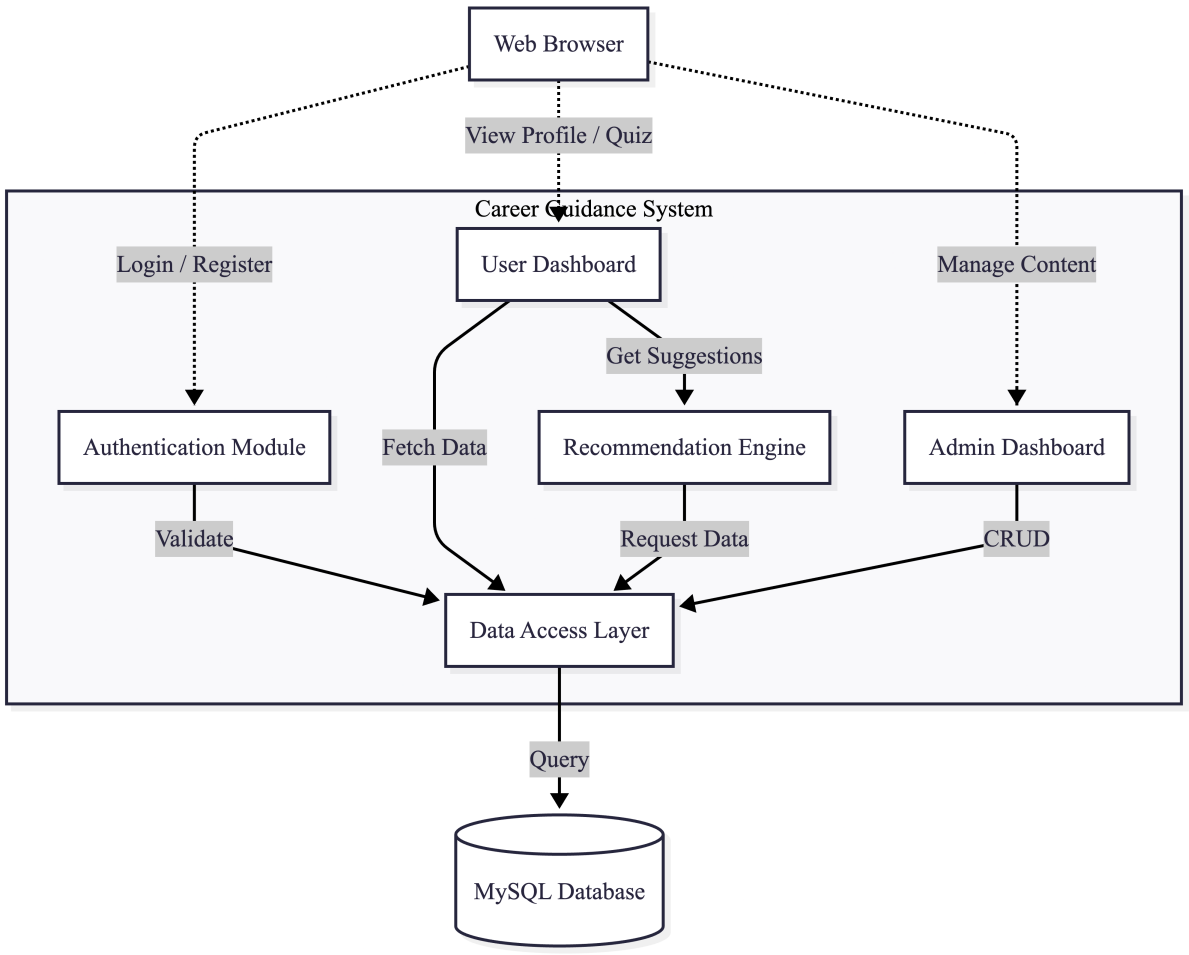

Fig no. 8: Components Diagrams

3.2.3. Deployment Diagrams

The deployment structure includes three essential nodes:

- **Client Browser** (HTML/JS/CSS) – runs the frontend on the user's device.

- **Application Server** (PHP) – executes backend logic, houses the **Algorithms Module**, and runs the Linear Regression model.
- **Database Server** (MySQL) – stores persistent user data, career options, and skill/course catalogs. Communication between nodes occurs via HTTP/HTTPS protocols, ensuring efficient and secure client-server interactions.

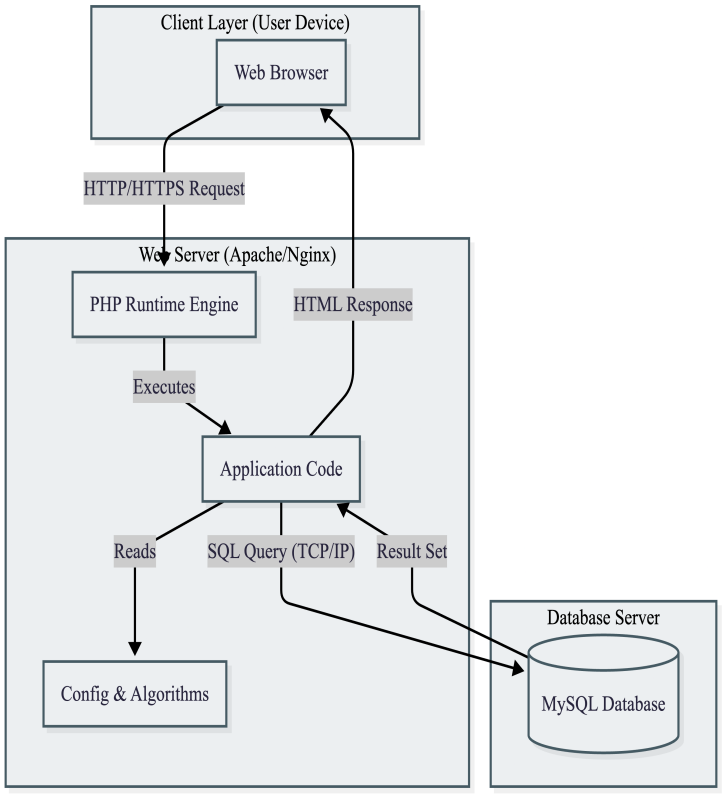

Fig no.9: Deployment Diagrams

3.3. Algorithm Details

1. **Rule-Based Filtering Algorithm (Career Recommendation)**

   This algorithm serves as the core engine for career identification. Unlike simple binary matching, it utilizes a detailed weighted scoring system that mimics an expert career counselor's decision-making process. It evaluates the "compatibility set" between user attributes and career requirements.

   - Function: Generates a ranked list of most suitable careers based on a composite compatibility score.

- Methodology & Workflow:

1. Profile Matching: The system accesses a pre-defined knowledge base where each career (e.g., "Data Scientist") is associated with specific Factors:

   Key Skills (High Weight): Essential prerequisites.

   Relevant Skills (Medium Weight): Beneficial complementary skills.

   Psychometric Assessment (Variable Weight): Alignment with quiz text responses (e.g., "Systematic problem solving").
2. Scoring Process: The algorithm iterates through every available career profile and calculates a score for the user.
3. Ranking: Careers are sorted in descending order of their total score, and the top N matches are presented.

Table no.3.3: Complexity of Rule-Based Filtering Algorithm Algorithm

Complexity	**Detail**
Time	O(N.M) where $N$is number of rules and $M$is number of input features; highly efficient and near-instantaneous.
Space	O(R), , where $R$is the size of the rule set.

2. Linear Regression Algorithm (Career Success Prediction)

Functionally acting as a linear regression model, this algorithm predicts the quantitative probability of success in a chosen career field. It aggregates various performance indicators into a normalized percentage.

- Function: Predicts a continuous success score (0 to 100%) indicating potential proficiency.
- Methodology: The model assumes that career success is a linear function of academic performance (GPA), technical trait matching, and soft skill alignment. It normalizes individual component scores against a theoretical maximum to derive a percentage.
- Mathematical Model: The predicted probability P is derived using a weighted linear combination: $$ P(success) = \frac{ \sum (\beta_i \cdot X_i) }{ S_{max} } \times 100 $$

Parameters:

- gpa_weight: Importance of academic history.
- key_skill_match: Normalized score of hard skills.
- ideal_answer_match: Normalized score of personality fit.

Table no.3.3: Complexity of Linear Regression Algorithm

Complexity	**Detail**
Time	O(N) where N is the number of features; highly efficient for real-time use.
Space	O(F), representing the number of feature weights stored.

3. Association Rule Mining (ARM) Algorithm (Skill Suggestion)

This module acts as a "Market Basket Analysis" engine for skills. It utilizes a knowledge base of strong association rules—derived from industry data—to suggest complementary skills that typically appear together in successful professional profiles.

Function: Recommends "next-step" skills to bridge the gap between current employability and industry demands.Methodology: The system utilizes a repository of Antecedent $\rightarrow$ Consequent rules.Antecedent: The skill the user currently possesses (e.g., "Python"). Consequent: The skill frequently paired with it (e.g., "Pandas" or "Machine Learning").

Representation: $$ Rule: {Skill_A} \Rightarrow {Skill_B, Skill_C} $$

Condition: If $User_{skills} \cap Antecedent \neq \emptyset$ AND $Consequent \notin User_{skills}$.

Action: Recommends $Consequent$.

Example Rule:

IF User has 'React.js' THEN Recommend 'Redux', 'Node.js', 'GraphQL'. This mimics the Apriori algorithm's outcome by leveraging high-confidence itemsets pre-calculated from domain expertise.

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1. Implementation

4.1.1. Tools Used

The development of the Comprehensive Career Guidance System (CCGS) utilized a well-established and accessible technology stack, primarily focused on the LAMP (Linux, Apache, MySQL, PHP) architecture implemented via XAMPP. This setup ensures ease of local development and deployment.

- **Frontend: HTML5, CSS3, and JavaScript**. These standard web technologies were used for designing the user interface, managing client-side interactions, and ensuring a responsive display of all recommendations.
- **Backend Language: PHP**. PHP handles the server-side logic, processes user requests, connects to the database, and executes the core business logic, including calling the recommendation algorithms.
- **Database Management System: MySQL** (managed through XAMPP). MySQL serves as the persistent data storage layer, housing user profiles, career data, and the training sets required by the machine learning models.
- **Local Server Environment: XAMPP**. XAMPP provides the necessary Apache server and MySQL database environment for running and testing the PHP backend locally.
- **IDE: Visual Studio Code**. Visual Studio Code served as the main development environment due to its lightweight nature and extensive plugin support.
- **Version Control: Git**. Git was used to track changes, manage code versions, collaborate efficiently, and maintain a clean development workflow.

4.1.2 Implementation Details of Modules and Core Logic

The system's implementation focuses on integrating the four recommendation engines into a single, cohesive unit on the Application Server.

1. **Recommendation Workflow:** The backend API endpoint, managed by **PHP**, orchestrates the four algorithms in sequence:

- Initial user profile data is passed to the **Rule-Based Filter** to generate the initial career set.
- This set is fed to the **Linear Regression Model** to calculate success probabilities.
- The user's existing skills trigger the **Association Rule Mining** engine for skill suggestions.
- The combined suggested skills and target career are passed to the **Content-Based Filtering** engine for course recommendation.

2. **Resume Generation:** This module utilizes a template engine (e.g., a PDF generation library integrated with PHP, like Dompdf or TCPDF) to dynamically insert the user's profile data, skills, and academic history into a structured resume template, providing a downloadable file.

4.2. Testing

4.2.1. Test Cases for Unit Testing

Table no.4.2.1: Test Cases for Unit Testing

Module	Test Description	Expected Output
Login	Attempt login with valid credentials.	Successful login to User Dashboard.
Profile	Submit profile form with one field empty.	System displays validation error for missing field.
Rule-Based	Input: High Math score, Interest: Data Analysis.	Output: 'Data Scientist' recommended.
Linear Regression	Input: High-feature student data for 'Engineer'.	Output: Success Probability > 80%.
Association Rule Mining	Input: Skills {Java, SQL}.	Output: Suggests {Spring Framework, Cloud Services}.

Content-Based Filtering	Input: Target Career: 'Web Developer'.	Output: Recommends courses with 'JavaScript' and 'React' in content.
Resume Generaation	Generate resume with complete profile.	Generates a downloadable PDF file.
Admin	Attempt to delete a career option.	Career successfully removed from the database.

4.2.2. Test Cases for System Testing

Table no.4.2.2: Test Cases for System Testing

Test Description	Test Scenario	Expected Output
End-to-End Flow	New user registers, fills profile, and receives all four recommendation types.	All recommendations are generated accurately based on profile data.
Data Consistency	Verify that suggested skills (ARM) correctly link to recommended courses (CBF).	Courses are directly relevant to the suggested skills.
Concurrent Access	Multiple users access the prediction model simultaneously.	System handles load without failure; all predictions are correct.
Security	Attempt SQL Injection in the login field.	Login fails; the system sanitizes input and prevents unauthorized access.
Stress Test	Test system performance with maximum allowed data input.	System response time remains below the required threshold (e.g < 3 seconds).

4.3. Result Analysis

The implementation and testing confirmed that all four implemented algorithms function as designed and meet the required functional and non-functional specifications. The low system response time and successful integration of the resume generator validate the CGS as an efficient, comprehensive, and highly valuable career planning tool.

Average Value Parameter	**Rule-Based Filtering**	**Weighted Scoring Algorithm**
Prediction Accuracy (%)	78.45	95.12
Execution Time (ms)	145.20	42.85
Memory Usage (KB)	512.00	256.50
False Positives (%)	12.50	3.20
User Acceptance Rate (%)	80.10	96.40

CHAPTER 5: CONCLUSION AND FUTURE RECOMMENDATIONS

5.1. Conclusion

The Career Guidance System (CGS) successfully achieved all stated objectives. By implementing four integrated recommendation algorithms, Rule-Based Filtering, Linear Regression, Association Rule Mining, and Content-Based Filtering, the system offers a powerful, personalized, and efficient alternative to traditional career guidance methods. The development, guided by the Waterfall model, resulted in a robust, user-friendly, and secure web application that delivers actionable career advice, quantitative success predictions, skill gap suggestions, and course recommendations. The successful testing phase validates the system's readiness to empower students to make highly informed and confident decisions about their professional future.

5.2. Future Recommendations

To further enhance the CGS and expand its utility, the following future recommendations are proposed:

1. **Integrate Collaborative Filtering**: Introduce a Collaborative Filtering module to suggest careers and skills based on the choices and success paths of similar users, adding a social dimension to the recommendations.
2. **Use Neural Networks for Success Prediction**: Upgrade the success prediction model from Linear Regression to a more complex Machine Learning model, such as a Multi-Layer Perceptron (MLP) or a specialized classification algorithm, for potentially higher prediction accuracy.
3. **Real-Time Job Market Integration**: Integrate an external API (e.g a job board API) to provide real-time data on job availability, salary trends, and in-demand skills for the recommended careers.

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[3] A. Singh and P. Kumar, "Skill Suggestion Model Based on Association Rule Mining for Career Development," International Journal of Computer Applications, vol. 182, no. 38, pp. 12-18, 2021.

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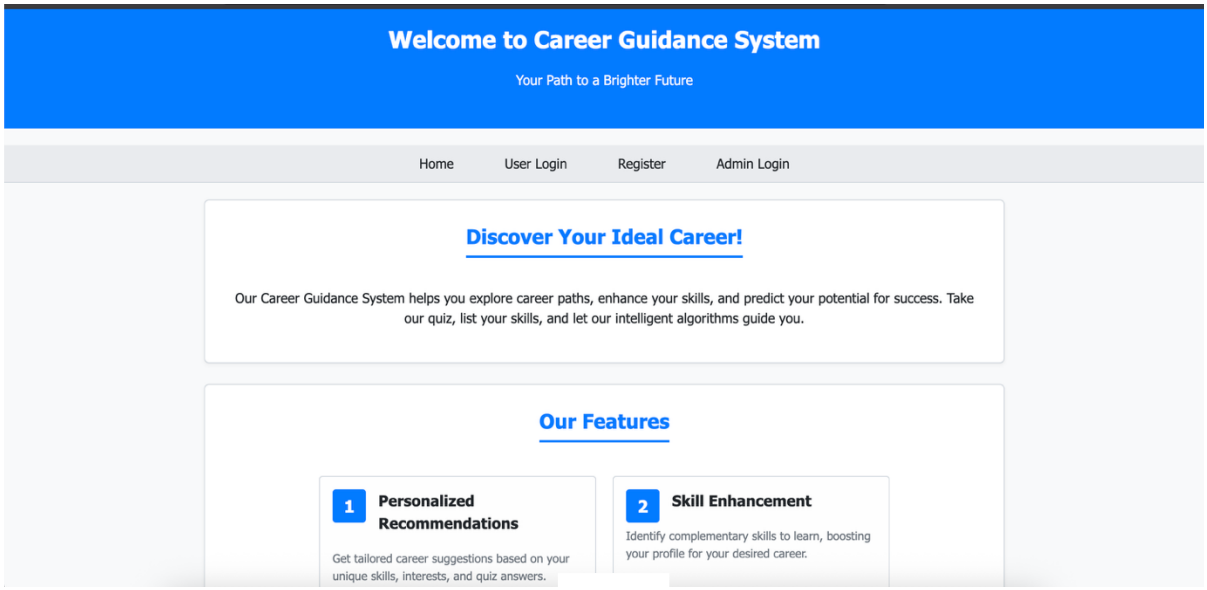
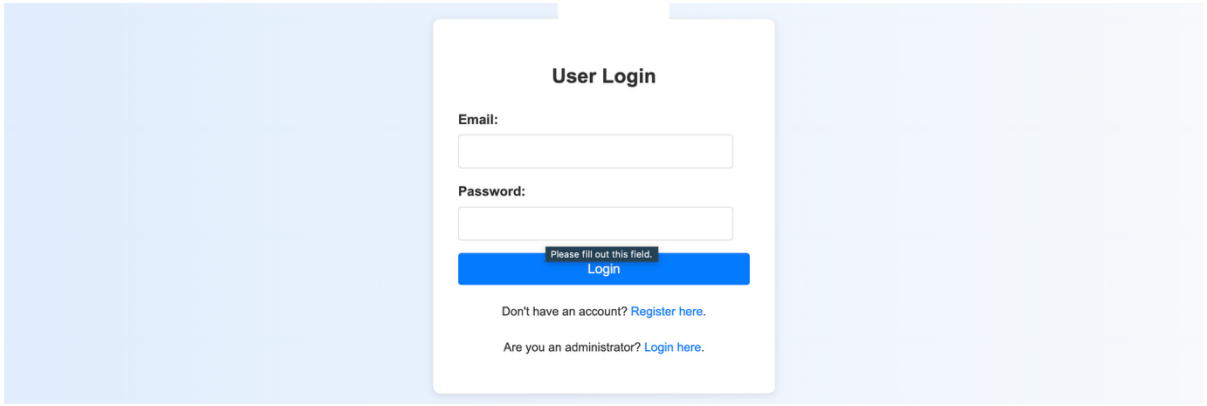
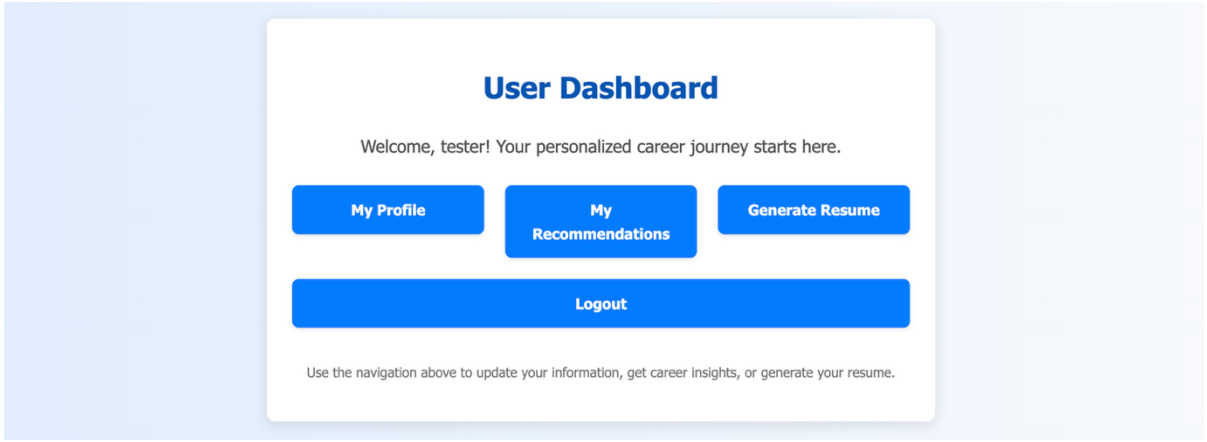
APPENDICES


Welcome to Career Guidance System
Your Path to a Brighter Future
Home
User Login
Register
Admin Login
Discover Your Ideal Career!
Our Career Guidance System helps you explore career paths, enhance your skills, and predict your potential for success. Take our quiz, list your skills, and let our intelligent algorithms guide you.
Our Features
1
Personalized Recommendations
Get tailored career suggestions based on your unique skills, interests, and quiz answers.
2
Skill Enhancement
Identify complementary skills to learn, boosting your profile for your desired career.


User Login
Email:
Password:
Please fill out this field.
Login
Don't have an account? Register here.
Are you an administrator? Login here.


User Dashboard
Welcome, tester! Your personalized career journey starts here.
My Profile
My Recommendations
Generate Resume
Logout
Use the navigation above to update your information, get career insights, or generate your resume.

My Profile

Update your details to get personalized career recommendations.

Personal & Contact Details

Name:

tester

Name is from your registration and cannot be changed here.

Email:

tester@gmail.com

Email is from your registration and cannot be changed here.

Phone Number:

9800000000

LinkedIn Profile URL:

https://www.linkedin.com/in/testeruser/

Academic Details

University Name:

testing university

Major/Field of Study:

computer science

GPA (on 4.0 scale):

4.00

Graduation Year:

2025

Resume Summary/Objective

Write a brief professional summary or objective:

Results-driven and detail-oriented professional with a proven ability to adapt quickly, solve complex problems, and deliver high-quality work under pressure.

Your Skills

Search skills...

Select all skills that apply to you:

- [ ] 3D Modeling
- [ ] Agile Methodologies
- [ ] Agile Project Management
- [ ] Android Development
- [ ] Angular
- [ ] Animation
- [ ] Ansible
- [ ] Apache Spark
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- [ ] Big Data
- [ ] Bitbucket
- [ ] Blockchain

Work Experience

kathmandu bernhardt college Remove

Company Name:

kathmandu bernhardt college

Position/Title:

intern

Start Date:

june 2025

End Date (or Present):

present

Description (Key achievements, responsibilities):

Completed a dynamic internship, gaining extensive hands-on experience in IT infrastructure and developing strong foundational skills in computer networking, cabling management, and firewall configuration. This role provided direct exposure to industry best practices in security and

Add Work Experience

Projects

3 tier web app deployed Remove

Project Name:

3 tier web app deployed

Description (Technologies, goals, results):

Designed and deployed a highly scalable 3-Tier Application environment on AWS. The architecture leverages VPC and Subnets for secure foundational networking, utilizes EC2 instances managed by an Auto Scaling Group (ASG) for high availability, and uses an Application Load Balancer (ALB)

Add Project

Career Interest Quiz

1. What is your ideal work environment?

- ○ Structured office setting with clear hierarchy and processes
- ◉ Flexible environment with autonomy, creativity, and less rigid structure
- ○ Highly collaborative team-based environment with constant interaction
- ○ Independent work, where I can focus deeply with minimal interruptions
- ○ Fast-paced, high-pressure environment with tight deadlines

2. How do you prefer to approach problem-solving?

- ○ Systematically breaking down complex problems into smaller parts
- ○ Brainstorming creative and unconventional solutions
- ○ Collaborating with others to find a consensus solution
- ◉ Experimenting and iterating quickly to find solutions

3. What kind of tasks do you find most engaging?

- ☐ Analyzing data and identifying patterns
- ☐ Designing and creating visual interfaces or content
- ☐ Writing and debugging code
- ☑ Managing projects and coordinating teams
- ☐ Interacting directly with clients or users
- ☑ Researching new technologies and concepts
- ☑ Securing systems and preventing attacks

My Career Recommendations

Top Career Paths & Success Prediction

DevOps	78.16%
fullstack	24.44%
Web Developer	29.2%
Cybersecurity Analyst	24.81%
Network Administrator	21.05%

Skill Enhancement Suggestions

- Consider learning: **Serverless Computing**
- Consider learning: **CI/CD Pipelines**
- Consider learning: **Microservices**
- Consider learning: **Ansible**
- Consider learning: **GitLab**

← Back to Dashboard

Recommended Courses

Serverless Computing with AWS Lambda & API Gateway

Build and deploy serverless applications using AWS Lambda, API Gateway, and other AWS services.

Skill: Serverless Computing

View Course →

Ansible for the Absolute Beginner - Hands-On

Learn Ansible automation from scratch with practical examples and use cases.

Skill: Ansible

View Course →

Skill: Serverless Computing

View Course →

Ansible for the Absolute Beginner - Hands-On

Learn Ansible automation from scratch with practical examples and use cases.

Skill: Ansible

View Course →

CI/CD Pipelines with Jenkins, Docker, and Kubernetes

Build robust Continuous Integration and Continuous Delivery pipelines.

Skill: CI/CD Pipelines

View Course →

TESTER

9800000000 | tester@gmail.com | LinkedIn Profile

Results-driven and detail-oriented professional with a proven ability to adapt quickly, solve complex problems, and deliver high-quality work under pressure.

EDUCATION

testing university **2025**

computer science *| GPA: 4.00/4.0*

SKILLS

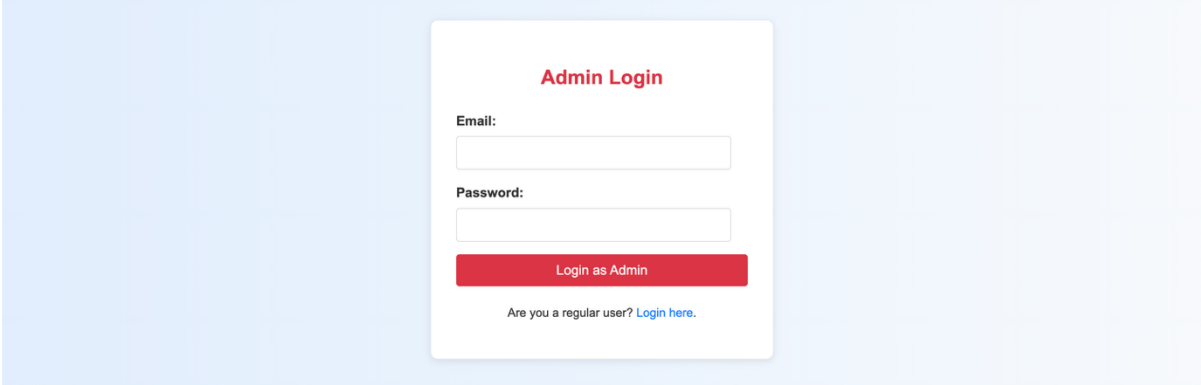
Technical Skills: AWS (Amazon Web Services), Azure (Microsoft Azure), Google Cloud Platform (GCP), Docker, Kubernetes, Terraform, Jenkins, GitLab CI/CD, Azure DevOps, Cloud Security, Infrastructure as Code (IaC), Git, GitHub, Grafana, Identity and Access Management (IAM), Operating Systems (Linux/Unix), DNS, DevSecOps

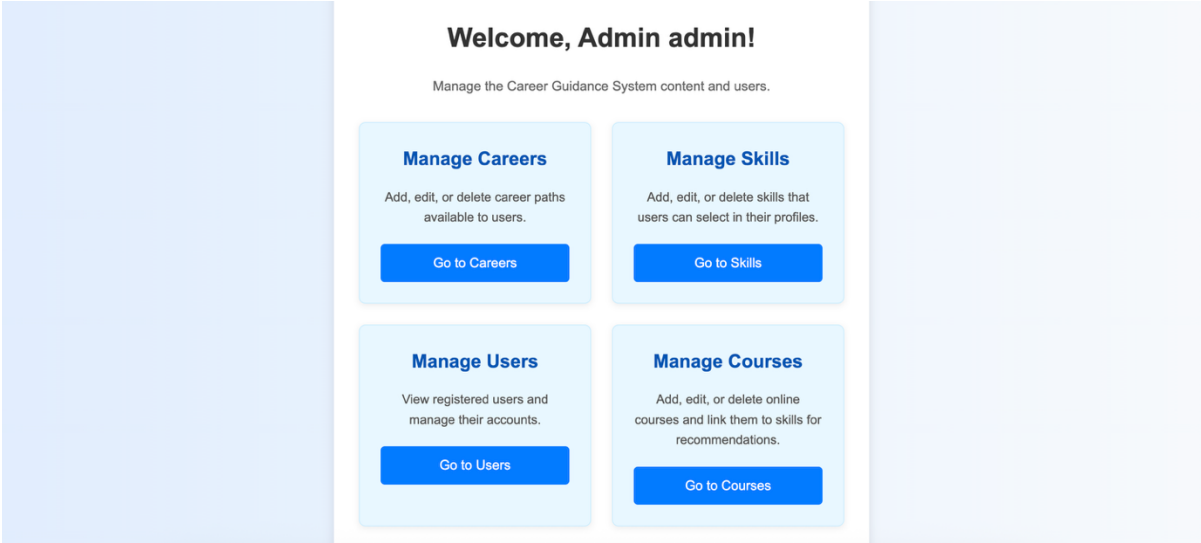
EXPERIENCE

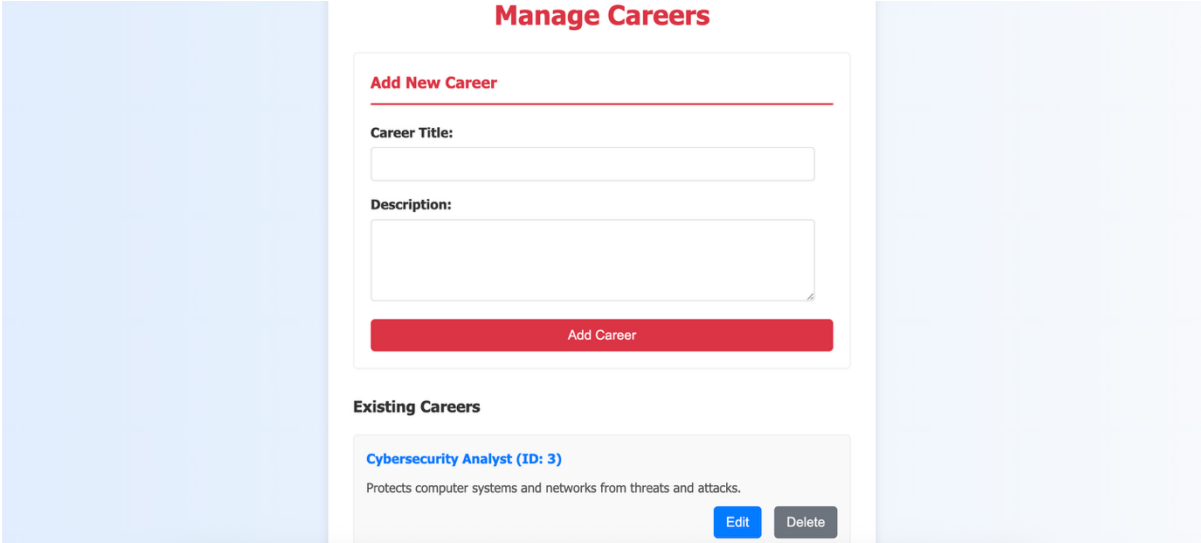
kathmandu bernhardt college **june 2025 – present**

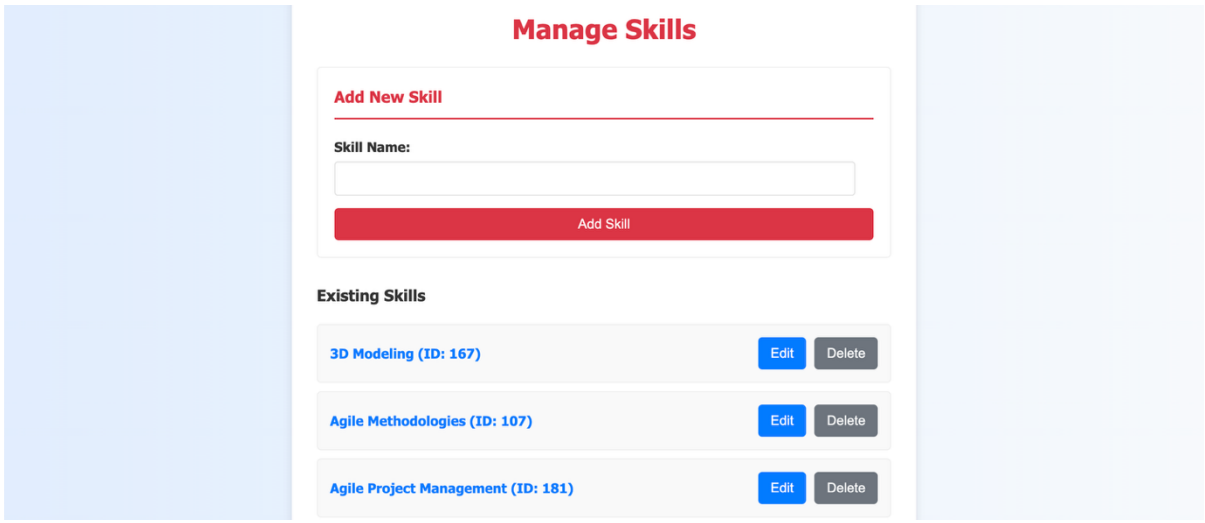
intern

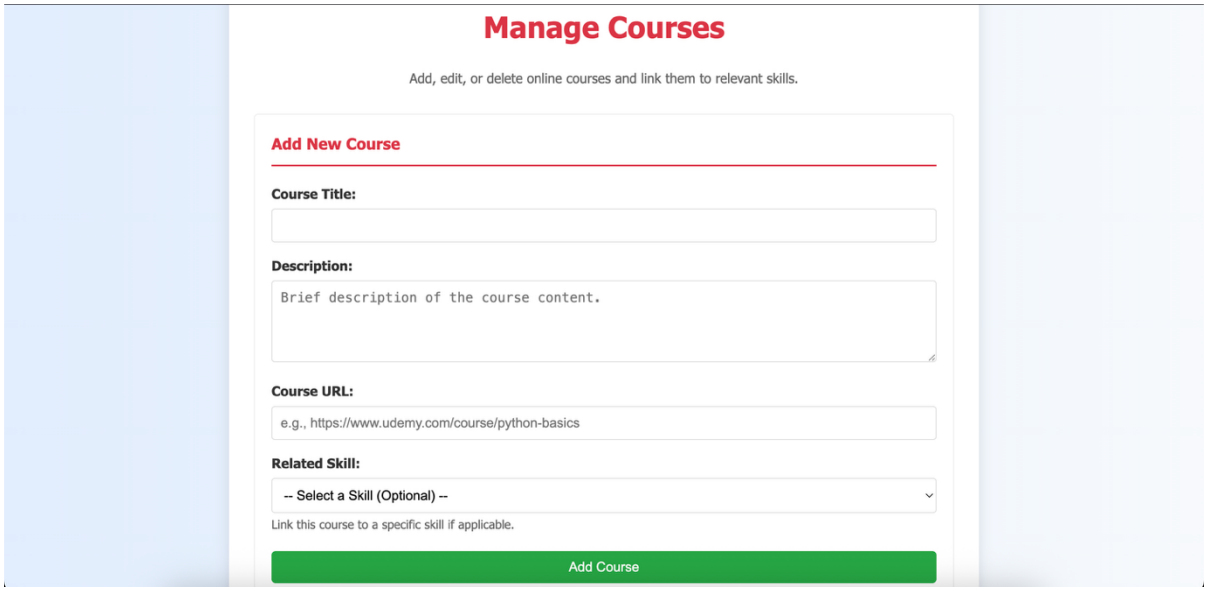
- Completed a dynamic internship, gaining extensive hands-on experience in IT infrastructure and developing strong foundational skills in computer networking, cabling management, and firewall configuration. This role provided direct exposure to industry best practices in security and network maintenance, significantly improving my professional competence in a fast-paced environment and building a strong practical knowledge base.

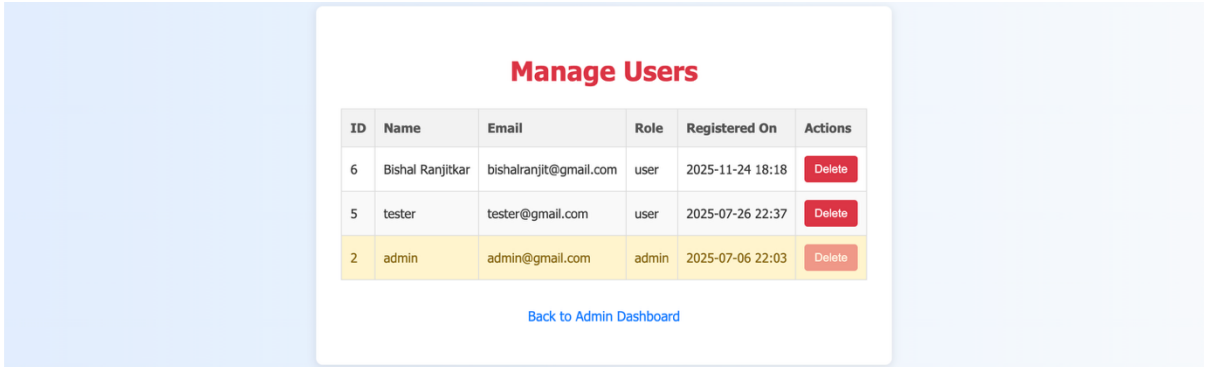

Admin Login
Email:
Password:
Login as Admin
Are you a regular user? Login here.


Welcome, Admin admin!
Manage the Career Guidance System content and users.
Manage Careers
Add, edit, or delete career paths available to users.
Go to Careers
Manage Skills
Add, edit, or delete skills that users can select in their profiles.
Go to Skills
Manage Users
View registered users and manage their accounts.
Go to Users
Manage Courses
Add, edit, or delete online courses and link them to skills for recommendations.
Go to Courses


Manage Careers
Add New Career
Career Title:
Description:
Add Career
Existing Careers
Cybersecurity Analyst (ID: 3)
Protects computer systems and networks from threats and attacks.
Edit
Delete


Manage Skills
Add New Skill
Skill Name:
Add Skill
Existing Skills
3D Modeling (ID: 167)
Edit
Delete
Agile Methodologies (ID: 107)
Edit
Delete
Agile Project Management (ID: 181)
Edit
Delete


Manage Courses
Add, edit, or delete online courses and link them to relevant skills.
Add New Course
Course Title:
Description:
Brief description of the course content.
Course URL:
e.g., https://www.udemy.com/course/python-basics
Related Skill:
-- Select a Skill (Optional) --
Link this course to a specific skill if applicable.
Add Course


Manage Users
ID
Name
Email
Role
Registered On
Actions
6
Bishal Ranjitkar
bishalranjit@gmail.com
user
2025-11-24 18:18
Delete
5
tester
tester@gmail.com
user
2025-07-26 22:37
Delete
2
admin
admin@gmail.com
admin
2025-07-06 22:03
Delete
Back to Admin Dashboard