Tribhuvan University

Faculty of Humanities and Social Sciences

CAREER LINK JOB PORTAL SYSTEM

A PROJECT REPORT

Submitted to

Department of Computer Application

Jaya Multiple Campus

Gokarneshwor-08, Makalbari,

Kathmandu, Nepal

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by:

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BCA 6th Semester

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Bachelor in Computer Applications (BCA)

SUPERVISOR'S RECOMMENDATION

I hereby recommend that this project prepared under my supervision by **Nirjala Shrestha** entitled "**CAREER Link Job Portal System**" in the Partial Fulfillment of requirement for the degree of Bachelor in Computer Application is recommended for that final evaluation.

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Bachelor in Computer Applications (BCA)

LETTER OF APPROVAL

This is to certify that this project prepared by **Nirjala Shrestha** entitled "**CAREER Link Job Portal System**" in the Partial Fulfillment of requirement for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

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ABSTRACT

Career Link Job Portal System is an online platform designed to streamline the job application and recruitment process by connecting job seekers with potential employers. With an intuitive user interface, the system provides a centralized space where individuals can explore job opportunities while companies efficiently manage and publish vacancies. Job seekers can access the user frontend to browse a wide range of job listings using filters such as category, company, and location. Each job post includes detailed information like job title, description, qualifications, and salary range. Candidates can apply directly to suitable positions, track their applications, and manage their profiles with ease.

For employers, the system offers a secure backend dashboard to post, update, or delete job listings and review applications submitted by job seekers. Additionally, an administrative backend empowers admins to monitor platform activities, manage all users, and approve or reject job postings, ensuring content integrity. By reducing barriers in the hiring process and offering role-based functionalities, the Career Link Job Portal System enhances the recruitment experience for all stakeholders, promoting efficient employment connections in the digital age.

Keywords*: CAREER Link Job Portal System, online platform,* MERN*, MySQL, jobportal*

ACKNOWLEDGEMENT

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LIST OF ABBREVIATIONS

API   Application Programming Interface

CRUD   Create, Read, Update and Delete

CSS   Cascading Style Sheet

DBMS   Database Management System

DFD   Data Flow Diagram

ERD   Entity Relationship Diagram

HTML   Hypertext Markup Language

MS   Microsoft Office

MYSQL   Structured Query Language

OTP   One Time Password

UI   User Interface

CHAPTER 1:

INTRODUCTION

1.1 Introduction

A **Career Link Job Portal System** serves as a comprehensive digital platform that builds a crucial bridge between job seekers searching for employment opportunities and employers looking for the right candidates. This advanced system provides employers with a dedicated space to post job openings and manage applications efficiently. At the same time, it empowers job seekers by offering direct access to a wide variety of job listings across different fields and industries, eliminating the need for third-party involvement.

This project plays a vital role in addressing the gap that often exists between skilled individuals and hiring organizations. By developing an interactive and organized online portal, the system ensures a smooth experience for both parties. Users can easily browse job openings, filter results based on location, job type, or company, and submit applications directly through the platform. The primary aim of the **Career Link Job Portal System** is to offer a user-friendly and reliable space where hiring and job hunting come together efficiently.

Additionally, the platform ensures that employers are able to attract the right talent by presenting their job listings with complete details such as job descriptions, required qualifications, and benefits. Job seekers, in turn, can explore these listings and manage their applications all in one place. The inclusion of an Admin role adds another layer of control and quality assurance, as administrators can oversee all users and activities, approve job posts, and manage the content on the platform.

To bring this system to life, the **Career Link Job Portal System** is developed using the MERN stack, MongoDB for data management, Express.js and Node.js for the backend logic, and React.js for creating an interactive and responsive frontend. This combination ensures a fast, secure, and scalable solution, designed to simplify recruitment and job searching in today's competitive market [1].

1.2 Problem Statement

In today's competitive job market, many job seekers struggle to find suitable job opportunities, while employers often find it difficult to reach the right candidates. Most existing job portals are either too complex, cluttered with irrelevant information, or lack important features that make the hiring and job-searching process smooth and effective. Job seekers are often overwhelmed by unorganized listings, outdated posts, and poor filtering options, making it hard for them to find jobs that match their skills and preferences.

On the other hand, employers don't always have the tools they need to post and manage job listings efficiently. They may find it challenging to track applications, update job details, or communicate with applicants through a clear and simple interface. Additionally, the absence of proper admin control in many systems can lead to spam posts, fake users, or misuse of the platform, which affects the overall experience and trustworthiness of the system.

The Career Link Job Portal System was created to solve these problems by offering a simple, clean, and organized platform for all users. Job seekers can easily find and apply for jobs that fit their background, while employers can post jobs, manage applications, and update listings as needed. An admin panel ensures the system runs smoothly by managing user activity and approving job posts. This project aims to make the hiring process easier for companies and the job search process more focused and user-friendly for applicants.

1.3 Objectives

- To develop web platform for job seekers to find job.
- To make hiring easier for employers.

1.4 Scope and Limitation

1.4.1 Scope

Career Link Job Portal System is an online web-based application accessible across various devices such as desktops, tablets, and mobile phones. The scope of the Career Link Job Portal System was to develop a centralized platform that connects job seekers with employers, allowing both parties to interact in a streamlined and efficient manner. The platform enables job seekers to create profiles, search and apply for job opportunities, while

employers can post, update, and manage job listings with ease. It aims to provide a smooth experience through features such as role-based dashboards, job filtering, application tracking, and real-time notifications.

In addition, the system offers admin-level control to monitor user activities and ensure content authenticity. Access to the system is protected through a secure login process using email and password credentials. The primary focus of the project is to deliver a clean, easy-to-use environment where users can manage their employment needs efficiently and effectively.

1.4.2 Limitations

Some of the limitations that exist in my sites are:

2   Possibility of fake jobs being listed and sold on the platform
3   There is no OTP (One Time Password).

1.5 Development Methodology

For the development of this system, structured approach is used that includes data modeling ER diagram, process modeling DFD diagram, architectural design, database schema design, interface design and Physical DFD. In this system, waterfall methodology has been used with the series of processes starting with requirement analysis, design, implementation, testing and maintenance [2].
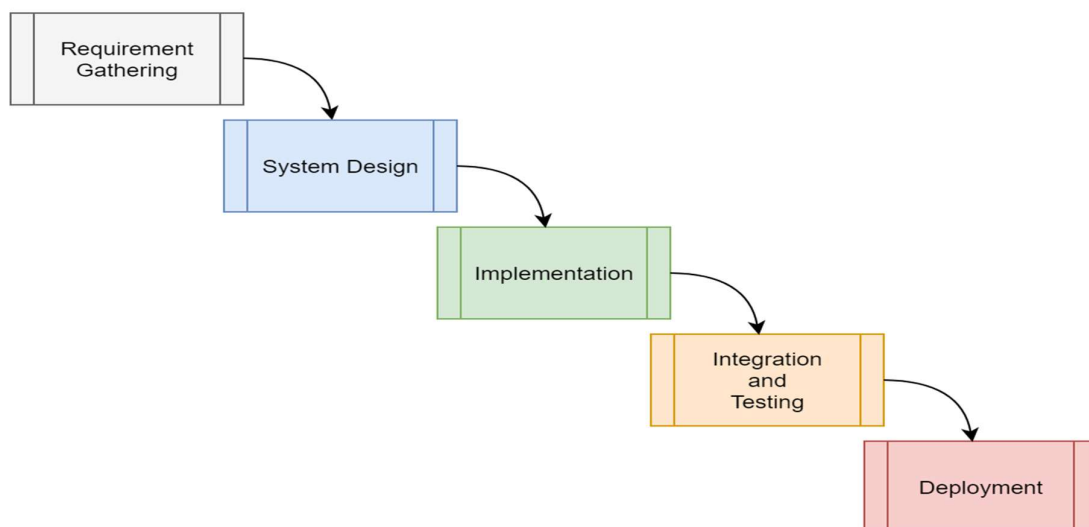
Figure 1.1: Waterfall Methodology for CAREER Link Job Portal System

1.6 Report Organization

Chapter 1: The system's introduction is discussed, including its objectives, limitations, and the rationale behind its creation.

Chapter 2: Provides an overview of the work conducted in the field of data mining, as well as detailing features of existing applications related to the Career Link Job Portal System

Chapter 3: Concentrates on the system's diverse requirements, encompassing functional and non-functional aspects, feasibility analysis, Entity Relational diagram, Data Flow Diagram, system design with architecture, database schema, and interface design.

Chapter 4: Underscores the tools employed in system development, the implementation specifics, and the outcomes of performed tests.

Chapter 5: Presents a concise summary of lessons learned, the project's outcomes, and its conclusion. It elucidates the undertaken actions and suggests potential avenues for further enhancement.

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CHAPTER 2:

BACKGROUND STUDY AND LITERATURE REVIEW

2.1 Background Study

There are many existing systems developed similar to the **Career Link Job Portal System**. However, most of them are either too complex for general users or lack the simplicity needed for smooth navigation. With various platforms available, we developed this system to offer users a clean and user-friendly interface that requires minimal technical knowledge to operate. Older systems often had complications like confusing layouts, slow performance, and required users to have advanced computer skills to perform simple tasks. To overcome these challenges, the **Career Link Job Portal System** is designed to be straightforward, efficient, and easy to use, even for users with basic computer knowledge.

The main goal behind creating this system is to provide an accessible platform where job seekers and employers can interact without facing unnecessary technical hurdles. The system supports key features such as simple registration, job posting, application tracking, and user role management, all within an intuitive environment [3].

There are also several well-known job portals currently available or under development, such as **LinkedIn**, **Kumari Job**, **Jobejee**, and **MeroJob**, which offer similar functionalities and can be found online. However, our system is focused on delivering these features in a more personalized and simplified way for better user experience.

2.2 Literature Review

There are many similar applications that has been developed or in developing process available in web.

LinkedIn is a widely recognized professional networking platform that also serves as a major player in the online job market. It allows individuals to create detailed professional profiles, connect with peers, and search for job opportunities across a wide range of industries. Employers use LinkedIn to post vacancies, scout potential candidates, and manage recruitment processes through integrated hiring tools [4]. The platform supports real-time messaging, company pages, endorsements, and skill verification, enabling

stronger connections between job seekers and hiring managers. With its focus on professional development, LinkedIn also offers personalized job recommendations, learning courses, and Career insights, making it more than just a job portal. It plays a crucial role in modern recruitment by combining social networking elements with job search functionality, helping users discover jobs that match their experience, skills, and interests.

Kumari Job is a Nepal-based online job portal that provides employment solutions for both job seekers and employers. It offers a wide range of services including job postings, CV collection, recruitment process outsourcing (RPO), and training programs aimed at skill development and Career growth. The platform allows job seekers to create profiles, upload their resumes, and apply for jobs across various industries, while employers can post vacancies, shortlist candidates, and manage hiring campaigns through a centralized system. Kumari Job also hosts job fairs, training workshops, and Career counseling sessions to bridge the gap between academic knowledge and market demand. With its localized approach and focus on the Nepali job market, Kumari Job has become a trusted platform for fresh graduates and experienced professionals alike, making the hiring process more accessible and organized within the country [5].

Jobejee is a modern job portal based in Nepal that aims to simplify the job search and recruitment process for both job seekers and employers. The platform allows users to create personalized profiles, upload resumes, and apply for jobs using a clean and user-friendly interface. One of Jobejee's key features is its mobile app, which provides convenient access to job listings and application tracking on the go. For employers, Jobejee offers services such as job posting, applicant tracking, and resume filtering, streamlining the hiring process through an intuitive dashboard. It also includes advanced filtering options, allowing users to search for jobs based on industry, location, experience, and education level [6]. By focusing on both the candidate and recruiter experience, Jobejee has positioned itself as a reliable and accessible job portal within Nepal's growing employment sector.

While both Jobejee and Kumari Job serve as popular online job portals in Nepal, they differ significantly in their approach, services, and user experience. Jobejee is designed as a digital-first platform with a strong focus on mobile accessibility, offering a dedicated app for both Android and iOS users. Its clean and modern interface is tailored for tech-savvy job seekers who prefer a fast and straightforward way to search and apply

for jobs. In contrast, Kumari Job provides a more comprehensive set of services that go beyond basic job searching. It offers recruitment process outsourcing (RPO), training and development programs, job fairs, and Career counseling—making it a more service-oriented platform for both job seekers and employers. While Jobejee primarily focuses on job matching and ease of use through technology, Kumari Job places emphasis on bridging the skill gap and enhancing employability through its offline and online support services. This makes Kumari Job more suitable for individuals looking for guided Career development, whereas Jobejee caters to users who prefer a more self-directed and tech-driven job search experience.

MeroJob is one of the leading online job portals in Nepal, widely recognized for its broad reach and comprehensive employment services. Since its launch, it has become a trusted platform for both job seekers and employers, offering a wide variety of job listings across multiple sectors. Job seekers can register to create detailed profiles, upload resumes, and apply for jobs directly through the platform. What sets MeroJob apart is its strong emphasis on Career support, providing features such as Career counseling, CV writing services, and interview preparation resources. Employers can benefit from recruitment tools like job advertisement, CV filtering, applicant tracking, and employer branding. The platform also frequently organizes job fairs and HR events, strengthening its connection with the local market. With a user-friendly interface and a strong offline presence, MeroJob has played a significant role in shaping Nepal's online recruitment landscape, making it a go-to destination for job-related activities across the country.

MeroJob, Jobejee, and Kumari Job are three popular job portals in Nepal, each offering something a little different. MeroJob is one of the oldest and most trusted platforms. It not only helps people find jobs but also provides useful services like resume writing, interview tips, and Career guidance. Because of its long-standing presence, many job seekers and employers rely on it. Jobejee, on the other hand, is a newer platform that focuses on simplicity and ease of use. It has a smooth interface and a handy mobile app, which makes it especially popular among younger users who prefer quick and convenient job searches. Then there's Kumari Job, which does more than just list vacancies—it also runs training programs, workshops, and job fairs to help people get ready for the job market. So, while MeroJob is known for its experience and wide reach, Jobejee stands out for being user-friendly and fast, and Kumari Job is appreciated for combining job listings with Career-building support.

After reviewing popular job portals like LinkedIn, Kumari Job, Jobejee, and MeroJob, it's clear that each platform plays an important role in helping people find employment, but they do so in different ways. LinkedIn focuses on connecting professionals from all over the world and combines networking with job searching, making it useful for those looking for opportunities beyond their local market. On the other hand, MeroJob, Jobejee, and Kumari Job are more focused on the Nepali job market and cater specifically to the needs of job seekers and employers in Nepal.

MeroJob is one of the oldest and most trusted job sites in the country, known for offering not just job listings but also Career support services such as resume writing, interview preparation, and Career counseling. This makes it a go-to place for many job seekers and employers alike. Jobejee is a newer platform that stands out because of its simple, user-friendly interface and a mobile app that lets users search and apply for jobs on the go, which is especially popular among younger, tech-savvy users. Kumari Job takes a broader approach by combining job listings with Career development activities like training workshops, job fairs, and counseling sessions, which helps job seekers improve their skills and get ready for the workplace.

Overall, these platforms have made a big difference in simplifying the hiring process in Nepal, making it easier for employers to find the right candidates and for job seekers to find suitable jobs. However, there is still potential to improve these systems by adding smarter features such as personalized job recommendations, better filters, and tools that match skills with job requirements more effectively [7]. These improvements could make the job search experience even smoother and more successful for everyone involved.

CHAPTER 3:

SYSTEM ANALYSIS AND DESIGN

3.1 System Analysis

This system is designed with the series of processes starting with requirement analysis, design, implementation, testing and maintenance. During requirement analysis, all the functional and nonfunctional requirement are analyzed and system is developed according to the requirement then designing of the system is carried out. After the design process, coding and development part is started then after integrating the system there is testing of the system. If the testing is positive, then system is implemented otherwise some maintenance is done and system come in operation.

3.1.1 Requirement Analysis

For this system, requirements are basically identified through functional and non-functional requirements.

i. Functional Requirement

Different functional requirement of the system has been identified and are listed as below:

For Job Seeker:

- Register and login to the system
- Create and update personal profile
- Browse and search job listings
- Apply for jobs
- View status of submitted applications

For Employer:

- Register and login to the system
- Create, update, and delete job posts
- View list of applicants for each job

For admin:

- Login and logout securely
- Manage job seekers and employers (view, update, delete)
- View all posted jobs and applications
- Monitor overall platform activity
- The system allow administrator to manage and delete details and information of Job Seeker and Employers.

USE CASE DIAGRAM

In the Career Link Job Portal System, there are three main actors: Admin, Employer, and Job Seeker. Each of these users interacts with the system based on their roles and responsibilities.

The admin has access to core administrative functions. The admin can log in, register, and log out of the system. Additionally, they can create, update, and delete job postings. Admins can also view all job applications and monitor job listings posted by employers, helping maintain quality and proper management within the portal.

The Employer is a registered user who posts job vacancies on the platform. Employers can register, log in, and log out. Once logged in, they can create new job listings, update existing job details, delete jobs, view all posted jobs, and check applications submitted by job seekers.

The Job Seeker is a user who visits the portal to find and apply for job opportunities. Job seekers can register, log in, and log out of the system. After logging in, they can view available jobs and apply for the positions that match their skills and interests.
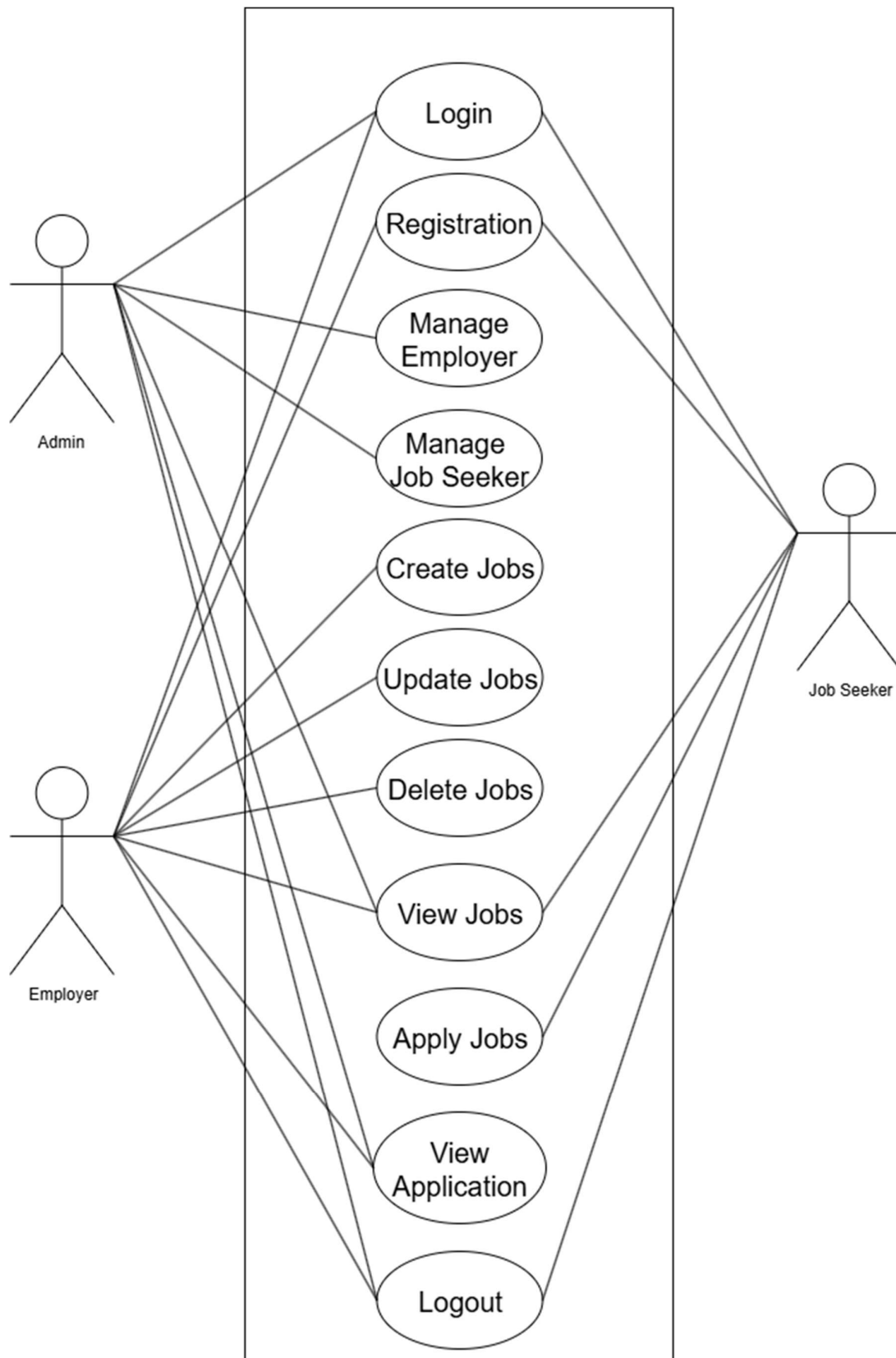
Figure 3.2: Use case Diagram of Career Link Job Portal System

ii. **Non Functional Requirement**

Different non-functional requirement has been studied and identified and are listed as below:

- Security: The system ensures that only authorized users such as job seekers, employers, and admins can access and perform operations. Secure login forms with proper validation (like email and password checks) are implemented to protect user data. Admins have exclusive access to manage job postings and monitor user activity, ensuring system integrity.

- Performance: The system is designed to perform efficiently and handle user interactions smoothly. Since the database is normalized and optimized, data retrieval and operations such as job searching, posting, and applying are processed quickly without delay.

3.1.2 Feasibility Analysis

The feasibility study concluded that the project is able to be implemented to success as it was carefully planned.

i. **Technical Feasibility Study**

To Implement this proposed system and making it more feasible, the main tools and technologies that are used are as follows:

Table 3.1: Technical Feasibility study Table for Career Link Job Portal System

Technologies requirements	Hardware requirements	Software requirements
HTML	Laptop	Visual Studio code
Tailwind CSS	Keyboard	Ms Word
JavaScript	Mouse	Postman
MongoDB	-	Draw.io
Express.js	-	-
Node.js		
React.js		

These are the software's which we are used while making this project and they are freely available and technical skills are manageable so it is Technically Feasible.

ii. **Operational Feasibility Study**

The Career Link Job Portal is designed to make job searching and recruitment faster and more efficient. By offering an online platform, it eliminates the delays and limitations of traditional methods. Job seekers can apply from anywhere at any time, employers can manage listings easily, and administrators can monitor activity smoothly. The system's user-friendly design ensures accessibility for individuals with minimal technical skills. Altogether, it meets the operational requirements and is expected to perform reliably in real-world use.

iii. **Economic Feasibility Study**

Built as an academic project, this portal didn't need external funding or expensive software. The development team used personal laptops and free tools to complete the work. Internet access was the only recurring cost, and it was easily managed. Considering the low financial burden and practicality of the tools used, the system is economically feasible for future deployment without major expense.

iv. **Schedule Feasibility Study**

The system is completed within scheduled time and do not exceed the scheduled time.

A	B	C	D	E	F	G	H	I	J	K	L	M
						Week						
Steps	1	2	3	4	5	6	7	8	9	10	11	12
Planning and Analysis												
Design and Documentation												
Implementation												
Testing												
Maintenance												
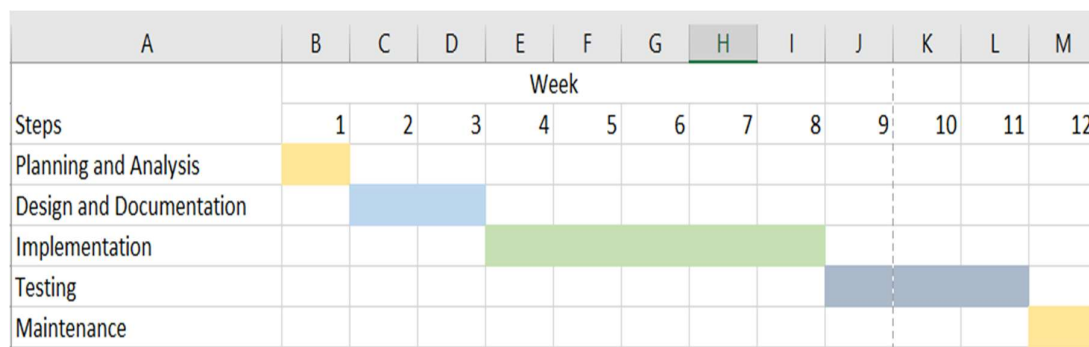
Figure 3.3: Gantt chart for Career Link Job Portal System

3.1.3 Object Modeling using Class and Object Diagram

A data flow diagram is a graphical tool used to describe and analyze the movement of data through the system. These are a central tool and the basis from which components are developed. The transformation of data from input to output, through processed, may be

described logically and independently of physical components associated with the system. These are known as logical data flow diagrams.
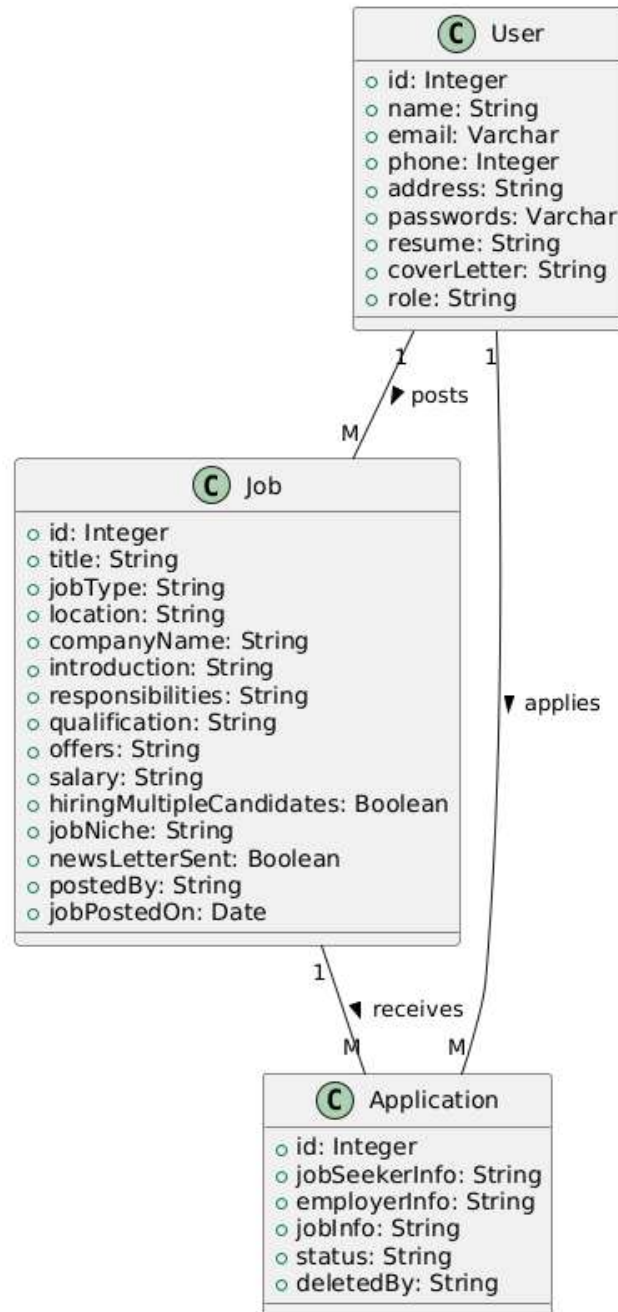
Figure 3.4: Class and Object Diagram for Career Link Job Portal System

3.1.4 Sequence Diagram

A sequence diagram is a type of UML (Unified Modeling Language) diagram used to visualize the interactions and order of events between objects in a system or between components of a software application. It focuses on the chronological sequence of messages exchanged between these objects or components to accomplish a particular functionality or scenario. Sequence diagrams are particularly useful for illustrating the dynamic behavior of a system or how different elements collaborate during execution.
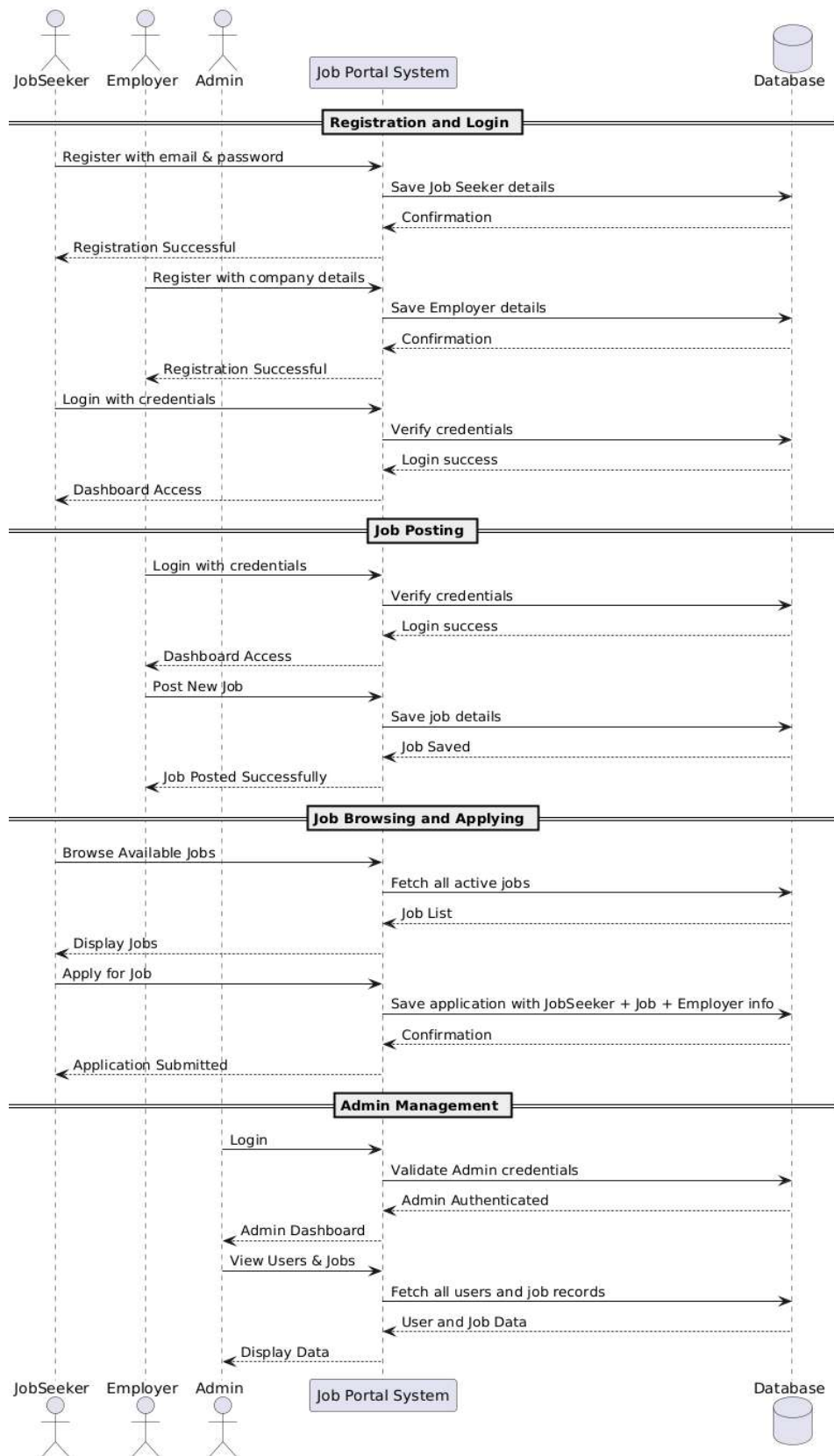
Figure 3.5: Sequence Diagram of Career Link Job Portal System

3.1.5 Process Modeling using Activity Diagram
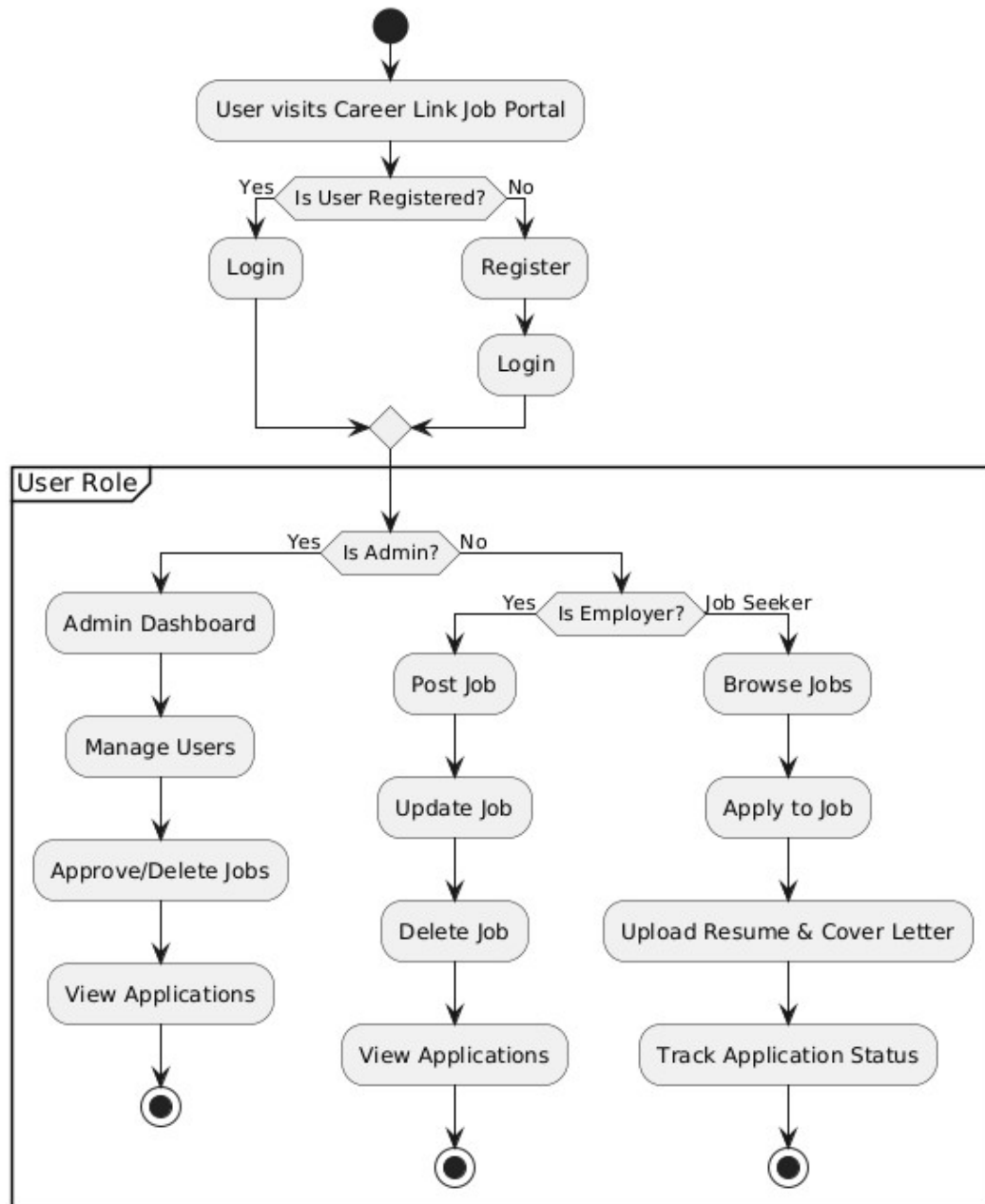
Figure 3.6: Activity Diagram of Career Link Job Portal System

3.2. System Design

To realize the different functional requirement of the system in graphical form, different design diagram of the system has been prepared which are as follows:

3.2.1. Refinement of Class and Object Diagram

For this system, three tier architecture is used which includes user interface, web server and database. In architectural design, basic structure of the system is shown.
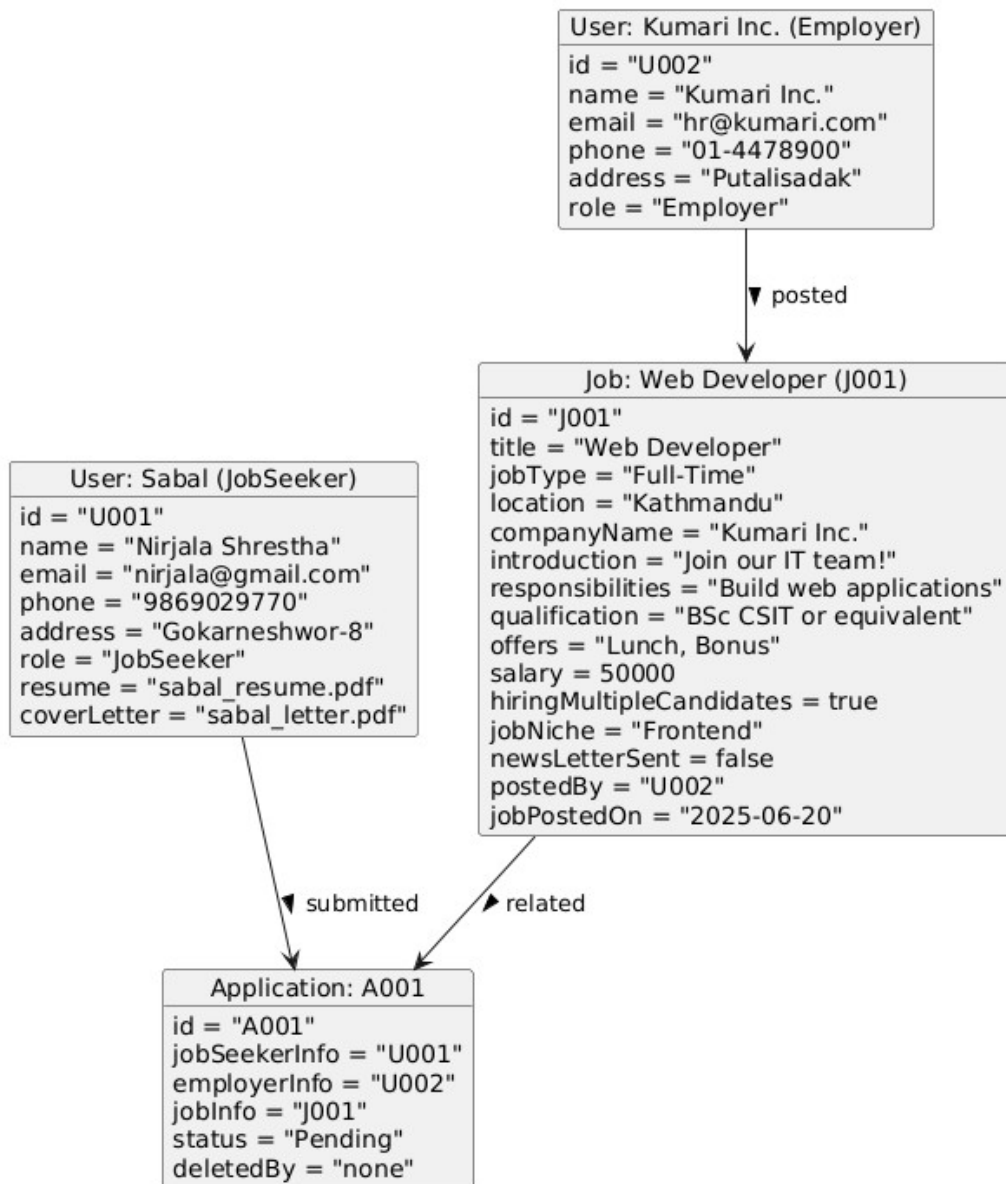
Figure 3.7: Refinement of Class and Object Diagram of Career Link Job Portal System

3.2.2. Component Diagram
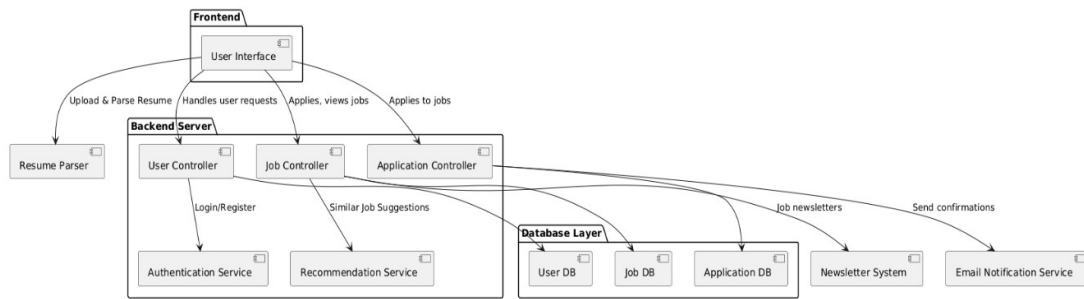
Figure 3.8: Component Diagram of Career Link Job Portal System

3.2.3. Deployment Diagram
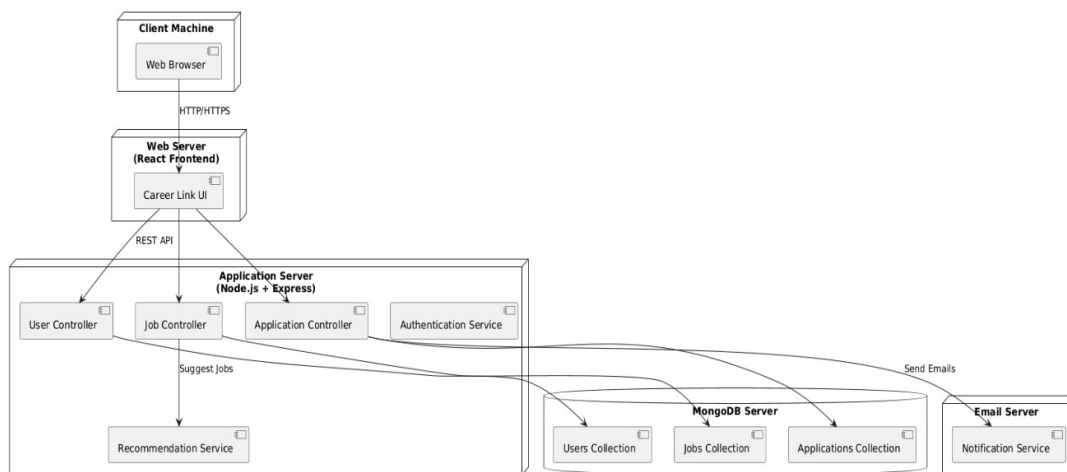
Figure 3.9: Deployment Diagram of Career Link Job Portal System

3.3 Algorithm details

The Career Link Job Portal System utilizes a Jaccard Similarity-based Recommendation Algorithm as part of its intelligent job recommendation functionality. Jaccard Similarity is a measure of the similarity between two sets and is particularly effective when comparing binary or categorical data such as skills, interests, or job requirements. This approach focuses on matching user skills or interests with job requirements based on the degree of overlap between the two sets. By leveraging this algorithm, the system delivers personalized job recommendations that align with the user's unique profile.

Here's how my algorithm works:

1. **Feature Representation:** Each job posting and user profile is represented as a set of categorical features, typically consisting of relevant skills, tools, or technologies.

   Example:

   Job A Requirements: {JavaScript, React, Node.js, MongoDB}
   User A Skills: {HTML, CSS, JavaScript, React}
   These sets capture the key qualifications required by jobs and the qualifications possessed by users.

2. **Similarity Score Calculation:** The system calculates the Jaccard Similarity Score between the user's skills and the job's requirements. The Jaccard Index is defined as:

   Jaccard Similarity=|A∩B||A∪B|\text{Jaccard Similarity} = \frac{|A \cap B|}{|A \cup B|}Jaccard Similarity=|A∪B||A∩B|

   Where:

   AAA = Set of user skills

   BBB = Set of job requirements

   |A∩B||A \cap B||A∩B| = Number of overlapping elements

   |A∪B||A \cup B||A∪B| = Total number of unique elements in both sets

   Example:

   Intersection: {JavaScript, React} → 2 common elements

   Union: {HTML, CSS, JavaScript, React, Node.js, MongoDB} → 6 elements

   Similarity Score: 2 / 6 = 0.33

   This score reflects how closely the user's skills match the job requirements.

   Similarity Score Calculation: Using a similarity metric (e.g., cosine similarity) to calculate the similarity score between job seeker preferences and job vacancy characteristics. Similarity (job seeker A, job vacancy X) = Cosine (User A Preferences,

3. **Recommendation Ranking:** Jobs are ranked in descending order based on their Jaccard Similarity scores. The higher the score, the greater the match between the user's profile and the job's requirements.

   Example Ranking Output:

   Job C (Score: 0.75)

   Job A (Score: 0.33)

   Job B (Score: 0.25)

   This ranking helps users quickly identify the most relevant job opportunities.

4. **Evaluation and Optimization:** The system regularly evaluates the performance of the Jaccard Similarity-based recommender using metrics like precision, recall, and user click-through rates. To further enhance accuracy:

   Feature extraction methods can be improved.

   Weights may be introduced for certain high-priority skills.

   User feedback and behavior (e.g., job applications or saves) may be incorporated for fine-tuning recommendations over time.

   By implementing the Jaccard Similarity algorithm in the Career Link Job Portal System, the platform effectively matches job seekers with job listings that align closely with their skill sets. This results in higher user satisfaction, better engagement, and improved application relevance, ultimately benefiting both job seekers and employers.

CHAPTER 4:

IMPLEMENTATION AND TESTING

4.1. Implementation

4.1.1. Tools Used (CASE tools, Programming language, Database platforms)

System development involves the creation and implementation of software applications, and there are various tools available to assist in different stages of the development process. Here are some commonly used system development tools:

- **React.js**

  React is a popular JavaScript library used for building user interfaces. In the **Career Link Job Portal System**, React was used to develop a dynamic, responsive, and interactive frontend for job seekers, employers, and admins.

- **Node.js & Express.js**

  Node.js is a runtime environment that enables JavaScript to run on the server side, while Express.js is a lightweight web framework built on top of Node.js. These tools were used to handle backend logic, route handling, and API development for the system.

- **MongoDB**

  MongoDB is a NoSQL database platform used to store and manage data such as user profiles, job listings, and applications. It allows fast data retrieval and supports flexible document-based storage ideal for the structure of the job portal.

- **VS Code (Visual Studio Code)**

  Visual Studio Code is the code editor used during the development of the application. It provides powerful extensions, debugging tools, and version control features to enhance productivity and maintain code quality.

- **Postman**

  Postman was used to test APIs during development. It helped in verifying request/response functionality between the client and server, ensuring that all endpoints were working as expected.

- **MS Office**

  This is used for writing and editing the documentation of Career Link Job Portal System.

- **Draw.io**

  This is used to generate diagrams for system analysis and design of Career Link Job Portal System. Diagrams were created using this tool in order to save time since all components are available with drag and drop functions.

4.1.2. Implementation details of modules

Different modules of this system are described as below:

Buyer Module

- **Buyer register/login**

  In this module, jobseekers can register into the system by entering all their personal and professional details, and then log into the system using a valid username and password. After a successful login, they can browse the listed job vacancies and apply directly to any job that matches their interest through the provided application process.

4.2 Testing

System testing is done by giving different training and testing datasets. This test is done to evaluate whether the system is providing accurate summary or not. During the phase of the development of the system, our system is tested time and again. The series of testing conducted are as follow:

4.2.1 Test Cases for Unit Testing

In unit testing, we designed the entire system in modularized pattern and each module is tested. Until we get the accurate output from the individual module, we work on the same module. The input forms are tested so that they do not accept invalid input.

Job Seeker Registration

Test Case ID	Test Description	Input Test Data	Expected Result	Actual Result	Test Result
TC_01	Open Application	http://localhost:5173/	Carrer Link Job Portal System dashboard page	Carrer Link Job Portal System dashboard page	Pass
TC_02	Enter Invalid Username, email, contact, password and click register	Username= Nirjala Shrestha Email= Nirjala@gmail.com Contact= 9087880 Password= sthaNirjala	Please enter a valid 10-digit phone number/ Password must be 6 character	Please enter a valid 10-digit phone number/ Password must be in 6 characters	Fail
TC_03	Enter Valid Username, email, password, confirm password role niches upload cv coverletter and click register button register button	Username= Nirjala Shrestha Email= Nirjala@gmail.com Phone=9869099999 Password= Nirjala58 Confirm Password= Nirjala58 Role = Job seeker Niches = Mobile Development , App development, Marketing Resume : upload Coverletter: cv	Registration Successful	Registration Successful	Pass

Table 4.2: Test case for Job Seeker Registration of Carrer Link Job Portal System

Job seeker Login

Test Case ID	Test Description	Input Test Data	Expected Result	Actual Result	Test Result
TC_01	Open Application	http://localhost:5173/	Carrer Link Job Portal System Dashboard Page	Carrer Link Job Portal System Dashboard Page	Pass
TC_02	Enter email and Invalid password and click login button	email: Nirjala@gmail.com Password: 123	Username or Password is incorrect Role is required	Login Failed	Fail
TC_03	Enter Valid email and Password And role and click login button	email: Nirjalashrestha@gmail.com Password: Nirjala1234 Role : Job Seeker	Login Successful and redirect to home page	Redirect to user Dashboard	Pass

Table 4.3: Test case for Job seeker Login of Carrer Link Job Portal System

Employer Registration

Test Case ID	Test Description	Input Test Data	Expected Result	Actual Result	Test Result
TC_01	Open Application	http://localhost:5173/	Carrer Link Job Portal System Employer dashboard page	Carrer Link Job Portal System Employer dashboard page	Pass

TC_0 2	Enter Invalid Username, email, contact, password Address and role and click register	Username= Nirjala Shrestha Email= Nirjala@gmail.com Contact= 908786780 Password= stha Address = Kathmandu Role : Employer	Please enter a valid 10-digit phone number/ Password must be between 6 characters	Please enter a valid 10-digit phone number/ Password must be between 6 characters	Fail
TC_0 3	Enter Valid Username, email, password, confirm password Address Role and click register button register button	Username= Nirjala Shrestha Email= Nirjala@gmail.com Phone=9869099999 Password= Nirjala58 Confirm Password= Nirjala58 Address = ktm Role = Employer	Registration Successful	Registration Successful	Pas s

Table 4.4: Test case for Employer Registration of Career Link Job Portal System

Employer Login

Test Case ID	Test Description	Input Test Data	Expected Result	Actual Result	Test Result
TC_01	Open Application	http://localhost:5173/	Carrer Link Job Portal System	Carrer Link Job Portal System Employer	Pass

			Dashboard Page	Dashboard Page	
TC_02	Enter email and Invalid password role and click login button	email: Nirjala@gmail.com Password: 123 Role: jobseeker	Username or Password is incorrect	Login Failed	Fail
TC_03	Enter Valid email and Password role and click login button	email: Nirjalashrestha@gmail.com Password: Nirjala1234 Role: Employer	Login Successful and redirect to home page	Redirect to Employer Dashboard	Pass

Table 4.5: Test case for Employer Login of Career Link Job Portal System

Add Vacancy

Test Case ID	Test Description	Input Test Data	Expected Result	Actual Result	Pass/ Fail
TC_01	Open Application	http://localhost:5173/ Employerdashboard	Carrer Link Job Portal System Employer dashboard page	Carrer Link Job Portal System Employer dashboard page	Pass
TC_02	Enter Job Title only and check submit button	Job Title : Mern Stack Developer Company Name: Location: JobType: JobNiche:	Insertion Failed	Please fill out this field.	Pass

| TC_03 | Enter All field anc check submit button | Job Title: Full stack developer Company Name: Techno Tip pvt ltd salary: 2000 Location: Ktm Responsibility: discipline Inroduction:good Qualification: Passout Job niche: Software developer Offers:flexibility | Vacancy added | Redirect to Employerdashboard | Pass |

Table 4.6: Test case for Employer vacancy added of Career Link Job Portal System

4.2.2 Test Cases for System Testing

In system testing, whole system is tested as below:

Job add form

Test Case	Expected Data	Test Result
On click of add	Adds the jobs	Successful
On click of update	Update the vacancy detail	Successful
On click of delete	Delete the vacancy detail	Successful

Table 4.7: Job add of Career Link Job Portal System

CHAPTER 5:

CONCLUSION AND FUTURE RECOMMENDATIONS

5.1. Lesson Learnt / Outcome

Every project makes us to learn and gain the knowledge in different aspects. In the following project, I have learned lots of problem-solving skills and learn things finding the solution on own, proper use of guidelines, communication and writing skills and management of team.

- **Problem Solving Skills**

  From this project, I have learned lots of problem-solving skills and also learned to recognize different errors occur in this system and solve it.

- **Writing Skills**

  I have learned how to prepare proposal and documentation related with project and also learned to use different case tools for use case diagram, schema diagram, data flow diagram, and ER- diagram and so on.

- **Manage time**

  The most important lesson learnt was management of time according to the complexity of the system components i.e. know which components to prioritize.

5.2 Conclusion

In summary, our **Career Link Job Portal System** marks a meaningful step toward improving the way job seekers and employers connect in the digital space. By creating a platform that brings both parties together in a structured and user-friendly environment, we have successfully streamlined the job search and recruitment process.

Through thoughtful design and practical implementation, the system allows job seekers to explore opportunities and apply with ease, while giving employers the tools they need to post, manage, and review job applications effectively. This online platform enhances communication between both ends, making the hiring process more efficient and organized.

Moreover, the system's clean interface and intuitive navigation ensure a smooth experience for all users, regardless of technical background. Built using the MERN stack, MongoDB,

Express.js, React.js, and Node.js. The application combines modern functionality with performance, offering a reliable and responsive platform. With this system, we aim to simplify employment connections and contribute to building a more accessible and effective job market.

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