



LA GRANDEE INTERNATIONAL COLLEGE

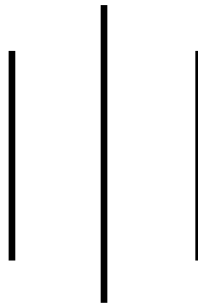
Simalchaur, Pokhara Nepal

Final Project Report

On

“JobNexus”

(Online Job Portal Application)



Submitted to:

Bachelor of Computer Application (BCA) Program

In partial fulfilment of the requirements for the degree of BCA under

Pokhara University

Submitted by:

Name:	Course	Semester	P.U. Registration Number
Akriti Chapagain	BCA	8 th	2019-01-53-0104
Binaya Koirala	BCA	8 th	2019-01-53-0111

Date: 02/07/2024

ACKNOWLEDGEMENT

We would like to express our gratitude to Pokhara University for developing a highly valuable curriculum and enabling us to undertake this project. Furthermore, we extend our sincere appreciation to LA GRANDEE International College, whose assistance has been instrumental in making our project a reality. Without their support, our project would have been unattainable. We express our sincere regard to our project supervisor **Mr.Sunil Sapkota**, for his valuable time, guidance, encouragement, support, and cooperation throughout the duration of our project. We would sincerely like to thank **BCA** Department for giving us the opportunity to work on enhancing our technical skills while undergoing this project. This project helped us understand the various parameters involved in the development of a mobile application and the working and integration of frontend along with the backend to create a fully functional mobile application.

With Regards,

Akriti Chapagain (Registration No: 2019-1-53-0104)

Binaya koirala (Registration No: 2019-1-53-0111)

DECLARATION FOR

“JobNexus”

STUDENT’S DECLARATION

We hereby declare that we are the only authors of this work and that no sources other than the mentioned here have been used in this. We assure you that the work we present here is unique to ourselves and resemblances to another similar project are purely coincidental.

Akriti Chapagain (PU Exam Roll no): 20530162

Binaya Koirala (PU Exam Roll no): 20530169

Program: BCA, 6th Semester

Date: 02/07/2024

SUPERVISOR'S DECLARATION

I hereby recommend that this project entitled “**JobNexus**” is done under my supervision by **Akriti Chapagain** and **Binaya Koirala** during their 8th Semester in partial fulfillment of the requirements for the degree of BCA under **Pokhara University** is completed to my satisfaction and be processed for final evaluation.

Mr. Sunil Sapkota

Supervisor

Date: 02/07/2024



Pokhara University Affiliate

LA GRANDEE International College

ला ग्राण्डी इन्टरनेशनल कलेज

Shaping Minds, Nurturing Future



LETTER OF APPROVAL

We certify that we have examined this report entitled “**Job Nexus**” and are satisfied with the project defense. It is satisfactory in the scope and qualify as project in partial fulfillment of the requirements for the degree of BCA under Pokhara University.

.....
Mr. Sunil Sapkota
Supervisor

.....
Er. Sujan Tamrakar
External Examiner

.....
Mr. Ramesh Chalise
Department Coordinator

.....
Er. Kiran K.C
Principal

Date: 02/07/2024

PO Box 42, Simalchaur, Pokhara Nepal || Tel.: 977-61-523163/532844 || Fax: 977-61-539304
Email: info@lagrandee.edu.np || URL: www.lagrandee.edu.np

ABSTRACT

The project, titled "Job Nexus," offers an in-depth exploration of the development and functionality of a comprehensive Job Portal App. "Job Nexus" is designed to facilitate an interactive job vacancy form for employees, effectively gathering and categorizing employer and employee information based on specific job requirements and available vacancies. The unique development methodology employed in "Job Nexus" ensures efficient acquisition and organization of both employer and employee data. This system categorizes individuals according to their qualifications, skills, and job preferences, while also matching them with relevant job vacancies. The application provides detailed information about job opportunities and allows employers to leverage the platform's services.

Registered employers gain access to a suite of features, including the ability to publish vacancy details, search for potential employees, and filter candidates based on key skills provided during registration. This enhances the recruitment process by allowing employers to find the most suitable candidates efficiently. Through "Job Nexus," job seekers can also browse and apply for jobs that match their skills and career aspirations, fostering a more dynamic and interactive job market.

TABLE OF CONTENTS

ACKNOWLEDGEMENT	i
STUDENT'S DECLARATION	ii
SUPERVISOR'S DECLARATION	iii
LETTER OF APPROVAL	iv
ABSTRACT.....	v
1. INTRODUCTION	1
2. PROBLEM STATEMENT	2
3. OBJECTIVES	3
4. BACKGROUND STUDY	4
5. REQUIREMENT DOCUMENT	8
6. METHODOLOGY	11
7. SYSTEM DESIGN	13
8. GANTT CHART	21
9. DEVELOPMENT PROCESS.....	22
10.TESTING	23
11. PROJECT RESULT.....	28
12. FUTURE ENHANCEMENTS.....	30
13. CONCLUSION.....	31
REFERENCES	32
ANNEX.....	34

TABLE OF FIGURES

Figure 1: Agile Methodology for Development	11
Figure 2: ER diagram.....	13
Figure 3: DFD Level 0.....	14
Figure 4: DFD Level 1	15
Figure 5: DFD level 2 from the perspective of Employer	16
Figure 6: DFD level 2 from the perspective of Employee.....	17
Figure 7: Flowchart of Authentication.....	18
Figure 8: Flowchart of Employee	19
Figure 9: Flowchart of Employer.....	20
Figure 10: Gantt chart	21

LIST OF TABLES

Table 1: Requirement Matrix:.....	10
Table 2: Weekly Sprints.....	12
Table 3 User Registration and Authentication Module Test	24
Table 4: Job Listings and Search Module Test.....	24
Table 5: Profile Management Module Test	25
Table 6: Create Job Test	25
Table 7: Job Apply Test.....	26
Table 8: Application Retrieval Test.....	26
Table 9: Wishlist Test.....	27
Table 10: Searching Test	27

LIST OF ABBREVIATIONS

API	Application programming interface
BCA	Bachelor of computer Applications
CI/CD	Continuous improvement /Continuous development
DFD	Data flow Diagram
ER	Entity Relationship
SDLC	Software Development Life Cycle
SQL	Structure Query Language
NPM	Node package Manager
EG	EXAMPLE
PHP	Hypertext Pre-processor
IDE	Integrated Development Environment
DBMS	Data base Management System
FR	Functional Requirement
IOS	iPhone Operating System

1. INTRODUCTION

Job Nexus, a mobile application, is set to revolutionize the job search process in Nepal. Job Nexus establishes partnerships with local organizations to facilitate the provision of vacancies for semi-skilled manpower, as well as opportunities for individuals seeking entry-level positions. This strategic collaboration ensures that Job Nexus offers opportunities to a diverse range of job seekers, including those with varying levels of skills and experience. Leveraging these partnerships, Job Nexus broadens job access and provides opportunities for individuals in rural regions and local communities.

The job market in Nepal, much like in many developing countries, is characterized by a significant gap between job seekers and job providers. Many job seekers, particularly those from rural areas and those with minimal skills, face difficulties in accessing job opportunities. On the other hand, employers often struggle to find suitable candidates for their vacancies. The rise of technology and mobile applications presents an opportunity to bridge this gap effectively. By offering a platform that connects job seekers with a wide array of job opportunities, including roles that require minimal skills, Job Nexus plays a crucial role in promoting inclusivity and economic empowerment. Job Nexus simplifies the job search process for both candidates and employers. Job seekers have the ability to easily upload their resumes and explore job openings matched to their profiles, while employers benefit from simplified job posting and application management. Furthermore, Job Nexus is committed to strengthening skill development and professional growth. By creating a unified platform for training programs and volunteer opportunities, Job Nexus empowers individuals to enhance their skills and access new career opportunities.

This application uses React Native for frontend development and Laravel for the backend, along with various tools to ensure easy and flawless navigation. Job Nexus serves as a beacon for candidates searching for job opportunities and an asset for those who benefit from it. The "Job Nexus" project aims to develop a comprehensive job portal application, providing a seamless platform for job seekers and employers to connect.

2. PROBLEM STATEMENT

Following were the problems we found in hob portal applications:

- Job seekers encounter difficulties finding appropriate roles because of insufficient skill-based matching on existing platforms.
- Semiskilled workers, like plumbers and construction workers, confront a scarcity of job listings as portals primarily prioritize skilled positions.
- In the absence of dedicated platforms, there's a notable gap for registering volunteers during events, leaving organizers without efficient means to manage manpower.
- There aren't many apps that bring together different training and workshop programs, making it hard for people to find skill-building opportunities.
- Current job portals in Nepal lack collaborations with local businesses, hindering job access, particularly in rural region.

3. OBJECTIVES

- To establish collaborations with local businesses to broaden job access and ensure rural inclusion and semi-skilled job potentials.
- To create a unified platform for users to easily find and enrol in diverse training programs, volunteers, fostering skill development.

4. BACKGROUND STUDY

After conducting extensive research on the internet, we identified a few theories on online job portals. In a study conducted by Nameirakpam Chetana, it was observed that job seekers exhibit positive mindset towards utilizing online recruitment for job opportunities. The factors considered in this context included cost-effectiveness, time efficiency, extensive search capabilities, reliability of information, and the security and confidentiality of data. These factors significantly influence jobseekers' choices of job portals. The research noted that professionals with diverse backgrounds hold different perspectives on the cost-effectiveness, reliability, and security of online job recruitment platforms. The study also emphasized that safety and reliability are crucial concerns for both job seekers and existing employees when engaging with online recruitment portals.[3] Dilusha Madushanka Liyanage and Bandula Lanka Galhena highlighted that many companies now prefer electronic recruitment (e-recruitment) over traditional methods for hiring employees. Furthermore, prospective job applicants show a growing interest in searching for and applying to job openings through the internet. To attract a suitable pool of applicants, organizations strive to develop attractive, content-rich, easy-to-use, and user-friendly recruitment processes, either through their own career websites or via job portals. [4]

According to Anshika Saxena and Dr. Mamta Gaur, it was concluded that e-recruitment is reducing the traditional methods of recruitment. Job seekers prefer online job portals for the purpose of applying and searching for jobs over the internet. There are various factors which influence the perception of jobseekers for using job portals like convenience, efficiency, productivity, user friendliness, accurate information and security. It is a time saving & cost effective method for job seekers. It was also concluded that the services offered by job portals are effective and it provides many other benefits to the candidate's like resume building, future career opportunities, and providing information frequently and timely. In the jobseekers perception online job portals are effective and convenient tools. [5]

Literature Review

The days of searching the newspaper for job openings are long gone. Online job portals are an essential tool for any job seeker. They enable you to find the ideal job and ensure that you do not miss out on a good opportunity. There are numerous Job Portals in Nepal these days that provide comprehensive information about jobs, including vacancy notifications and employment opportunities. They make it simple to search for jobs, upload your resume, and apply for them. Now-a-days the job market is so extensive that a variety of industries and companies are searching for the right candidates and the prospective candidates are searching for the right companies for growth opportunities. This purpose is served by most of the job portals online. The intention of Job Portal is to facilitate both the candidates seeking jobs as well as the employers looking for employees for their companies. Any job seeker can search for the available jobs at any moment with updated information. When he finds a job, he can post his application to the job online. Employers can advertise the vacancies by taking the membership, logging in and posting the job information with the eligibility criteria for the jobs. [6]

One of the approaches to enhance work portability is to give online job offer administrations. Online job portals can help jobseekers as they contain all required data about accessible openings in a solitary point. Such portals upgrade effectiveness in job recruitment as candidates can coordinate their capabilities and skills to the prerequisites of bosses. [7] In India, the rate of unemployment has been increasing rapidly since the 2000s. Dorn and Naz [8] mentioned that one reason for this problem is the unfair distribution or absence of information on job openings, so people cannot know the latest job vacancies. It means that there are jobs available, but job-seekers do not have access to that data. An effective search of the internet might help job seekers in their job hunt. Some web portals provide an efficient way to search the web for online information on job vacancies for job-seekers [9].

Study of existing systems

Nepal's job market is diverse, encompassing a range of sectors including agriculture, manufacturing, services, and more recently, technology and tourism. Despite this diversity, the market faces several challenges:

- **High Unemployment Rate:** According to the Central Bureau of Statistics Nepal, the unemployment rate has been fluctuating, with youth unemployment particularly high. Many graduates are unable to find jobs that match their qualifications.
- **Underemployment:** A significant portion of the workforce is underemployed, meaning they are working in jobs that do not fully utilize their skills or provide adequate income.
- **Rural-Urban Divide:** There is a stark contrast between job opportunities in urban centers and rural areas. Many rural job seekers migrate to cities in search of better opportunities, leading to urban overcrowding and rural depopulation.
- **Lack of Access to Information:** Job seekers often lack access to timely and relevant information about job openings, especially those in rural areas. Employers also face challenges in reaching a broad pool of candidates.

Analysis of Existing Job Portals

Several job portals are currently operating in Nepal, each with its own strengths and limitations.

Merojob:

Strengths:

- One of the largest and most popular job portals in Nepal.
- Extensive database of job listings across various industries.
- User-friendly interface with advanced search options.

Limitations:

- Primarily focused on urban areas and skilled positions.
- Limited reach in rural areas and among semi-skilled workers.

Kantipur Job:

Strengths:

- Wide range of job listings from various sectors.
- Strong brand recognition due to association with Kantipur Media Group.

Limitations:

- User interface can be cumbersome and outdated.
- Focuses more on white-collar jobs, with less emphasis on semi-skilled and entry-level positions.

Kumarijob

Strengths:

- Extensive job listings and user-friendly interface.
- Good categorization of jobs by industry and job type.

Limitations:

- Limited outreach and engagement with rural job markets.
- Less emphasis on skill development and training opportunities.

After examining the current systems available, we found that none of them included an effective built-in resume generator. While a few systems claimed to offer this feature, the resumes produced were overly basic and lacked a professional touch. This situation presents an opportunity for us, as we intend to address these user challenges by providing a solution that is more flexible and user-friendly. Additionally, current systems mainly emphasize skilled jobs, neglecting individuals interested in volunteer opportunities.

5. REQUIREMENT DOCUMENT

This requirement documentation outlines the functional, non-functional requirements and Tools and software requirements of Job Nexus:

Functional Requirements

- **User Registration and Authentication:** Enable users to register and create accounts. - Implement secure authentication methods like email/password.
- **User Profiles:** Job seekers and employers have profiles where they can manage personal information.
- **Job Listings and Applications:** Employers should be able to post job listings with details such as job title, description, requirements, location, and salary range, Job seekers should be able to browse and search job listings.
- **Version Control:** Integration with GitHub should be set up for version control, collaboration, and automated CI/CD workflows using GitHub Actions and for seamless team work in project.
- **Backend Integration:** - Connect the app with a backend system to handle data storage, product management, order processing, and other business logic.
- **Dashboard:** The app should have an intuitive admin panel for managing user accounts and content efficiently.
- **Wish list:** Application user should be able to add some jobs in wish list for their easy access.

Non-Functional Requirements:

- **Compatibility:** The application must be compatible with both Android and iOS devices, providing a consistent user experience across different platforms and media.
- **Clean Architecture:** Follow best practices in coding by managing dependencies and documentation to ensure the system is maintainable, scalable and making sure that dependencies flows outside.
- **User Interface:** The application must have an intuitive and user-friendly interface that is easy to navigate for both job seekers and employers.
- **Future Growth:** The app architecture must support future growth, allowing for easy updates and the addition of new features as needed.

Tools and Technologies:

Development Tools:

- Integrated Development Environment (IDE): Visual Studio Code
- Version Control: Git (for version control)
- GitHub (platform for collaboration and code hosting)
- Database Management System (DBMS):
- MySQL (for managing user data, job listings, applications, and other critical information)

Package Manager:

- Npm (Version: 10.5.0, Node Package Manager, essential for managing dependencies and packages in React Native projects)
- Composer (Version 2.2.22): Composer automates the management of dependencies in PHP applications, ensuring consistent installation and version control. It simplifies package management, improving maintainability and reducing the risk of dependency conflicts in PHP projects

Frontend Technology:

React Native (built with Expo for cross-platform mobile application development for iOS and Android users)

Backend Technology:

Laravel (providing a robust and scalable framework for handling API requests, user authentication, job listings, and application management in PHP)

Requirement Matrix:

A requirement matrix, also known as a traceability matrix, is a crucial tool in project management and systems engineering. It is used to ensure that all project requirements are tracked and fulfilled throughout the project lifecycle.

Requirement ID	Requirement Description	Type	Priority	Status
FR-01	Authentication: Users can securely register and log in to the app	Functional	High	Completed
FR-02	Job seekers can apply, Add jobs to Wishlist and manage their profile.	Functional	High	Completed
FR-03	Employers can Post jobs, Manage job applicants such as Accepting or rejecting candidates.	Functional	High	Completed
FR-04	Job seekers can apply for jobs directly through the app.	Functional	High	Completed
FR-05	The app offers information about volunteer opportunities.	Functional	Medium	Completed
NFR-01	Intuitive admin panel for managing user accounts and content.	Non-Functional	Medium	Completed
NFR-02	The user interface must be intuitive and easy to navigate.	Non-Functional	High	Completed
NFR-03	The app architecture must support future growth.	Non-Functional	High	Completed
NFR-04	Data protection through encryption.	Non-Functional	High	Completed

Table 1: Requirement Matrix:.

6. METHODOLOGY

The Agile methodology is being used to develop the JobNexus. Agile is a flexible and iterative approach that allows for rapid development and testing. The Agile methodology is well-suited to projects with evolving requirements, such as JobNexus, where there may be changes in the features and functionalities that the platform requires. The Agile methodology will be implemented using the Scrum framework, which is a popular agile methodology that involves working in small, cross-functional teams. The team consist of four 2 members who will each work on a specific part of the JobNexus platform. The team will meet regularly to discuss progress, plan for the next iteration, and address any issues that arise.

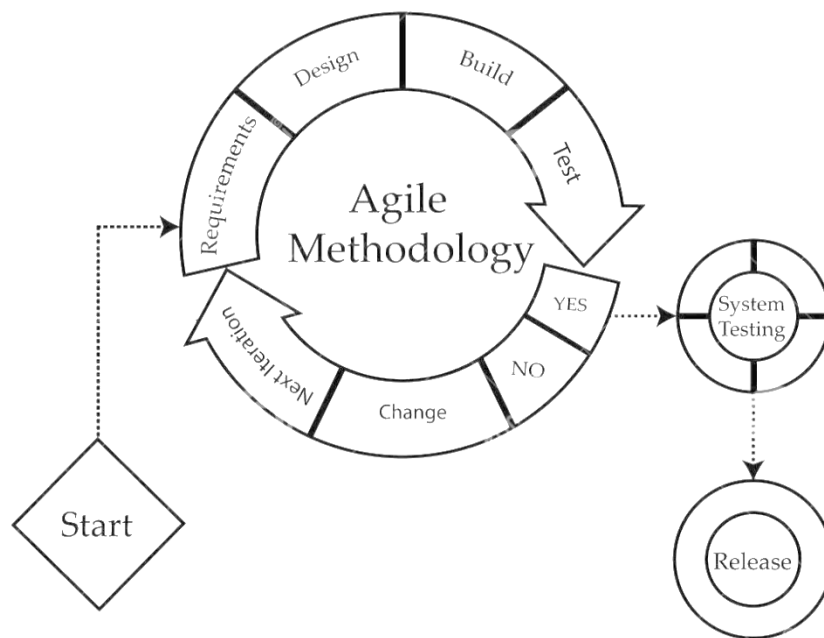


Figure 1: Agile Methodology for Development

How we used agile Methodology in our project?

Sprint Planning: At the beginning of each week, we conduct a sprint planning meeting to define the tasks and goals for the upcoming sprint.

Daily Stand-ups: Every day, we hold short stand-up meetings to discuss progress, plan the day's work, and address any blockers.

Sprint Review: At the end of the week, a sprint review meeting is held where feedback is collected to ensure alignment with project goals.

Sprint Retrospective: Following the sprint review, a sprint retrospective meeting is conducted to reflect on what went well, what could be improved, and how processes can be optimized for the next sprint. We are a group of 2 students were confined to the development of the final year project and here is the work division chart among us:

S.N	Name	Work Assigned	Remarks
1.	Akriti Chapagain	Week 1: Welcome, Login, Signup page and Splash Screen. Week 2: Employer, Employee UI, Job Listing and System Design Week 3 Job Application UI Week 4: Employer and Employee Features Week 5: UI /UX Enhance Week 6: UI Enhancement Week 7: Documentation	Week 1: Satisfied Week 2: Satisfied Week 3: Refinement Week 4: Satisfied Week 5: Refinement Week 6: Satisfied Week 7: Satisfied
2.	Binaya Koirala	Week 1: Schemas and Models Week 2: Controllers based on Models Week 3: Authentication Backend Week 4: API for Mobile Week 5: Handling API in frontend Week 6: Authentication in Frontend Week 7: Testing	Week 1: Satisfied Week 2: Satisfied Week 3: Refinement Week 4: Satisfied Week 5: Refinement Week 6: Satisfied Week 7: Satisfied

Table 2: Weekly Sprints

7. SYSTEM DESIGN

System design is the process of defining and organizing the components and interactions of a system to fulfill specific requirements. It involves creating a blueprint or plan that outlines how the system will function and how its various parts will work together. In JobNexus commonly used tools in system design are Data Flow Diagrams (DFDs) and Flowcharts and ER diagram.

ER Diagram:

An ER diagram shows the relationship among entity sets. An entity set is a group of similar entities and these entities can have attributes. It helps in understanding the data flow and structure, ensuring efficient database design and data integrity.

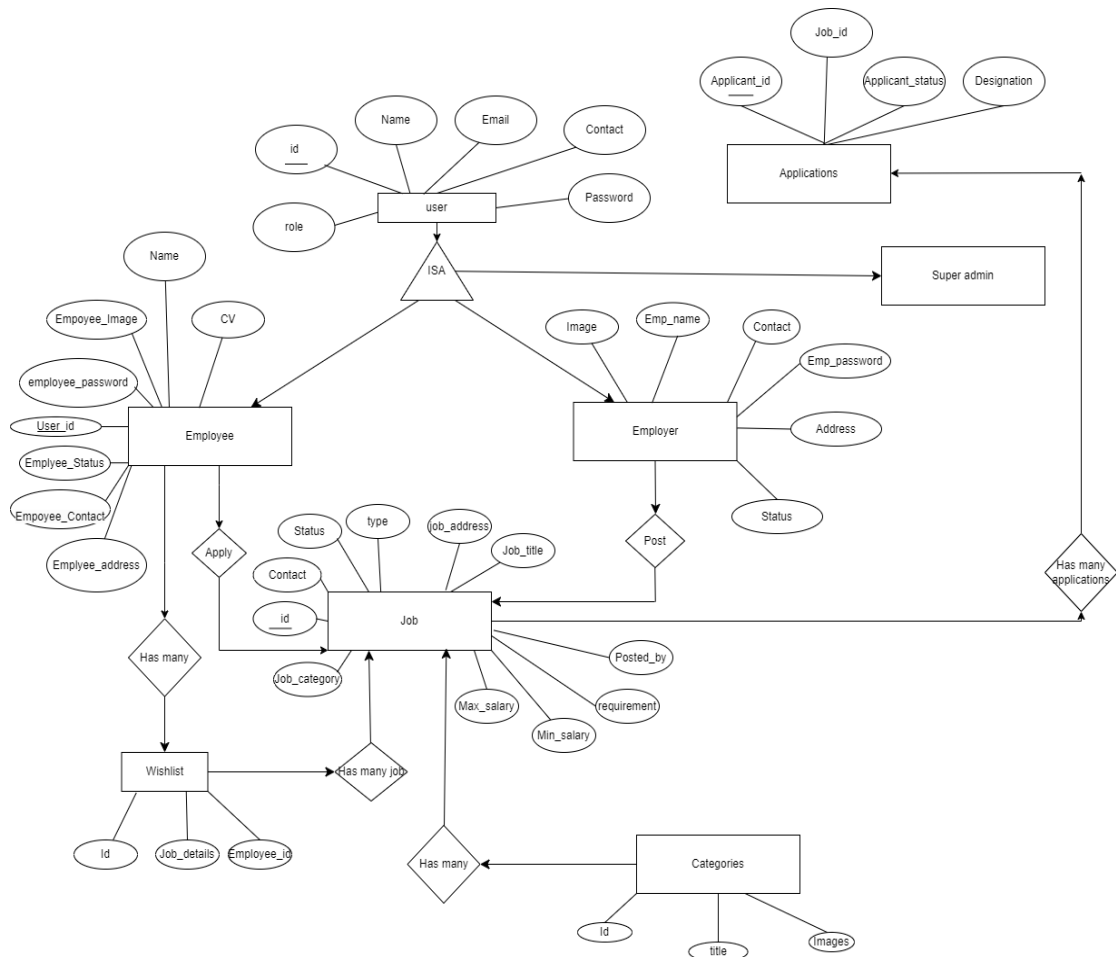


Figure 2: ER diagram

Employer Post Job

Employers create job listings by filling out job details, which includes Job title, job description, address, type, Minimum salary, Maximum salary, requirement etc.

Employee Applies Job

Employees can browse job listings and apply for jobs by submitting their applications.

Employee Has Wishlist

Employees can add and delete jobs to their Wishlist for future reference.

Dataflow Diagram:

A Data Flow Diagram (DFD) is a graphical representation that shows the flow of data within a system. It consists of different components such as processes, data stores, external entities, and data flows.

DFD level 0:

This Level 0 DFD provides a high-level view of how the Job Nexus system operates, focusing on the interactions between employees, employers, and the admin. It highlights the core functionalities, such as job searching, application processing, job posting, and administrative oversight, ensuring that all user roles can perform their respective tasks efficiently within the platform.

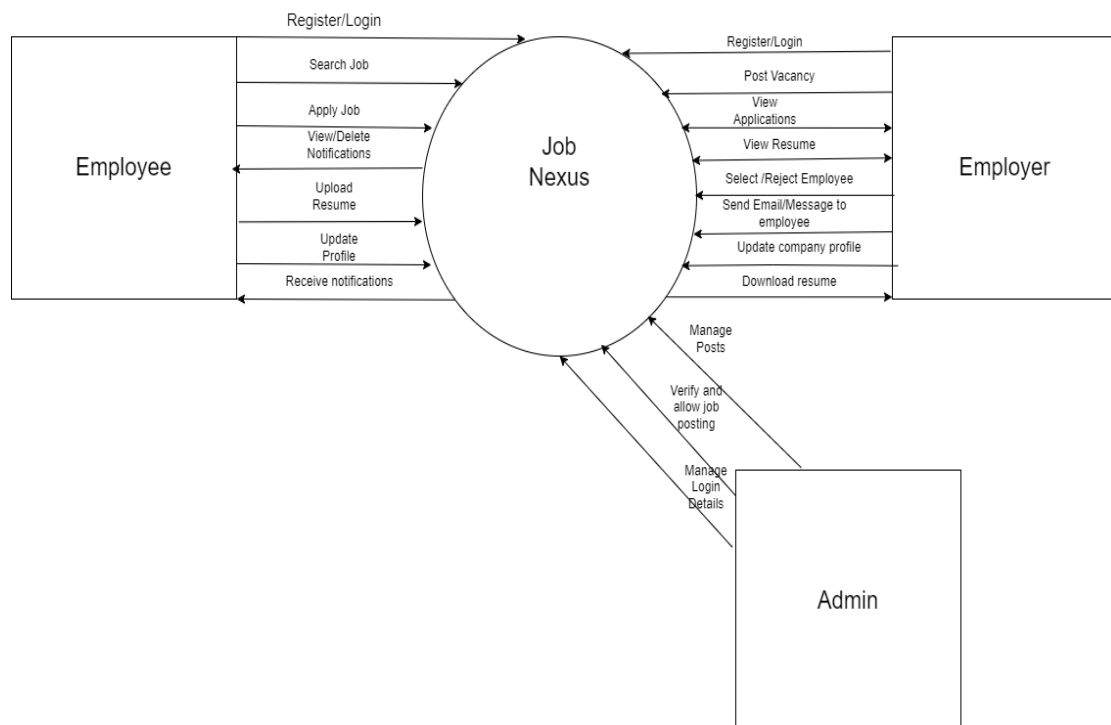


Figure 3: DFD Level 0

DFD level 1:

Level 1 DFDs are still a general overview, but they go into more detail than a context diagram. In level 1 DFD, the single process node from the context diagram is broken down into sub-processes. JobNexus illustrates the core processes of job creation and job searching. Employers create and update job listings, which are then available for employees to view, search, and apply for. The diagram clearly shows how data flows between employees, employers, and the main processes within the Job Nexus system, ensuring efficient job matching and application management. In addition, the system allows for real-time updates of job information, ensuring that employees have access to the most current job listings. The seamless interaction between job creation and searching processes enhances the overall efficiency and user experience within the Job Nexus platform.

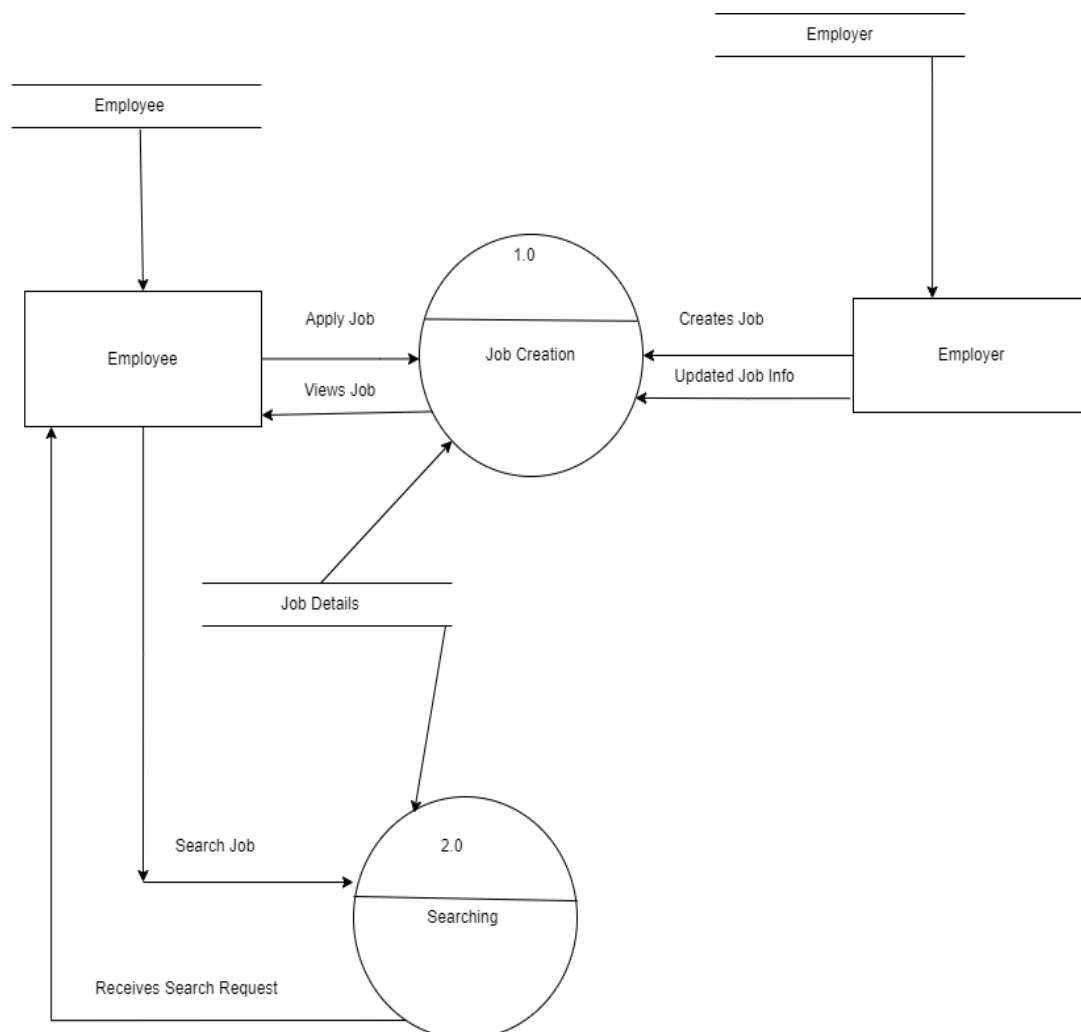


Figure 4: DFD Level 1

DFD level 2 from the perspective of Employer:

This Level 2 DFD provides an in-depth look at the processes involved in managing job postings and applications from the employer's perspective. It breaks down the job creation, modification, viewing, and application processing steps, showing how data flows between these processes and the relevant data stores.

Employers can create new job listings, update or delete existing jobs, view applications, and approve or reject applications. All these actions interact with the Job DB and Application DB to store and retrieve relevant data. The diagram ensures that every step is clearly defined, providing a comprehensive understanding.

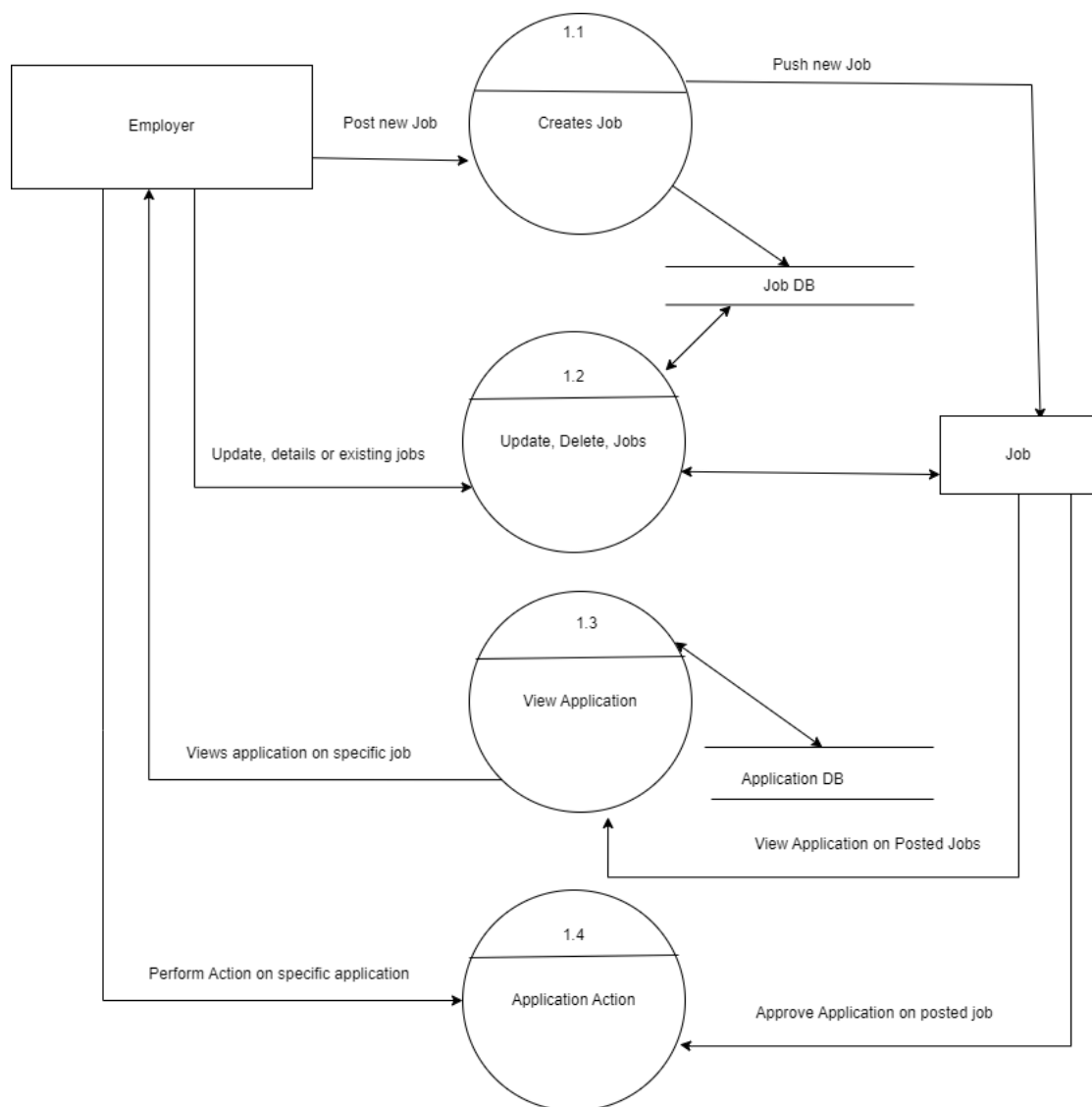


Figure 5: DFD level 2 from the perspective of Employer

DFD level 2 from the perspective of Employee:

Employees can view job listings, search for jobs, add jobs to their Wishlist, and apply for jobs. These actions interact with the Job DB, Wishlist DB, and Application DB to manage and store the data appropriately.

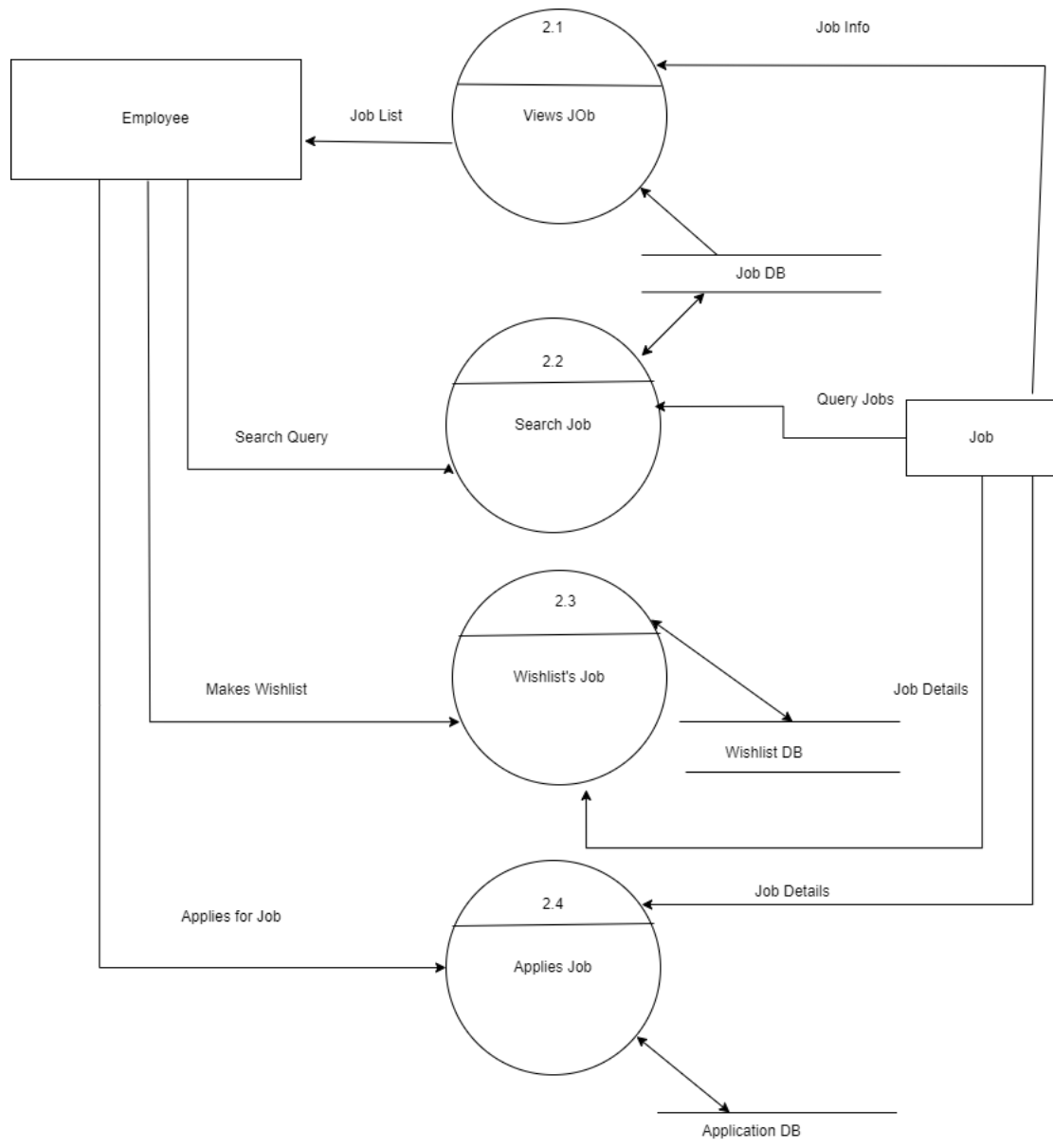


Figure 6: DFD level 2 from the perspective of Employee

Flowchart:

Flowchart is a graphical representation that depicts the sequential steps or actions involved process or algorithm. Here we have included flowchart diagrams which includes Authentication process, Employer process and Employee process.

Authentication

This flowchart illustrates the user authentication and role determination process within the Job Nexus application. It ensures that users are properly authenticated and directed to the appropriate functionalities based on their roles, whether they are employees or employers.

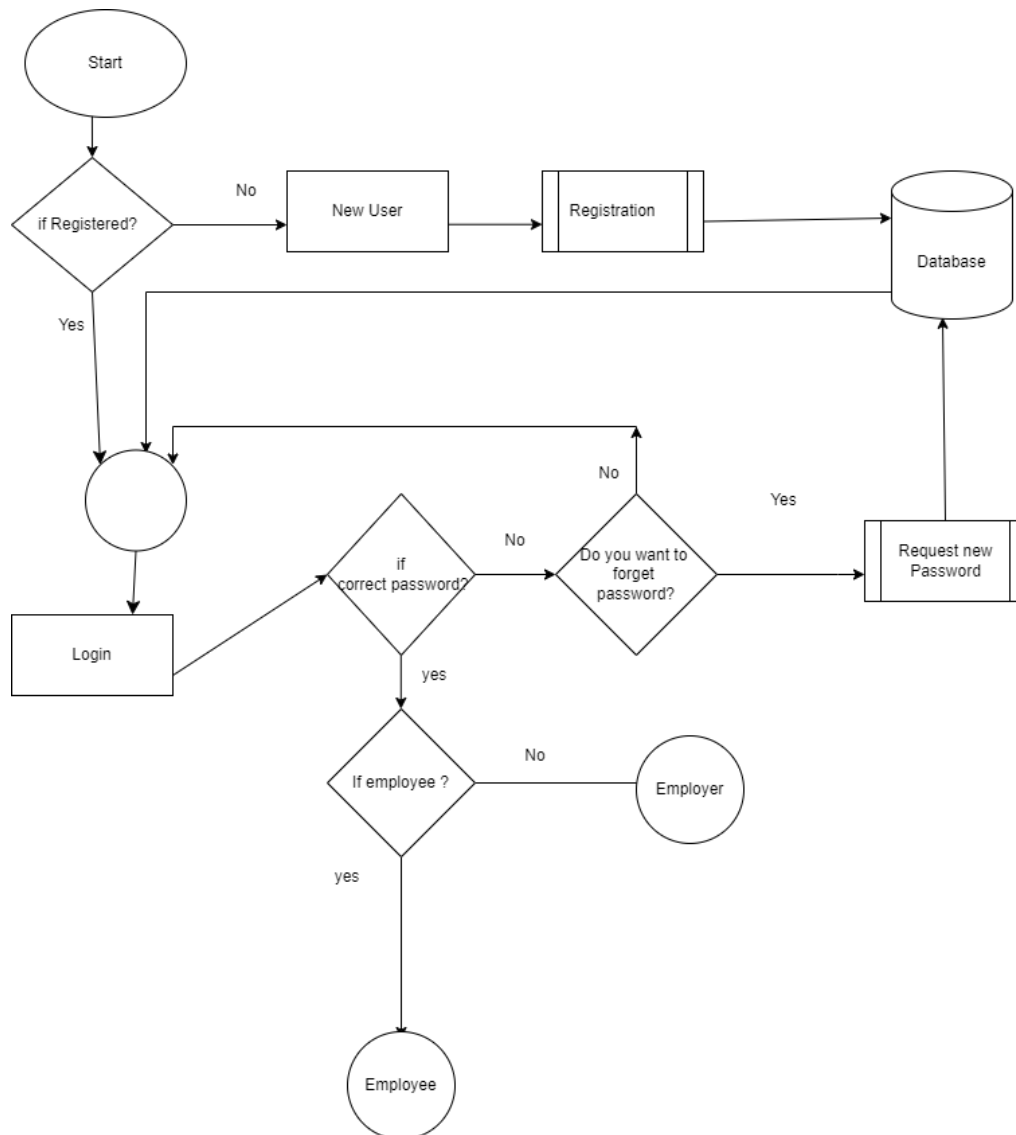


Figure 7: Flowchart of Authentication

Figure 2: Flowchart of Employee

This flowchart provides a concise overview of how employees interact with the Job Nexus application. It details the main features available to employees, such as exploring jobs, managing their Wishlist, updating their profile, reading notifications, and accessing additional information. This structured approach ensures employees have a user-friendly experience while navigating the Job Nexus app. The clear flow from logging in to logging out highlights the ease of access and functionality, enhancing the overall user engagement additionally, by offering a comprehensive view of various actions employees can take within the app.

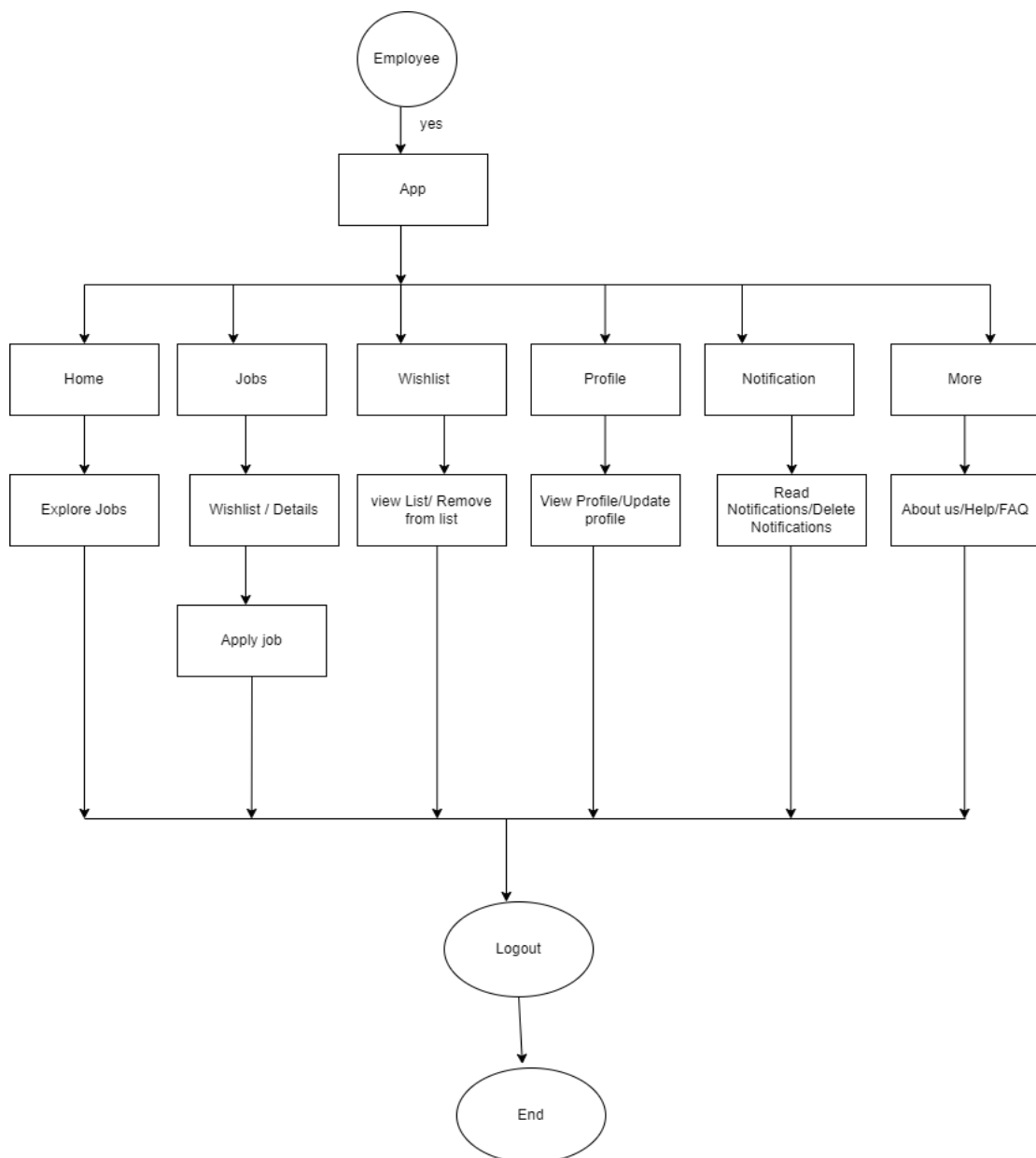


Figure 8: Flowchart of Employee

Figure 3: Flowchart of Employer

This flowchart clearly outlines the user journey for employers in the Job Nexus application. It covers the main functionalities available to employers, including posting jobs, managing applications, updating profiles, and handling notifications. The structured approach ensures that employers can efficiently navigate and utilize the app to meet their recruitment needs

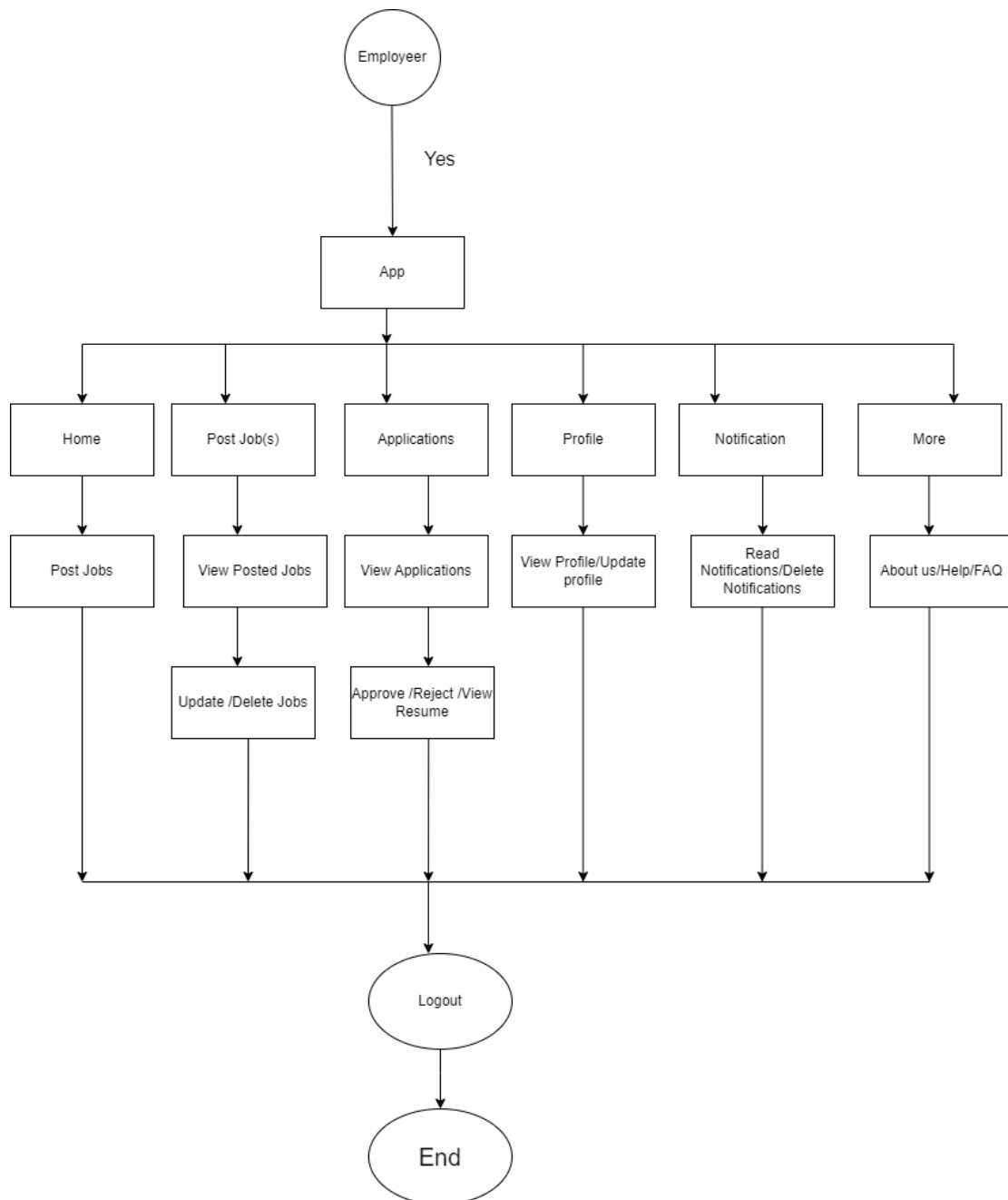


Figure 9: Flowchart of Employer

8. GANTT CHART

A Gantt chart is a visual representation of a project's schedule, displaying tasks as horizontal bars along a timeline. It provides an overview of project progress, task dependencies, and helps in tracking project milestones and deadlines.

The Gantt chart for the Job Nexus project outlines the timeline and completion status of various tasks from April to June 2024. The project began with problem identification, which was completed by May 1. Following this, the feasibility analysis phase was completed by May 3. Requirement analysis was finished by June 5. The system design phase was successfully completed by June 20. Coding started on May 1 and concluded on June 22. Testing and debugging were carried out from May 3 to June 26. Finally, documentation was completed by June 29. Each task is represented by a bar on the Gantt chart, and all tasks are marked as 100% complete, indicating they were finished within the specified timeline.

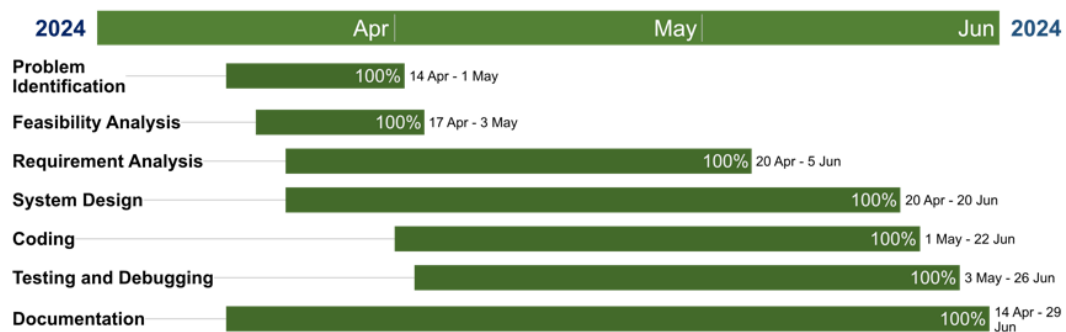


Figure 10: Gantt chart

9. DEVELOPMENT PROCESS

The development phase of the Job Nexus mobile application involved implementing frontend and backend components, integrating necessary APIs, and conducting thorough testing to ensure the application met all specified requirements. Using the Agile model, we engaged in an iterative process that allowed us to adapt to changing needs and prioritize features based on user feedback and market trends. This phase was critical in transforming the initial project scope into a functional, user-friendly app offering a wide range of job listings. The development process was divided into two-week sprints, each with specific goals to complete particular features. Regular sprint planning and retrospective meetings ensured smooth progress. Daily stand-up meetings fostered effective communication and coordination within the team, allowing us to identify and address potential challenges early on. Key features implemented included a company profile section for employers to create job listings and a job search function for employees to find suitable positions based on salary, location, skills, qualifications, and requirements. To maintain code quality and stability, we used continuous integration tools like GitHub, which streamlined code changes and ensured the app was always in a deployable state while user acceptance testing provided valuable insights for iterative improvements.

In conclusion, the development phase of the Job Nexus app using the agile model was a collaborative and adaptive process. Through effective sprint planning, user-centric development, continuous integration, and comprehensive testing, we successfully delivered a feature-rich application. This approach not only ensured that we met our project deadlines but also that we provided a high-quality product that meets the needs of both employers and job seekers.

10.TESTING

Testing is to make sure that what is created does what it is supposed to do. Testing plays a critical role in assuring the quality and reliability of the software. We have included testing as a part of the development process. The test cases should be designed with maximum possibilities of finding the errors or bugs. We have designed and executed a few test cases to check if the application meets the functional requirements test case comprises a set of conditions or variables employed by a tester to ascertain if a system being evaluated fulfils prescribed requirements or functions correctly. we have executed unit tests on each individual component, confirming their proper functionality before their integration into the larger system.

User Registration and Authentication Module

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
1	High	User Registration	Register new user	Akriti Chapagain	Binaya Koirala	User not registered
2	High	User Authentication	Login with valid credentials	Akriti Chapagain	Binaya Koirala	User registered and activated
3	High	User Authentication	Login with invalid credentials	Akriti Chapagain	Binaya Koirala	None

SN	Expected Results	Test Data	Actual Results	Status
1	User registered successfully	Name:Akriti Chapagain, Email:akriti@gmail.com, Password: Password123	User registered	Pass
2	User logged in successfully and	Email: akriti@gmail.com, Password: Password123	Session not handled	Failed

	redirected to dashboard			
3	Error message indicating incorrect login details	Email: akriti@gmail.com, Password: wrongpassword	Incorrect Details	Pass

Table 3 User Registration and Authentication Module Test

Job Listings and Search Module

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
4	High	Job Listings	Browse job listings	Akriti Chapagain	Binaya Koirala	User logged in
5	High	Job Listings	Filter jobs by location	Akriti Chapagain	Binaya Koirala	User logged in

SN	Test Case ID	Expected Results	Test Data	Actual Results	Status
4	TC-JS-03	Job listings filtered by Address	Location: Kathmandu	Data Received	Pass
5	TC-JS-04	Job listings filtered by Company	Industry: IT	Data Received	Pass

Table 4: Job Listings and Search Module Test

Profile Management Module

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
6	High	Profile Management	Create Profile	Akriti Chapagain	Binaya Koirala	User logged in
7	High	Profile Management	Update profile	Akriti Chapagain	Binaya Koirala	User logged in

8	High	Resume and Certificate Uploading	Document Upload	Akriti Chapagain	Binaya Koirala	Initial Login
9	High	Resume Download	Document Download	Akriti Chapagain	Binaya Koirala	Initial Login

SN	Expected Results	Test Data	Actual Results	Status
6	Profile created successfully	Profile Data: {Name, Email, Address, etc.}	Profile created	Pass
7	Profile updated successfully	Updated Data: {Name, Email, Address, etc.}	Profile updated	Fail
8	Resume and Certificate Uploading	Image1.png and Certificate1.pdf	Only name saved	Failed
9	Resume Download	No data	Only view	Failed

Table 5: Profile Management Module Test

Create Job

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
10	High	Job Management	Create job	Akriti Chapagain	Binaya Koirala	User logged in, employer

SN	Expected Results	Test Data	Actual Results	Status
10	Job created successfully	Job Data: {Title, Description, Salary, etc.}	Job Detail Shown	Pass

Table 6: Create Job Test

Job Apply

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
11	High	Application Management	Apply for job	Akriti Chapagain	Binaya Koirala	User logged in

SN	Expected Results	Test Data	Actual Results	Status
11	Job application submitted	Application Data: {Job ID, Applicant ID, etc.}	Application Saved.	Pass

Table 7: Job Apply Test

Application Retrieval

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
12	High	Application Management	Retrieve job applications	Akriti Chapagain	Binaya Koirala	User logged in, employer

SN	Expected Results	Test Data	Actual Results	Status
12	Applications retrieved successfully	Job ID, Employer ID	List of Applicants	Pass

Table 8: Application Retrieval Test

Wishlist

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
13	Medium	Wishlist	Add job to wishlist	Akriti Chapagain	Binaya Koirala	User logged in

14	Medium	Wishlist	Remove job from wishlist	Akriti Chapagain	Binaya Koirala	User logged in
----	--------	----------	--------------------------	------------------	----------------	----------------

SN	Expected Results	Test Data	Actual Results	Status
13	Job added to wishlist successfully	Job ID, User ID	Pass	Pass
14	Job removed from wishlist successfully	Job ID, User ID	Pass	Pass

Table 9: Wishlist Test

Search

Test Case No	Test Priority	Module Name	Test Title	Test Executed by	Test Reviewed by	Pre-condition
15	High	Job Management	Search jobs	Akriti Chapagain	Binaya Koirala	User logged in

SN	Expected Results	Test Data	Actual Results	Status
15	Jobs retrieved based on search criteria	Search Criteria: { Keywords, Location, etc. }	Search Result	Pass

Table 10: Searching Test

11. PROJECT RESULT

Finally, after following the software development lifecycle and completing the testing phase, we successfully implemented the Job Nexus project. Some features are still under development and will be included in future enhancements. This section highlights the results based on the following:

Functions Achieved by Our Project

The Job Nexus application successfully implements the following functions:

- **Easy Browsing:**
Users can easily browse and select specific jobs from the available options.
- **Job Application**
Allows job seekers to apply for jobs directly through the application.
- **Job Posting:**
Enables employers to post job vacancies, specifying job details such as title, description, requirements, salary range, and location.
- **Job Seeker Profiles:**
Enables job seekers to create, update, and manage their profiles, including personal details, education, work experience, and skills.
- **Employer Profiles:**
Allows employers to create and update company profiles, including company details, contact information, and descriptions.
- **Password Recovery:**
Provides functionality for users to recover forgotten passwords.
- **User Authentication:**
Ensures secure login with authentication and authorization for enhanced security.
- **Wishlist Management:**
Allows job seekers to add jobs to their wishlist for future access.
- **Application Status**
Tracking: Enables job seekers to track the status of their job applications (e.g., applied, under review, accepted, rejected).
- **Application Management:**
Allows employers to manage and update the status of applications received, facilitating efficient recruitment processes.

Problems Solved by the Project

The Job Nexus application addresses several key problems in the job market, providing solutions that benefit both job seekers and employers:

- **Diverse Opportunities:**

It offers a platform that caters to job seekers with varying levels of skills and experience, including those seeking entry-level positions and volunteer opportunities.

- **Simplified Job Search:**

The advanced search and filtering options make it easier for job seekers to find relevant job opportunities, reducing the time and effort required to search for jobs.

- **Enhanced Security:**

The application implements robust security measures, including data encryption to protect user data and ensure privacy.

- **Secure Data Management:**

Ensures that personal information, resumes, and application details are securely stored and managed.

- **Easy Profile Management:** Users can easily create, update, and manage their profiles, ensuring that their information is always up-to-date and relevant.

- **Status Tracking:** Job seekers can track the status of their applications, providing them with visibility into the recruitment process and reducing anxiety related to the job search.

- **Efficient Application Management:**

Employers can efficiently manage and update the status of applications received, facilitating better communication with job applicants.

- **User Account Management**

Admins can manage user accounts, ensuring proper access controls and maintaining the platform's integrity.

12. FUTURE ENHANCEMENTS

Future enhancements in JobNexus refer to potential improvements and additional features that can be incorporated into the application to enhance its functionality, usability, and overall user experience. As technology evolves and user needs change, continuous development and improvement are essential to keep the platform relevant and competitive. Here are some possible future enhancements for JobNexus:

Several future enhancements can be considered:

- **Localization and Language Support**

Expand language support to cater to a broader audience, including localizing the platform for different regions and languages.

- **Social Media Integration**

Integrate with social media platforms to allow users to share job postings and application statuses, as well as apply through social media profiles (e.g., LinkedIn).

- **User Feedback and Continuous Improvement**

Regularly collect feedback from users to identify pain points and areas for improvement. Use this feedback to make continuous enhancements to the platform.

- **Employer Branding:**

Provide companies with tools to enhance their employer brand, including the ability to showcase their company culture through photos, videos, and employee testimonials. This can attract more qualified candidates which will directly impact in the growth of company.

- **Mobile Application Enhancements**

Improve the mobile application with features such as: Offline access to job listings and applications, Push notifications for job alerts and updates Seamless integration with calendars for interview scheduling

- **Skill Development and Training Integration:**

Integrate online courses, certifications, and training programs to help job seekers improve their skills and increase their employability. This can include partnerships with e-learning platforms like Coursera, Udemy, or LinkedIn Learning.

- **Real-time Chat Support:**

Implement real-time chat support to provide users with instant assistance and guidance throughout their job search journey. This could include chatbots for basic queries and live chat support for more complex issues.

13. CONCLUSION

In conclusion, JobNexus, a Job Portal Android app, can yield numerous benefits for both Job seekers and Employer; we have successfully developed a robust and user-friendly online job portal that addresses the needs of job seekers and employers alike. The development journey has been a collaborative effort, marked by challenges, learnings, and continuous improvement. The project's achievements lie not only in the tangible outcomes but also in the invaluable learnings gained throughout the process. We have used our skills in development, incorporating best practices in system analysis, design, and implementation. The Utilized the various diagrams, such as ER, DFDs, Flowcharts, has enhanced the project's structural integrity and functionality.

Moreover, the collaborative nature of GitHub, project played an important role in coordinating our efforts seamlessly, resulting in transparent communication and effective version control. As we conclude this project, we carry forward not only a fully functional job portal but a wealth of experiences. The journey has equipped us with a deeper understanding of software project development, project management, time managing, problem solving. The adoption of agile methodology aligns seamlessly with the development of JobNexus, proving to be an ideal fit for its app development process. With Agile, the team can enjoy the flexibility to adapt to changing requirements, employ iterative development cycles to continuously improve the app, and promote effective collaboration among team members. Consequently, agile methodology can accelerate the development timeline, leading to a faster time-to-market for JobNexus. A well-designed and user- friendly app can significantly enhance the overall customer experience, leading to increased user satisfaction and loyalty. These learnings will surely shape our approach to future projects, allowing us to navigate challenges with confidence and innovation.

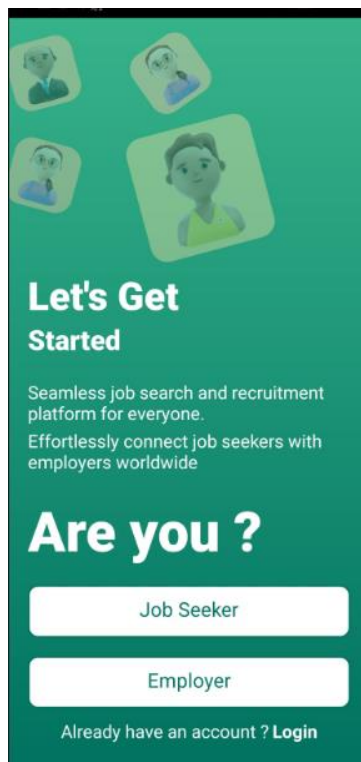
REFERENCES

- Ak, K., Samarasinghe, V., Haa, S., Deraniyagala, D., Gunasekara, S., & Kavindu, K. (2022). Group study open access study on evolutionary prototype model over PcD.UcT. (accessed August 8, 2023)
- Lapada, A. (2019). AIRTOR: Evolutionary prototype and its uses. *Indian Journal of Science and Technology*, 12. <https://doi.org/10.17485/ijst/2019/v12i17/142868>. Accessed August 8, 2023.
- Chetana, N., & Das Mohapatra, A. (2017). Career planning and career management as antecedents of career development: A study. *Asian Journal of Management*, 8, 614. <https://doi.org/10.5958/2321-5763.2017.00098.1>. Accessed August 8, 2023.
- Liyanage, D., & Galhena, B. (2014). Effect of e-recruitment on behavioural intention of candidates: Empirical evidence from management undergraduates in Sri Lanka. *International Journal of Human Resource Management and Research (IJHRMR)*, 4, 25-32. Accessed November 5, 2023.
- IJSREM. (2022). A study on the effectiveness of job portals by jobseeker's perspective. *IJSREM*. Retrieved from <https://ijsrem.com/a-study-on-the-effectiveness-of-job-portals-by-jobseekers-perspective/>. Accessed November 5, 2023.
- Kopuri, K., Mujtaba, G., Hussain, A., Shavali, T., & Shaik, S. (2021). An online job portal management system. Accessed December 21, 2023.
- Khan, A., Wankhade, A., Pakhide, P., Meshram, S., & Zunke, S. (2019). A review study on online job portal. *International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)*, 5(1), 251-255. Accessed December 27, 2023.
- Dorn, J., & Naz, T. (2007). Integration of job portals by meta-search. In *Enterprise Interoperability II* (pp. 401-412). Springer, London. Accessed January 7, 2024.
- Bsiri, S., Geierhos, M., & Ringlstetter, C. (2008). Structuring job search via local grammars. *Advances in Natural Language Processing and Applications. Research in Computing Science (RCS)*, 33, 201-212. Accessed January 7, 2024.
- Jobeejee.com. (2024). Jobs in Nepal | Jobeejee. Retrieved from <https://www.jobeejee.com/>. Accessed January 7, 2024.

Kumari Job. (2023). Job portals in Nepal - 2023. Blogs. Retrieved from <https://www.kumarijob.com/careertip/6-popular-job-portals-in-nepal-2023>.

TechLekh. (n.d.). Nepali job portals to find job vacancies in Nepal. Retrieved from <https://techlekh.com/nepali-job-portals/>. Accessed January 7, 2024.

ANNEX



Job Seeker Registration

Registration form fields:

- Name *
- Email *
- Password *
- Confirm Password *
- Contact

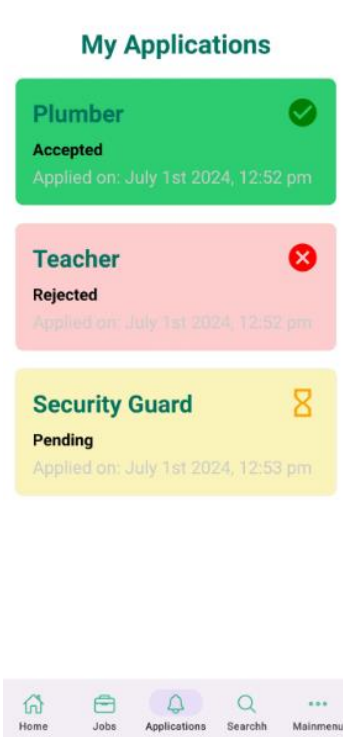
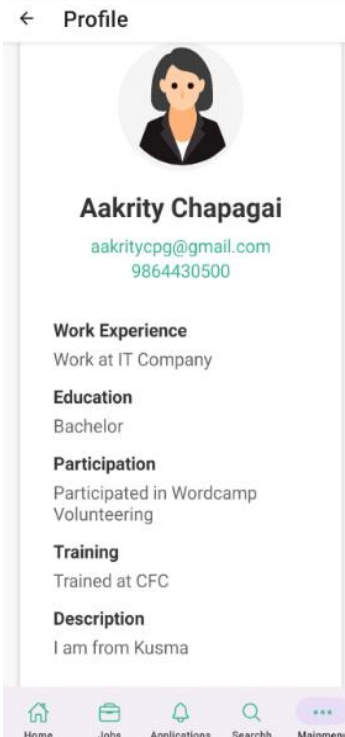
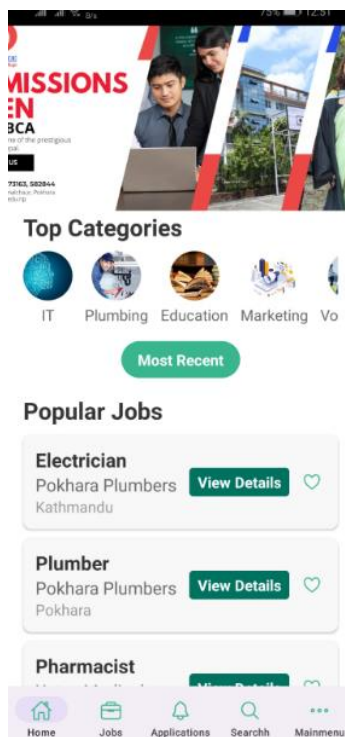
Register Now

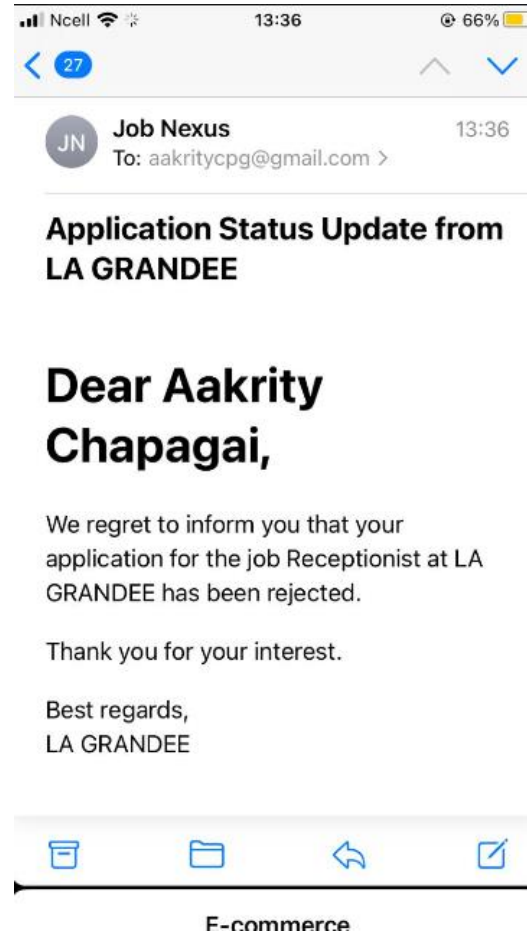
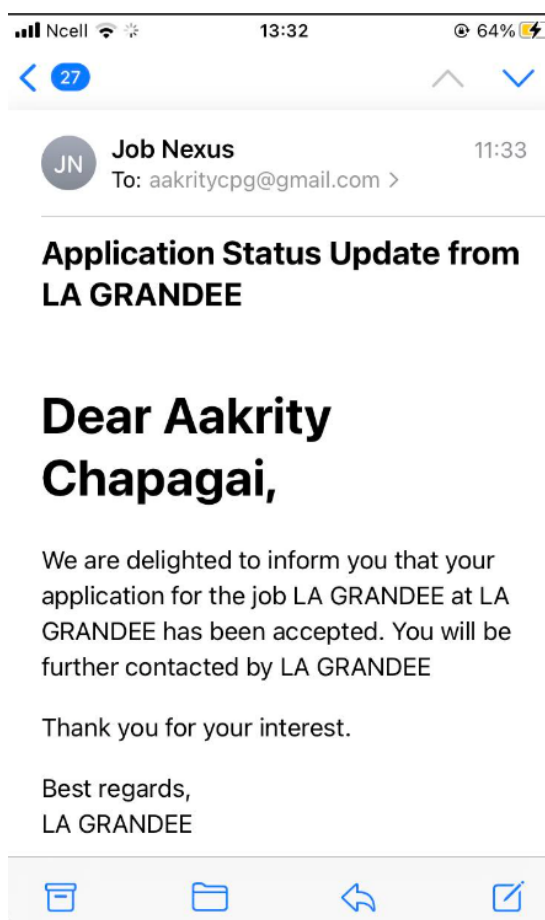
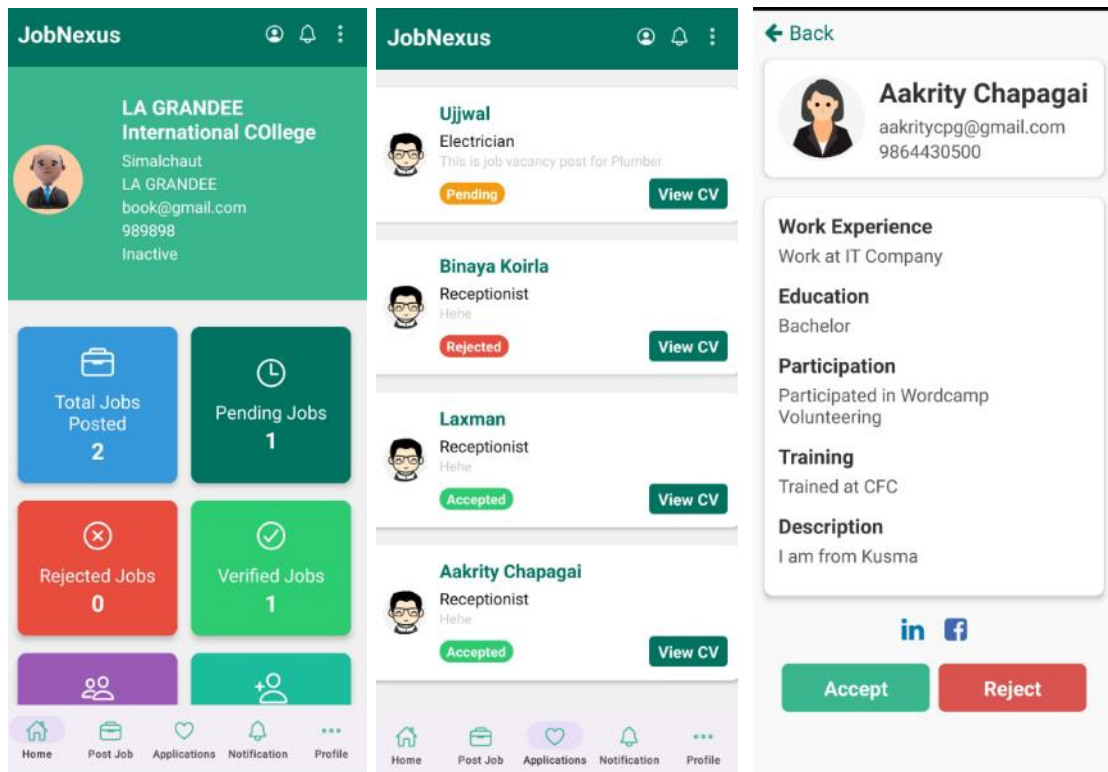
Complete Your Profile

Select Avatar:

Profile completion fields:

- Address *
- Description *
- Education
- Work Experience
- Participation
- Training





JobNexus Dashboard

Dashboard

Jobs

Applications

Notifications

ACCOUNT PAGES

Profile

Log Out



Pages / Dashboard


Dashboard

Type here...

Posted Jobs

+ CREATE NEW

Title	Address	Category	Status	Actions	Applications
 Driver Full Time	Simalchaut 989898	12	PENDING	EDIT DELETE DETAILS	APPLICATION
 Receptionist Part Time	Simalchaut 989898	10	VERIFIED	EDIT DELETE DETAILS	APPLICATION

© 2024 , made with  by JobNexus for a better purpose.

[Creative Tim](#) [About Us](#) [Blog](#) [License](#)

JobNexus Dashboard

Dashboard

Jobs

Applications

Notifications

ACCOUNT PAGES

Profile

Log Out

Pages / Dashboard

Dashboard

Type here...

Applications for Receptionist

Applicant Name	Status	Description	Actions
Binaya Koirala	REJECTED	I am a student	VIEW CV
Laxman	ACCEPTED	Thinks me	VIEW CV
Aakrity Chapagai	REJECTED	I am from Kusma	VIEW CV

JobNexus Dashboard

Dashboard

Jobs

Applications

Notifications

ACCOUNT PAGES

Profile

Log Out

Post a Vacancy

VIEW LIST

Job Title

Select Category

Job Address

Company Name

Job Experience

Job Max Salary

Job Min Salary

Contact

dd-mm-yyyy

Job Validity

Type

Duty Hour

Job Description

Requirements for Job

REGISTER