

**LA GRANDEE INTERNATIONAL COLLEGE**

**Simalchaur, Pokhara Nepal**

Final Year Project Report

On

**“JobNexus”**

(Online Job Portal)

**Submitted to:**

Bachelor of Computer Application (BCA) Program

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

Pokhara University

**Submitted by:**

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

**Date:24/06/2024**

**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 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 Chapgain (Registration No: 2019-1-53-0104)

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

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**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 Chapagai (PU Exam Roll no): 20530162

Binaya Koirala (PU Exam Roll no): 20530169

Program: BCA, 8th Semester

Date:

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**Supervisor’s Declaration**

I hereby recommend that this project entitled "JobNexus " is done under my supervision by Akriti Chapagain, Binaya Koirala during 8th semester in partial fulfillment of the requirement for the degree of Bachelor of Computer Application (BCA) under Pokhara University is completed to my satisfaction and be processed for final evaluation.

Sunil Sapkota



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**Letter of Approval**

We certify that we have examined this report JobNexus ", and are satisfied with the proposal defense. In our opinion it is satisfactory in the scope and qualify as project in partial fulfillment of the requirements for the degree of BCA under Pokhara University.

**Project Supervisor**

**External Invigilator**

**Principal**

**Er. Sunil Sapkota**

**Er. Kiran K.C**

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**Abstract**

This report is submitted to the Department of Computer Application at LA Grandee International College as part of the BCA 8th Semester Project. 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.

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**List of abbreviation**

BCA – Bachelor In Computer Application

DFD- Data Flow Diagram

MySQL- My Structured Query Language

ER- Entity Relationship

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# 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 is using technologies such as React Native for frontend development and Laravel for backend, along with various tools and utilities to ensure easy and flawless navigation. This enabled Job Nexus to serve as a beacon for candidates searching for job opportunities and an asset for those who benefited from this application.

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**2. Problem Statement**

Following were the problems we found in job 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 regions

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# OBJECTIVES

* To establish collaborations with local businesses to broaden job access and ensure rural inclusion and semi-skilled job potentials.
* To implement advance filter to better match job seekers with suitable roles based on their skills.
* To create a unified platform for users to easily find and enroll in diverse training programs, volunteers, fostering skill development.

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**4.Background Study**

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:

1. **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.
2. **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.
3. **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.
4. **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.

**Comparative Analysis of Existing Job Portals**

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

1. **Merojob:**

This is one of the most popular and trusted job portals in Nepal, with over 1 million plus registered users, 50000+ employers and 200+ jobs posted every day. It caters to all kinds of job seekers, from freshers to experienced professionals, and offers services such as resume writing, career guidance, and online courses

**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.

1. **Kantipur Job:** This is one of the top job portals in Nepal, with over 500,000+ registered users and 500+ jobs posted every month. It offers services such as recruitment outsourcing, HR consulting, and training. It also has a dedicated section for women, veterans, and differently-abled job seekers. Kumari Job also provides free counselling to fresh graduates.

**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.

1. **Kumarijob:** This is one of the top job portals in Nepal, with over 500,000+

Registered users and 500+ jobs posted every month. It offers services such as recruitment, outsourcing, HR consulting, and training. It also has a dedicated Section for women, veterans, and differently-abled job seekers. Kumari Job also provides free counselling to fresh graduates.

**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.

**Need for Job Nexus**

Given the current landscape, there is a clear need for a platform like Job Nexus which:

1. **Focuses on Inclusivity:** By targeting semi-skilled and entry-level positions and ensuring accessibility for job seekers from rural areas.
2. **Facilitates Partnerships:** By collaborating with local organizations to source job openings and training opportunities.
3. **Utilizes Technology**: By employing modern technologies such as React Native and Laravel to create a seamless user experience for both job seekers and employers.
4. **Empowers Users:** By offering not just job listings but also training programs, volunteer opportunities, and career development resources to enhance skills and employability.

By conducting a comprehensive background study, we are prepared to develop a venue management app that meets the needs of your target audience and stands out in the market.

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**6. Requirement document**

**6.1. Tools and software requirements**

#### 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:**
  + MySQL (for managing user data, job listings, applications, and other critical information)
* **Package Manager:**
  + npm (Node Package Manager, essential for managing dependencies and packages in React Native projects)

#### Frontend Development:

* **Framework and Libraries:**
  + React Native (built with Expo for cross-platform mobile application development for iOS and Android users)

#### Backend Development:

* **Framework:**
  + Laravel (providing a robust and scalable framework for handling API requests, user authentication, job listings, and application management in PHP)
* **Dependency Management:**
  + Composer (dependency manager for PHP, used for managing dependencies in Laravel projects.

#### Deployment and Hosting Tools:

* **Expo:**
  + A powerful tool chain and platform for React Native development, facilitating rapid prototyping, debugging, and over-the-air updates. It simplifies deployment to mobile devices.
* **Composer:**
  + Dependency manager for PHP, primarily used for managing dependencies in Laravel projects. It simplifies package installation and version management in PHP applications.

**Deployment and Hosting Tools:**

**Expo:** A powerful tool chain and platform for React Native development, providing features such as rapid prototyping, debugging, and over-the-air updates. It simplifies the development process and offers easy deployment to mobile devices.

**Composer:** Dependency manager for PHP, primarily used for managing dependencies in Laravel projects. It simplifies package installation and version management in PHP applications.

**6.2. Functional Requirements**

* **User Registration and Authentication:** -

Enable users to register and create accounts. - Implement secure authentication methods like email/password, social media login, or OAuth. - Provide password reset and account recovery option

* **User Profiles:** Job seekers and employers should have profiles where they can manage personal information, preferences, and settings.
* **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, search, and filter job listings based on various criteria.

Job seekers should be able to submit job applications, including uploading resumes and cover letters

* **Deployment:**

The application should be deployed and distributed using Expo, enabling easy deployment to both iOS and Android devices for testing and production purposes.

* Integration:

Integration with GitHub should be set up for version control, collaboration, and automated CI/CD workflows using GitHub Actions.

These tools and functionalities will provide a robust development environment and enable the implementation of essential features for the Job Nexus mobile applications

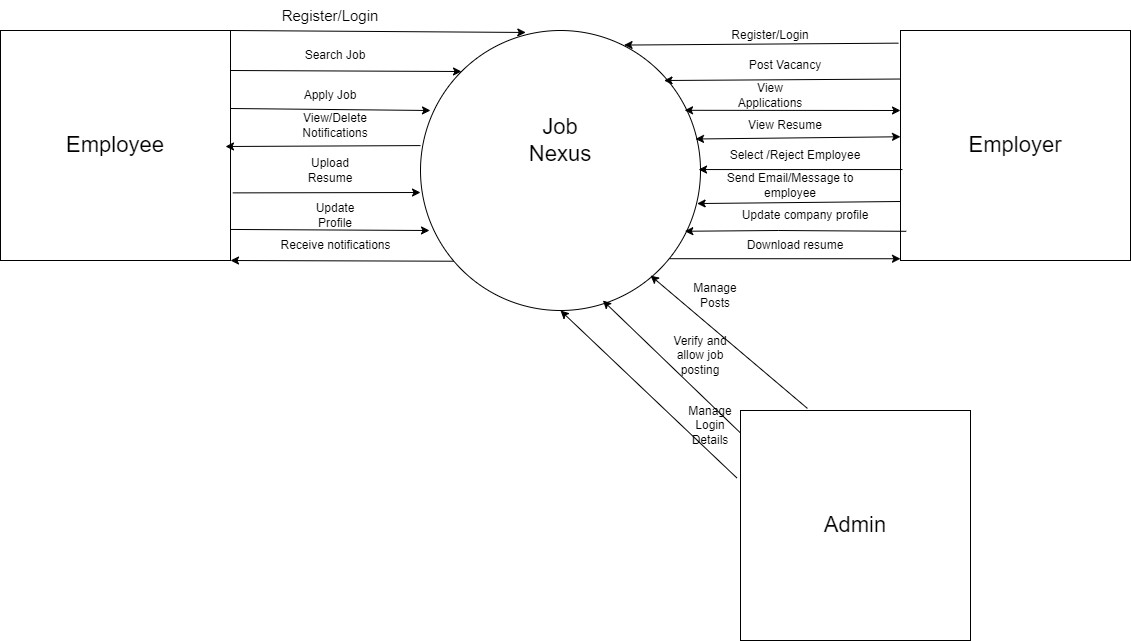
1. User Profile and Settings:- Enable users to view and update their profile information.
2. Backend Integration: - Connect the app with a backend system to handle data storage, product management, order processing, and other business logic.

**6.3 Requirement Matrix:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Requirement ID | Requirement Description | Type | | | Priority | Status |
| FR-01 | Users must be able to sign up using email, | Functional | | | High | Completed |
| FR-02 | Users must be able to log in using email. | Functional | | | High | Completed |
| FR-03 | Users must be able to reset their passwords via email. | Functional | | | High | Completed |
| FR-04 | Job seekers should be able to create and update their profiles. | Functional | | | High | Completed |
| FR-05 | Employers should be able to create and update company profiles. | Functional | | | High | Completed |
| FR-06 | Employers should be able to post job listings. | Functional | | | High | Completed |
| FR-07 | Job seekers should be able to browse and search job listings. | Functional | | | High | Completed |
| FR-08 | Job seekers should be able to filter job listings by criteria (location, industry, job type). | Functional | | | High | Completed |
| FR-09 | Job seekers should be able to apply for jobs through the app. | Functional | | | High | Completed |
| FR-10 | Employers should be able to manage job applications. | Functional | | | High | Completed |
|  |  | |  |  | |
| FR-11 |  |  | | |  |  |
| FR-12 | The app should offer information about volunteer opportunities. | Functional | | | Medium | Completed |
| NFR-13 | The app should have an intuitive admin panel for managing user accounts and content. | Non Functional | | | Medium | Completed |
| FR-14 |  |  | | |  |  |
| NFR-01 | The app must load quickly and handle a large number of users simultaneously. | Non-Functional | | | High | 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 and secure communication channels is required. | Non-Functional | | | High | Completed |
| NFR-05 | The app must be compatible with both Android and iOS devices. | Non-Functional | | | High | Completed |
| NFR-06 | Ensure high availability and minimal downtime through robust infrastructure. | Non-Functional | | | High | Completed |

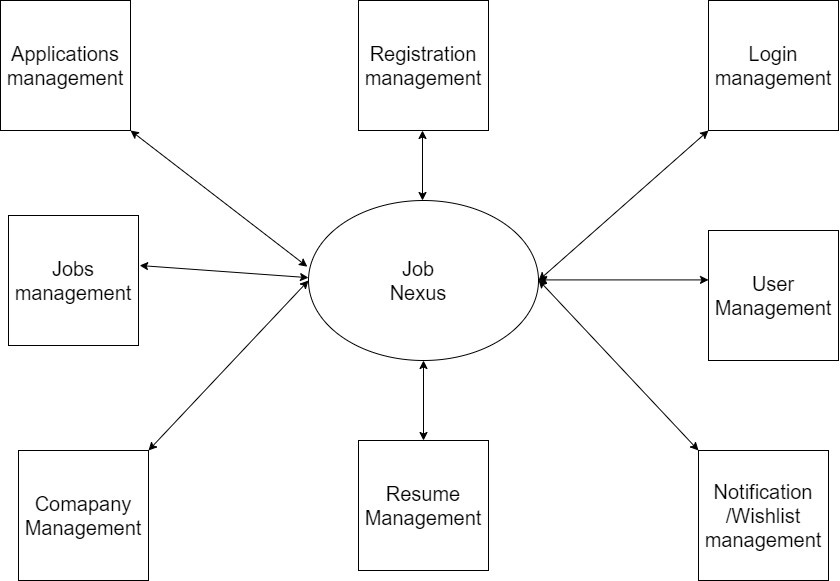
**7. System Analysis and Design:**

**7.1 Context Level Dfd**

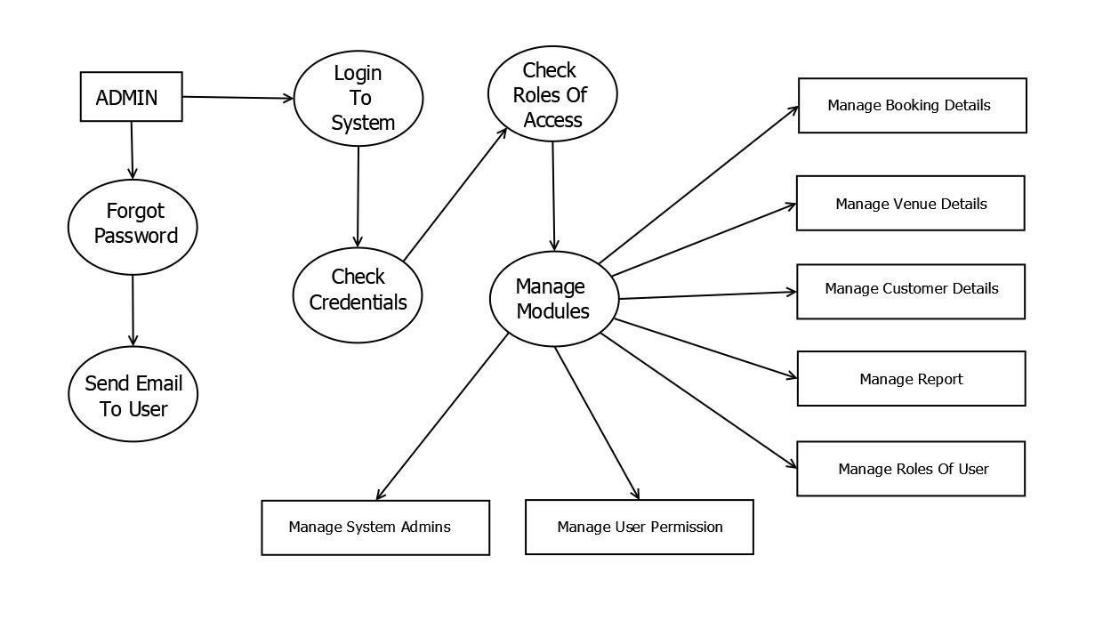


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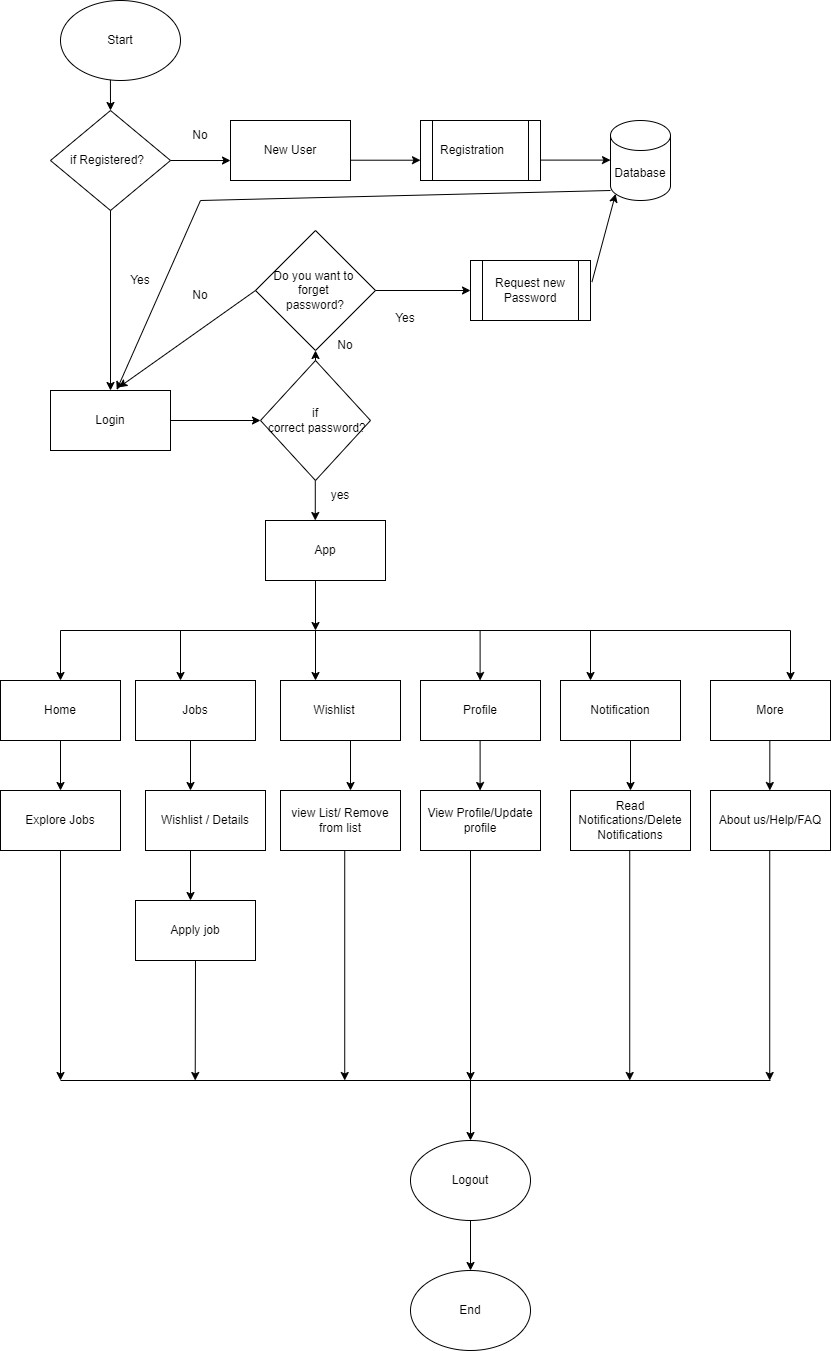
**7.2 Dfd Level 1**



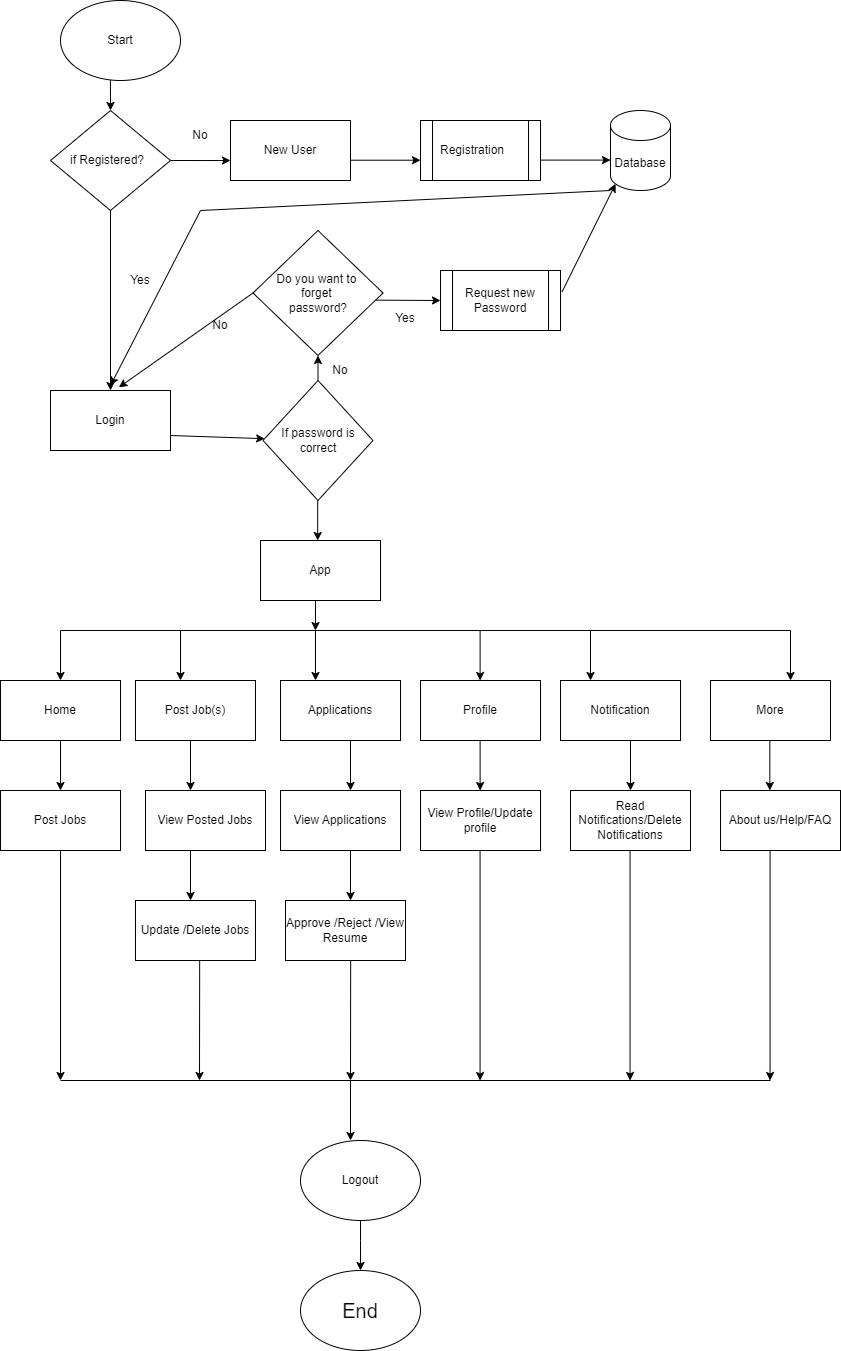
**7.2 Dfd Level 1**



**7.2 Flowchart for Employee**



**7.2 Flowchart for Employee**

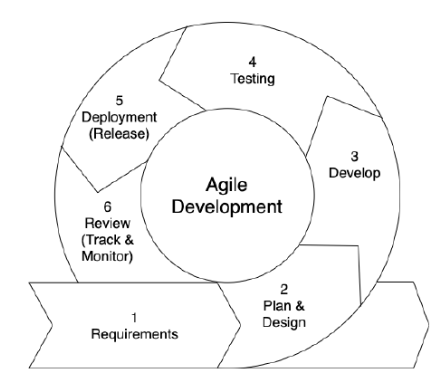


**8. Development**

The development phase of the Job Nexus mobile application involved the implementation of frontend and backend components, integration with necessary APIs, and thorough testing to ensure the application met all specified requirements. Below is a detailed breakdown of the development process, including key activities and milestones.

8.1 Development Process

Agile Methodology:



The project was developed using an Agile methodology, specifically the Scrum framework. This approach allowed for iterative development, frequent reassessments, and adaptability to changing requirements.

Iteration Planning:

Iterations, also known as sprints, were planned to last two weeks. Each sprint included planning, development, testing, and review phases.

Daily Standups:

Daily standup meetings were held to discuss progress, identify blockers, and plan for the day’s work.

Sprint Reviews and Retrospectives:

At the end of each sprint, reviews were conducted to demonstrate the completed work, and retrospectives were held to discuss improvements for future sprints.

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*FIGURE 3 CLASS-DIAGRAM*

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*FIGURE 6: DFD LEVEL 2*

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*FIGURE 7: DATABASE SCHEME*

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**9. TESTING**

A test case comprises a set of conditions or variables employed by a tester to ascertain if a system being evaluated fulfills prescribed requirements or functions correctly. The process of creating test cases can also aid in revealing potential shortcomings within an application's requirements or design. The Software Testing Life Cycle (STLC) serves as a testing methodology that contributes to the attainment of software quality standards with greater efficiency.

Throughout the entirety of the design and development stages, we have executed unit tests on each individual component, confirming their proper functionality before their integration into the larger system.

Given that we adopted the iterative model for our project's development. The iterative model testing process is an integral component of the iterative development methodology, where software is built and refined incrementally through a series of repetitive cycles. These cycles involve designing, developing, and testing small portions of the software in each iteration. The testing process within the iterative model is dynamic and evolves over the course of multiple iterations.

**9.1. Test cases**

#### 1. User Registration and Authentication Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 1 | TC-UR-01 | High | User Registration | Register new user | Register a new user with valid details | Akriti Chapagain | Binaya Koirala | User not registered |
| 2 | TC-UR-02 | High | User Registration | Register with existing email | Register with an email already in use | Akriti Chapagain | Binaya Koirala | Email already registered |
| 3 | TC-UR-03 | High | User Authentication | Login with valid credentials | Login with valid credentials | Akriti Chapagain | Binaya Koirala | User registered and activated |
| 4 | TC-UR-04 | High | User Authentication | Login with invalid credentials | Login with invalid credentials | Akriti Chapagain | Binaya Koirala | None |
| 5 | TC-UR-05 | High | User Authentication | Password reset | Reset password using registered email | Akriti Chapagain | Binaya Koirala | User registered and email access available |

#### 2. Job Listings and Search Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 6 | TC-JS-01 | High | Job Listings | Browse job listings | Browse available job listings | Akriti Chapagain | Binaya Koirala | User logged in |
| 7 | TC-JS-02 | High | Job Listings | Search jobs by keyword | Search jobs using a keyword | Binaya Koirala | Akriti Chapagain | User logged in |
| 8 | TC-JS-03 | High | Job Listings | Filter jobs by location | Apply location filter and search jobs | Akriti Chapagain | Binaya Koirala | User logged in |
| 9 | TC-JS-04 | High | Job Listings | Filter jobs by industry | Apply industry filter and search jobs | Binaya Koirala | Akriti Chapagain | User logged in |
| 10 | TC-JS-05 | High | Job Listings | Filter jobs by job type | Apply job type filter and search jobs | Akriti Chapagain | Binaya Koirala | User logged in |

#### 3. Application Tracking Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 11 | TC-AT-01 | High | Application Tracking | Submit job application | Submit a job application | Binaya Koirala | Akriti Chapagain | User logged in, job listing available |
| 12 | TC-AT-02 | High | Application Tracking | Track application status | Track the status of submitted applications | Binaya Koirala | Akriti Chapagain | User logged in, job application submitted |
| 13 | TC-AT-03 | Medium | Application Tracking | Receive application update notification | Receive notifications for application updates | Binaya Koirala | Akriti Chapagain | User logged in, job application status updated |

#### 4. Profile Management Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 14 | TC-PM-01 | High | Profile Management | Create job seeker profile | Create a new job seeker profile | Akriti Chapagain | Binaya Koirala | User logged in |
| 15 | TC-PM-02 | High | Profile Management | Update job seeker profile | Update existing job seeker profile | Akriti Chapagain | Binaya Koirala | User logged in |
| 16 | TC-PM-03 | High | Profile Management | Create employer profile | Create a new employer profile | Akriti Chapagain | Binaya Koirala | User logged in |
| 17 | TC-PM-04 | High | Profile Management | Update employer profile | Update existing employer profile | Akriti Chapagain | Binaya Koirala | User logged in |

#### 5. Security and Authentication Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 18 | TC-SA-01 | High | Security and Authentication | Secure login | Login with valid credentials | Akriti Chapagain | Sunil Sapkota | User registered and activated |
| 19 | TC-SA-02 | High | Security and Authentication | Prevent SQL injection | Attempt SQL injection in login fields | Akriti Chapagain | Sunil Sapkota | User logged in |
| 20 | TC-SA-03 | High | Security and Authentication | Data encryption | Check if user data is encrypted | Akriti Chapagain | Sunil Sapkota | User data present in the system |

#### 6. Performance and Load Testing Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 21 | TC-PL-01 | High | Performance and Load Testing | Load testing with 10 concurrent users | Simulate 10  concurrent users | Binaya Koirala | Akriti Chapagain | Load testing tools available |
| 22 | TC-PL-02 | High | Performance and Load Testing | Peak usage performance | Simulate peak usage conditions | Binaya Koirala | Akriti Chapagain | Load testing tools available |
| 23 | TC-PL-03 | High | Performance and Load Testing | Uptime monitoring | Monitor system uptime over a month | Binaya Koirala | Akriti Chapagain | Monitoring tools set up |

#### 7. User Interface and Usability Module

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case No** | **Test Case ID** | **Test Priority** | **Module Name** | **Test Title** | **Description** | **Test Executed by** | **Test Reviewed by** | **Pre-condition** |
| 24 | TC-UI-01 | High | User Interface | Responsive design | Test application on various devices | Akriti Chapagain | Binaya Koirala | Devices with different screen sizes available |
| 25 | TC-UI-02 | High | User Interface | User navigation | Test navigation through different sections | Akriti Chapagain | Binaya Koirala | Application functionalities developed |
| 26 | TC-UI-03 | Medium | User Interface | Accessibility testing | Test compliance with WCAG 2.1 standards | Akriti Chapagain | Binaya Koirala | Accessibility testing tools available |

**1. User Registration and Authentication Module**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 1 | TC-UR-01 | User registered successfully and receives a confirmation email | Name:Akriti Chapgain, Email:akriti@gmail.com, Password: Password | Pass | Pass |
| 2 | TC-UR-02 | Error message indicating email is already registered | Email: akriti@gmail.com, Password: P@ssw0rd | Pass | Pass |
| 3 | TC-UR-03 | User logged in successfully and redirected to dashboard | Email: akriti@gmail.com, Password: P@ssw0rd | Pass | Pass |
| 4 | TC-UR-04 | Error message indicating incorrect login details | Email: akriti@gmail.com, Password: wrongpassword | Pass | Pass |
| 5 | TC-UR-05 | Password reset email sent successfully | Email akriti@gmail.com | Pass | Pass |

#### 2. Job Listings and Search Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 6 | TC-JS-01 | Job listings displayed correctly | N/A | Pass | Pass |
| 7 | TC-JS-02 | Relevant job listings displayed | Keyword: Developer | Pass | Pass |
| 8 | TC-JS-03 | Job listings filtered by location | Location: Kathmandu | Pass | Pass |
| 9 | TC-JS-04 | Job listings filtered by industry | Industry: IT | Pass | Pass |
| 10 | TC-JS-05 | Job listings filtered by job type | Job Type: Full-time | Pass | Pass |

#### 3. Application Tracking Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 11 | TC-AT-01 | Application submitted successfully | Resume: resume.pdf | Pass | Pass |
| 12 | TC-AT-02 | Application statuses displayed correctly | User: John Doe | Pass | Pass |
| 13 | TC-AT-03 | Notification received for application update | User: John Doe | Pass | Pass |

#### 4. Profile Management Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 14 | TC-PM-01 | Profile created successfully | Profile Data: {Name, Email, Address, etc.} | Pass | Pass |
| 15 | TC-PM-02 | Profile updated successfully | Updated Data: {Name, Email, Address, etc.} | Pass | Pass |
| 16 | TC-PM-03 | Employer profile created successfully | Employer Data: {Company Name, Industry, etc.} | Pass | Pass |
| 17 | TC-PM-04 | Employer profile updated successfully | Updated Data: {Company Name, Industry, etc.} | Pass | Pass |

#### 5. Security and Authentication Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 18 | TC-SA-01 | Successful login with secure session management | Email: john@example.com, Password: P@ssw0rd | Pass | Pass |
| 19 | TC-SA-02 | SQL injection prevented and error message displayed | Input: ' OR '1'='1 | Pass | Pass |
| 20 | TC-SA-03 | User data is encrypted | N/A | Pass | Pass |

#### 6. Performance and Load Testing Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 21 | TC-PL-01 | Application maintains performance and response time < 2s | 1000 concurrent users | Pass | Pass |
| 22 | TC-PL-02 | Application scales and maintains performance | Peak usage conditions | Pass | Pass |
| 23 | TC-PL-03 | 99.9% uptime achieved | Continuous monitoring data | Pass | Pass |

#### 7. User Interface and Usability Module

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Test Case ID** | **Expected Results** | **Test Data** | **Actual Results** | **Status** |
| 24 | TC-UI-01 | Application displays correctly on all devices | Devices with different screen sizes | Pass | Pass |
| 25 | TC-UI-02 | Intuitive and smooth navigation | N/A | Pass | Pass |
| 26 | TC-UI-03 | Application meets WCAG 2.1 accessibility standards | Accessibility testing tools | Pass | Pass |

#### 

**11. Project Results:**

The Job Nexus application, designed to revolutionize the job search process in Nepal, has achieved remarkable results following its development and testing phase:

Intuitive User Interface: Job Nexus boasts an intuitive and user-friendly interface, providing seamless navigation through its features and functionalities. The design prioritizes clarity and simplicity, ensuring that users can effortlessly search, filter, and explore job opportunities.

Accurate Job Recommendations: Leveraging advanced algorithms, Job Nexus delivers precise and tailored job recommendations based on user preferences, including skills, experience, and location. This ensures that users are presented with opportunities that align closely with their professional aspirations.

Efficient Search and Filtering: The search and filtering mechanisms within Job Nexus are highly efficient and responsive, empowering users to swiftly browse through a diverse range of job listings and refine their search criteria as needed. Filters for industry, job type, and location enhance the search experience, enabling users to find relevant opportunities with ease.

Streamlined Application Process: Job Nexus offers a streamlined application process, allowing users to apply for positions directly within the app. This seamless process eliminates unnecessary steps and simplifies the application experience for candidates, facilitating faster and more convenient job applications.

Real-time Job Updates: Employers can update job listings in real-time, ensuring that users have access to the latest job openings and opportunities. Real-time notifications keep users informed about new job postings and application statuses, enhancing their engagement with the platform.

Robust Security Measures: Job Nexus implements robust security measures to safeguard user accounts and personal information. Secure authentication methods, encryption protocols, and regular security audits ensure the integrity and confidentiality of user data, instilling trust and confidence among users.

Scalable Infrastructure: Built on a scalable architecture, Job Nexus is capable of handling increasing user traffic and expanding job listings without compromising performance. This scalability ensures a seamless experience for users, even as the platform grows in popularity and usage.

Responsive Design: Job Nexus features a responsive design that adapts seamlessly to various devices and screen sizes, including smartphones, tablets, and desktop computers. This ensures a consistent and optimal user experience across all platforms, maximizing accessibility and usability.

Error Handling and Feedback: Comprehensive error handling mechanisms and meaningful feedback mechanisms are integrated into Job Nexus to provide users with informative responses in case of errors or unsuccessful operations. This proactive approach enhances user satisfaction and minimizes frustration.

Extensibility and Maintainability: Job Nexus is designed with extensibility and maintainability in mind, with a modular and well-structured codebase that adheres to best practices and design patterns. This facilitates the addition of new features and updates in the future, ensuring the long-term viability and relevance of the application.

In summary, Job Nexus has successfully delivered a comprehensive and user-centric job search platform that offers a seamless experience for both job seekers and employers. With its intuitive interface, accurate recommendations, efficient search capabilities, and robust security measures, Job Nexus is poised to make a significant impact on the job market in Nepal, promoting inclusivity, accessibility, and economic empowerment.

Or

The results indicate that our system is robust in handling both admin and user

interactions. The login functionalities are secure and user-friendly, with appropriate

messages displayed for various scenarios like invalid inputs or incomplete forms. The

profile creation process is safeguarded against common issues such as duplicate

information. Additionally, critical functionalities like job application submission and

end-to-end workflow for users are operational and handle errors well.

All the test cases marked as "Test Successful" demonstrate that the system behaves as

expected according to the defined requirements. System passes the testing for these

scenarios, covering various cases and ensuring that the system reacts appropriately to

different types of user input and system interaction. Overall, the test results suggest that

the job portal is operational, user-centric, and ready for deployment, with the potential

for a smooth user experience in real-world application. This indicates that our system is

well-prepared to enter the market and serve its intended purpose effectively.

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**12.Future Enhancement**

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.

* Expanded Job Categories: Introduce additional job categories and subcategories to cater to a broader range of industries and professions. This will allow Job Nexus to accommodate diverse user interests and career paths.
* 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).

* Localization and Language Support

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

* 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.

* Community and Networking Features

Create forums or community spaces where job seekers and employers can interact, share experiences, and network. This can include discussion boards, virtual job fairs, and networking events.

* Enhanced Security and Privacy Features

Improve security measures to protect user data, including advanced encryption, two-factor authentication, and compliance with data protection regulations (e.g., GDPR).

* Data Analytics for Employers

Offer advanced analytics and reporting tools for employers to track their job postings' performance, applicant sources, and hiring metrics. This can help them refine their hiring strategies.

* 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.
* 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.
* Integration with Learning Resources: Partner with online learning platforms to integrate educational resources directly into the app. This could include courses, tutorials, and certification programs to help users upskill and prepare for their desired roles.
* Networking Features: Introduce networking features that enable users to connect with professionals in their field, join industry groups, and attend virtual networking events. Facilitating connections and mentorship opportunities can enhance the overall user experience.
* 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.
* Integration with Social Media Platforms: Allow users to import their professional profiles from social media platforms like LinkedIn, making it easier to create and update their Job Nexus profiles. This integration can streamline the onboarding process and ensure that user information remains up-to-date.
* Enhanced Employer Profiles: Provide employers with the ability to create more detailed profiles showcasing their company culture, values, and perks. This can help job seekers evaluate potential employers more effectively and make informed decisions about their career choices.
* Interview Preparation Resources: Offer interview preparation resources, including tips, sample questions, and mock interview simulations. Empowering users with the tools they need to succeed in interviews can improve their confidence and chances of landing their desired roles.

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**13. Conclusion**

In concluding the project, 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 utilization of an object-oriented approach, as evidenced by

diagrams, class diagrams, 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, and the significance of addressing

economic considerations. These learnings will surely shape our approach to future

projects, allowing us to navigate challenges with confidence and innovation..

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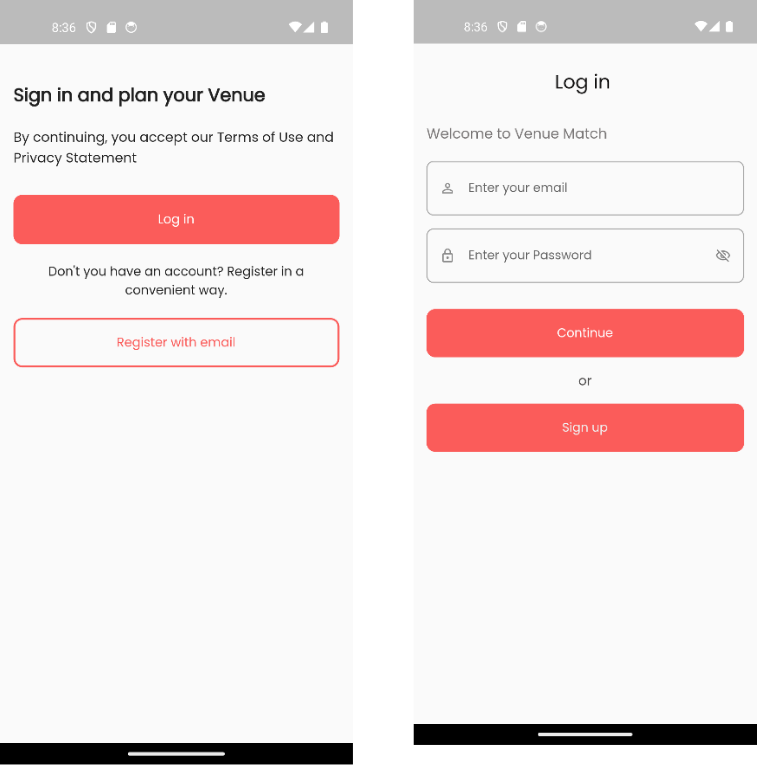
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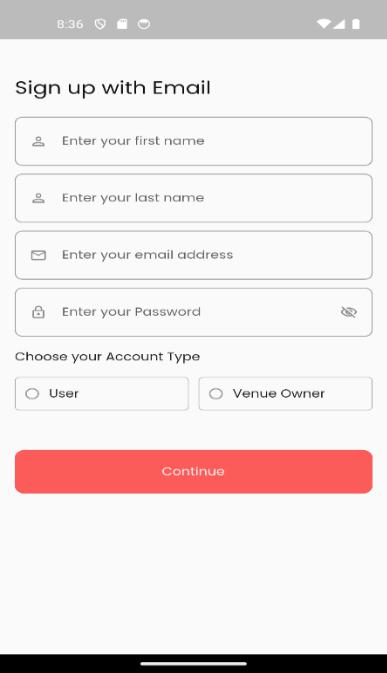
**Annexure**

During the development of our project we have faced unfamiliar errors while developing various services and we have come across to solve the problem within the given time period of time. So we are finally able to deliver the website and mobile application that will satisfy the customers. Here are some screenshots of our system

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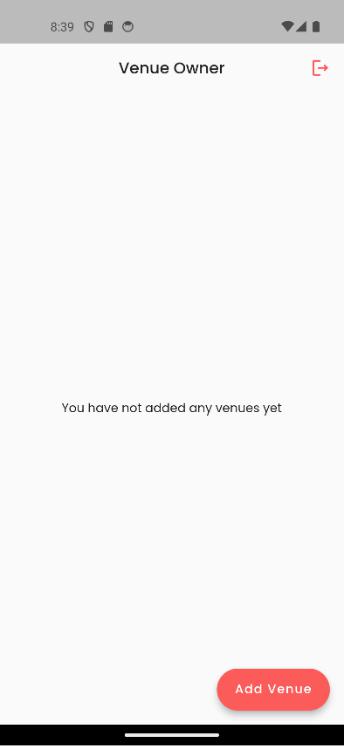
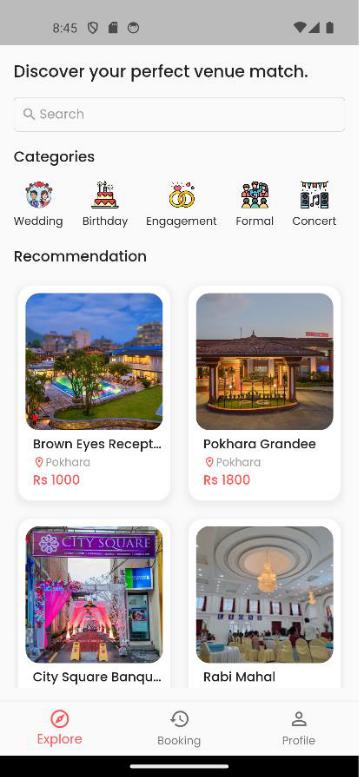


|  |  |  |
| --- | --- | --- |
|  | **WELCOME SCREEN** |  |
| **FIG: WELCOME SCREEN** | **FIG: LOGIN SCREEN** |  |
|  |  |



**FIG: SIGNUP SCREEN**

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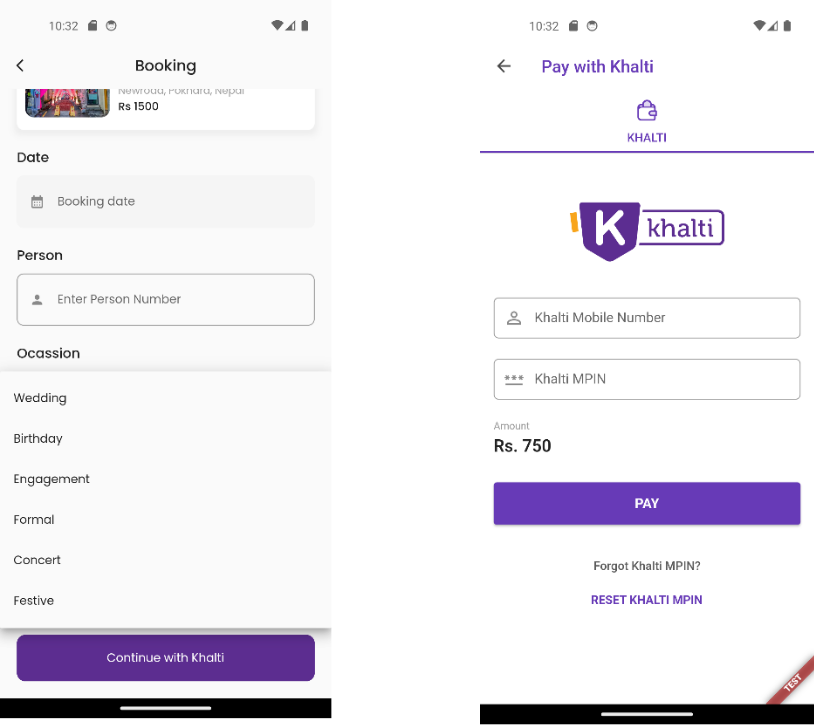


**FIG: VENUE OWNER PAGE** **FIG: EXPLORE SCREEN**



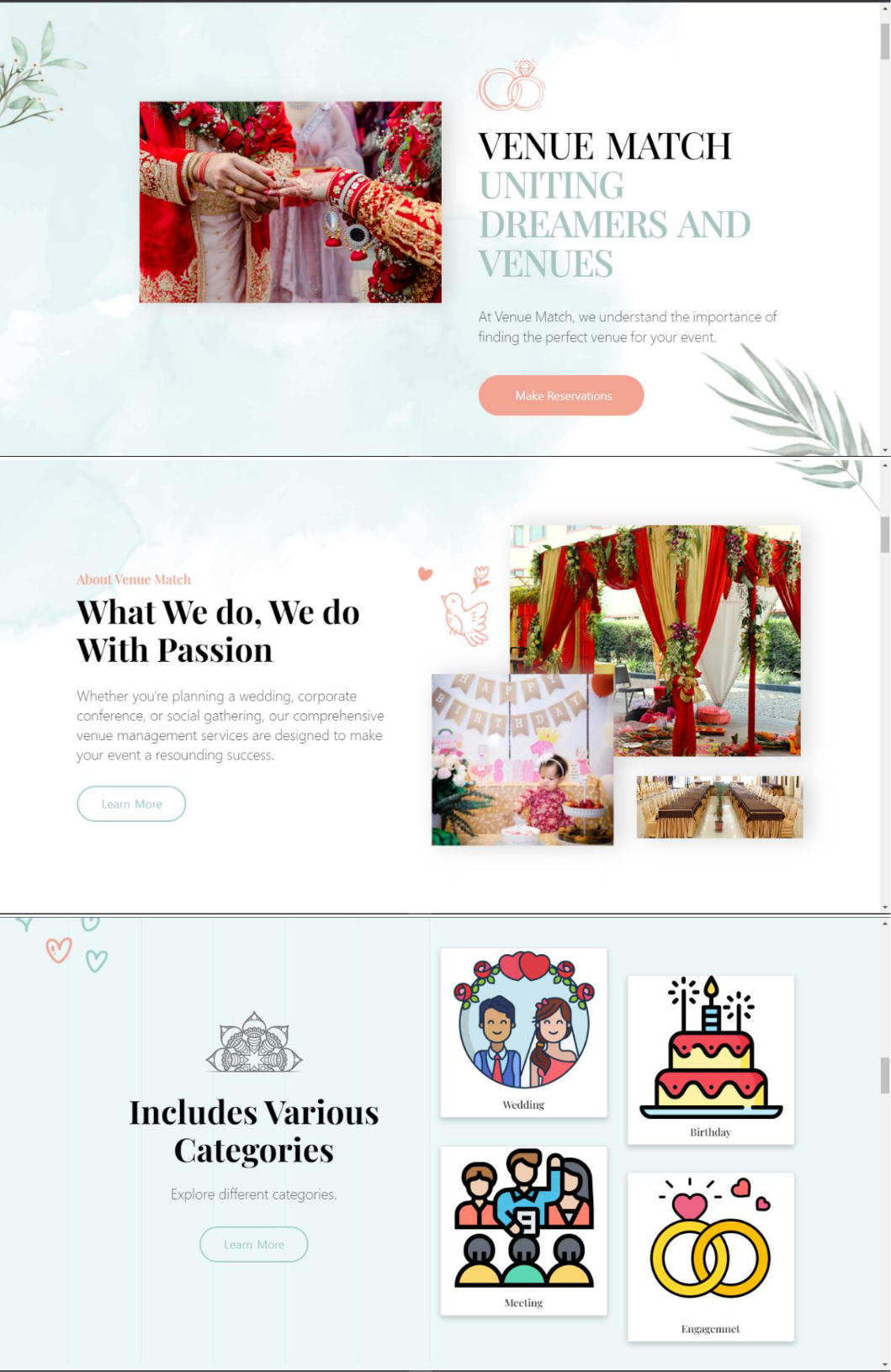
**FIG: DETAIL SCREEN**

41



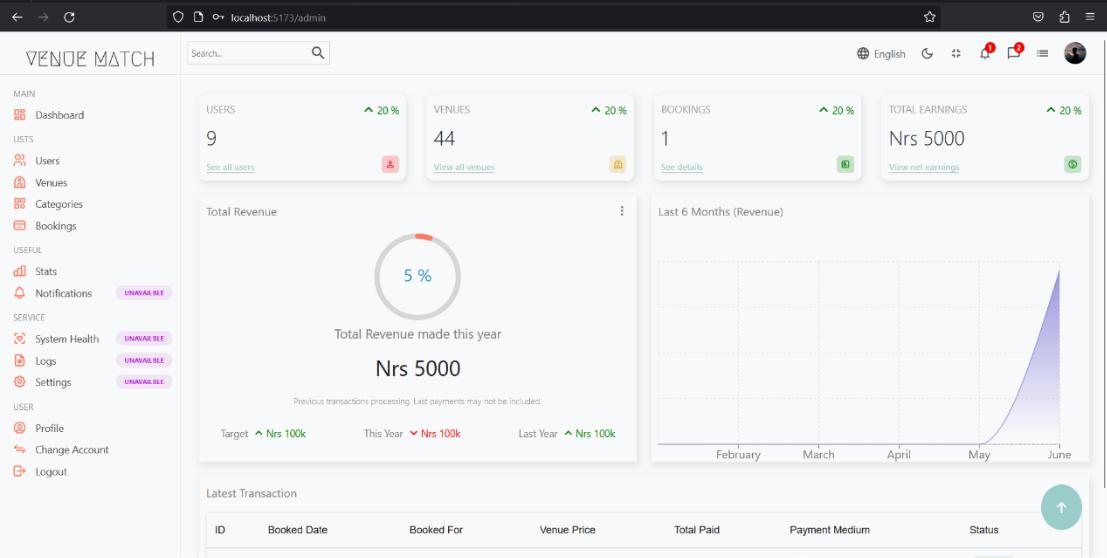
**FIG: BOOKING AND PAYMENT SCREEN**

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**FIG: WEBSITE LANDING PAGE**

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**FIG: ADMIN DASHBOARD**

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