

**LA GRANDEE INTERNATIONAL COLLEGE**

**Simalchaur, Pokhara Nepal**

AFinal Report

On

**“Kaaj”**

**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** |
| Anish Baniya | BCA | 6th | 2021-1-53-0347 |
| Suyan Thapa | BCA | 6th | 2021-1-53-0371 |

**Date:3/12/2025**

# Acknowledgement

We would like to express our gratitude to our BCA coordinator **Mr. Kundan Chaudhari**, Project supervisor **Mr. Sunil Sapkota** and LA Grandee International Collage for their support and contributions to the development of Kaaj.

This project is done for the in partial fulfilment of the requirements for BCA (Bachelor of Computer Application) program under Pokhara University. Our project was made possible by the effort and dedication of our team members. We thank our dedicated team for their hard work and contributions to the game. We are grateful for the guidance and mentorship provided by our respected sir **Mr. Sunil Sapkota**.

Sincerely,

Anish Baniya

Suyan Thapa

**Declaration for**

**“Kaaj”**

# Student’s Declaration

We **Suyan Thapa**, and **Anish Baniya** being students of the sixth semester at LA GRANDEE International College, Faculty of Science and Technology ‘kha’, Pokhara University, do hereby declare that the project proposal submitted to the aforementioned institution is an original work completed by us in partial fulfilment of the requirements for the Bachelor of Computer Application (BCA) program, under the supervision of Sir **Mr. Sunil Sapkota**. We further state that no resources other than those specifically listed have been utilized in the completion of this project.

Name: Anish Baniya Name: Suyan Thapa

Class Roll No.: 3 Class Roll No.: 25

PU-Registration No.: 2021-1-53-0347 PU-Registration No.: 2021-1-53-0371

Semester: 6th Semester Semester: 6th Semester

**Date: 12/03/2025 Date: 12/03/2025**

Signature: ............... Signature: ...............

# Supervisor’s Declaration

I hereby recommend that this project entitled “**Kaaj**” is done under my supervision by **Suyan Thapa, and Anish Baniya** during their sixthSemester in partial fulfilment 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**

**Date:12/03/2025**

# 

# Letter of Approval

This is to certify that **[Team Member],** the student of **[SEMESTER]** semester at **LA GRANDEE International College** with PU registration number of **[PU REGISTRATION NUMBER]** respectively has successfully completed their project.

We have examined the Project Report entitled **[PROJECT NAME]** and hereby approve their work as per the requirement for the partial fulfillment of the degree of Bachelor of Computer Application under affiliation of Pokhara University.

|  |  |  |
| --- | --- | --- |
| **Er. Asmit Nepali** | **Mr. Kundan Chaudhary** | **Er. Kiran K.C.** |
| External Examiner | Program Coordinator | Principal |

**Date: 3/12/2025**

# Abstract

The Freelance platform reimagines how clients and freelancers connect, collaborate, and complete projects in a secure, transparent, and efficient environment. By leveraging innovative technology, it eliminates traditional barriers to freelancing, offering flexibility and accessibility for professionals worldwide. Freelance empowers users with tools to create detailed profiles, post and browse job listings, manage projects, and ensure seamless payments through secure and automated processes. The platform fosters trust, accountability, and collaboration by integrating features like smart contract-based escrow payments, real-time messaging, and comprehensive rating systems.

Core functionalities include intuitive gig creation and management, tailored job-matching algorithms, and secure payment systems that use decentralized technologies to enhance transparency and reduce disputes. Freelancing Platform enables freelancers and clients to track progress effortlessly, streamline communication, and meet project milestones efficiently. Its design prioritizes inclusivity, innovation, and scalability, paving the way for a sustainable freelancing ecosystem that empowers professionals to achieve their goals while contributing to the growing gig economy.

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# Introduction

A Freelance Marketplace System is an innovative web-based platform designed specifically to connect the freelancers with businesses seeking specialized services. The marketplace aims to create dynamic online environment where freelancers can showcase their skills and offer services, while clients can browse, and easily find the right professionals for their projects according their needs. This system streamlines the process of hiring the freelancers and enables efficient management of service-based tasks.

The FMS is being developed with the aim of creating a unified platform where freelancers from various fields such as design, development, writing, digital marketing and many more can advertise their services to a global audience. Clients, ranging from small businesses to large enterprises, can search for the appropriate skill sets, request services, and manage project timelines within the platform. By offering various service categories, the system allows clients to filter through relevant freelancers based on ratings, reviews, pricing, and expertise.

 The Freelance Marketplace project serves as a vital tool to create a vibrant online ecosystem where talent meets opportunity. By bridging the gap between talent and demand, it not only supports individual careers but also contribute to the growth of the freelance economy as a whole.

# Problem Statement

In the context of our country, there are no sufficient online platforms that particularly focuses on micro-jobs. Majority of the available online job platforms recruits individual for mainstream/career jobs such as teaching, banking etc. Most of the Nepalese freelancers prefer to work on global online marketplace for freelance services such as Fiverr, Upwork, etc. due to unavailability of such reliable gig marketplace. Most of the online freelancing web app allows freelancers for bidding which creates a cut-throat competition among freelancers. (Bibek Ranabhat, 2023)

* Lack of Global Payment Gateway
* Poor UI/UX Design

# Objectives

Freelance marketplaces are amongst the fastest-evolving platforms, encouraged technology, which have revolutionized the way business entities and freelancers meet. With the demand for digitized services and remote work on a continuous rise, the appropriate FMS will make the process much easier and smoother for both freelancers and clients alike. Accordingly, if one gets hold of an appropriate platform, they can then smoothly go about managing their outsourcing requirements, while freelancers are in a position to present their skills and acquire work with a whole lot of simplicity.

* To implement the reliable payment gateways.
* To improve the design of the platform.

# Background Study

Freelancing has become a popular, offering flexibility and opportunities to work independently. For students, it provides a chance to gain experience, build portfolios, and earn income while managing academics. However, existing platforms often pose challenges like high fees, stiff competition, and limited support for beginners

This project aims to develop a student-friendly freelancing platform that addresses these barriers by offering:

* **User-Friendly Interface**: Simplified design for ease of use.
* **Affordable Fees**: Reduced service costs for students.
* **Skill Development**: Tutorials and mentorship for growth.
* **Verified Clients**: Ensuring safety and trust.
* **Local & Global Access**: Opportunities across regions.

# Feasibility Analysis

A feasibility analysis assesses the potential success of a freelancing platform, ensuring its viability and reliability for investors and stakeholders. This evaluation focuses on key aspects to determine the practicality and effectiveness of implementing the platform. Below are the feasibility studies conducted for the project:

# 5.1 Technical Feasibility

* **Hardware and Software:** Ensure the provision of robust servers, dependable hosting solutions, and scalable database systems to support the platform's infrastructure. Employ technologies such as Html, CSS, JS for the front-end, NodeJS for the back-end, and MongoDB for database management
* **Technical Expertise:** Assess the availability of proficient Node developer within the team and ensure access to essential technical resources to facilitate effective platform development and maintenance.

# 5.2 Operational Feasibility

* **Operational Impact:** Examine how the platform will revolutionize traditional freelancing models by providing decentralized, transparent, and flexible opportunities, while ensuring seamless integration into the current freelancing ecosystem.
* **User Acceptance:** Evaluate whether the freelancing platform is intuitive and meets the needs of both freelancers and clients. Conduct user testing to ensure a smooth and engaging user experience.

# 5.3 Economic Feasibility

* **Cost-Benefit Analysis:** Conduct a thorough evaluation to assess whether the platform's advantages, such as improved access to freelancing opportunities, enhanced user engagement, and decentralized management, outweigh the expenses related to development, hosting, and operations.
* **Scalability:** Evaluate the financial feasibility of expanding the platform to support an increasing number of freelancers and clients over time.

# 5.4 Legal and Compliance Feasibility

* **Data Privacy and Security:** Ensure adherence to international data privacy standards, such as GDPR, and implement strong security protocols to safeguard user data and maintain platform integrity.

# 5.5 Schedule Feasibility

* **Project Timeline:** Establish a detailed timeline for the project, specifying phases such as planning, development, testing, and deployment, with clearly defined and attainable milestones.
* **Deadlines:** Determine whether the project can be delivered within the allocated timeframe without compromising on quality or functionality.

# Requirement Analysis

The freelancing platform requires features like user registration, job posting, secure payments, communication tools, and project management. It must ensure scalability, compliance with data privacy laws, and robust security to provide a seamless and reliable user experience.

1. **Functional Requirements**

* User Registration and Authentication
* Allow freelancers and clients to create accounts.
* Enable secure login and logout functionality.
* Provide authentication and authorization for secure access.
* User Profiles
* **Freelancers:** Provide features for creating detailed profiles, including skills, portfolio, and certifications.
* Job Posting
* **Freelancer:** Enable Freelancer to post projects with descriptions, budgets, and deadlines.
* Payment Integration
* Integrate secure payment gateways for transactions.
* Ratings and Reviews
* Allow clients to review and rate freelancers after project completion.

1. Non-Functional Requirements

* Performance
* Platform should provide its function smoothly and efficiently.
* Scalability
* The platform should be scalable in terms of features, field of job and user support.
* Security
* Sensitive data, such as user profiles, job details, and payment information, should be encrypted both at rest and in transit.
* Secure user authentication (e.g., multi-factor authentication) and authorization should be in place to ensure that only authorized users can access their accounts or sensitive platform areas.
* Usability
* The platform should have an intuitive, easy-to-navigate UI, with clear calls to action and a layout that is user-friendly.
  + - Maintainability
* Ensure the platform is easy to update and enhance, with modular and well-documented code.
* Facilitate efficient debugging and integration of new technologies or features.

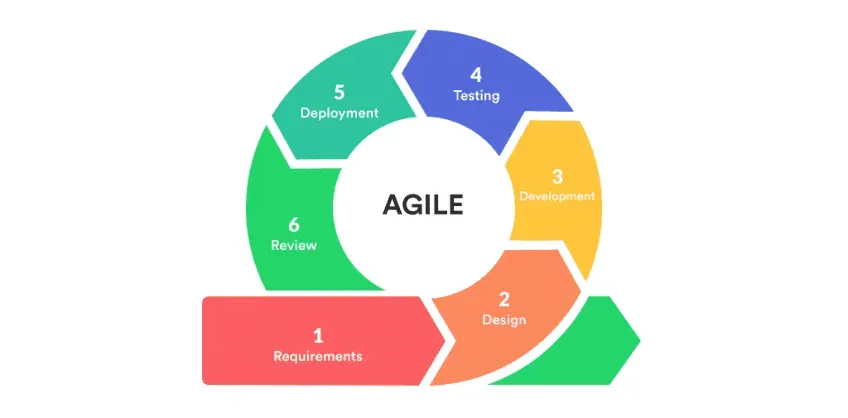
**Requirements Matrix:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Requirement ID** | |  | | --- | | **Type** |  |  | | --- | |  | | **Requirement** | **Description** | **Priority** | **Implementation Method** |
| FR1 | Functional | User Registration and Authentication | Allow users to sign up, log in, and manage their profile. | High | Implement using email/password |
| FR2 | Functional | Job Posting | Clients can post jobs & freelancers can submit proposals. | High | Create forms for posting jobs and submitting proposals |
| |  | | --- | | FR4 |  |  | | --- | |  | | Functional | Payment System | Secure payment gateway for transactions. | High | Integrate payment gateway for payment services |
| FR5 | Functional | Ratings and Reviews | Users can rate and review each other after job completion. | Medium | Implement a rating system |
| NFR6 | Non-Functional | Usability - User Interface (UI) | Create a user-friendly interface that is easy to navigate. | High | Use CSS |
| NFR7 | Non-Functional | Maintainability | Ensure the platform is modular and easy to update. | Medium | Use modular components and version control |
| NFR8 | Non-Functional | Interoperability | Support third-party integrations (e.g., payment gateways,) | Medium | Use APIs for integration with third-party services |

Table 6‑1:Requirement Matrix

# Methodology

A methodology is a series of processes or phases, which helps you define which stage you are at the given period. A set of procedures or methods to develop software is known as software development methodology. Methodology shapes a structure of software thus it is important to precisely choose the required method to develop software. In Context of our project, we have chosen the Agile Methodology. Unlike traditional linear methods, Agile breaks project activities into iterative phases, where each phase involves continuous collaboration and is adaptable to changes. Each iteration builds upon the previous one, allowing for flexibility and continuous improvement throughout the development process.

(Slite, 2025)

7.1: Agile Methodology

Agile methodology is a process that helps teams manage and complete projects in an iterative, flexible manner. It involves several key stages that are repeated in each sprint, allowing for continuous improvement and adaptability. Below is an overview of the stages in Agile methodology:

1. Plan:

This phase involves defining the scope of the sprint. The team selects tasks from the project backlog and sets objectives for what should be delivered by the end of the sprint.

1. Design:

Once planning is complete, the team creates detailed designs or wireframes for the selected tasks. This ensures the technical and user experience aspects are clear before development begins.

1. Develop:

In the development phase, the team writes the code for the features defined in the plan and design stages. This includes both frontend and backend development.

1. Test:

After development, the testing phase ensures that the new code works as expected. Bugs and issues are identified and fixed before moving on.

1. Deploy:

The deploy phase involves making the working software available to users. In each sprint, the team delivers a usable part of the software.

1. Review:

During the sprint review, stakeholders provide feedback on the completed work. This feedback is used to improve future sprints.

The project will be divided into five sprints, each focusing on specific aspect of our freelance marketplace project:

* Sprint 1:

Plan and develop the basic features such as user login, registration, and the initial dashboard. This provides the fundamental structure for users to create accounts and access the platform.

* Sprint 2:

Design and implement the freelancer profile and skills section, where freelancers can create and showcase their profiles, skills, and portfolios.

* Sprint 3:

Integrate the payment gateways allowing secure transactions within the platform.

* Sprint 4:

Add job posting functionality for clients to post their projects and the review system where freelancers can be rated and reviewed based on their performance.

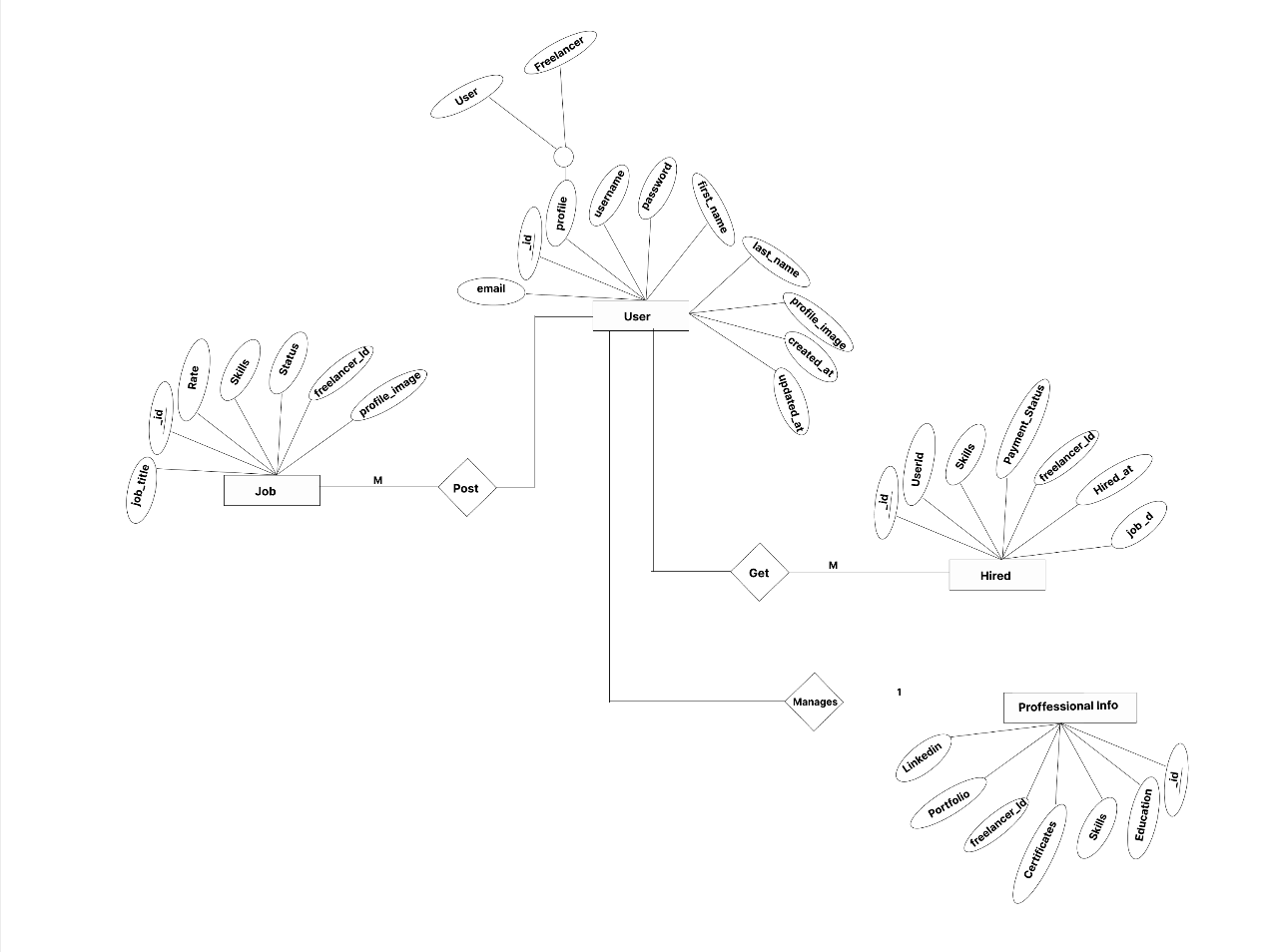
* Sprint 5:

Perform final testing, fix any bugs, and conduct a full deployment of the platform. This ensures the platform is functional and ready for users.

# System Design

# 8.1 E-R Diagram

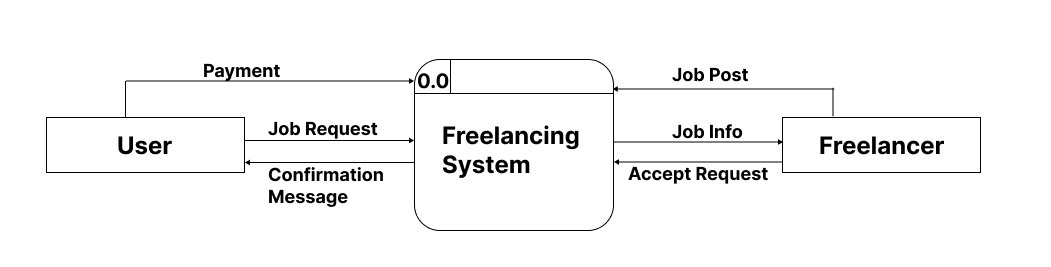
An Entity-Relationship (ER) diagram is a visual representation of a database's structure. It uses entities (objects or concepts) and their relationships to illustrate how data is organized and connected within a database system. ER diagrams are widely used in database design and modelling to help understand and plan data relationships.



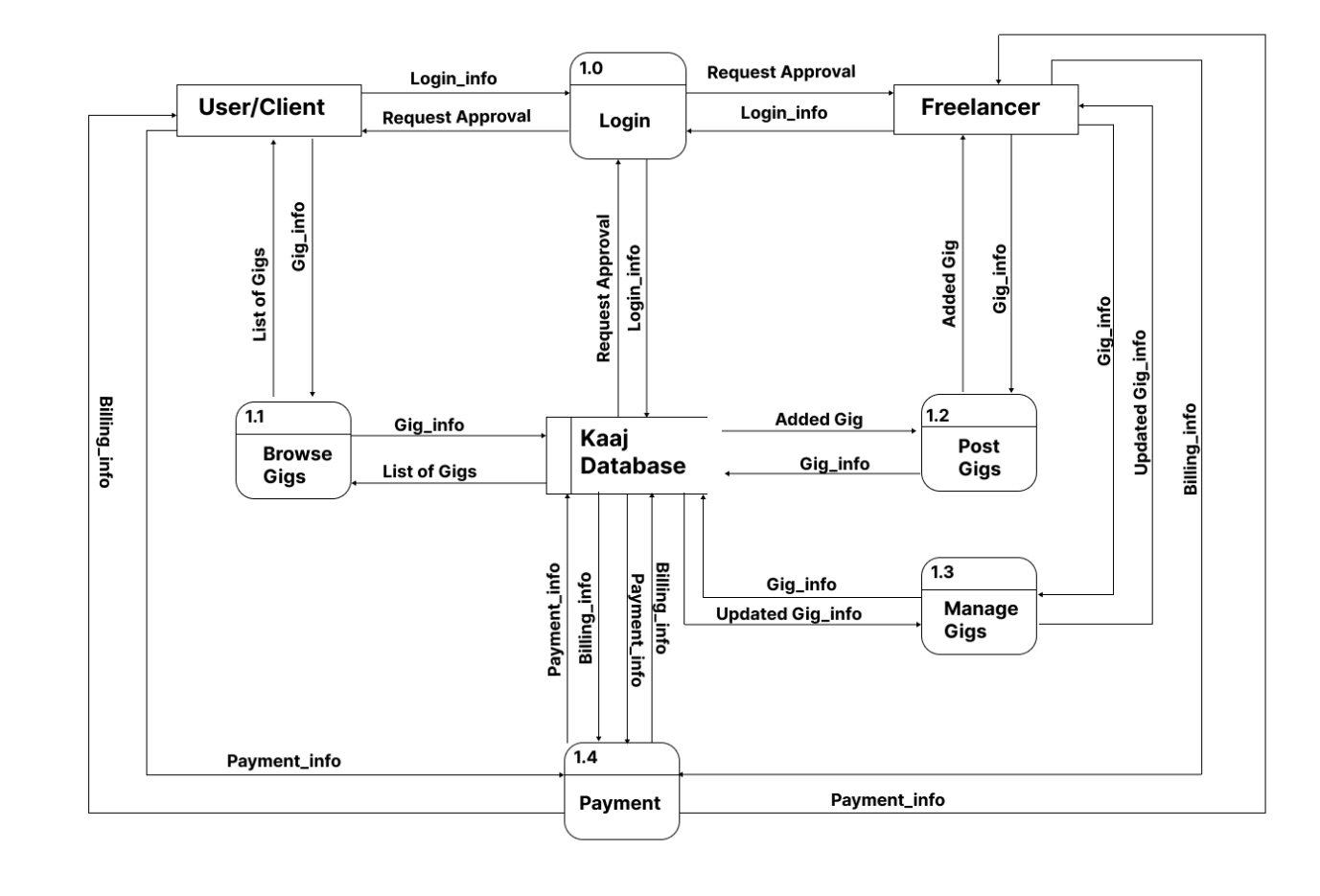
8.1:ER Diagram

# 8.2 Dataflow Diagram

It is a diagrammatic representationthat portrays the flow of datain a system or a process. Helps communicates the general data flowstructure of a proposed system to the system designer, programmer, and end-users.



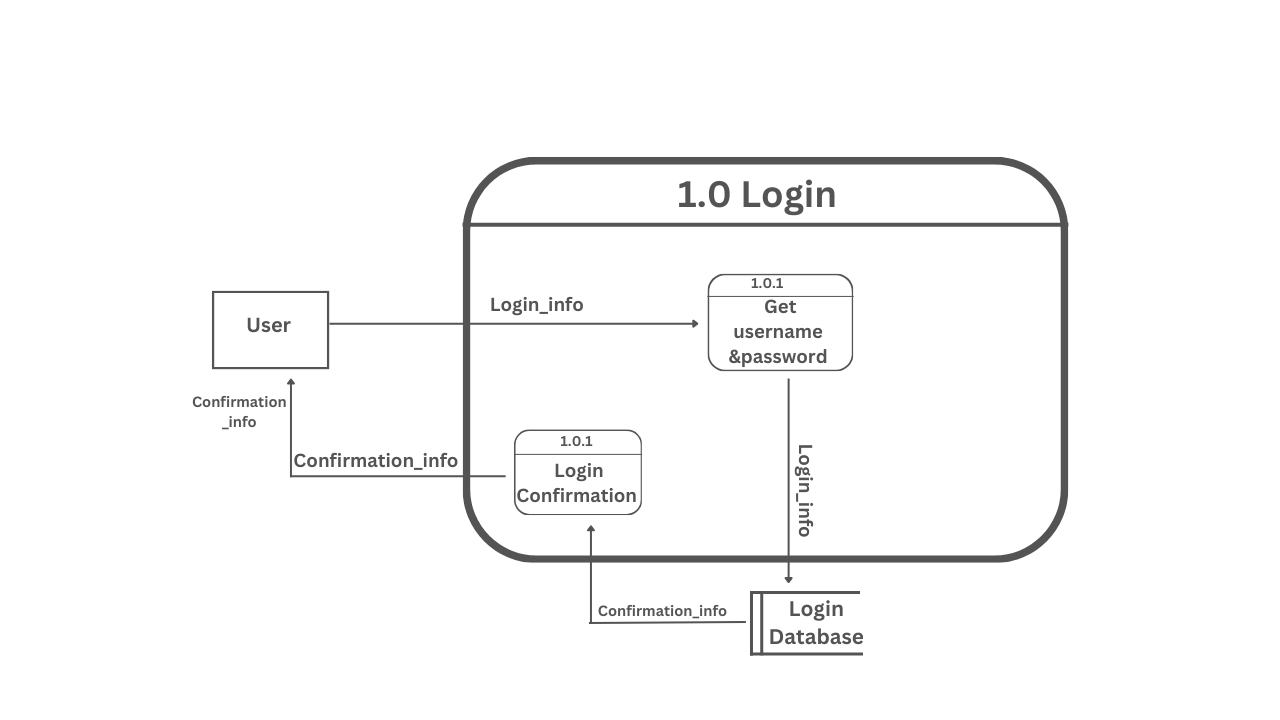
8.1: LVL 0 DFD



8.2: DFD LVL 1

**DFD Index:**

|  |  |
| --- | --- |
| INDEX | |
| Function | SN |
| Login | 1.0 |
| Browse Gigs | 1.1 |
| Post Gigs | 1.2 |
| Manage Gigs | 1.3 |
| Payment | 1.4 |



8.3: DFD LVL 2

# Work Assigned

The different task identified for the compilation of the project were divided among the team members, with accordance to their talent and capabilities, and performed accordingly. Later they were integrated together to form a single unit. The division of task between four of us is tabulated below.

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | Name of the member | Work assigned | Remarks |
| 1. | Suyan Thapa | * Admin Dashboard: Set up user and job management features in the admin panel. * Login Authorization and Authentication * Payment Gateway * Database Design and Management: Develop CRUD operations for job posts, proposals, and payments. | * Focus on backend security and session management. * Focus on secure payment processing. * Manage admin-related data and interactions. |
| 2. | Anish Baniya | Documentation and System Design   * Compilation of documents into reports * Problem Identification * System Designs * Testing and Debugging: Perform frontend testing (UI/UX, responsiveness) and fix bugs. * Code: Landing Page * Proposal planning | * Work on frontend login flow and security measures. * Work on generating reports and data visualization. |
| 3. | Suyan Thapa, Anish Baniya | * Documentation, testing, and coding * Logic definition * Information Gathering |  |

Table 9‑1: Table of Work Assignment

# Project Gantt chart

A Gantt chart is a popular project management tool used to visualize the schedule of a project. It displays tasks or activities against time, allowing project managers to track progress, manage dependencies, and allocate resources efficiently.



10.1:Gantt Chart

# Future Enhancement

* Chat box Integration:
* Implement an interactive chat box to enable real-time communication between learners, educators, and support teams.
* AI Chatbot:
* Include personalized responses, multi-language support, and integration with advanced analytics for improved user interactions.
* Integration of local payment:
* Integrating Khalti, Esewa allows the local user to make payment easily which increases the engagement of the local client.

# Project Results

One of the key features of the Kaaj is the global payment system, which allows users to work around the globe without giving the second thought about the payment. This feature helps foster trust and provides valuable insights for both freelancers and clients when making decisions. Additionally, the platform includes a notification system for informing the freelancer that he has been hired by the client for the job. These features work together to create a seamless experience for all users.

The Kaaj project successfully created an accessible and user-friendly platform that connects clients with freelancers across various fields, such as web development, design, content creation, and marketing. The platform allows users to easily create profiles, post job listings, and browse through available freelancers based on their skills, experience, and rates. By leveraging smart contract technology, the platform ensures secure, transparent, and automated transactions, giving both clients and freelancers confidence in their collaboration.

The project has shown promising results in terms of user engagement, with a growing number of freelancers and clients joining the platform. By providing a transparent, decentralized approach to freelance work, the platform encourages more individuals to explore freelancing as a viable career option. As the platform continues to grow, future improvements may include expanding payment options, integrating more services, and enhancing user experience through AI-driven project matching.

# Conclusion

In conclusion, the freelancing platform successfully bridges the gap between clients and freelancers, offering a secure, transparent, and efficient environment for collaboration. With its user-friendly interface, integrated payment solutions, and features like reviews and real-time communication, the platform is poised to revolutionize the freelancing experience. As it evolves, further enhancements such as cryptocurrency payments and AI-driven project matching will continue to improve its functionality and user satisfaction, making it an invaluable tool in the growing freelance economy.

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