Project Title: Sikhado – A Secure Platform for Connecting Great Learners and Great Minds Alike

1. PROBLEM DEFINITION:

Project definition can focus on following:

- **General overview of the project:** Sikhado is a secure academic networking platform designed specifically to connect students, professors, and alumni within a verified institutional environment. It supports the sharing of microservices, mentorship, and learning support, exclusively within a closed academic ecosystem. This ensures trust, promotes collaboration, and bridges the gap between learning and earning through verified users, secure transactions, and educational relevance.

- **Problem Statement:** Existing platforms like Fiverr, Upwork, and LinkedIn Learning are not designed for academic environments—they lack institutional verification, and structured mentorship. As a result, students often struggle to compete with experienced professionals and miss out on academic growth opportunities. *Sikhado* addresses these gaps by offering a secure, verified platform where students, professors, and alumni can connect, share skills, offer mentorship, and engage in micro-services within a trusted academic ecosystem.

Key Objectives:

1. Design and develop a secure, institution-verified platform to connect students, teachers, and alumni: This ensures a trusted academic network exclusive to verified members of the institution.

2. Enable micro-job/task posting and mentorship: Users can offer or seek services and guidance within the academic community.

3. SDG Goal 4 - Quality Education: Promote inclusive, quality education by enabling continuous learning, mentorship, and skill development within a trusted academic network.

4. SDG Goal 8: Decent Work and Economic Growth by fostering decent work and sustainable economic opportunities within academic communities

5. Request functionalities within the system: Streamlines the process of connecting users with relevant help or opportunities.

6. Integrate secure online payment gateways to process service fees: Ensures safe and smooth financial transactions for completed services.

7. Allow users to build portfolios, receive ratings, and track completed services or learning activities: Encourages credibility, progress tracking, and skill showcase.

8. Provide an intuitive and responsive UI to facilitate seamless user interaction across devices: Enhances accessibility and ease of use for all types of users.

9. Promote skill-sharing and academic collaboration within a safe, internal environment: Fosters a culture of mutual learning and institutional support.

Expected Benefits:

● Verified and secure academic networking

● Personalized mentorship and learning support

● Internal collaboration among students, faculty, and alumni

● Opportunities to earn through micro-services within the institution

● Structured skill development and portfolio building

● Trust-based interactions with role-based access control

● Safe and transparent payments with feedback and ratings

● Promotes lifelong learning and quality education within institutions

2. REQUIREMENT SPECIFICATION:

Requirements specifications sections can contain following details:

Sources of Requirements	Requirements specification
1. Academic Networking Needs: Derived from the need to create a verified internal platform for academic communities (students, professors, alumni) within a particular institution.	Verified User Platform: • Users must register using institutional academic email addresses. • Role-based access should be enforced (student, professor, alumni). • Access is restricted to members of the same institution.
2. Functional Requirements from Project Goals: Based on the features outlined in the project objectives and scope.	Service and Mentorship Modules: • Users should be able to post and request micro-jobs and mentorship. • Requests and offers should be displayed in categorized project boards. • All interactions must occur within the institution's ecosystem.
3.Security Standards: To protect user data and institutional integrity.	Authentication & Data Protection: • Secure login system with encrypted passwords. • Academic email verification for new accounts. • Admin dashboard to monitor activity, resolve issues, and ensure institutional compliance.
4.Payment Gateway Integration: Based on financial transaction needs for micro-services.	Secure Transactions: • Integration of Razorpay and Stripe APIs for secure and transparent payments. • Escrow-style payment system to hold funds until task completion. • Payments are internal and accessible only by institution-verified users.
5.Industry Inspiration (e.g., Fiverr, LinkedIn Learning): Features adapted from leading freelancing and learning platforms but customized for academic use.	Portfolio & Ratings System: • Users build public profiles with portfolios visible within the institution. • Users receive ratings and reviews after service completion. • Certifications, badges, and skills can be displayed.

6.Usability Expectations: Driven by the need for smooth, accessible user interaction.	Responsive UI and Basic Features: • The website should support desktop and mobile views using HTML, CSS, JavaScript, and Bootstrap, MySQL. • Simple and clean navigation tailored to academic users. • Basic features include: academic email sign-up/login, role-based dashboards, micro-service and mentorship posting, search and filter options, secure payment integration, portfolio builder, ratings & feedback system, etc.
7.SDG Goal 4 – Quality Education: Supports inclusive and equitable education through mentorship and learning within institutions.	Learning Support: • Platform promotes continuous learning through peer-to-peer mentorship and internal service exchange. • Encourages collaboration between students, professors, and alumni to improve academic and practical skills.
8.SDG Goal 8 – Decent Work and Economic Growth: Encourages micro-jobs and student entrepreneurship within academic institutions.	Economic Opportunities for Students: • Enables students to earn income through verified, academic-related services. • Promotes decent, meaningful work aligned with student expertise and institutional needs.

3.Functional Requirements:

Req.No	Requirements	Specific Example
FR01	User Authentication and Role-Based Access Control	A student logs in using institution credentials and is granted access only to student-specific features.
FR02	Institution Verification System	New users must upload valid institution ID or email for admin verification before joining the network.

FR03	Micro-Job/Task Posting and Bidding	A professor posts a task for content proofreading, and students can apply or bid for the job.
FR04	Mentorship Request and Management	A first-year student requests mentorship in Data Science, and a verified alumni accepts the request.
FR05	Secure Payment Gateway Integration	Payments for completed services are processed via integrated Razorpay/Stripe APIs
FR06	Portfolio and Rating System	A student builds a portfolio showcasing completed projects, rated by peers and mentors
FR07	Request Functionalities (Support/Opportunities)	Users can post help requests (e.g., academic doubts, project assistance) and get matched to suitable mentors or peers.
FR08	Responsive and Intuitive User Interface	Sikhado works seamlessly on mobile, tablet, and desktop with responsive layouts and optimized performance.
FR09	Skill-Sharing and Collaborative Tools	Students can share lecture notes, video tutorials, or host virtual peer-learning sessions within the platform.
FR10	Activity Tracking and Progress Reports	Users receive monthly reports summarizing completed tasks, received

		ratings, and mentorship sessions.

4. SYSTEM REQUIREMENTS:

Hardware Requirements

- **Client Side:**

  - Device: Desktop / Laptop / Tablet / Smartphone

  - Processor: 1.5 GHz or above

  - RAM: Minimum 4 GB

  - Storage: Minimum 500 MB free space

- **Server Side:**

  - Processor: Quad-core 2.4 GHz or above

  - RAM: Minimum 8 GB

  - Storage: 100 GB or more

  - Network: Stable internet with minimum 10 Mbps bandwidth

Software Requirements

- **Frontend:**

  - HTML5, CSS3, JavaScript

  - React.js / Bootstrap (for dynamic UI)

- **Backend:**

- ○ Node.js / Python (Django or Flask)

- ○ MySQL / Firebase

- **Database:**

  - ○ MySQL / MongoDB

- **Server/Hosting:**

  - ○ AWS

- **Other Tools:**

  - ○ Git & GitHub for version control
  - ○ Figma for UI/UX design
  - ○ E-Banking /GooglePay/Razorpay for payment integration

Other Requirements

- SSL Certificate for secure HTTPS access

- Email verification system

- Institutional email domain whitelist

- API for institution verification (if applicable)

- Role-based access control system

5. CONCEPTUAL MODEL

The conceptual model of *Sikhado* outlines the main entities of the platform and their relationships. It describes how users interact, how services are exchanged, and how the platform ensures security and trust within an academic ecosystem.

Key Components:

1. **User Module:**

   ○ Types: Student, Professor, Alumni

   ○ Features: Registration, Verification, Profile Management

2. **Task/Microservice Module:**

   ○ Post Tasks / Apply for Tasks

   ○ Track Progress

   ○ Mark Completion

3. **Mentorship Module:**

   ○ Request Mentor / Become Mentor

   ○ Manage Sessions

4. **Portfolio & Rating Module:**

   ○ Display Completed Work

   ○ Peer/Mentor Ratings

5. **Payment System:**

   ○ Service Payments

   ○ Secure Gateway Integration

- ○ Transaction History

6. **Request System:**

   - ○ Post Help/Support Requests

   - ○ Match to Relevant Members

7. **Admin Module:**

   - ○ Institution Verification

   - ○ Manage Reports

   - ○ Control Access Levels

Interactions and Flow:

- ● Verified users sign in via institutional email or ID.

- ● Users post services (tasks/mentorship requests).

- ● Other users apply, and upon completion, payments and ratings are processed.

- ● Data flows securely between modules through APIs.

- ● Admin ensures quality, verification, and trust within the platform.