Software Requirements Specification

For

Manikarnika Studio Portal

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1 Introduction

1.1 Purpose

This *Software Requirements Specification (SRS)* document outlines the functional and non-functional requirements for the development of a ***web-based Client Communication and Project Management Platform for Manikarnika Studio***.

Manikarnika Studio is a creative services company specializing in animation, VFX, 2D/3D design, game development, and website design. As the studio expands its commissioned project base, an internal platform is required to streamline workflows and enhance communication between its core creative team and its clients.

The primary purpose of this system is to:

- *Streamline and centralize all communication with clients.*
- *Improve project visibility and status tracking for both clients and team members.*
- *Provide a secure and user-friendly system for managing service requests, project milestones, feedback, and file sharing.*

This document is intended to:

- Serve as a ***baseline agreement*** between all stakeholders, including the development team, project leads, admin staff, and clients.
- ***Define the scope and boundary*** of the current release (Version 1.0) of the platform.
- ***Ensure a shared understanding*** of the requirements, goals, and features to be implemented during this release.

1.2 Scope

The **Client Communication and Project Management Platform** is a web-based internal system designed specifically for **Manikarnika Studio** and its clients.

- **Scope :**
  - Secure client onboarding and login
  - Service request submission (2D, 3D, VFX, Animation, Game, Web)
  - Project milestone tracking with status updates
  - Real-time messaging and communication with assigned team members
  - Secure file sharing for assets, drafts, and deliverables
  - Feedback submission and approval mechanism
  - Internal collaboration tools for the 4-person studio team
  - Notification system (in-app and email)
  - Admin dashboard for workload overview and reporting

- **Key Objectives:**
  - Enhance communication efficiency by centralizing all project related interactions
  - Improve transparency and visibility into project status
  - Reduce miscommunication and feedback errors
  - Increase client satisfaction and retention by offering a professional and trackable workflow

1.3 Abbreviations

Abbreviation	Full Form
SRS	Software Requirements Specification
UI	User Interface
UX	User Experience
QR Code	Quick Response Code
API	Application Programming Interface
CRUD	Create, Read, Update, Delete
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
DB	Database
VFX	Visual Effects
JS	JavaScript
JSON	JavaScript Object Notation
MVC	Model-View-Controller
CI/CD	Continuous Integration / Continuous Deployment

1.4 References

The following documents and resources were used or referenced in the development of this SRS:

Title	Description	Version / Date	Source
Manikarnika Studio – Internal Brief	Company vision and services overview	July 2025	Internal document
Manikarnika Studio – Documentation PDF	Project scope, team structure, features	v1.0	Uploaded PDF
IEEE 830-1998	Recommended SRS structure and standards	1998	IEEE
MongoDB Documentation	Data modeling for NoSQL Databases	2025	https:// www. mongodb com/ docs
UPI API Docs (for future integration)	Potential payment gateway	2025	https: // upi. com/ docs/ api

2 Overall Description

2.1 Product Perspective

The Client Communication and Project Management Platform is a **new, self-contained web-based application** being developed for **Manikarnika Studio**, a multidisciplinary creative studio specializing in animation, VFX, 2D/3D design, and web solutions.

This product is not a replacement of any legacy system but is being built from the ground up to address specific workflow and communication needs between the **studio's** internal creative team and their clients. It will act as a centralized platform for managing commissioned projects across various services, and is intended to streamline the internal pipeline and enhance client satisfaction.

The product will interface with external email systems for notifications and may optionally integrate with cloud storage platforms (e.g., Google Drive, AWS S3) for managing uploaded assets.

2.2 Product Functions

Client/Artist Profiles

- Secure sign-up/login for clients and artists
- View and update personal/project information
- Access project history, invoices, and documents

Service Request Module

- Submit service briefs (2D, 3D, VFX, animation, etc.)
- Upload reference files, define deadlines, and budgets
- Automated internal team notifications

Project Management Dashboard

- Track ongoing, completed, and pending projects
- View milestones, deadlines, and status indicators
- Admin view of all team assignments and workloads

Communication & Collaboration

- Chat Window: Real-time messaging with support for media uploads
- Internal Notes: For studio team only (invisible to client)
- Video Calling Integration: For high-touch client discussions and live reviews
- In-app notifications and email alerts

File Sharing & Version Control

- Upload/download system for project drafts and final assets
- View change history and feedback logs
- Approve or request changes for deliverables

Secure Payment Gateway Integration

- UPI-based payment system using UPI API key
- Dynamic QR Code Generation for payment links
- Payment status tracking with auto-confirmation

Admin Panel

- Add/remove team members
- Assign roles and track productivity
- Generate basic reports and logs

Responsive UI

- Optimized for desktop, tablet, and mobile views
- Accessible over low-bandwidth connections

2.3 Design and Implementation Constraints

- Platform must support **role-based access control (RBAC)**.
- File uploads should be stored securely (Cloudinary).
- Must use **MongoDB** as the primary database (as per team familiarity).
- Must be accessible on **low-bandwidth connections** (optimize media delivery).
- Tech stack should be **open-source** and maintainable by the in-house team.

3 Functional Requirements

3.1 User Interfaces

The Manikarnika platform features a web-based user interface accessible across desktop, tablet, and mobile devices. The UI allows clients to:

- Register securely and log in.
- Submit service requests via forms with fields for descriptions, outcomes, budgets, deadlines, and references.
- View project status, provide feedback, and approve deliverables.
- Communicate via direct messages and manage files through upload/download interfaces.

The internal team accesses dashboards to manage projects, track milestones, and interact with clients.

3.2 Hardware Interfaces

This is a web-based platform and does not directly interface with specific hardware. The system operates through standard internet-connected devices (PCs, tablets, smartphones) via a web browser.

3.3 Software Interfaces

Interfaces with external components include:

- Web browsers for UI rendering.
- Email systems for notification delivery.
- Backend systems for user authentication and storage (TBD technologies).

Possible integration with third-party notification or email APIs.

3.4 Communications Interfaces

The system communicates over HTTPS. It uses email and in-app notifications to alert users of updates, messages, and feedback requests. It ensures secure data transfer using encryptionprotocol

4 Non Functional Requirements

4.1 Performance Requirements

- Decrease response time for client inquiries by 30% within three months.
- Reduce missed deadlines by 25% within six months.
- Reduce time spent searching for project files by 40%.

4.2 Safety Requirements

While the platform does not control physical hardware, safe access to data is ensured through secure user authentication.

4.3 Security Requirements

- Secure login and **role-based access control** (RBAC) for clients, artists, and admins.
- **Encrypted storage** of project files, communications, and sensitive user data.
- **Admin controls** to manage user permissions, project visibility, and role assignments.
- **Secure UPI-based payment processing** using API key authentication and QR code verification.
- **End-to-end encrypted chat messaging** and media uploads to protect real-time communication.
- **Secure video calling integration** to ensure private and authenticated client-artist sessions.

4.4 Software Quality Attributes

- **Usability:** Intuitive design for both clients and internal team.
- **Reliability:** Responsive and available on all major devices.
- **Maintainability:** Modular structure for future enhancements.
- **Availability:** High uptime for continuous access.
- **Adaptability:** Responsive design for various screen sizes.

4.5 Business Rules

- Only registered clients can submit service requests.
- Project updates and feedback loops are handled through the platform.
- Team members access only the projects assigned to them.
- Admins can view all client and project data and assign team roles.

5 DFD Level 0

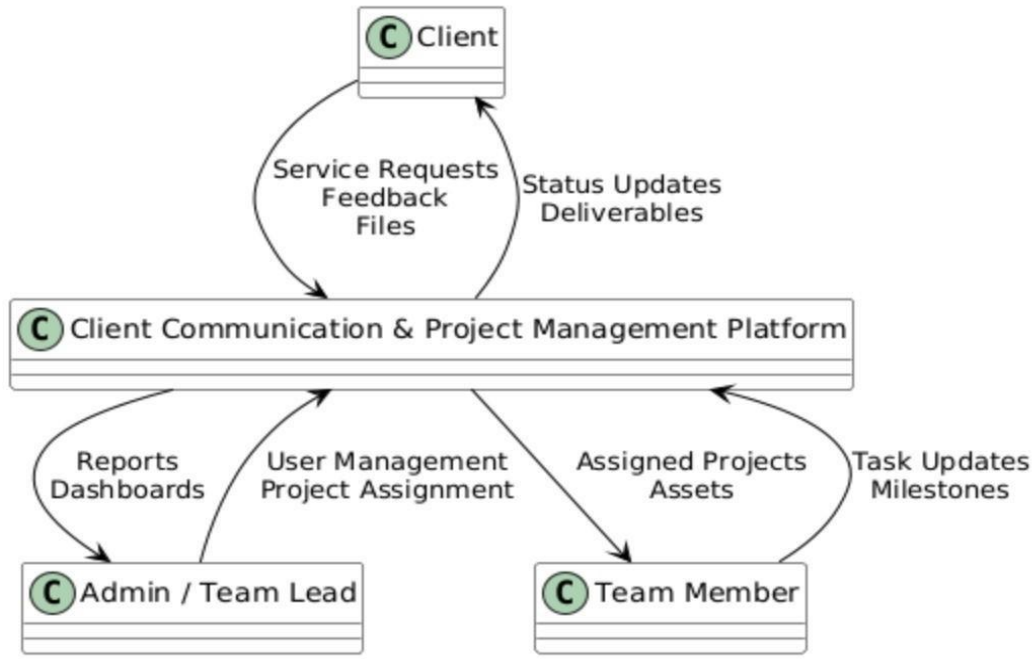

Figure 1: Data Flow Diagram level 0

6 DFD Level 1

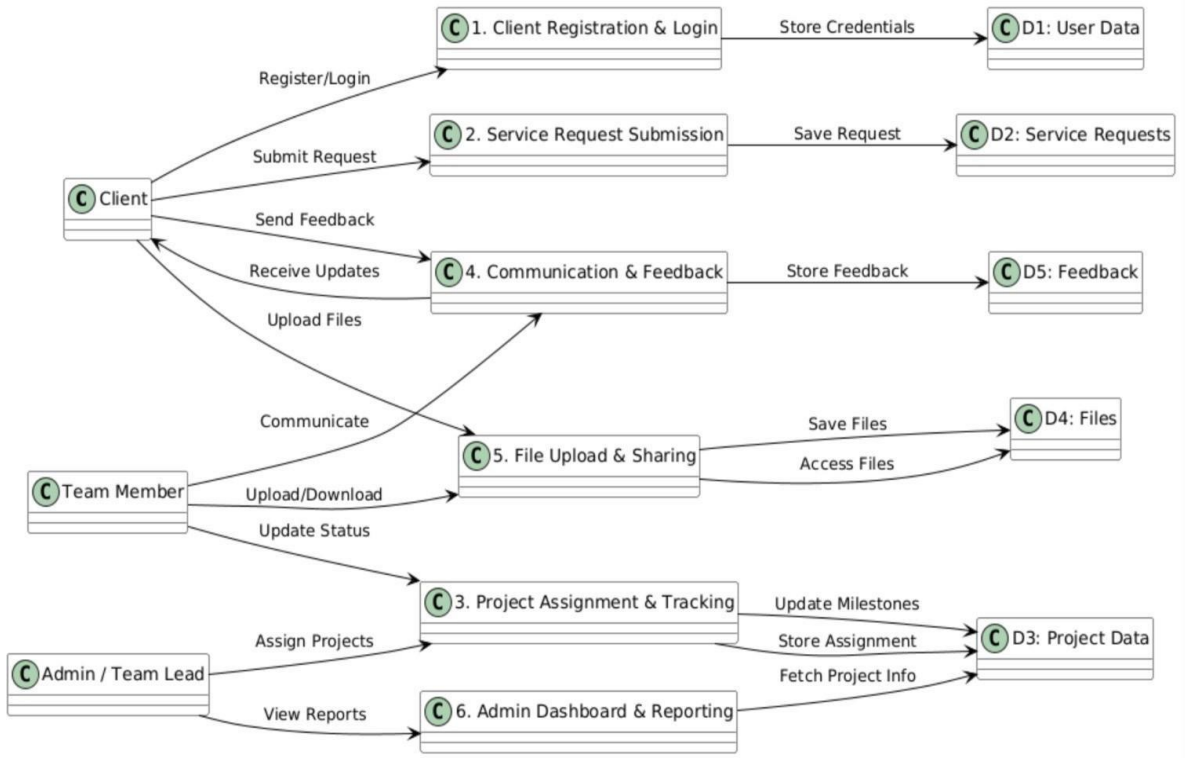

Figure 2: Data Flow Diagram level 1

7 Sequence diagram

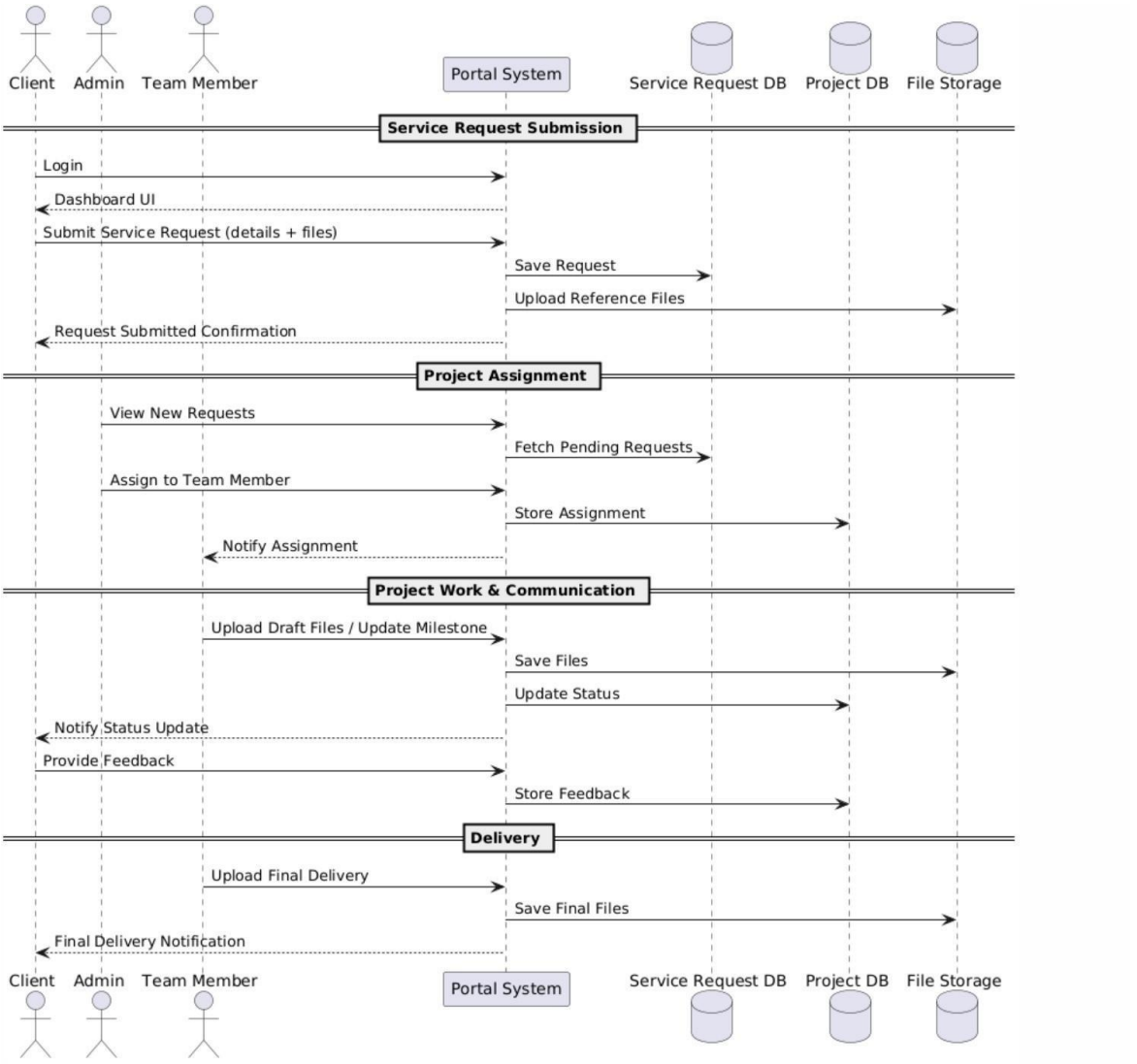

Figure 3: Sequence Diagram

8 Activity Diagram

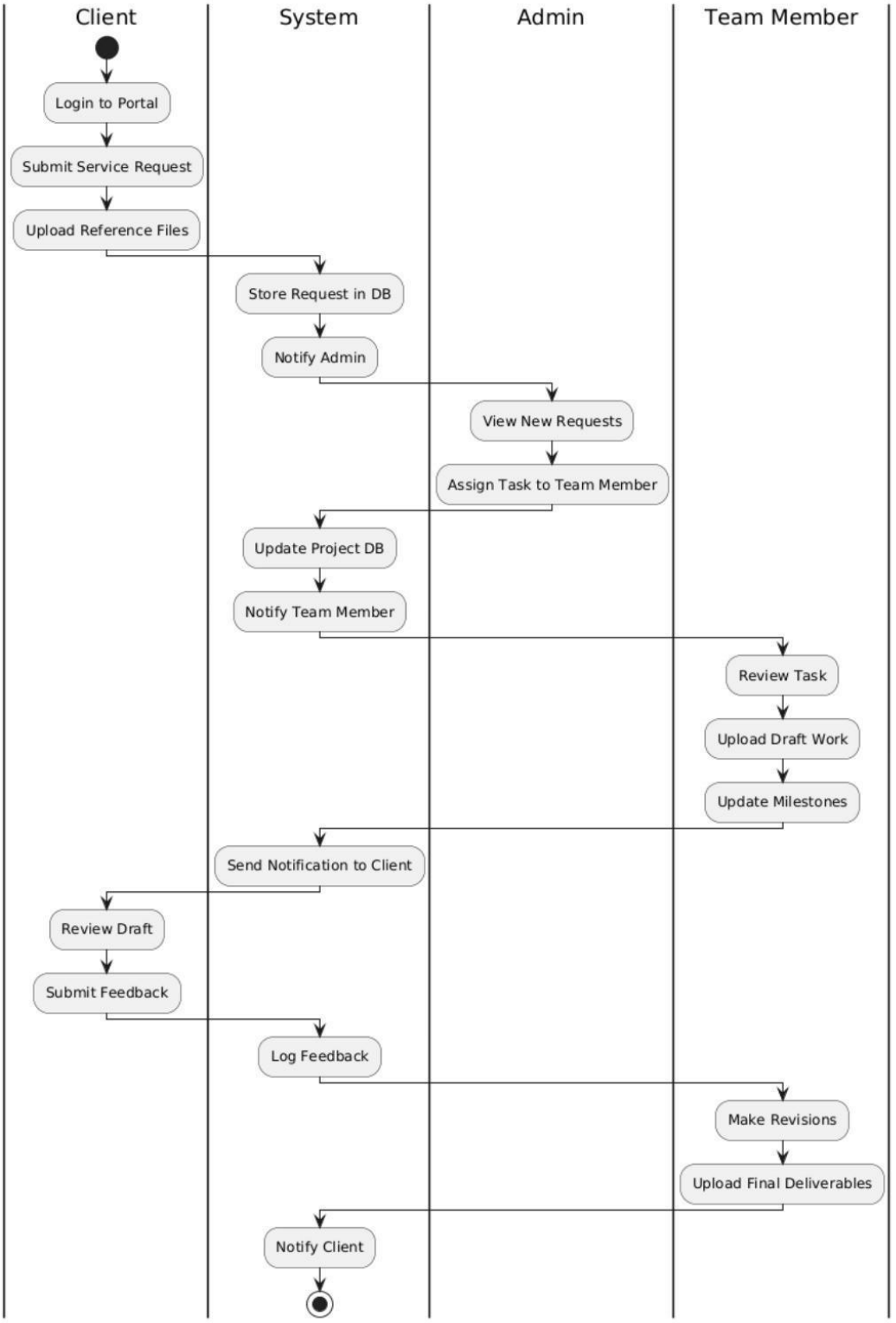

Figure 4: Activity Diagram

9 API Ecosystem Diagram

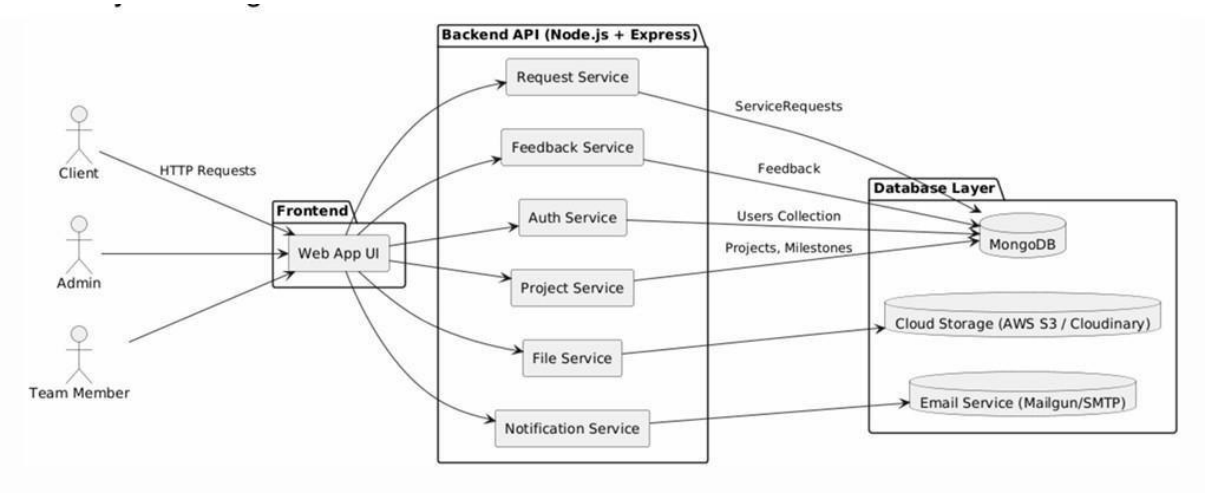

Figure 5: API Ecosystem Diagram

10 ER Diagram

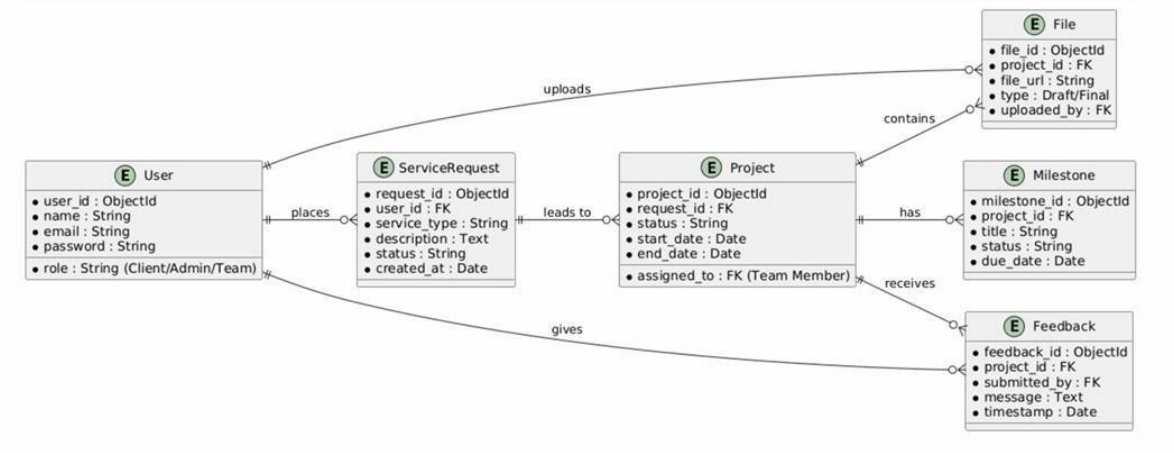

Figure 6: ER Diagram

11 Use Case Diagram

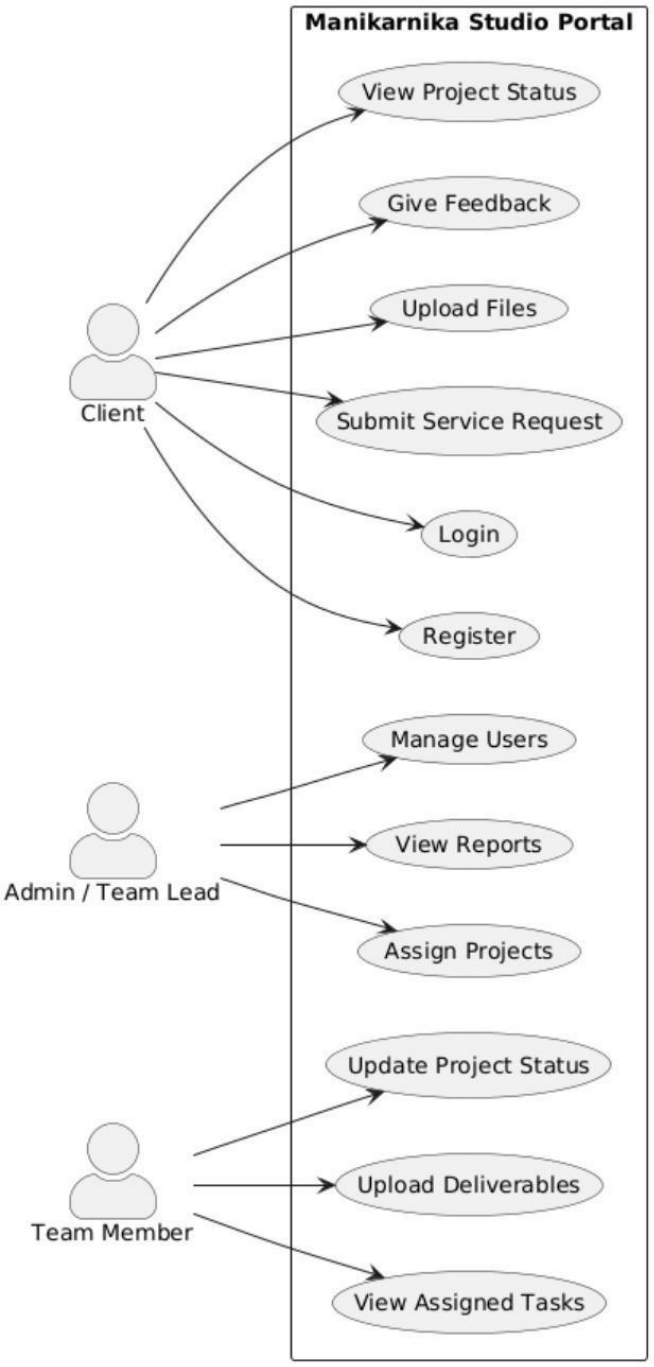

Figure 7: Use Case Diagram