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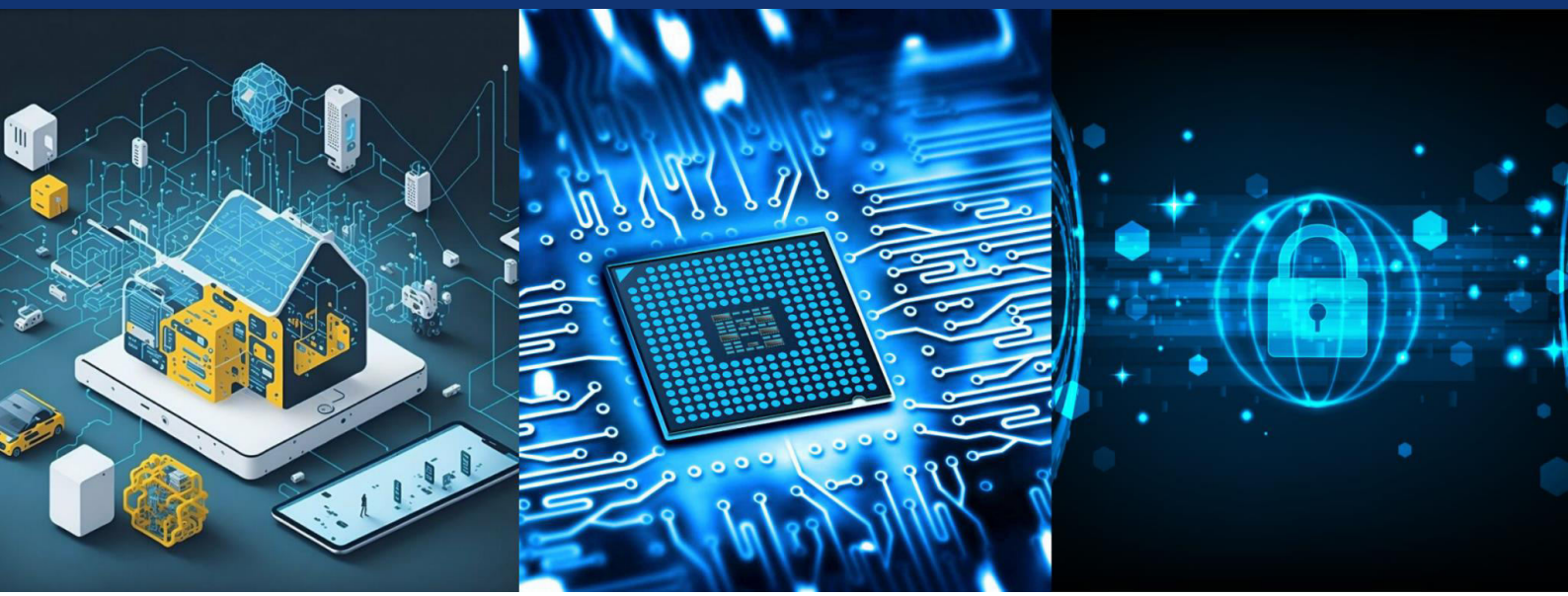

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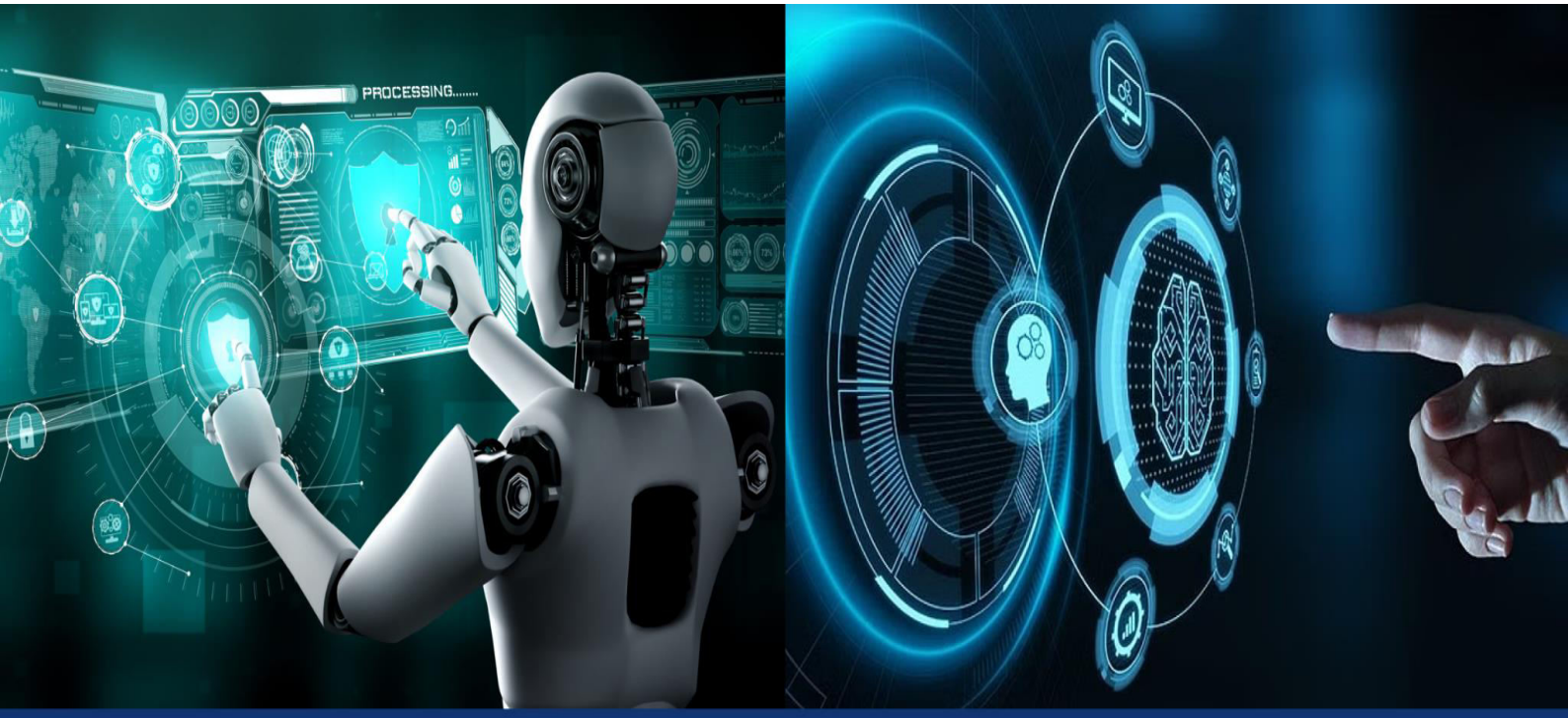


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# Lawbridge: Transparent Lawyer Client Platform

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**ABSTRACT:** LawBridge is a secure and transparent web-based platform designed to enhance interactions between lawyers and clients through an organized digital case management system. The platform addresses major issues in traditional legal systems such as lack of transparency, inefficient communication, and difficulty in tracking case progress. It integrates features such as role-based access, case tracking, document management, and an escrow-based payment mechanism to ensure trust and accountability. The system is developed using FastAPI for backend services, React for frontend interaction, and MongoDB for scalable data storage. The escrow payment system ensures that payments are released only after milestone completion, promoting fairness. Overall, LawBridge provides a reliable and efficient solution for modernizing legal services through technology.

**KEYWORDS:** LawBridge, Legal Service Platform, Case Management System, Escrow Payment System, FastAPI, React.js, MongoDB, Role-Based Access Control, Legal Tech, Document Management System, Secure Communication, Web-Based Application

## I. INTRODUCTION

The advancement of digital technologies has improved many service sectors, but the legal industry still depends largely on traditional methods for communication, case handling, and payments. This often leads to lack of transparency, inefficient coordination between lawyers and clients, and difficulty in tracking case progress.

Existing systems mainly provide basic lawyer-client interaction without proper case management, secure communication, or structured payment mechanisms. Clients are often unaware of case updates, and there is limited trust due to unclear payment processes.

To address these issues, LawBridge is developed as a web-based platform that provides a transparent and organized system for legal service management. It enables clients to search for lawyers, book consultations, upload documents, and track case progress, while lawyers can manage cases and communicate effectively. Administrators monitor system activities and ensure reliability.

A key feature of the system is the escrow-based payment mechanism, where payments are released only after milestone completion, ensuring fairness and accountability. By integrating case management, communication, and secure payments into a single platform, LawBridge improves efficiency and transparency in legal services.

## II. RELATED WORKS

Siddharth Peter de Souza et al. analyzed India's Non-Personal Data framework, focusing on governance and access to justice. While the model improves accountability and data sharing, it suffers from ambiguity in definitions and implementation challenges.

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Nora Chronowski et al. studied the resilience of judicial systems through digital transformation such as e-courts and online dispute resolution. Although these systems enhance accessibility, they face issues like uneven adoption and limited technological readiness.

Christoph Salger reviewed decentralized dispute resolution mechanisms using blockchain, highlighting benefits such as transparency and cost efficiency. Despite this, enforcement inconsistencies and scalability issues remain major concerns.

Venkatapparao Mummalaneni et al. evaluated tele-law services that provide remote legal assistance using ICT technologies. While improving access in rural areas, these systems depend heavily on infrastructure and digital literacy.

Sivasatyanarayanareddy Munnangi analyzed automated legal case management systems using AI and microservices, showing improvements in efficiency and processing speed. However, such systems involve integration complexity and potential dependency on specific platforms.

## III. PROPOSED METHODOLOGY

### 3.1 System Overview

LawBridge is a web-based platform designed to provide transparent and efficient interaction between clients, lawyers, and administrators. It enables users to manage legal cases, communicate, and handle documents within a single system. Clients can search for lawyers, create cases, and track progress, while lawyers manage requests and update case status. Administrators oversee system activities and ensure proper functioning. The platform also includes an escrow-based payment system, where payments are released only after milestone completion, ensuring secure and fair transactions.

### 3.2 System Architecture

The LawBridge system follows a layered architecture with frontend, backend, database, and payment modules. The frontend (React) handles user interaction, while the backend (FastAPI) manages business logic and APIs. MongoDB is used for data storage, and an escrow-based payment module ensures secure transactions. The system also includes authentication and role-based access for security and controlled access.

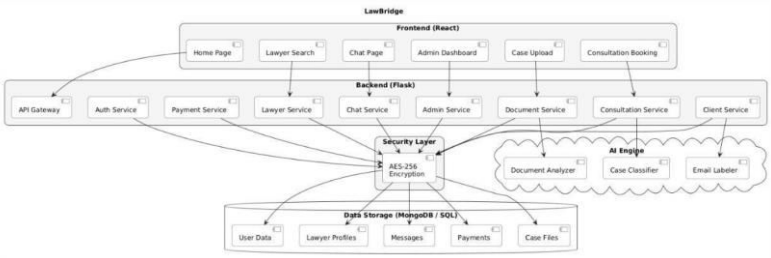


Figure 3.1: System Architecture

### 3.3 Working Methodology

The workflow begins with user registration and login based on roles (client, lawyer, admin). Clients create case requests and upload necessary documents. Lawyers review and accept cases, then update progress and communicate with clients. Clients make payments through the escrow system, where funds are released to lawyers after milestone completion. Administrators monitor activities, verify users, and handle disputes. The system ensures smooth case management, secure communication, and transparent transactions.

### 3.4 UML Diagrams

The LawBridge system is represented using UML diagrams to describe its structure and workflow. The Use Case Diagram shows interactions between clients, lawyers, and administrators. The Sequence Diagram illustrates the flow of operations such as case creation, approval, and payment processing., while the Activity Diagram represents the overall workflow of the system. These diagrams help in understanding the system design clearly.

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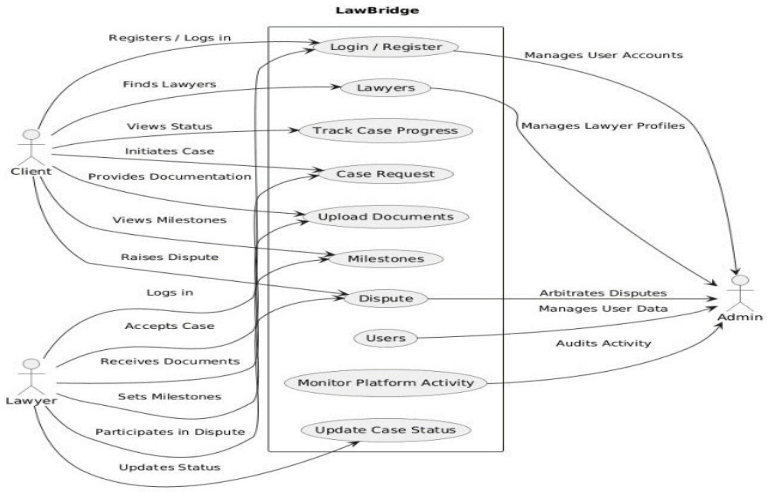


Figure 3.2: Use Case Diagram


Figure 3.3: Sequence Diagram

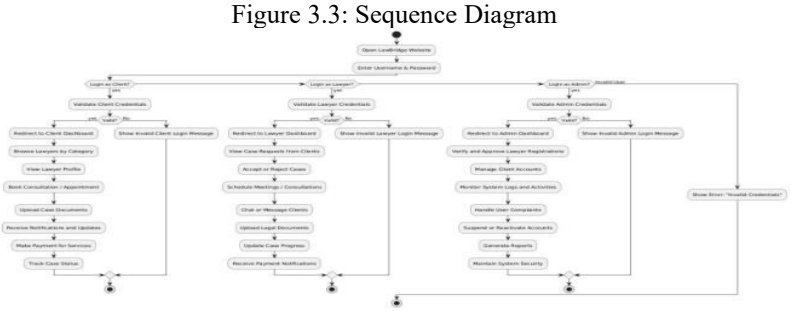

Figure 3.4: Activity Diagram

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## IV. RESULTS AND DISCUSSION

The LawBridge system was successfully implemented with features like case management, dashboards, document handling, and escrow-based payments. It enables efficient interaction between clients, lawyers, and administrators. The results show improved transparency, secure transactions, and effective case tracking within the platform.

4.1 Client DashBoard

The client dashboard provides an overview of user activities, including case tracking, consultations, notifications, and profile details.

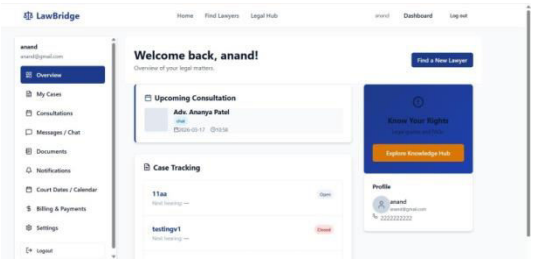


Figure 4.1: Client DashBoard

4.2 Create New Case

The case creation interface allows clients to submit new cases by entering details such as case title, lawyer selection, case type, and payment information.

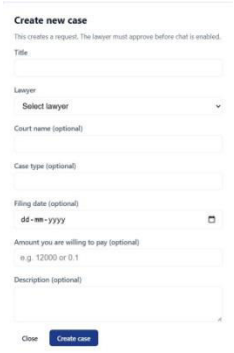


Figure 4.2: Create New Case

4.3 Lawyer Dashboard

The lawyer dashboard displays active and pending cases, consultations, and requests, helping lawyers manage their workload efficiently.

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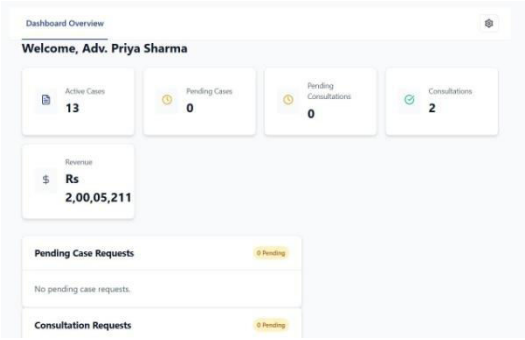


Figure 4.3: Lawyer Dashboard

4.4 My Cases

This module shows a list of cases with their status, detailed case information, payment summary, and communication options.

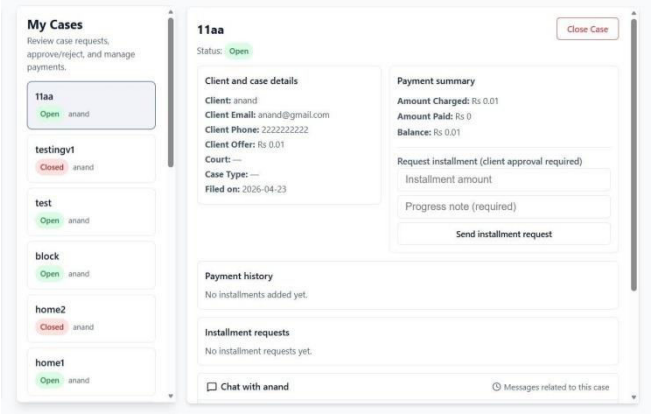


Figure 4.4: My Cases

4.5 Admin Dashboard

The admin dashboard provides system statistics such as users, cases, and consultations, along with management and monitoring features.


Figure 4.5 : Admin Dashboard

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4.6 Lawyer Management

This module allows admins to view, verify, and manage registered lawyers and their details.

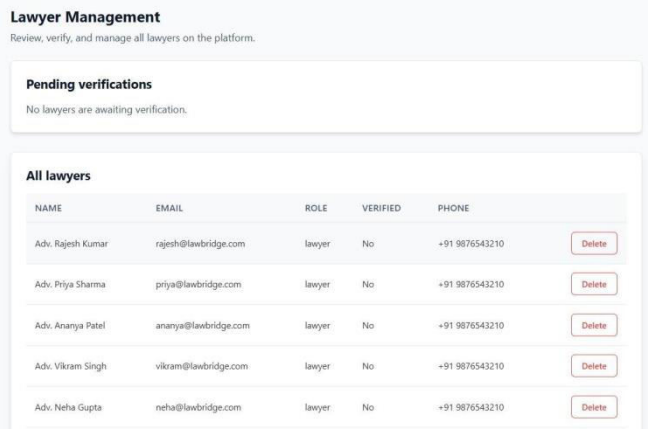


Figure 4.6: Lawyer Management

4.7 Payment Page

The payment interface enables secure escrow-based transactions, displaying case details, payment amount, and transaction information.

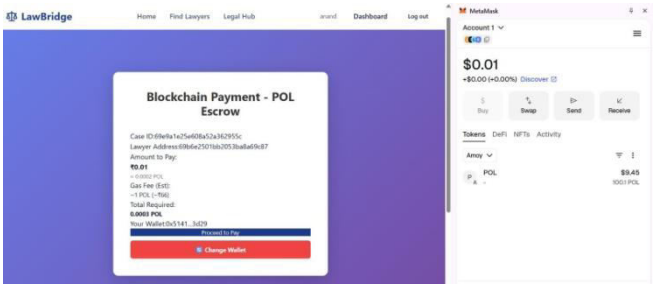


Figure 4.7: Payment Page

4.8 Document Management

This module allows users to upload, store, and manage case-related documents efficiently.

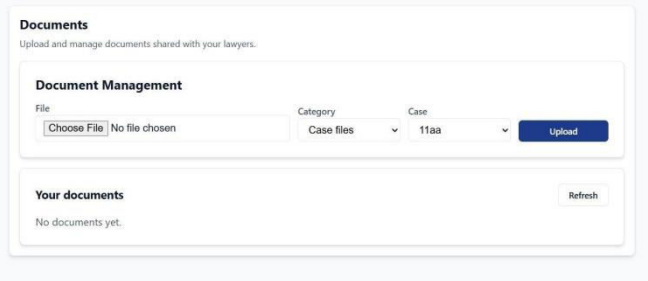


Figure 4.8: Document Management

4.9 Admin Chat Support

The chat interface enables real-time communication between users and admins for resolving queries and issues.

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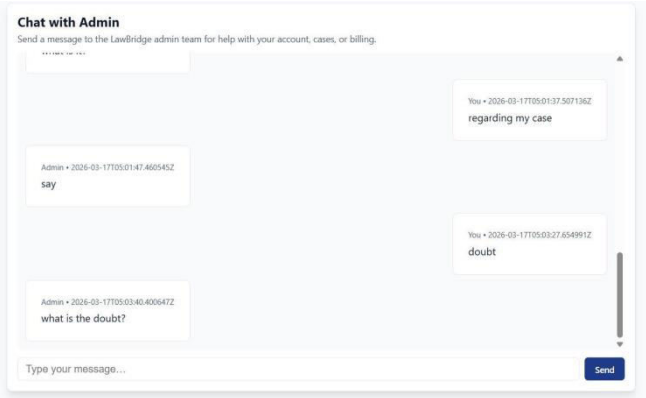


Figure 4.9: Admin Chat Support

## V. CONCLUSION

The LawBridge system provides an effective solution for improving transparency and efficiency in legal service management. By integrating case handling, secure communication, document management, and escrow-based payments, the platform ensures a structured and reliable workflow. The system enhances trust between clients and lawyers while simplifying legal processes through a centralized digital platform. Overall, LawBridge demonstrates a scalable and efficient approach to modernizing legal services.

The LawBridge system can be enhanced by integrating AI-based case recommendations and automated document analysis to assist users in decision-making. Future improvements may include mobile application support, multi-language interfaces, and cloud deployment for better accessibility. Additionally, advanced security features and blockchain-based smart contracts can be implemented to further improve transparency and system reliability.

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