

Project Planning Phase - II

Technology Stack (Architecture & Stack)

Date	7 April 2025
Team ID	SWTID1743161557
Project Name	Online Complaint Registration and Management System (OCRMS)
Program	Full Stack Development MERN_VIT

Technical Architecture:

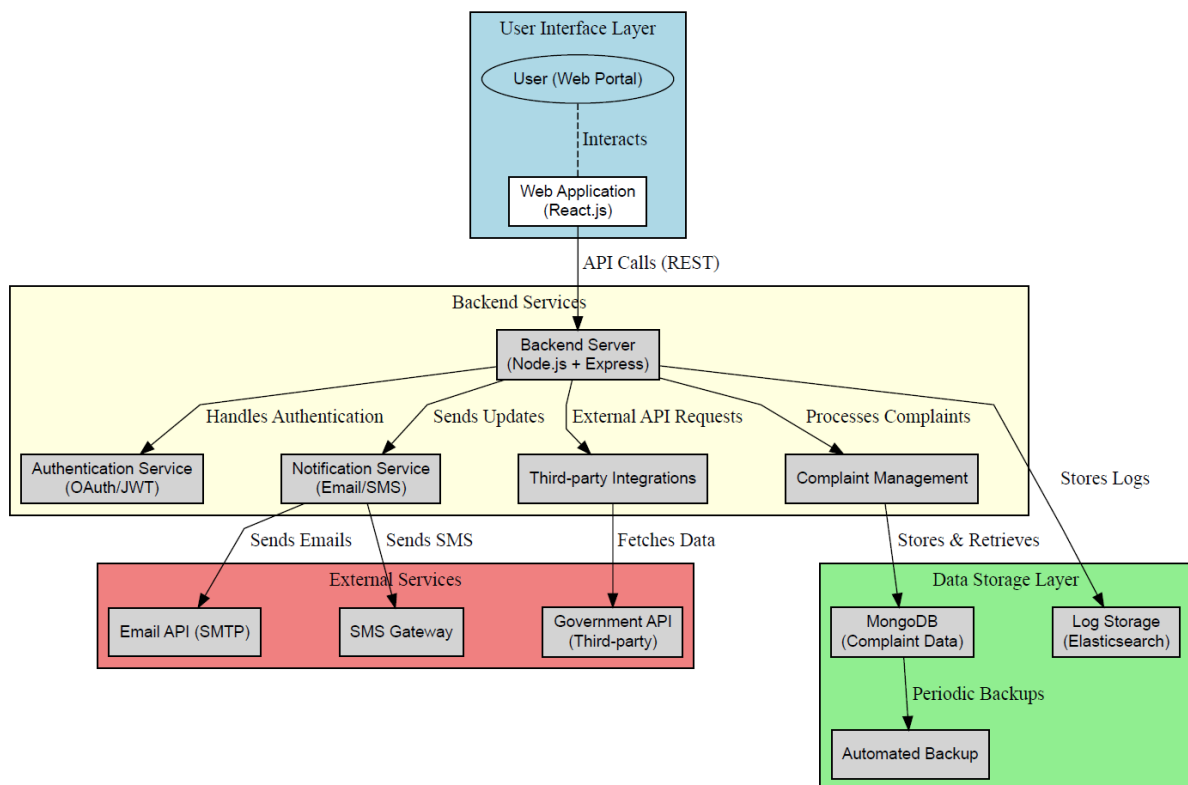


Fig: Technical Architecture of OCRMS

Table 1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Web-based interface for users to register complaints, track status, and receive updates.	HTML, CSS, JavaScript, React.js
2.	Application Logic-1	Core application logic handling user authentication, complaint submission, and tracking.	Node.js, Express.js
3.	Application Logic-2	Logic for complaint categorization and automated response handling.	Python (Flask/Django)
4.	Database	Stores user details, complaints, and tracking information.	MongoDB (NoSQL)
5.	File Storage	Stores supporting documents for complaints, such as images and PDFs.	Local Filesystem, Cloud Storage (if applicable)
6.	External API-1	Integration with an SMS/Email notification system for real-time complaint updates.	Twilio API, SendGrid API
7.	External API-2	Identity verification for user authentication (if applicable).	Aadhaar API, OAuth 2.0
8.	Infrastructure (Server / Cloud)	Deployment of the application on a local or cloud server.	Local Server, Docker, Kubernetes (if using microservices)

Table 2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Frameworks used in development	React.js, Node.js, Express.js, MongoDB
2	Security Implementations	Security measures like authentication and encryption	JWT Authentication, Role-Based Access Control
3	Scalable Architecture	Application designed for scalability	Microservices, Docker Containers
4	Availability	Ensures system uptime and redundancy	Basic Load Balancing, Redundant Database Setup
5	Performance	Optimization techniques for speed and efficiency	Caching Mechanism, Minified Assets
6	Fault Tolerance	Mechanisms to handle system failures	Error Handling, Auto-Recovery Mechanisms
7	Compliance & Regulations	Adherence to security and data protection policies	GDPR, Data Privacy Policies
8	Data Backup & Recovery	Backup strategies for data protection	Automated Backups, Database Replication
9	Deployment & Updates	Process of updating the application	Manual Deployment using Git