Project Documentation: Government Grievance Portal

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Course: Full Stack Development (PBLJ / Web Technologies)

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1. Abstract

The Government Grievance Portal is a full-stack web-based application designed to facilitate transparent and efficient communication between citizens and government authorities. It allows citizens to file grievances related to public services, departments, or infrastructure, and enables officials to respond, manage, and resolve these grievances systematically.

The system aims to digitalize the grievance redressal process, improve response times, and provide accountability through status tracking, notifications, and analytics.

2. Objectives

- Develop a user-friendly web platform for citizens to lodge complaints.
- Enable officials to view and resolve complaints efficiently.
- Ensure transparency and accountability.
- Provide real-time status tracking.
- Build a scalable system for future integration with e-Governance.

3. System Overview

The portal consists of three main modules:

1. Citizen Module
2. Admin/Authority Module
3. Super Admin Module

4. Features

Citizen Features:

- Register, login, submit grievances.
- Attach documents.
- Track status and provide feedback.

Admin Features:

- Dashboard to manage complaints.

- Assign complaints to officers.
- Update and resolve issues.

Super Admin Features:
- Manage departments and users.
- Oversee analytics and reports.

5. Technology Stack

Frontend: React.js (HTML, CSS, JS)

Backend: Node.js with Express.js

Database: MongoDB

Authentication: JWT

Version Control: Git & GitHub

IDE: VS Code, Postman, MongoDB Compass

6. System Architecture

Citizen -> Frontend (React.js) -> REST API (Express.js) -> MongoDB -> Response -> Dashboard

Follows a 3-tier architecture: Presentation (UI), Application (Logic), Database (Storage).

7. Database Schema

Users Collection: user_id, name, email, password, role

Complaints Collection: complaint_id, user_id, department, description, status, created_at, resolved_at, feedback

8. User Flow

Citizen: Register -> Login -> File Complaint -> Track -> Feedback

Admin: Login -> View Complaints -> Assign/Resolve

Super Admin: Manage Departments -> Analytics

9. Security Measures

- Password hashing (bcrypt)
- JWT authentication
- Input validation
- Role-based access control
- HTTPS for secure communication

10. Future Scope

- Integration with e-Governance APIs

- ML-based complaint categorization
- Chatbot support
- SMS/Email alerts
- Multilingual support
- Mobile app version

11. Conclusion

The Government Grievance Portal simplifies public grievance redressal using modern full-stack technologies. It ensures transparency, accountability, and efficiency, aligning with Digital India's citizen-centric goals. The project showcases database design, API integration, and deployment readiness.