



PROJECT DOCUMENTATION

ResolveNow – Complaint Management System

(Full Stack MERN Application)

1. INTRODUCTION

1.1 Project Overview

Project Title: ResolveNow – Complaint Management System

Technology Stack: MERN (MongoDB, Express.js, React.js, Node.js)

ResolveNow is a web-based complaint management system developed using the MERN stack. The system enables users to register complaints, track their complaint status, and receive updates. Administrators can view, manage, and resolve complaints efficiently through a centralized dashboard.

This application aims to digitize the traditional complaint handling process and improve transparency, speed, and efficiency.

1.2 Purpose

The purpose of this project is to build a full-stack web application that simplifies complaint registration and tracking. The system eliminates manual paperwork and ensures proper complaint resolution through structured workflows.

2. IDEATION PHASE

2.1 Problem Statement

In many institutions and organizations, complaint handling is done manually or through unstructured systems. This leads to:

- Delayed responses
- Lack of transparency
- Poor complaint tracking
- Mismanagement of records

There is a need for a centralized digital complaint management system.

2.2 Empathy Map Canvas

Users: Students / Customers / Citizens

- Think: "Will my complaint be resolved?"
 - Feel: Frustrated due to no updates
 - Say: "There is no proper response."
 - Do: Repeated follow-ups
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2.3 Brainstorming

Different solutions were considered:

- Manual complaint register
- Email-based complaint submission
- Web-based complaint portal

The best solution identified was a full-stack web application with role-based authentication.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

1. User registers
 2. User logs in
 3. User submits complaint
 4. Admin views complaint
 5. Admin updates status
 6. User checks complaint resolution
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3.2 Solution Requirements

Functional Requirements

- User Registration & Login
- Submit Complaint
- View Complaint Status
- Admin Dashboard
- Update Complaint Status
- Secure Authentication

Non-Functional Requirements

- Fast response time
- Secure data storage
- Responsive user interface

- Scalable backend architecture
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3.3 Data Flow Diagram (Explanation)

User → React Frontend → Express Backend API → MongoDB Database
Admin → Backend → Database → Status Update → User View

3.4 Technology Stack

Frontend: React.js

Backend: Node.js, Express.js

Database: MongoDB

Authentication: JSON Web Tokens (JWT)

Version Control: Git & GitHub

4. PROJECT DESIGN

4.1 Problem-Solution Fit

The proposed system directly addresses the issue of complaint mismanagement by offering real-time tracking, centralized data storage, and role-based access control.

4.2 Proposed Solution

A secure web-based complaint management platform where:

- Users can submit and track complaints
 - Admin can manage and resolve complaints
 - All data is stored securely in MongoDB
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4.3 Solution Architecture

Frontend (React)

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Backend API (Node.js + Express.js)

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MongoDB Database

The frontend communicates with backend REST APIs. The backend processes requests and interacts with MongoDB for data storage.

5. PROJECT PLANNING & SCHEDULING

Week

Task

Week 1 Requirement Analysis & Planning

Week 2 Frontend Development

Week 3 Backend Development

Week 4 Integration & Testing

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Functional Testing

- Tested user registration
- Tested login authentication
- Verified complaint submission
- Checked admin status updates

6.2 Performance Testing

- Tested API response time
 - Verified database storage efficiency
 - Tested application on multiple browsers
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7. RESULTS

The system successfully allows users to submit complaints and track their resolution status. The admin dashboard enables efficient complaint management.

(Add Screenshots Here)

8. ADVANTAGES & DISADVANTAGES

Advantages

- Easy complaint tracking
- Reduced manual work
- Secure authentication
- Centralized data management

Disadvantages

- Requires internet connection
 - Basic UI can be enhanced
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9. CONCLUSION

ResolveNow successfully digitizes the complaint management process. The application improves efficiency, transparency, and user satisfaction. It demonstrates practical implementation of the MERN stack in building scalable web applications.

10. FUTURE SCOPE

- Email notifications
 - SMS alerts
 - Mobile application
 - Analytics dashboard
 - Department-based complaint filtering
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11. APPENDIX

Source Code

GitHub Repository Link:

<https://github.com/mohanvenkat1/ResolveNow>

Demo Video

YouTube Demo Link:

<https://youtu.be/GnDdf1bCF-k>