

ResolveNow: Online Complaint Management System

Project Report

1. INTRODUCTION

1.1 Project Overview

ResolveNow is a comprehensive online complaint registration and resolution platform designed to empower citizens to lodge, track, and resolve their grievances seamlessly. The application streamlines essential processes such as user registration, complaint submission, real-time status tracking, role-based dashboards for users, agents, and administrators, and effective communication.

1.2 Purpose

The goal of ResolveNow is to provide a digital, accessible, and transparent medium for grievance redressal. It eliminates the need for physical complaint registration, improves efficiency, and enhances accountability using technologies like React.js, Node.js, MongoDB, and JWT authentication.

2. IDEATION PHASE

2.1 Problem Statement

Conventional grievance resolution methods are often slow, opaque, and involve excessive paperwork. Citizens face difficulty accessing the appropriate authorities and tracking their complaint progress. A centralized, efficient, and digital platform is needed to bridge this gap.

2.2 Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Example: Resolve Now

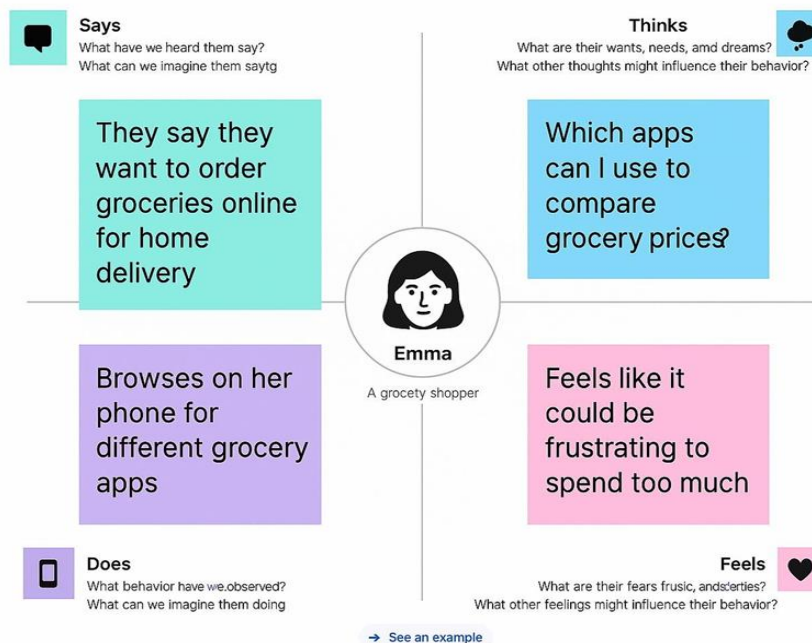


Fig: Empathy Map Canvas for ResolveNow

2.3 Brainstorming

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

- Encourages collaborative idea generation across technical and non-technical team members.
- Helps identify innovative features and pain points that may not surface in structured meetings.

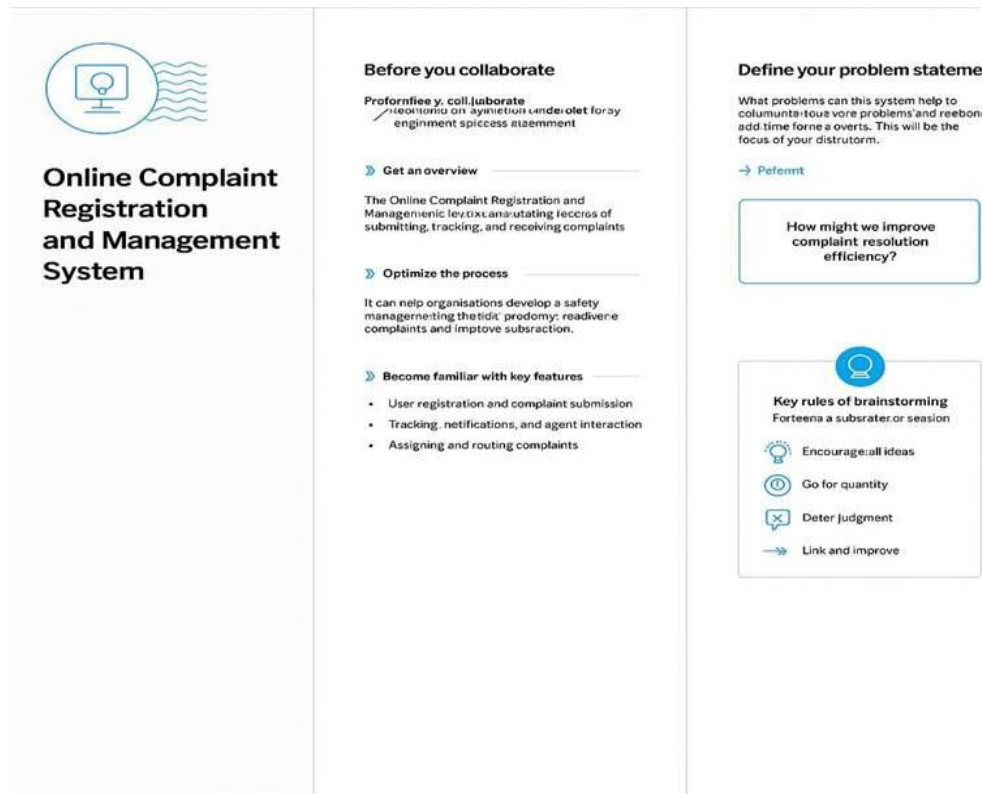


Fig: Brainstorming

- Builds team synergy and ownership of the product design and direction.
- Fosters creativity and encourages participants to think beyond their usual scope.
- Allows for rapid exploration of potential user-centric improvements and technical possibilities.
- Results from brainstorming sessions were used to finalize complaint categories, dashboard features, user roles, and notification flows.
- Sparks diverse perspectives: Including users, developers, and domain experts in brainstorming sessions helps uncover use-cases from various angles.
- Drives early risk identification: By voicing all ideas early, the team can anticipate potential roadblocks or implementation constraints.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Platform for Online Complaints







	Enter	Browse	Start complaint	Checkout	Payment & Confirmation	Experience Resolution
Customer journey						
Steps	Visit to ResolveNow web/app	Select category for issue by issue	Fill out and submit detailed complaint	Status tracking UI	Receive and resolve complaint form	View outcome of their complaint
Interactions	Home page UI	Complaint form UI	Simple form submission	Reliable status visibility	Simple form submission	Reward for relieving process
Interactions	Helps to navigate easily	Simple form user-friendly	Simplify categorization	Simplifies in complaint	Simplify complaint registration	Should attention for resolution
Positive moments	Helps customer feel heard	Expressing complaint in process	Simplify complaint registration	Clearer status displays	Simplify faster status displays	Reward for satisfaction and peace of mind
Opportunities	Help a customer's self-esteem	Provide quick access	Simplify complaint registration	Reward for clearer directions	Feedback for better handling	Reward for satisfaction
Goals & Motivations	Help customer feel heard	Provide quick access	Anticipation for better handling	Feedback for better handling	Reward satisfaction and peace of mind	Reward satisfaction and peace of mind

Fig: Customer Journey Map for ResolveNow

3.2 Solution Requirements

Functional Requirements – Resolve Now

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Authentication	Sign up, Login, Password Reset OAuth login using Google / GitHub
FR-2	Crime Posting	Posting complaints
FR-3	Job Application & Management	User will log complaints , Agent will Resolve

Non-functional Requirements:

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The platform should offer a clean, intuitive UI for users of all skill levels.
NFR-2	Security	All data transfers must be encrypted. Implement role-based access and token auth.
NFR-3	Performance	Pages should load within 2 seconds. Chat and job posting actions should be near-instant.

NFR-4	Availability	The system should maintain 99.9% uptime across all services.
NFR-5	Scalability	Should support high concurrency and rapid feature scaling through microservices.

3.3 Data Flow Diagram (DFD)

- Level 0: User → Login/Register → Dashboard → Complaint Form → Status Tracking
- Level 1: Admin → Manage Users & Agents → Assign Complaints Agent → Update Complaint Status



Fig: Data Flow Diagram of ResolveNow

3.4 Technology Stack

- Frontend: React.js, Bootstrap, Material UI
- Backend: Node.js, Express.js
- Database: MongoDB, Mongoose ODM
- Authentication: JSON Web Tokens (JWT)
- Tools: Postman, GitHub, VSCode

4. PROJECT DESIGN

4.1 Problem-Solution Fit

The Problem–Solution Fit ensures that the *ResolveNow* platform effectively addresses the inefficiencies in traditional complaint handling systems and meets the real-world needs of both citizens and administrative authorities. This validation is crucial before scaling the system across departments or regions.

Purpose:

- Create a transparent, accountable channel for citizens and organizations to report complaints or issues.
- Centralize complaint management—submission, tracking, resolution—on one platform.
- Provide real-time status updates and automated notifications for better engagement.
- Empower administrators with analytics and case tracking for better governance.
- Build trust through timely responses, escalation mechanisms, and feedback collection.

Problem Statement:

Many institutions and public services face challenges like:

- Complaints getting lost or ignored due to manual systems
- No transparency or updates provided to complainants
- Delayed responses and unclear resolution timelines
- Poor tracking of repeated or high-priority issues
- Lack of data-driven insights for improving service quality

Solution:

ResolveNow, a full-stack complaint registration and management system, offers:

- Online complaint submission with unique tracking ID
- Role-based dashboards for complainants, staff, and admins
- Real-time status updates, email/SMS alerts, and escalation paths
- Complaint categorization, prioritization, and automated assignment
- Performance metrics and reports for timely resolution tracking

4.2 Proposed Solution

Proposed Solution for Resolve Now is as follows:

S. No.	Parameter	Description
1	Problem Statement (Problem to be solved)	An online complaint registration and management system is a software application or platform that allows individuals or organizations to submit and track complaints or issues they have encountered.
2	Idea / Solution Description	The Resolve Now platform is a full-stack web application (React frontend + Node.js backend) that enables clients to post jobs, freelancers to apply, and both parties to collaborate through realtime messaging and secure payments. Admin controls help manage disputes and community standards.
3	Novelty / Uniqueness	<ul style="list-style-type: none">- Online Reporting System-The agent will receive the reports- Admin dispute resolution system
4	Social Impact / Customer Satisfaction	<ul style="list-style-type: none">- Impact on crime rate.- Ease of living without fear.- Transparent ratings & reviews enhance platform trust- Reduces hiring friction and supports the gig economy.
5	Business Model (Revenue Model)	<ul style="list-style-type: none">- Freemium access for users.

4.3 Solution Architecture

The solution architecture for **Resolve Now** ensures a robust, user-friendly, and scalable platform that connects clients with skilled freelancers. The architecture focuses on responsive design, secure transactions, intelligent matching, and real-time messaging to ensure smooth project workflows and high user satisfaction.

- Seamless Crime posting on the application
- End-to-end project lifecycle management
- Scalable user authentication and authorization

Product Backlog & Sprint Schedule

i nt	Functional Requireme nt (Epic)	User Story Num ber	User Story / Task	Stor y Poi nts	Prior ity	Team Members
Spri nt-1	User Authentic ation	USN-1	As a user, I can sign up and log in securely.	3	High	K.pavithra
		USN-2	As a user, I can reset my password.	2	Medi um	K.Ashok
Spri nt-2	Crime Posting	USN-3	As a client, I can post a Complaint.	2	High	K.Anirudh
Spri nt-3	Application	USN-4	As a Agent, I can take care of queries.	3	High	K.Pavithra
		USN-5		2	High	K.Kiran Mai
		USN-6	As a user, I can complaint.	2	Medi um	K.Anirudh
Spri nt-4	Payment Integration & Reviews	USN-7		3	High	K.Pavithra
		USN-8	As a user, I can leave a re after project completion.	2 v	Medi um	K.Ashok K.Kiran Mai
		USN-9		2	Medi um	K.Anirudh

Project Tracker, Velocity & Burndown Chart

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	8 Days	16 June 2025	23 june 2025	20	23 june 2025
Sprint-2	20	8 Days	17 June 2025	24 june 2025	20	24 june 2025
Sprint-3	20	8 Days	18 June 2025	25 june 2025	20	25 june 2025
Sprint-4	20	8 Days	19 June 2025	26 june 2025	20	26 june 2025

6. FUNCTIONAL AND PERFORMANCE TESTING

Testing Scope:

- User registration and login
- Complaint Submission
- Status Tracking
- Agent Communication **Requirements to be Tested:**
- As a Client of ResolveNow, I want to Post the complaints easily.
- As a user, I want secure login and Post complaints.
- As an admin, I want to manage reported users and disputes.

Testing Environment:

- **URL:** <https://reslovenow.example.com>

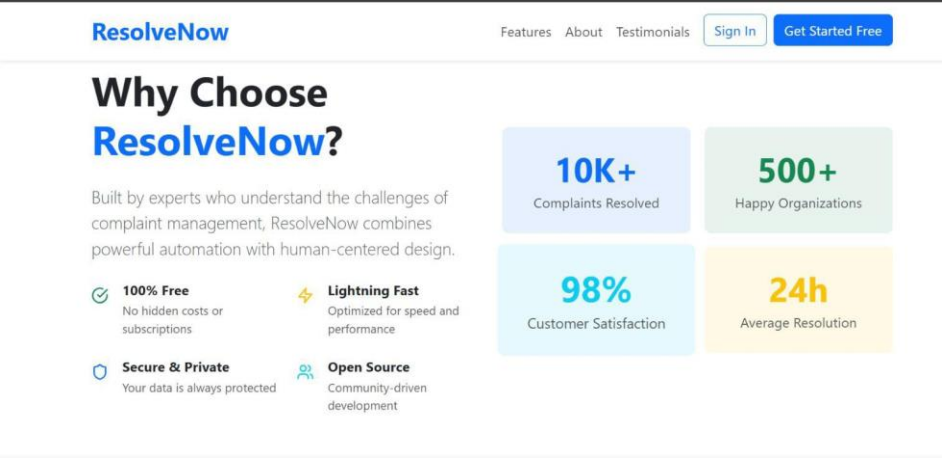
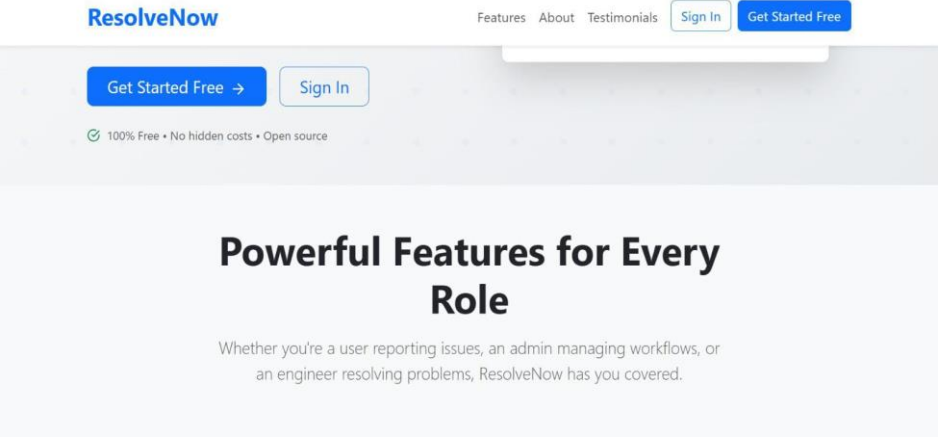
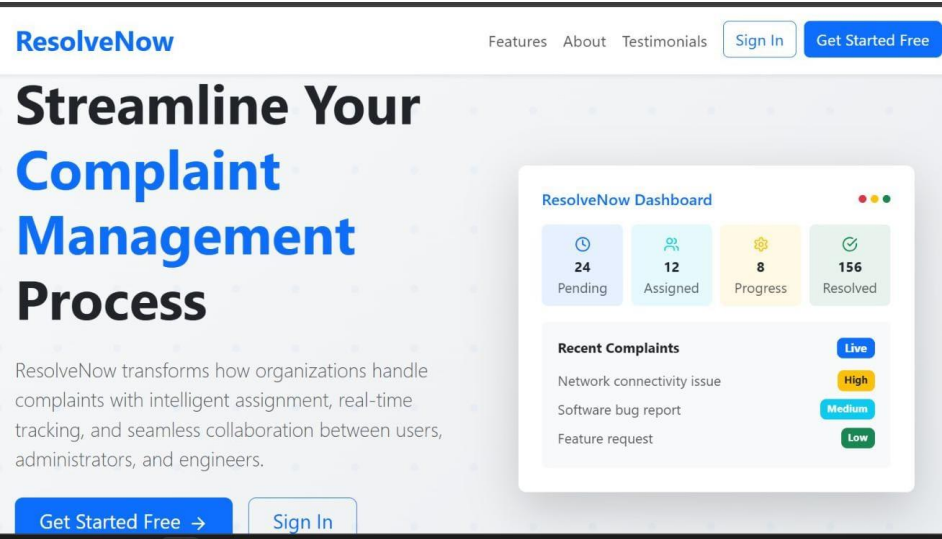
Test Cases:

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	User Registration	1. Visit site 2. Click "Sign Up" 3. Fill & submit form	[Describe the expected outcome]	Account created, redirected to dashboard	[Pass/Fail]
... TC002	... Post a Job (Client)	... 1. Login as client 2. Go to "Post Job" 3. Submit form	...Job appears on homepage

7. RESULTS

Screenshots:

- Home Page



- **SignUp page**



Join ResolveNow
Create your account to get started

Full Name

Email Address

Password

Role

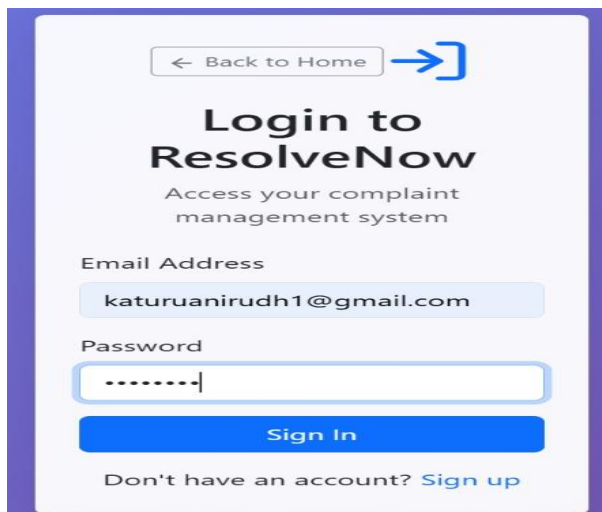
User


User

Admin

Engineer

- **Login Page**



[← Back to Home](#) 

Login to ResolveNow
Access your complaint management system

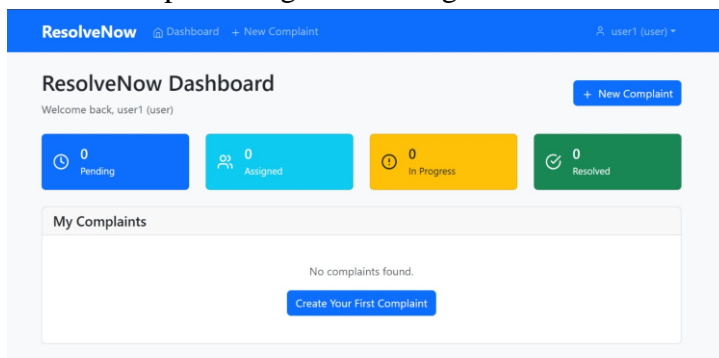
Email Address

Password

[Sign In](#)

Don't have an account? [Sign up](#)





- **Complaint Registration Page**



ResolveNow [Dashboard](#) [+ New Complaint](#) user1 (user) ▼

ResolveNow Dashboard [+ New Complaint](#)

Welcome back, user1 (user)

 0 Pending	 0 Assigned	 0 In Progress	 0 Resolved
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My Complaints

No complaints found.

[Create Your First Complaint](#)

- Raising Complaint

New Complaint

Title *

Leaking Pipeline

Priority

High

Description *

The pipeline outside my house has been leaking for several days now, please resolve as quick as possible.

Submit Complaint

Cancel

- Status Check Page

ResolveNow

Dashboard + New Complaint

user1 (user)

ResolveNow Dashboard

Welcome back, user1 (user)

+ New Complaint

1 Pending

0 Assigned

0 In Progress

0 Resolved

My Complaints

Title	Status	Priority	Created	Actions
Leaking Pipeline The pipeline outside my house has been leaking for several days now, please resolve as quick as poss...	PENDING	HIGH	6/27/2025	

- Admin Dashboard

ResolveNow

Dashboard

admin (admin)

ResolveNow Dashboard

Welcome back, admin (admin)

1 Pending

1 Assigned

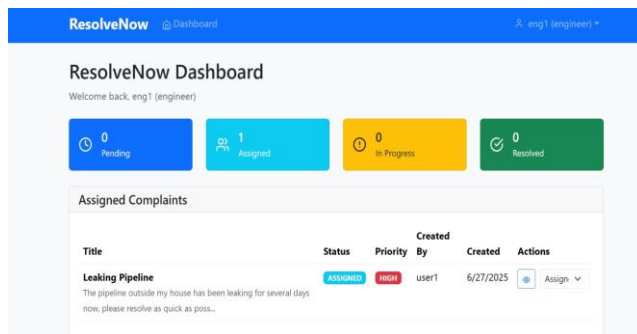
0 In Progress

1 Resolved

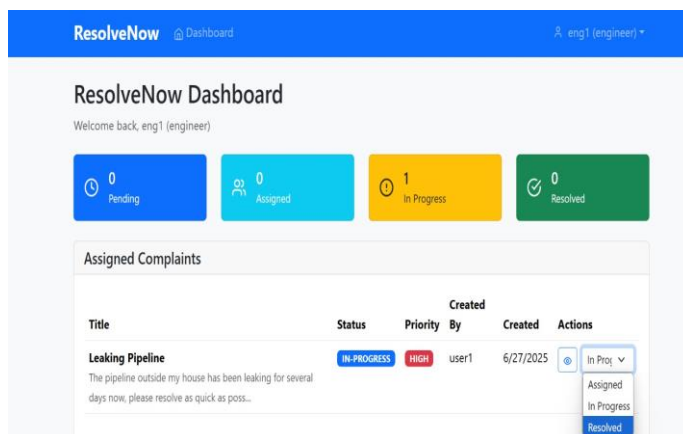
All Complaints

Title	Status	Priority	Created By	Assigned To	Created	Actions
Leaking Pipeline The pipeline outside my house has been leaking for several days now, please resolve as quick as poss...	PENDING	HIGH	user1	Select Assign	6/27/2025	

- Assigning engineer



- Engineer resolved the complaint



8. ADVANTAGES & DISADVANTAGES

Advantages

- **Simplifies Complaint Management:** Streamlines the process of lodging complaints, tracking status, and receiving resolutions online.
- **Improved Accessibility:** Citizens can raise issues from anywhere without needing to physically visit a service office.
- **Role-based Dashboard:** Provides tailored dashboards for users, agents, and admins, improving clarity and task delegation.
- **Real-time Updates:** Users are kept informed with real-time updates on complaint progress.
- **Secure Login & Authentication:** Secure authentication using JWT ensures safe access for all roles.
- **Scalable System:** Built using Node.js and MongoDB, the platform can scale to handle large user bases and growing datasets.

Disadvantages

- **Internet Dependency:** Requires a stable internet connection for full functionality.

- **Learning Curve for Admins/Agents:** Some training might be required for backend users (admins and agents) to use the dashboard effectively.
- **Initial Development & Hosting Cost:** Hosting, backend setup, and third-party services (like MongoDB Atlas or cloud deployment) may involve costs.
- **Limited Offline Support:** Users cannot submit complaints or check status offline (unless a mobile app with offline caching is developed in future scope).

9. CONCLUSION

ResolveNow successfully addresses the need for a transparent, efficient, and user-friendly complaint management system. By digitizing the entire complaint lifecycle, it ensures timely redressal, transparency in progress tracking, and enhanced user satisfaction. The use of modern technologies like React, Node.js, and MongoDB makes the system scalable, secure, and maintainable.

10. FUTURE SCOPE

- Integration of SMS/email notification system for complaint updates.
- Support for multilingual interfaces to improve accessibility.
- Mobile app development with offline mode and push notifications.
- AI-based priority classification of complaints.
- Detailed analytics and visualization dashboard for administrators.

11. APPENDIX

Source Code (if any):

- Complete source code is available in the GitHub repository.

GitHub & Project Demo Link:

- GitHub Repository:

<https://github.com/thesocalledhonouredone/ResolveNow-Complaint-Management-System/tree/main>

- Live Demo

<https://github.com/thesocalledhonouredone/ResolveNow-Complaint-Management-System/tree/main/Demo%20Video>