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## ResolveNow: Online Complaint Registration and Management System

### 1. INTRODUCTION

#### 1.1 Project Overview

ResolveNow is an online complaint registration and management system that enables individuals and organizations to submit, track, and resolve complaints efficiently. It streamlines the complaint-handling process, offers real-time tracking, and fosters communication between users, agents, and admins.

#### 1.2 Purpose

The purpose of this project is to provide a centralized and secure platform for managing complaints, reducing resolution time, improving customer satisfaction, and ensuring transparency in handling user concerns.

### 2. IDEATION PHASE

#### 2.1 Problem Statement

Traditional complaint-handling methods are inefficient, lack transparency, and lead to user dissatisfaction due to delayed responses and poor communication. There is a need for a reliable system where users can register complaints, track progress, and receive timely resolutions.

#### 2.2 Empathy Map Canvas

* **Users:** Customers, agents, and admins.
* **Needs:** Easy registration, complaint submission, real-time tracking, direct communication with agents.
* **Pains:** Unclear complaint status, delayed resolutions, no direct communication.
* **Gains:** Transparent tracking, prompt resolutions, better service experience.

#### 2.3 Brainstorming

Identified key features: user authentication, complaint submission, live status updates, chat with agents, admin management, and secure data handling.

### 3. REQUIREMENT ANALYSIS

#### 3.1 Customer Journey Map

* **Sign Up/Login > Submit Complaint > Track Status > Chat with Agent > Resolution > Feedback**

#### 3.2 Solution Requirements

* Functional: Registration, login, complaint submission, tracking, chat.
* Non-Functional: Security, scalability, user-friendliness.

#### 3.3 Data Flow Diagram

* **User > Frontend > Backend (Express.js) > Database (MongoDB)**
* Bi-directional flow for complaint updates and chat.

#### 3.4 Technology Stack

* **Frontend:** React, Material UI, Bootstrap
* **Backend:** Node.js, Express.js
* **Database:** MongoDB
* **Other:** GitHub, Railway (deployment), Socket.io (for chat)

### 4. PROJECT DESIGN

#### 4.1 Problem Solution Fit

The system addresses inefficient manual complaint processes by providing automated tracking, easy submission, and real-time updates.

#### 4.2 Proposed Solution

A web-based application with three user roles—Customer, Agent, and Admin—where each can perform designated actions like registering complaints, assigning them, and resolving them collaboratively.

#### 4.3 Solution Architecture

* **Frontend:** React + Material UI + Bootstrap
* **Backend:** Node.js + Express.js
* **Database:** MongoDB
* RESTful APIs for communication between frontend and backend.

### 5. PROJECT PLANNING & SCHEDULING

#### 5.1 Project Planning

|  |  |
| --- | --- |
| **Phase** | **Duration** |
| Requirement Analysis | 1 Week |
| Design Phase | 1 Week |
| Development Phase | 3 Weeks |
| Testing | 1 Week |
| Deployment | 3 Days |
| Documentation | Ongoing |

### 6. FUNCTIONAL AND PERFORMANCE TESTING

#### 6.1 Performance Testing

* Load testing performed to ensure the system handles multiple concurrent users.
* API response time maintained under 2 seconds.
* Database optimized for fast CRUD operations.

### 7. RESULTS

#### 7.1 Output Screenshots

* **User Dashboard:** Complaint registration and tracking.
* **Agent Dashboard:** Assigned complaints list and chat window.
* **Admin Dashboard:** Manage users, agents, and complaints.

### 8. ADVANTAGES & DISADVANTAGES

**Advantages:**

* Real-time tracking of complaints.
* User-friendly UI with seamless chat support.
* Scalable backend using Node.js and MongoDB.

**Disadvantages:**

* Requires stable internet.
* Limited to web; no mobile app yet.

### 9. CONCLUSION

ResolveNow is a comprehensive solution for managing complaints online. It bridges the communication gap between users and service providers, ensures data security, and delivers an efficient complaint-handling experience.

### 10. FUTURE SCOPE

* Mobile application development.
* AI-based complaint routing.
* Automated feedback analysis.
* Multi-language support for wider reach.

1. GIT HUB ACTIONS

Code link: