

Your Platform for Online Complaints

Abstract

ResolveNow: Your Platform for Online Complaints is a centralized web-based complaint registration and management system designed to streamline the process of submitting, tracking, assigning, and resolving customer complaints efficiently. The system enables users to securely register complaints, monitor real-time status updates, and communicate directly with assigned agents. Administrators oversee complaint routing and ensure timely resolution while maintaining compliance with data protection regulations. Built using modern web technologies such as React.js, Express.js, and MongoDB, the platform ensures scalability, security, and real-time communication through REST APIs and Socket.io integration.

Introduction

In today's digital era, customer satisfaction plays a crucial role in organizational growth and reputation. Traditional complaint handling methods are often inefficient, time-consuming, and lack transparency. ResolveNow provides a structured digital platform that bridges the gap between customers, agents, and administrators. It offers a seamless complaint lifecycle from submission to resolution while ensuring transparency, accountability, and improved service quality.

Objectives

The primary objective of ResolveNow is to develop a secure, scalable, and user-friendly complaint management platform that:

- Enables users to register and track complaints online.
- Ensures efficient complaint assignment and resolution.
- Facilitates real-time communication between users and agents.
- Maintains data confidentiality and regulatory compliance.
- Improves customer satisfaction through transparency and automation.

Features

ResolveNow offers the following key features:

- User Registration and Authentication (JWT-based security)
- Complaint Submission with attachments
- Real-time Complaint Tracking
- Email/SMS Notifications
- Intelligent Complaint Routing
- Built-in Chat System between user and agent
- Role-based Access Control (Customer, Agent, Admin)
- Admin Dashboard for monitoring and assignment
- Secure Data Storage with Encryption
- Feedback and Rating System

Technology Stack

The system is developed using a modern full-stack JavaScript architecture:

- **Frontend:** React.js, Bootstrap, Material UI, Axios
- **Backend:** Express.js, Node.js
- **Database:** MongoDB with Mongoose
- **Authentication:** JSON Web Tokens (JWT)
- **Real-time Communication:** Socket.io
- **API Communication:** RESTful APIs

System Architecture

ResolveNow follows a **Client-Server Architecture**:

- The **Frontend (React.js)** acts as the client, handling UI rendering and API calls via Axios.
- The **Backend (Express.js)** processes requests, implements business logic, and communicates with the database.
- **MongoDB** stores user, complaint, assigned complaint, and chat data.
- **Socket.io** enables real-time messaging and status updates.
- Authentication middleware secures protected routes.

This architecture ensures modularity, scalability, and efficient data exchange.

Modules

The system consists of the following modules:

1. User Module

- Registration, Login, Profile Management
- Complaint Submission and Tracking
- Chat with Assigned Agent

2. Agent Module

- View Assigned Complaints
- Update Complaint Status
- Communicate with Customers

3. Admin Module

- Monitor All Complaints
- Assign Complaints to Agents
- Manage Users and Agents
- Enforce Platform Policies

4. Complaint Management Module

- CRUD Operations for Complaints
- Intelligent Routing System

5. Chat Module

- Real-time Communication
- Complaint-specific Message Storage

Implementation Steps

The implementation process includes:

1. Initialize Backend using npm init
2. Install dependencies (Express, Mongoose, JWT, CORS, etc.)
3. Configure Express server and middleware
4. Define MongoDB schemas (User, Complaint, Assigned Complaint, Chat)
5. Implement REST API routes
6. Add authentication middleware

7. Develop frontend using React.js
8. Create reusable UI components
9. Integrate frontend with backend APIs using Axios
10. Implement real-time messaging with Socket.io
11. Test APIs using Postman
12. Deploy application on cloud platform

Advantages

- Faster complaint resolution process
- Improved transparency and accountability
- Secure and encrypted data handling
- Real-time updates and communication
- Scalable and modular architecture
- Reduced manual workload
- Enhanced customer satisfaction

Applications

ResolveNow can be implemented in:

- E-commerce platforms
- Government grievance portals
- Banking and financial institutions
- Telecom services
- Educational institutions
- Corporate customer support systems

Future Enhancements

- AI-based complaint categorization
- Automated chatbot support
- Analytics dashboard with performance metrics
- Mobile application version
- Multi-language support
- Integration with CRM systems
- Sentiment analysis for customer feedback
- Cloud-based deployment with load balancing

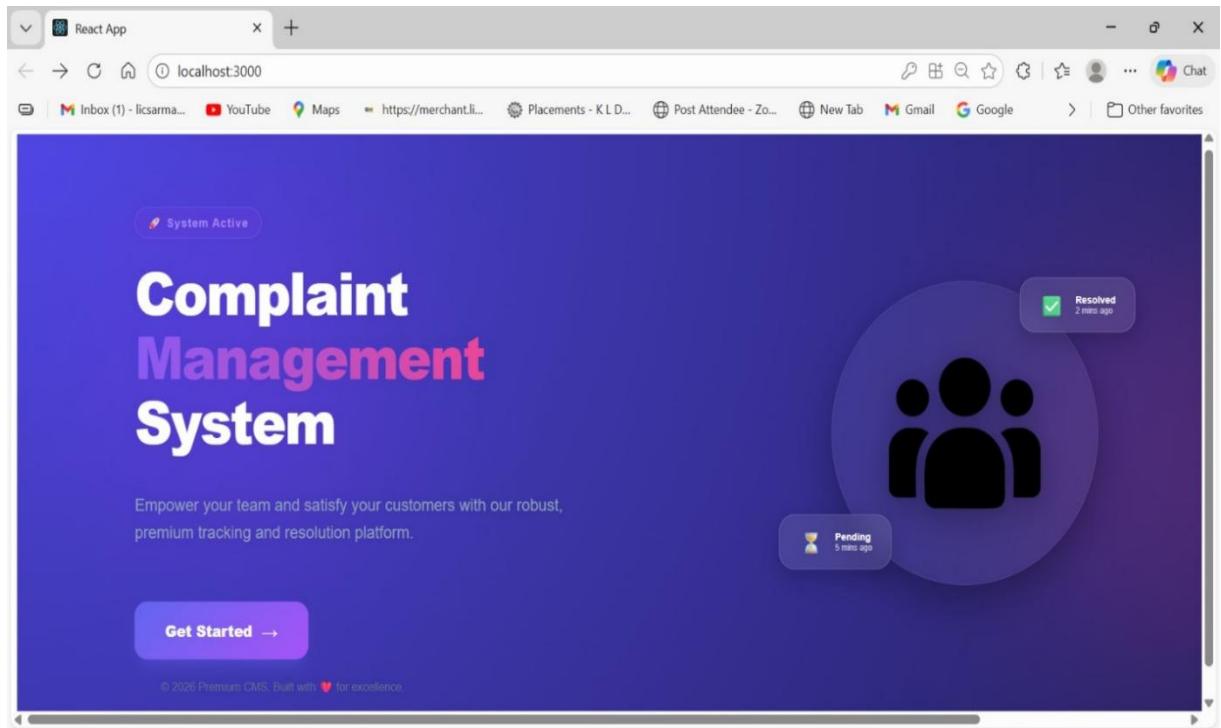
Conclusion

ResolveNow is a comprehensive online complaint registration and management platform designed to enhance customer service efficiency and organizational transparency. By integrating secure authentication, intelligent routing, real-time communication, and scalable database management, the system ensures timely resolution of complaints. The modern full-stack architecture makes it adaptable to various industries, providing a reliable and efficient solution for digital grievance management.

References

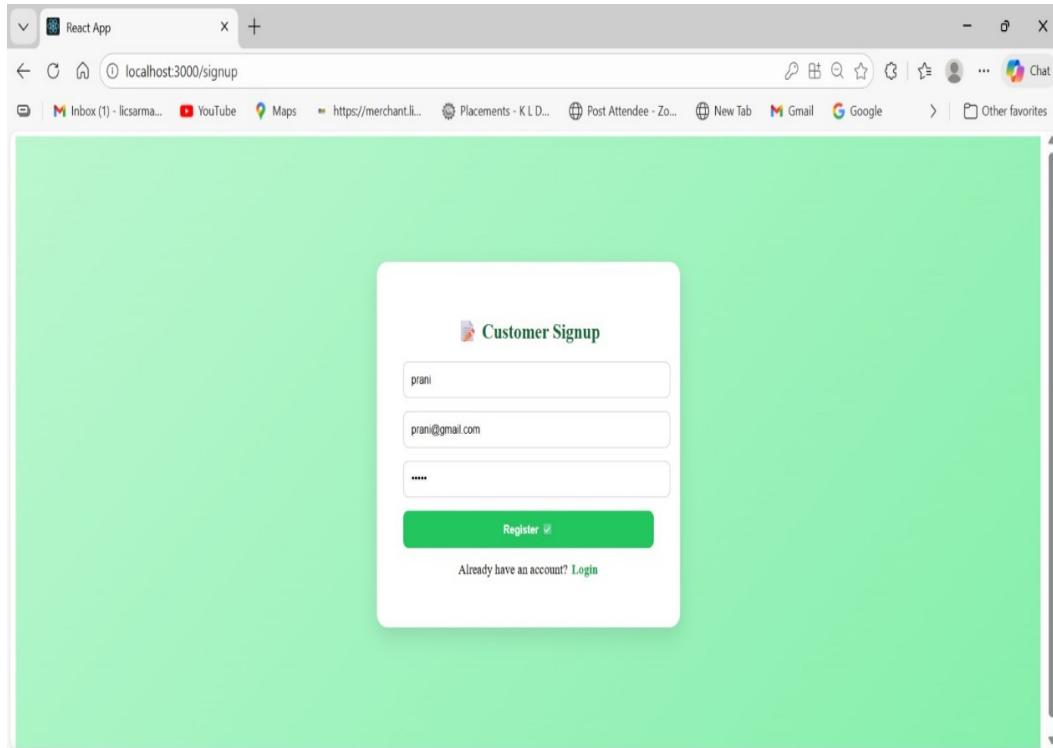
- ❖ Fielding, R. (2000). *Architectural Styles and the Design of Network-based Software Architectures (REST)*
- ❖ MongoDB Documentation – <https://www.mongodb.com/docs>
- ❖ Express.js Documentation – <https://expressjs.com>
- ❖ React.js Documentation – <https://react.dev>
- ❖ JSON Web Token (JWT) Introduction – <https://jwt.io>

Screenshots:

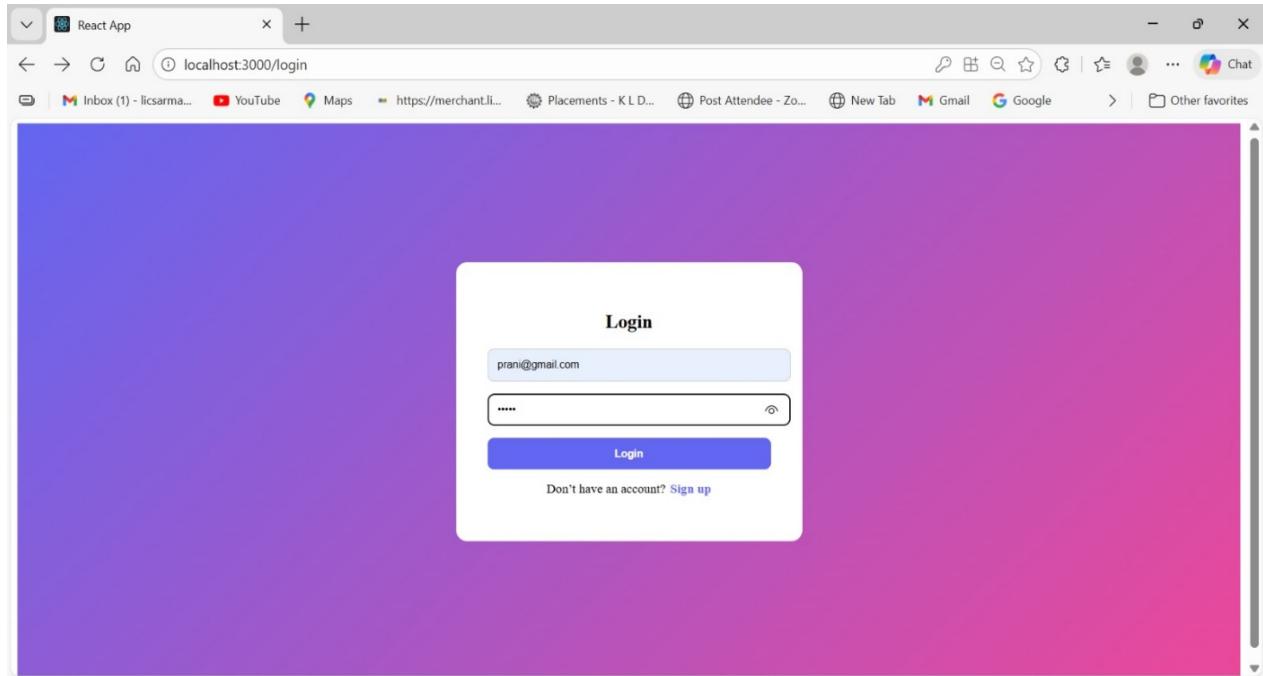


The home page welcomes users with clearly presenting the purpose of the application. It introduces the system as a reliable platform for registering, tracking, and resolving complaints. A **Get Started** button guides users toward the login process.

Customer signup page

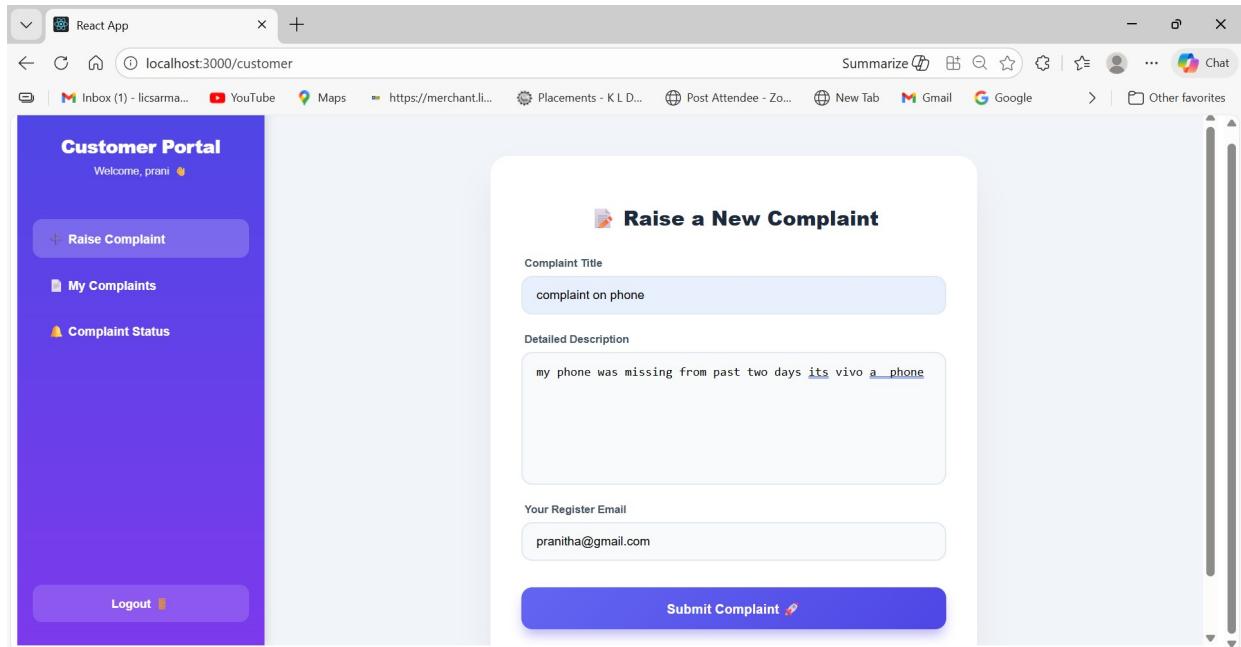


Customer Login



The **Customer Login Page** allows users to securely sign in using their email and password. The simple and centered design ensures easy access. New users can navigate to the **Sign Up** option to create an account.

Customer complaint page:



View complaints in customer panel:

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/customer". The main content area is titled "Customer Portal" and displays a list of complaints under the heading "My Complaints:". There are three items in the list:

- complaint on phone**: Status: PENDING. Description: my phone was missing from past two days. Its a vivo phone.
- complaint on samet watch**: Status: RESOLVED. Description: my smart watch is missing from fast 3 days which is black in color.brand is boat
- complaint on phone**: Status: RESOLVED. Description: phone was missing from fast 3 days

The sidebar on the left contains buttons for "Raise Complaint", "My Complaints" (which is selected), and "Complaint Status". At the bottom of the sidebar is a "Logout" button.

AdminDashboard :

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/admin". The main content area is titled "Admin Panel" and displays a "Welcome to Dashboard" message. Below it, there is a sub-instruction: "Manage complaints and track reports easily." Two cards are shown: "All Complaints" (0) and "System Health" (Optimal).

The sidebar on the left contains buttons for "View Complaints", "Reports", and "Users". At the bottom of the sidebar is a "Logout" button.

□ Admin Panel / Admin Dashboard

The **Admin Panel** is the control center of the system. It provides administrators with an overview of all complaints and system health. Admins can:

- View total complaints
- Monitor system status
- Navigate to detailed complaint lists

React App

localhost:3000/admin

Inbox (1) - licsarma... YouTube Maps https://merchant.li... Placements - K L D... Post Attendee - Zo... New Tab Gmail Google Other favorites

Admin Panel

User Complaints

Complaint Type	Reporter Email	Date	Action
PENDING	prani@gmail.com	2/18/2026	<input checked="" type="checkbox"/> Mark as Resolved
PENDING	deepu@gmail.com	2/17/2026	<input checked="" type="checkbox"/> Mark as Resolved
PENDING	deepu@gmail.com	2/17/2026	<input checked="" type="checkbox"/> Mark as Resolved
PENDING	prani24@gmail.com	2/17/2026	<input checked="" type="checkbox"/> Mark as Resolved
PENDING	prani@gmail.com	2/17/2026	<input checked="" type="checkbox"/> Mark as Resolved
PENDING	santhi@gmail.com	2/17/2026	<input checked="" type="checkbox"/> Mark as Resolved

Logout

The screenshot shows the 'User Complaints' section of an admin panel. It displays six complaints in a grid. Each row contains a status badge ('PENDING'), the reporter's email, the date, and a green button labeled 'Mark as Resolved' with a checkmark icon. The complaints are categorized by type: 'complaint on phone' (one entry), 'key' (two entries), and 'COMPLAINT ON KEY' (three entries). The dates for the complaints range from 2/17/2026 to 2/18/2026.