1.INTRODUCTION

1.1 Project Overview

Complaint Resolver is a full-stack web application designed to streamline the complaint registration and management process for users and organizations. It facilitates efficient resolution by enabling real-time interaction between users and agents while providing administrative oversight.

1.2 Purpose

The primary goal of Complaint Resolver is to offer a centralized, secure, and user-friendly platform where complaints can be submitted, tracked, and resolved efficiently—enhancing both organizational accountability and customer satisfaction.

2.IDEATION PHASE

2.1 Problem Statement

Traditional complaint mechanisms lack transparency, responsiveness, and structured follow-up. This results in delayed resolutions and customer dissatisfaction. There is a pressing need for a digital solution that simplifies and accelerates the entire complaint life cycle.

2.2 Empathy Map Canvas

- Think: “Will my complaint be addressed seriously?”
- Feel: Frustrated due to lack of updates and support
- See: No real-time status, no dedicated handler
- Say: “No one is responding to my issue.”
- Do: Submit complaints via email or calls, often follow up multiple times
- Gain: Satisfaction through swift resolution
- Pain: Time-consuming processes and lack of accountability

2.3 Brainstorming

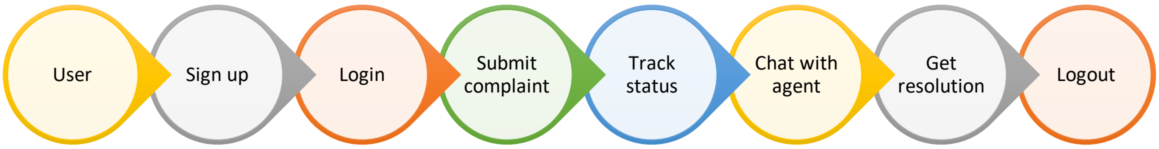
Potential Features Identified:

- Login/Sign-up portal
- Complaint submission form with attachments
- Real-time tracking with status updates
- Agent assignment system
- In-app chat for agent-user communication
- Admin panel for monitoring and routing
- Notification system (email/SMS)

3.REQUIREMENT ANALYSIS

3.1 Customer Journey Map

User Flow:



3.2 Solution Requirements

- Functional:
  - User authentication
  - Role-based dashboards (User/Agent/Admin)
  - Complaint creation, tracking, and resolution
  - Notifications and real-time messaging
- Non-Functional:
  - Responsive design
  - Secure API access
  - Minimal latency in chat
  - Scalable database handling

3.3 Data Flow Diagram (Level 1)

- User Interface ↔ Backend Server ↔ Database
- User Actions → API Requests → Complaint Log Creation
- Admin & Agent Actions → Assignment, Update, Resolve

3.4 Technology Stack

Frontend:

- React.js, Bootstrap, Material UI

Backend:

- Node.js, Express.js, Socket.IO for real-time communication

Database:

- MongoDB (with Mongoose for modeling)

4.PROJECT DESIGN

4.1 Problem Solution Fit
Complaint Resolver addresses the need for a transparent and interactive complaint system, bridging the gap between user expectations and existing service response mechanisms.

4.2 Proposed Solution
A role-based portal that enables users to raise complaints, agents to manage issues, and admins to assign and monitor tasks—built with modern technologies and focused on performance and user experience.

4.3 Solution Architecture

- Client–Server model
- REST APIs connect the React frontend and Express backend
- MongoDB stores user, complaint, and chat data
- Real-time communication enabled

5.PROJECT PLANNING & SCHEDULING

5.1 Project Planning Timeline

Week	**Task Description**
1	Requirement gathering & UI wireframing
2	Setting up frontend structure and routing
3	Backend API development and MongoDB integration
4	Complaint logic and role-based access setup
5	Chat, notifications, and performance tweaks
6	Testing, bug fixing, deployment, and demo prep

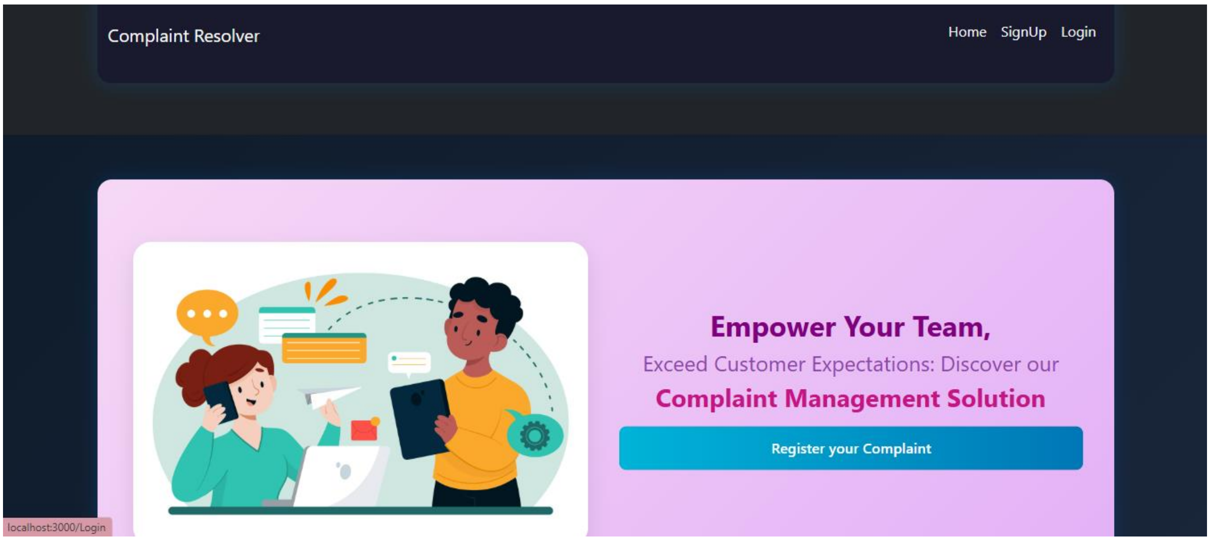
6.FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing Overview

- Frontend: Page Load Speed (via Lighthouse)
- API: Response time and throughput (Postman + JMeter)
- Real-Time Chat: Average latency < 1s
- DB: Read/write tests under simulated load

7.RESULTS

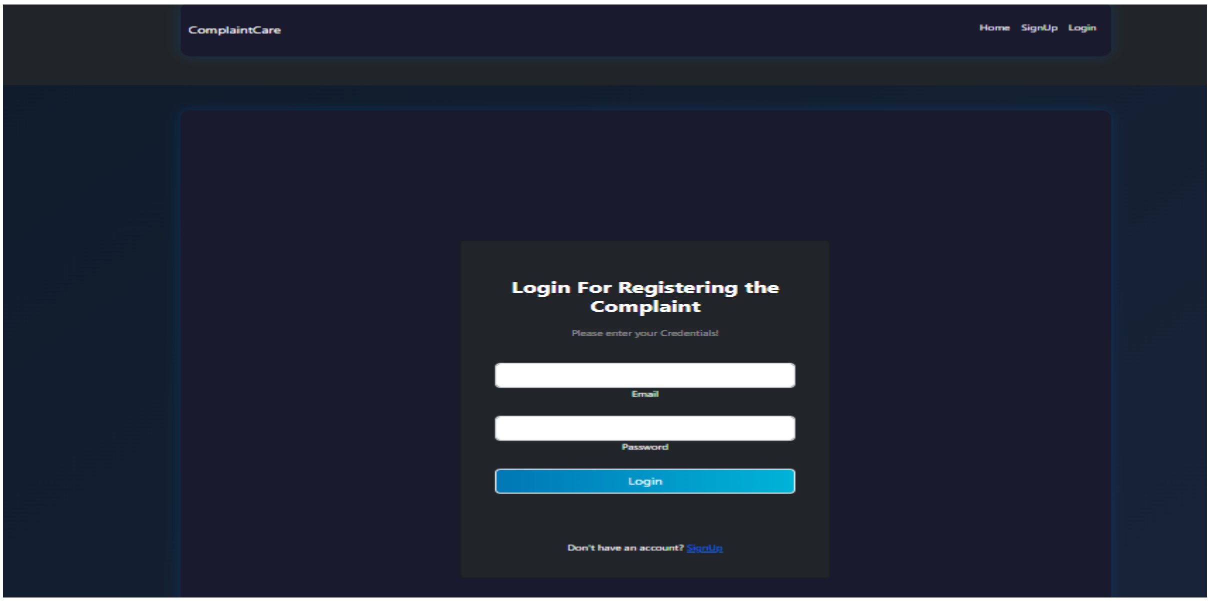
7.1 Output Screenshots



Empower Your Team,

Exceed Customer Expectations: Discover our

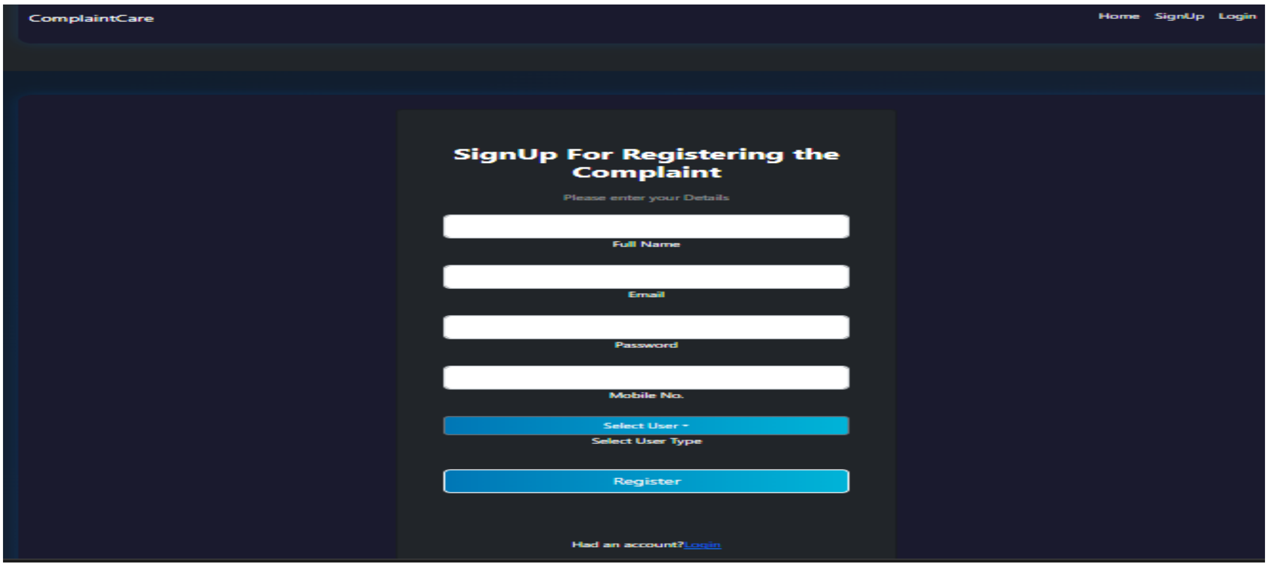
Complaint Management Solution



Login For Registering the Complaint

Please enter your Credentials!

Don't have an account? SignUp



SignUp For Registering the Complaint

Please enter your Details

Full Name

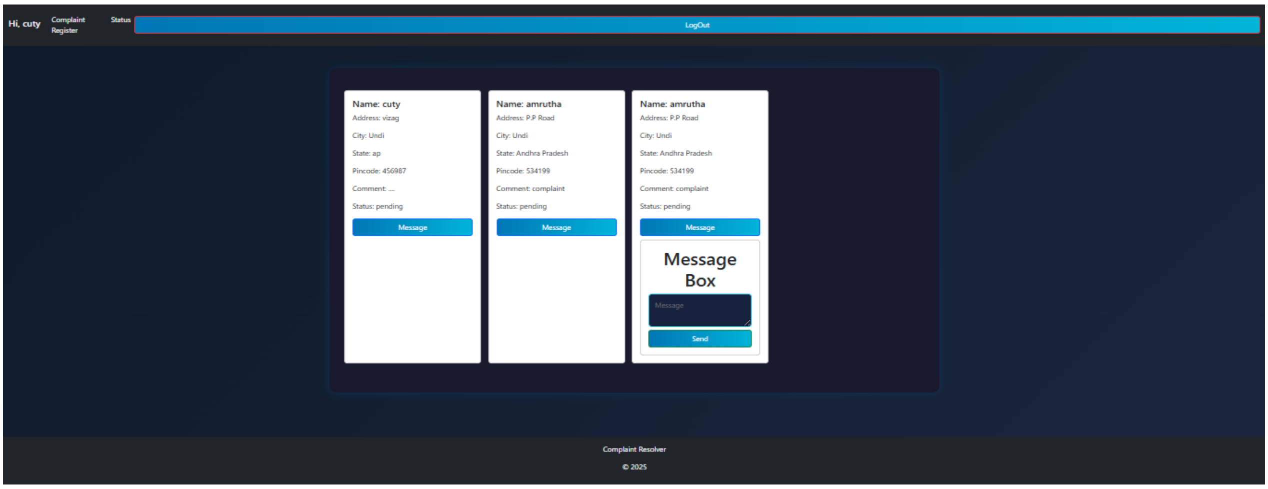
Email

Password

Mobile No.

Select User Type

Had an account?Login



Name: cuty
Address: vizag
City: Undi
State: ap
Pincode: 456987
Comment: ...
Status: pending

Name: amrutha
Address: P.P Road
City: Undi
State: Andhra Pradesh
Pincode: 534199
Comment: complaint
Status: pending

Name: amrutha
Address: P.P Road
City: Undi
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Complaint Resolver
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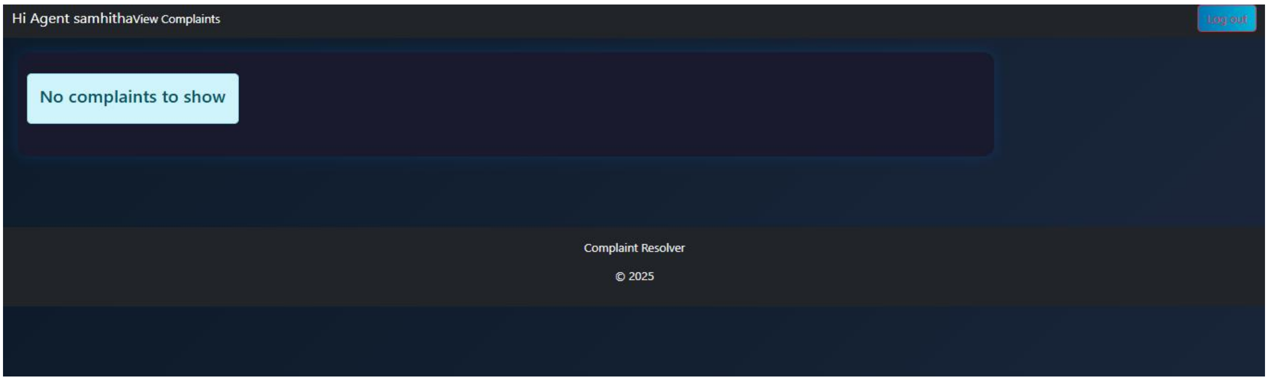

No complaints to show

Complaint Resolver
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8.ADVANTAGES & DISADVANTAGES

Advantages:

- Live status updates and transparent workflow
- Centralized complaint database
- Easy-to-use interfaces for all roles
- Chat support increases resolution speed

Disadvantages:

- Requires internet connectivity
- No offline complaint submission
- Limited multi-language support (initial release)

9.CONCLUSION

Complaint Resolver revolutionizes complaint handling by blending transparency, efficiency, and user engagement. It stands as a scalable model for complaint redressal systems across sectors.

10.FUTURE SCOPE

- AI-based automatic complaint classification
- Predictive analytics for admin dashboards
- Native mobile applications
- SLA-based complaint escalation system
- Integration with external CRM tools

11.APPENDIX

GitHub Link: https://github.com/AmruthaBoddu20/Complaint-Resolver