

Online Complaint Registration And Management System

A PROJECT REPORT

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ABSTRACT:

An online complaint registration and management system is a software platform designed to streamline the process of submitting, tracking, and resolving complaints efficiently. It empowers users to register and monitor their complaints, while organizations can assign and route issues to the appropriate departments using intelligent algorithms for effective resolution. Key features include user registration, complaint submission with detailed information, progress tracking with notifications via email or SMS, and secure interactions with assigned agents. The system prioritizes data security and confidentiality through robust measures such as authentication, encryption, and compliance with data protection regulations, ultimately enhancing customer satisfaction and aligning with industry and regulatory standards.

INTRODUCTION:

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. It can help optimize the complaint handling process and empower organizations to develop a safety management system to efficiently resolve customer complaints, while staying in line with industry guidelines and regulatory compliance obligations. It provides a centralized platform for managing complaints, streamlining the complaint resolution process, and improving customer satisfaction.

The Online Complaint Registration and Management System is a user-friendly software solution designed to streamline the process of submitting, tracking, and resolving complaints or issues encountered by individuals or organizations. It provides a centralized platform for efficient complaint management, allowing users to securely register complaints, track their progress in real-time, and interact with assigned agents for issue resolution. With features such as automatic notifications, intelligent complaint routing, and robust security measures, this system ensures timely and effective handling of complaints while prioritizing user Details.

KEY FEATURES:

1. User registration: Users can create accounts to submit complaints and track their progress.
2. Complaint submission: Users can enter details of their complaints, including relevant information such name, description of the issue, address etc.
3. Tracking and notifications: Users can track the progress of their complaints, view updates, and receive notifications via email or SMS when there are any changes or resolutions.
4. User can interact with the agent who has assigned the complaint.
5. Assigning and routing complaints: The system assigns complaints to

the appropriate department or personnel responsible for handling them. It may use intelligent routing algorithms to ensure efficient allocation of resources.

6. Security and confidentiality: The system ensures the security and confidentiality of user data and complaint information through measures such as user authentication, data encryption, access controls, and compliance with relevant data protection regulations.

OBJECTIVE:

Streamline Complaint Management:

Develop an efficient system for registering, managing, and resolving complaints to optimize the complaint-handling process.

Enhance User Experience:

Provide an intuitive and interactive interface for users to submit complaints, track their progress, and communicate with assigned agents.

Ensure Real-Time Tracking and Notifications:

Implement features for users to receive real-time updates and notifications about the status of their complaints via email or SMS.

Efficient Assignment and Routing:

Enable automated complaint routing to the appropriate department or personnel for faster resolution using intelligent algorithms.

Facilitate User-Agent Communication:

Allow users to interact directly with the agents handling their complaints, ensuring transparency and better issue resolution.

Maintain Data Security and Confidentiality:

Implement strong security measures like authentication, data encryption, and access controls to protect user data and complaint information.

Compliance with Industry Standards:

Develop the system in alignment with regulatory guidelines and industry compliance standards for data protection.

Centralized Complaint Management:

Provide a unified platform to handle all complaints, ensuring effective monitoring, reporting, and resolution of issues.

Leverage MERN Stack Technologies:

Utilize MongoDB, Express.js, React.js, and Node.js for full-stack development, ensuring scalability, responsiveness, and high performance.

Improve Customer Satisfaction:

Resolve complaints efficiently and transparently, improving user trust and overall satisfaction with the system.

METHODOLOGY:

The MERN stack is a popular web development framework comprising MongoDB, Express.js, React.js, and Node.js, offering a complete solution for building robust and scalable web applications. Here's how each component is utilized in the context of the online complaint registration and management system:

MongoDB (Database):

MongoDB serves as the database for storing and managing all user and complaint-related data. This includes user registration details, complaint submissions, updates, and notification logs. MongoDB's flexible schema allows the storage of structured and unstructured data, making it ideal for handling diverse complaint records with varying attributes such as descriptions, timestamps, and statuses.

Express.js (Backend Framework):

Express.js is used to build the server-side logic of the system. It handles API endpoints for user authentication, complaint submissions, updates, and interactions with agents. The lightweight and modular nature of Express.js allows seamless communication between the front-end React application and the back-end database. It also ensures routing efficiency and middleware integration for authentication and error handling.

React.js (Frontend Framework):

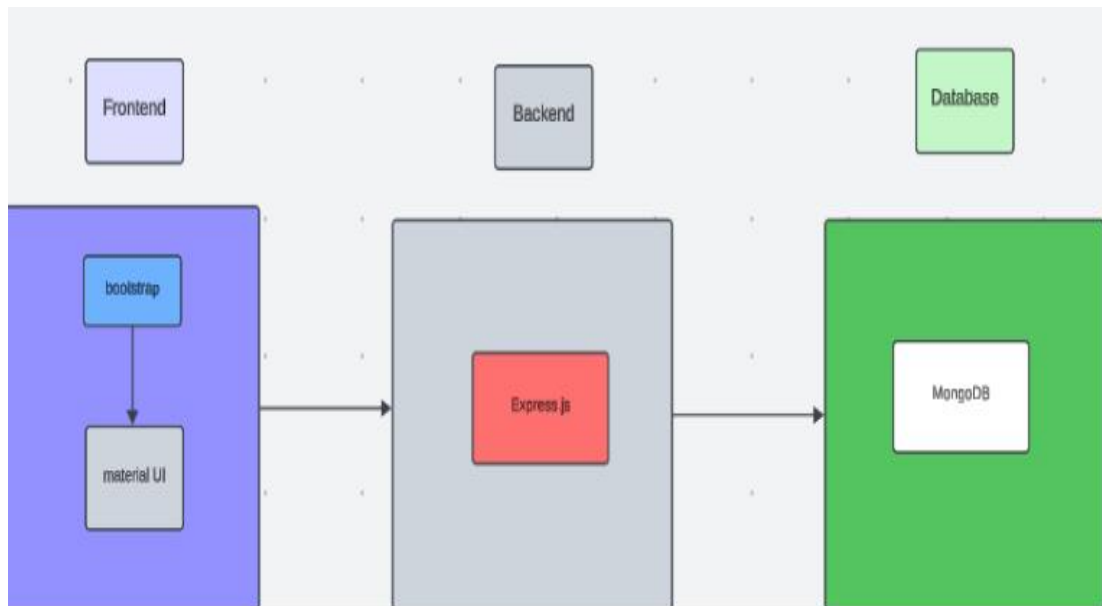
React.js powers the user interface of the system, providing an interactive and dynamic experience for users. It allows users to register, log in, submit complaints, track their progress, and interact with assigned agents in real-time. The component-based architecture of React enables the development of reusable UI elements, such as forms for complaint submissions and tracking dashboards, ensuring a smooth and responsive user experience.

Node.js (Runtime Environment):

Node.js serves as the runtime environment for executing the server-side code written in JavaScript. It facilitates handling multiple user requests simultaneously, ensuring the system remains responsive and efficient. Node.js also enables seamless integration between the MongoDB database and the Express.js framework, allowing real-time updates and notifications for complaint statuses.

Together, the MERN stack provides a full-stack solution for the online complaint registration and management system, ensuring efficient data handling, a responsive interface, and secure communication between the client and server.

ARCHITECTURE:



1. Frontend (React.js)

Bootstrap and Material UI are used as design libraries to create the user interface.

Bootstrap: Provides responsive and prebuilt components like buttons, forms, and grids, ensuring the system works well on all devices.

Material UI: Adds advanced UI components and themes for building modern, user-friendly pages.

2.The frontend (React.js) handles:

User Registration: Forms for users to sign up or log in.

Complaint Submission: Forms to enter complaint details.

Tracking & Notifications: Dashboards to display complaint progress and status.

Interaction with Agents: A real-time interface for users to communicate with assigned agents.

The frontend sends requests to the backend through API calls.

3.Backend (Express.js)

Express.js powers the server-side logic, acting as the middle layer between the frontend and the database.

It handles HTTP requests for:

- User Authentication: Secure login and registration processes.
- Complaint Submission: Storing complaints submitted via the frontend.
- Data Retrieval: Fetching complaint status, user details, and agent interactions.
- Notifications: Sending updates to users when their complaint status changes.
- Middleware ensures secure handling of requests, validation, and error management.

4. Database (MongoDB):

MongoDB is the backend database where all the data is stored.

It holds:

- User Details: Name, email, and login credentials.
- Complaints: Description, timestamps, progress status, and assigned

agents.

- Interaction Logs: Messages exchanged between users and agents.

MongoDB ensures fast and scalable data management, making it ideal for handling large complaint records.

5. Data Flow:

- Frontend (React + Bootstrap/Material UI) collects input from users and sends it to the backend.
- Backend (Express.js) processes the requests, interacts with the database, and returns the necessary data.
- Database (MongoDB) stores and retrieves all relevant information, such as complaints and user data.
- The frontend displays responses, complaint status, and notifications to users.

REGISTER/SIGNUP PAGE:

User-Friendly Interface

The registration page has a clean and intuitive design, making it easy for users to register by filling out the required fields.

Input Fields

The page includes essential fields for registration:

- Email Address: To identify and communicate with the user.
- Full Name: For personalized communication.
- User Name: A unique identifier for the user.
- Password: Ensures secure access to the user account. Password protection ensures user data security.

"Register" Button

Submits the form data for account creation and validates inputs before saving to the database.

Login Redirect Option

For users who already have an account, a Login link is provided to redirect them to the login page.

Admin Credentials

A note at the bottom provides admin credentials (username: admin, password: admin) for administrative access.



Register

Email address

Full Name

User Name

Password

If You Alreay Have an Account? [Login](#)

LOGIN PAGE:



Login

User Name

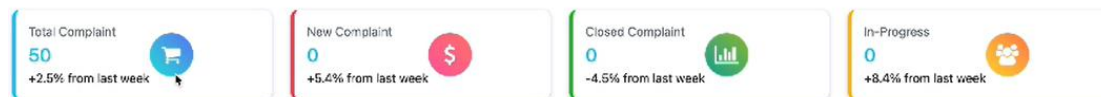
password

Login

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

DASHBOARD:

Dashboard



Complaint Portal

Dashboard

New Complaint

Complaint List

Keerthi

Log Off

Total Complaints:

➤ Purpose:

Displays the overall number of complaints that have been submitted through the system.

➤ Description:

This card provides a quick overview of how many complaints the system currently holds, serving as the main statistic for complaint tracking.

➤ Usage:

Helps the admin or users understand the total workload or volume of complaints managed in the system.

Closed Complaints :

➤ Purpose:

Represents the number of complaints that have been successfully resolved or closed.

➤ Description:

This card highlights resolved cases, showing the progress and efficiency of the complaint management system.

➤ Usage:

Provides users with an idea of how well the system or support team is performing in addressing and closing complaints.

New Complaints:

➤ Purpose:

Displays the count of recently submitted complaints that are awaiting action.

➤ Description:

Focuses on complaints that are newly registered and have not yet been reviewed, assigned, or resolved.

➤ Usage:

Allows admins to prioritize new issues and ensure timely acknowledgment and action.

In-Progress Complaints:

➤ Purpose:

Shows complaints that are currently being handled or investigated by the appropriate department or agent.

➤ Description:

Reflects ongoing work and status updates for complaints that are neither new nor closed.


➤ Usage:

Helps track progress, ensuring no complaint is stuck without resolution and provides transparency on the work in progress.

"New Complaint" Button:

- Located at the bottom of the dashboard, the "New Complaint" button allows users to register new complaints directly.
- It serves as a call-to-action and ensures users can quickly initiate the complaint submission process.

COMPLAINT REGISTRATION PAGE:



New Complaint

Engineering ▼ Select
Department Sub Department

Complaint Title

Enter Complaint Details

Details

☐ Have you Already Raised Complaint For this

Create

Complaint Portal Dashboard New Complaint Complaint List Keerthi Log Off

Purpose:

- The Complaint Registration Page allows users to register new complaints by providing essential details.
- It is the entry point for the complaint tracking system, ensuring all issues are logged and addressed efficiently.

User-Friendly Interface:

- The page features a clean and intuitive layout, making it easy for users to submit complaints quickly.
- Clear labels and organized fields guide users through the registration process.

Fields for Complaint Submission:

The key fields included on the registration page are:

1.Department:

- A dropdown menu to select the relevant department (e.g., Technical Support, Billing, Maintenance, HR).
- Helps categorize complaints based on the team responsible for handling them.

2. Category:

- A secondary classification field to specify the nature of the complaint (e.g., Service Issue, Payment Error, System Bug).
- Ensures better filtering and resolution prioritization.

3. Title:

- A concise, descriptive title summarizing the complaint.
- Helps administrators and staff quickly identify the issue at a glance.

4. Details:

- A text area for users to provide a detailed explanation of the problem.
- Allows for additional information, such as context, dates, or steps to reproduce the issue.

5.Create Button:

The Create button finalizes and submits the complaint into the system.

On successful submission, the user receives:

- A confirmation message (e.g., "Complaint registered successfully").
- A complaint ID for future tracking.

Validation and Error Handling:

- All fields are mandatory, and input validation ensures no field is left blank.
- Users receive error messages for invalid or incomplete inputs.

COMPLAINT LIST PAGE:

- The "Complaint List" page displays all complaints registered so far, including details such as the complaint ID, date of submission, description, and status (e.g., Open, In Progress, Resolved).
- It provides an overview of all the issues reported and their current handling status. Users can view individual complaint details and, if applicable, filter or search complaints based on criteria such as date range or status.

- This page helps keep track of customer concerns and their resolution process.

Complaint Register	
Complaint Title: Not enough funding for extra curriculars	
Ticket No: 1001	
Department: Engineering	
Sub-Department: Select	
Details: Funding necessary	
Already Registered: Yes	
Complaint Title: Payroll Discrepancy	
Ticket No: 1002	
Department: HR	
Sub-Department: Payroll	
Details: Salary for the month of April appears incorrect, requiring further review.	
Already Registered: No	
Complaint Title: System Crash	
Ticket No: 1003	
Department: IT	
Sub-Department: Infrastructure	
Details: Sudden system crash during peak hours affecting multiple users.	
Already Registered: Yes	
Complaint Title: Missing Reimbursement	
Ticket No: 1004	
Department: Finance	
Sub-Department: Accounts	
Details: Travel reimbursement not processed for last quarter.	
Already Registered: No	

CONCLUSION:

In conclusion, the Online Complaint Registration Management System provides an efficient, streamlined solution for managing and resolving customer complaints. By automating the process of complaint registration, tracking, and resolution, the system enhances user experience and promotes transparency. It enables users to easily submit complaints, while administrators can effectively manage and monitor the status of each issue. The system improves response times, ensures accountability, and fosters better communication between customers and service teams. Overall, this project not only simplifies complaint management but also contributes to better customer satisfaction and improved service quality.