ChatGPT

Complaint Kendra Project Reference Document

Project Overview

Complaint Kendra is a structured complaint management platform designed to handle complaints from users based on departments, categories, and location-based roles. It includes a user-friendly interface for lodging complaints and a role-based backend for handling them at various administrative levels.

📈 Core Features

1. **Multi-Level Complaint Categories**

2. Complaints are categorized hierarchically (e.g., Issue > Type > Subtype).

3. Categories are stored in a relational schema to support nesting and querying.

4. **Role-Based Access Control (RBAC)**

5. Roles include: `citizen`, `officer`, `admin`, and location-specific officials.

6. Each role can only access or manage data relevant to their scope (e.g., a district officer sees district complaints).

7. **Location-Based Assignment**

8. Users and officials are tied to geographic entities: country > state > district > ward.

9. Complaints are filtered and routed accordingly.

10. **Complaint Lifecycle Management**

11. Complaints have a status enum: `pending`, `in_progress`, `resolved`, `rejected`, etc.

12. Status changes are tracked, optionally with remarks and timestamps.

13. **File Attachments**

14. Complaints can include image uploads or documents as evidence.

15. **Notification System**

16. Notifications are sent on status changes and assignments.

17. FlatList UI shows a list of notifications with badges indicating status.

18. **ComplaintForm Component**

19. Built using Shadcn UI and `zod` validation.

20. Supports dynamic category selection, title input, description, and file attachments.

21. **MyComplaints Screen**

22. A list of user-submitted complaints rendered using FlatList.

23. Complaints are styled with badge indicators and status colors.

24. **Admin Dashboard**

25. Admins can view all complaints, reassign, escalate, or resolve.

26. Includes filters for category, location, and date.

📊 Technology Stack

- **Frontend**: React / React Native (with Tailwind + Shadcn UI)
- **Backend**: Next.js with Prisma ORM
- **Database**: PostgreSQL
- **Authentication**: Role-based using middleware/hooks
- **File Upload**: Cloudinary
- **Notification**: UI-based, real-time updates planned (e.g., socket or polling)

Prisma Schema Highlights

- `User` model includes `role`, `locationId`
- `Complaint` model includes:
- `status`, `user_id`, `department_id`, `category_id`, `title`, `attachments`, `description`, `location`
- `Category` model supports nested categories with self-referencing relation
- `Location` model supports hierarchy (country > state > district > ward)

⚖️ Permissions Example

- **Citizen**: Can submit complaints, view own
- **District Officer**: See and manage complaints within their district
- **Admin**: Manage all complaints, categories, users, and roles

Known Enhancements (Planned)

- AI assistant to auto-categorize complaints

- Real-time notifications with WebSockets
- Analytics dashboard for complaint trends
- Multi-language support

? Frequently Asked Questions (FAQ)

Q1: Who can file a complaint on Complaint Kendra?
Anyone registered as a `citizen` user can submit complaints through the platform.

Q2: How are complaints assigned to officials?
Complaints are automatically routed based on the user's location and selected category to the appropriate official.

Q3: Can users upload documents or images?
Yes, users can upload files and images as evidence while submitting a complaint.

Q4: How do users track their complaint status?
Users can view their complaints in the "MyComplaints" section where real-time status and updates are shown.

Q5: Can a complaint be escalated?
Yes, officials and admins can escalate complaints to higher authorities using the dashboard controls.

Q6: What technologies are used in this platform?
The platform is built using Next.js, React, PostgreSQL, Prisma, and Cloudinary.

Q7: How secure is the system?
The system uses role-based access control and follows best practices in data security and validation.

How to Register a Complaint

1. **Login / Sign Up**

2. Users must register as a `citizen` and log in to the platform.

3. **Navigate to Complaint Form**

4. After login, go to the "Register Complaint" or "Submit Complaint" page.

5. **Fill in Details**

6. Select the relevant category and sub-category.
7. Enter a title and detailed description of the complaint.

8. Optionally, attach files or images as proof.

9. **Select Location (if applicable)**

10. The form may automatically detect your location or let you select it manually.

11. **Submit the Complaint**

12. Click the submit button.

13. You will receive a confirmation and a complaint ID for tracking.

14. **Track Complaint Status**

15. Use the "MyComplaints" section to monitor progress and receive updates.

This document can be used as a reference context for AI models to understand the Complaint Kendra system architecture, logic, schema, and functionality.