SYNOPSIS

Secure Event Management, Complaint Registration System, and

Study Material Bot

Introduction

Educational institutions often face challenges in event management, complaint handling, and study material distribution. This project aims to develop a secure web-based system that allows:

- Faculty to host events and students to apply for events.
- Students to submit anonymous complaints against issues they face.
- Teachers to file complaints against students with proper identification.
- A bot to provide study materials to students based on their department and semester.
  The system leverages Firebase Authentication and Realtime Database to ensure data security and real-time updates.

Objective

- To develop a secure event management platform for faculty and students.
- To implement a dual complaint registration system:
- Anonymous complaint submission by students.
- Identified complaints by faculty against students.
- To integrate a study material bot that provides notes and resources upon request.
- To store event, complaint, and study material data securely in Firebase Realtime Database.

Scope

- Secure User Authentication using Firebase Authentication.
- Event Management: Faculty can create and manage events, and students can apply for events.

- Complaint Registration System:
    - Anonymous Complaint Submission (Students).
    - Identified Complaint Submission (Faculty against students).
    - Complaint Categorization (Academic, Misconduct, Facility Issues, Disciplinary, etc.).
- Study Material Bot:
    - Students request study materials based on department and semester.
    - The bot fetches pre-stored study materials from Firebase and displays the results.

Technology Stack

- Frontend: React.js (Vite)
- Backend: Firebase Realtime Database & Authentication
- Hosting: GitHub Pages
- Bot Implementation: Python-based AI chatbot integrated with Firebase

Modules

1. **User Authentication**

- Secure login for students and faculty using Firebase Authentication.

2. **Event Management**

- Faculty can create and upload event details (event name, teacher name, department, date, description).

- Students can view events categorized by department and apply.

3. **Complaint Registration System**

- Anonymous Complaint Submission (Students).

- Identified Complaint Submission (Faculty against students).

- Complaint Viewing & Management: Authorized personnel can view and take action.

4. **Study Material Bot**

   - Students request study materials based on department and semester.

   - The bot fetches relevant PDFs, notes, or links stored in Firebase.

   - AI-based filtering to recommend relevant resources.

5. **Database & Security**

   - Firebase rules ensure data privacy for student complaints.

   - Study materials, events, and complaints are stored securely in Firebase Realtime Database.