COLLEGE CODE:0004

COLLEGE NAME : MADRAS INSTITUTE OF TECHNOLOGY, ANNA UNIVERSITY.

DEPARTMENT : INFORMATION TECHNOLOGY.

Completed the project named as

Phase : 5 – FE

NAME : FEEDBACK COLLECTION SYSTEM

SUBMITTED BY:

NAME :KALIMUTHU K

Feedback Collection System-project

Phase 5 :Project Demonstration & Documentation

Introduction

The Feedback Collection System is a comprehensive full-stack web application built using the MERN stack (MongoDB, Express, React, and Node.js).
The primary goal of this project is to modernize the process of collecting and analyzing user feedback by providing a digital platform that is both interactive and efficient.

The system enables administrators to create dynamic, customizable feedback forms, and allows users to submit responses effortlessly from any device. Collected responses are automatically stored in a MongoDB database, and real-time analytics are generated to help organizations interpret feedback effectively.

This project serves as a practical implementation of core full-stack development concepts, including frontend–backend integration, authentication, database management, and visualization.

Final Demo Walkthrough

The **Feedback Collection System** was successfully developed and demonstrated as a fully functional web application using the **MERN stack**.
The system enables users to **submit feedback**, while admins can **view, analyze, and export feedback insights** through a secure dashboard.

Demonstration Flow

Step 1 — Landing Page

- Displays a list of available feedback forms fetched from MongoDB.
- Includes a search bar for quick access to specific forms.
- Provides navigation buttons for *"Give Feedback"* and *"Creator Login"*.

Step 2 — Feedback Submission

- Users access a feedback form through a unique public link.
- The form includes customizable fields such as:

    - Name, Email
    - Rating (1–5 scale)
    - Comments (Text Input)
    - Optional multiple-choice and checkbox questions
- Data is validated and submitted via Axios to the backend endpoint /api/forms/:id/submit.
- Success confirmation message appears upon submission.

Step 3 — Creator (Admin) Login & Registration

- Admins register with an email, password, and optional organization name.
- Passwords are hashed using bcrypt.js.
- JWT-based authentication ensures secure login sessions.
- Admin credentials are verified via /api/auth/login.

Step 4 — Admin Dashboard

- After login, the dashboard provides:
    - **Form Management** – Create, edit, and delete feedback forms.
    - **Analytics Visualization** – View average ratings, comment summaries, and feedback count.
    - **Charts & Graphs** – Displayed using react-chartjs-2.
    - **Export Options** – Download reports in CSV or PDF formats.
- Admin routes are protected by middleware (authMiddleware.js) to ensure secure data access.

Step 5 — Real-Time Analytics

- All feedback data is fetched using MongoDB aggregation queries.
- Visualization modules display:
    - Rating distribution (bar chart)
    - Feedback frequency (pie chart)
    - Top recurring keywords (word cloud or text summary)

Project Report

System Overview

Admin Features

- Admins can log in using secure authentication credentials.
- Ability to create, edit, and publish feedback forms dynamically.
- View submissions and analytics dashboards instantly.
- Export data in multiple formats for record-keeping.

User Features

- Access public feedback forms via a unique link.
- Submit responses without the need for login.
- Simple and intuitive form interface optimized for both desktop and mobile.

Analytics Features

- Real-time visualization of responses using **Chart.js / Recharts**.
- Metrics such as rating averages, option frequencies, and text feedback summaries.
- Interactive charts for administrators to monitor trends.

Technologies Used

Component	Technology Used	Purpose
Frontend	React.js, Material UI, Axios	User interface & data communication
Backend	Node.js, Express.js	API routing, business logic, validation
Database	MongoDB Atlas	Cloud-based data storage
Authentication	JWT + bcrypt.js	Secure access control
Analytics	Chart.js / Recharts	Real-time visual analytics
Deployment	Vercel, Render	Hosting & deployment

Major Modules

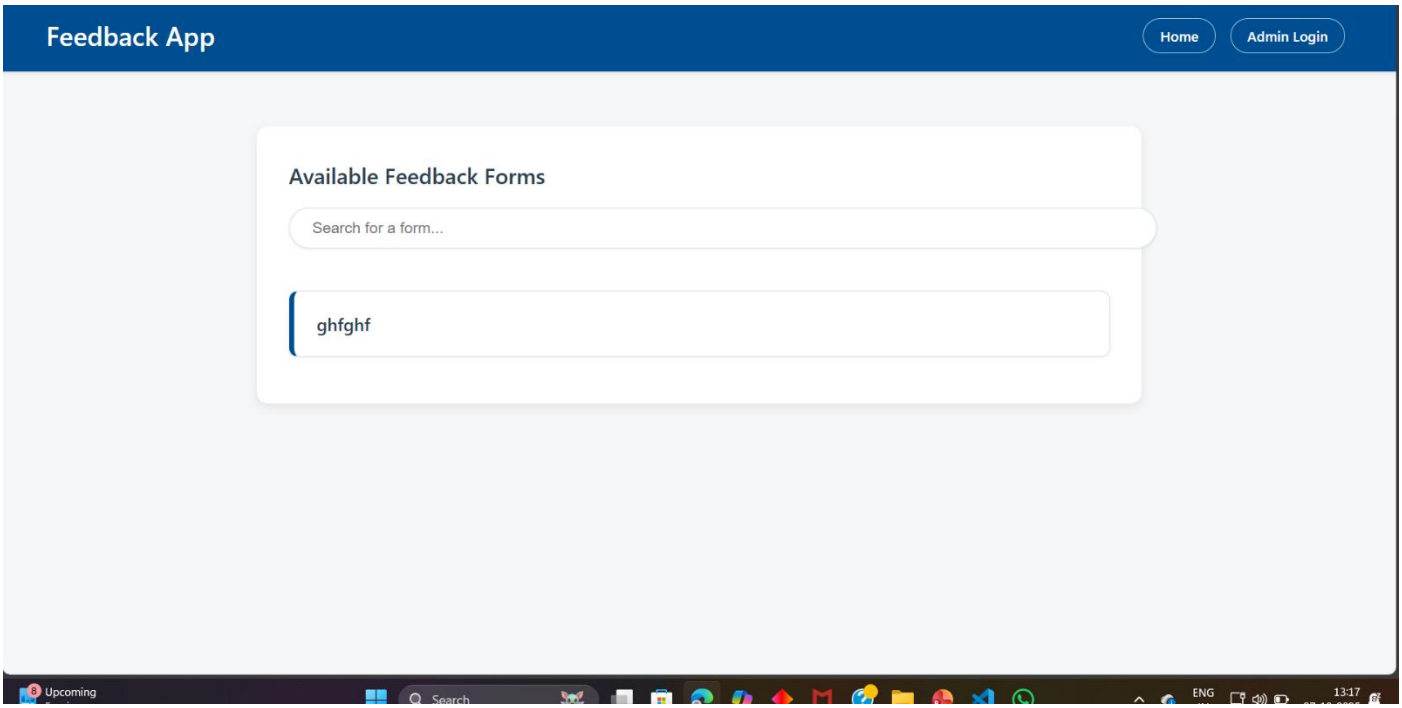
1. Landing Page – Entry for users and creators.
2. Feedback Form Page – Dynamic question rendering and feedback submission.
3. Creator Login/Register Page – Secure admin access and form management.
4. Admin Dashboard – Analytics visualization and report export options.

Screenshots / API Documentation

Screenshots

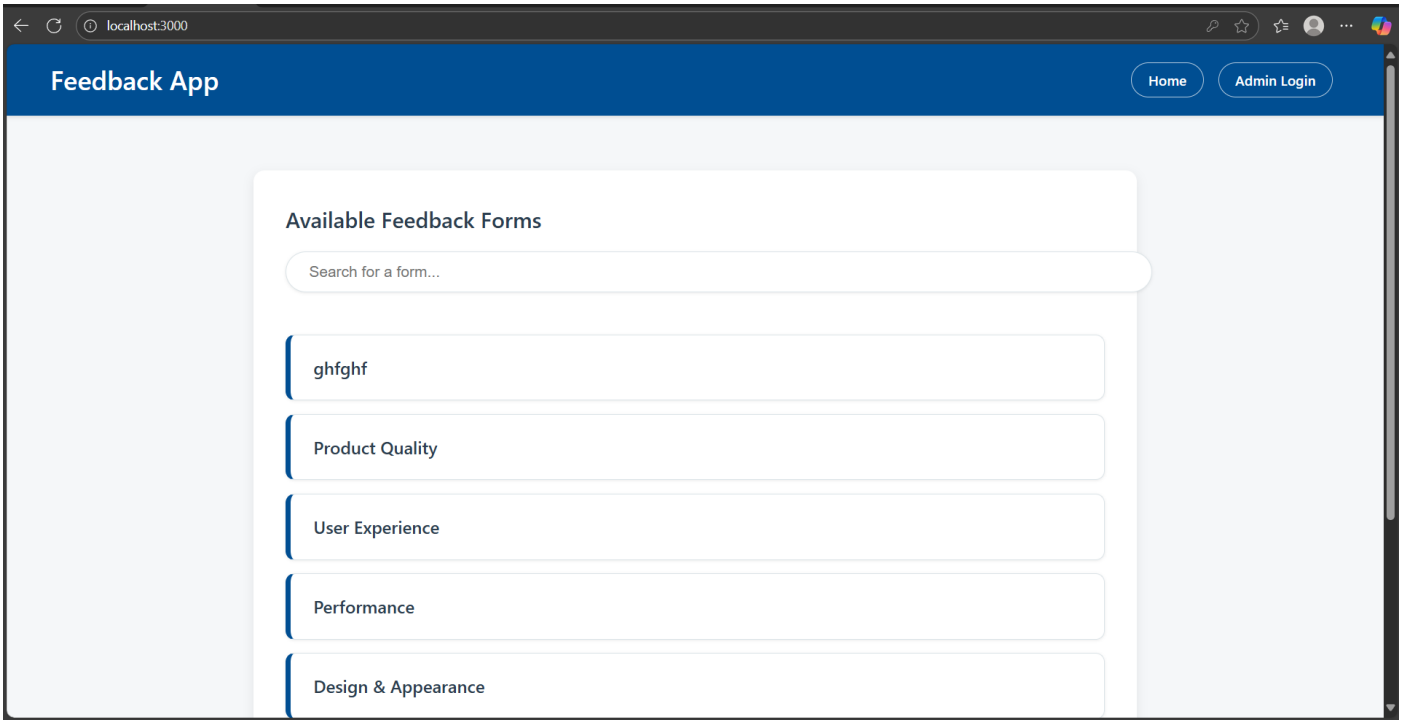
Landing Page

Displays available feedback forms and navigation options.



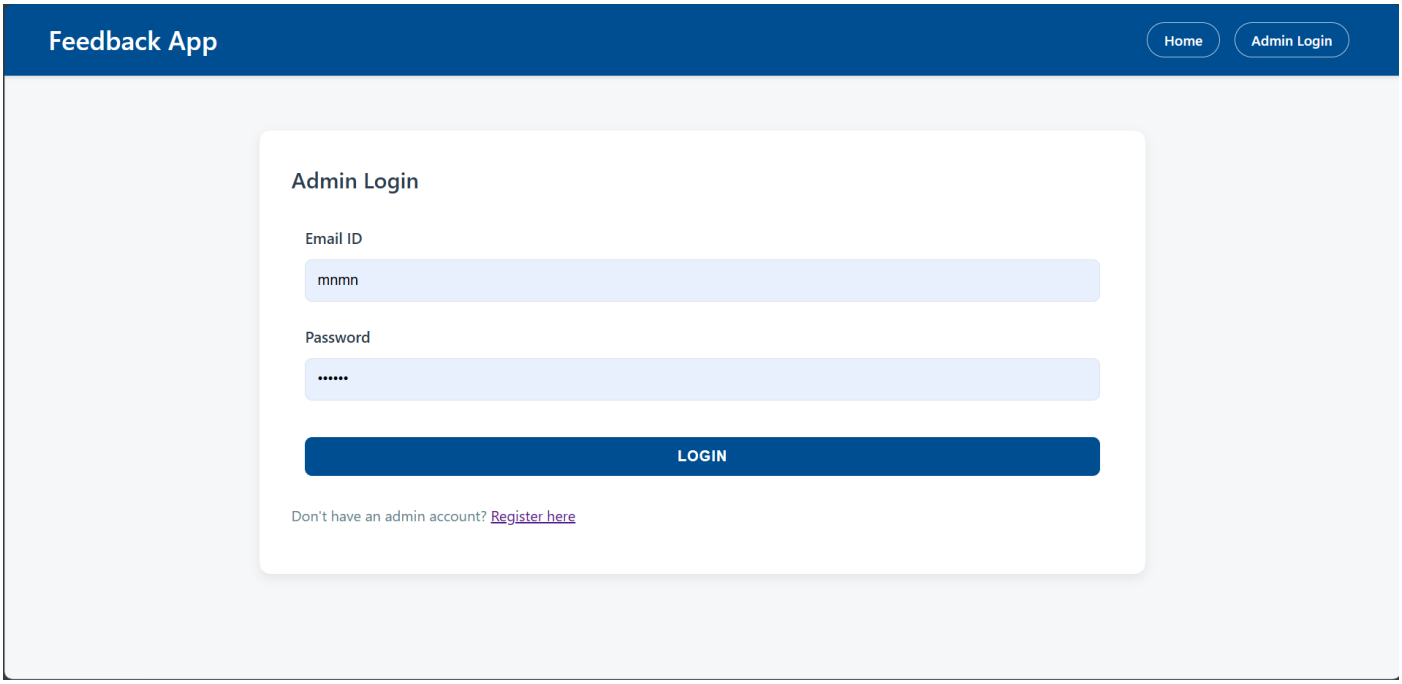
User Feedback Form

Allows submission of ratings, text, and choices.



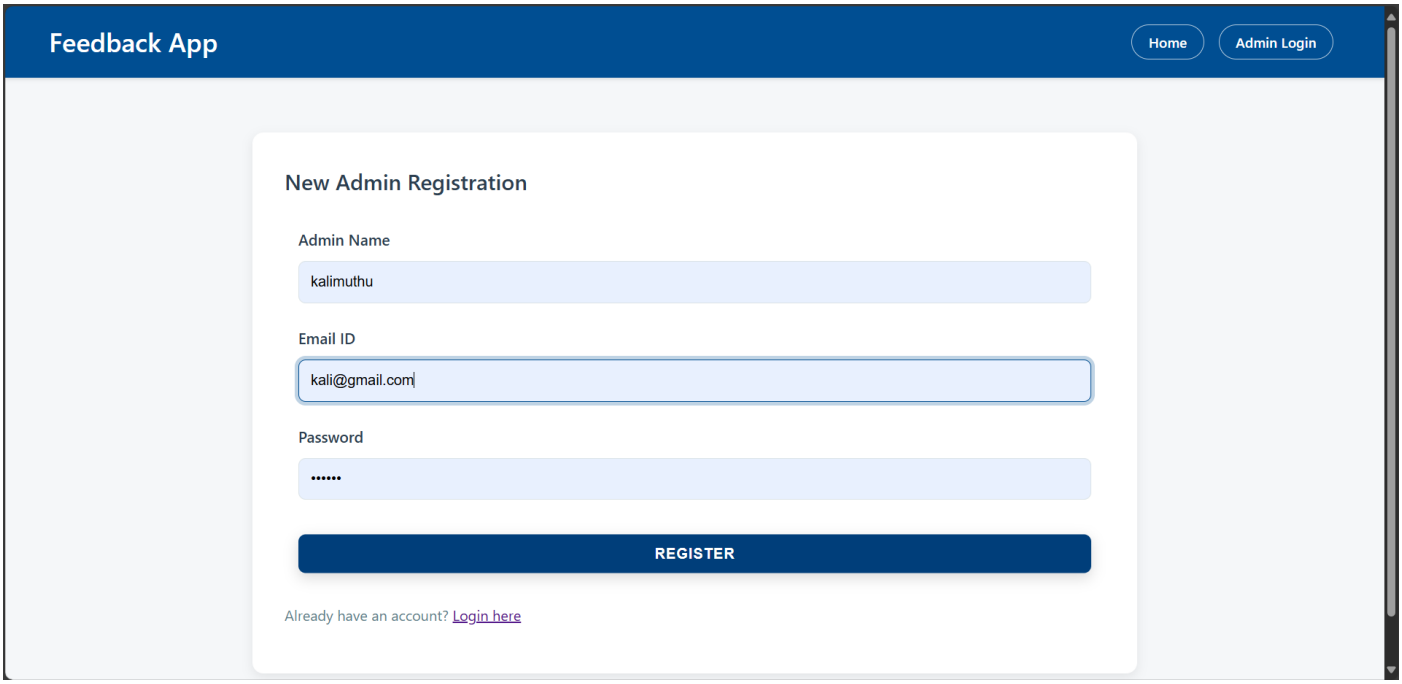
Creator Login Page

mail/password-based authentication.



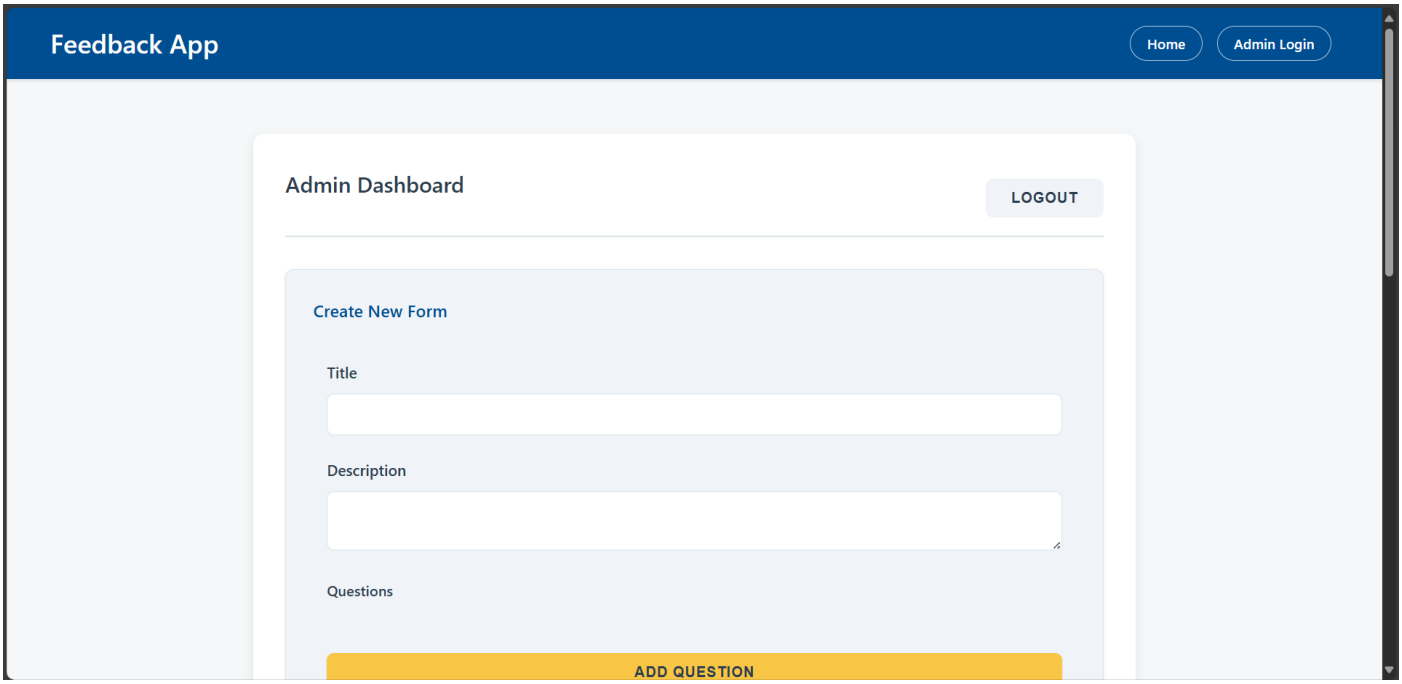
Register page

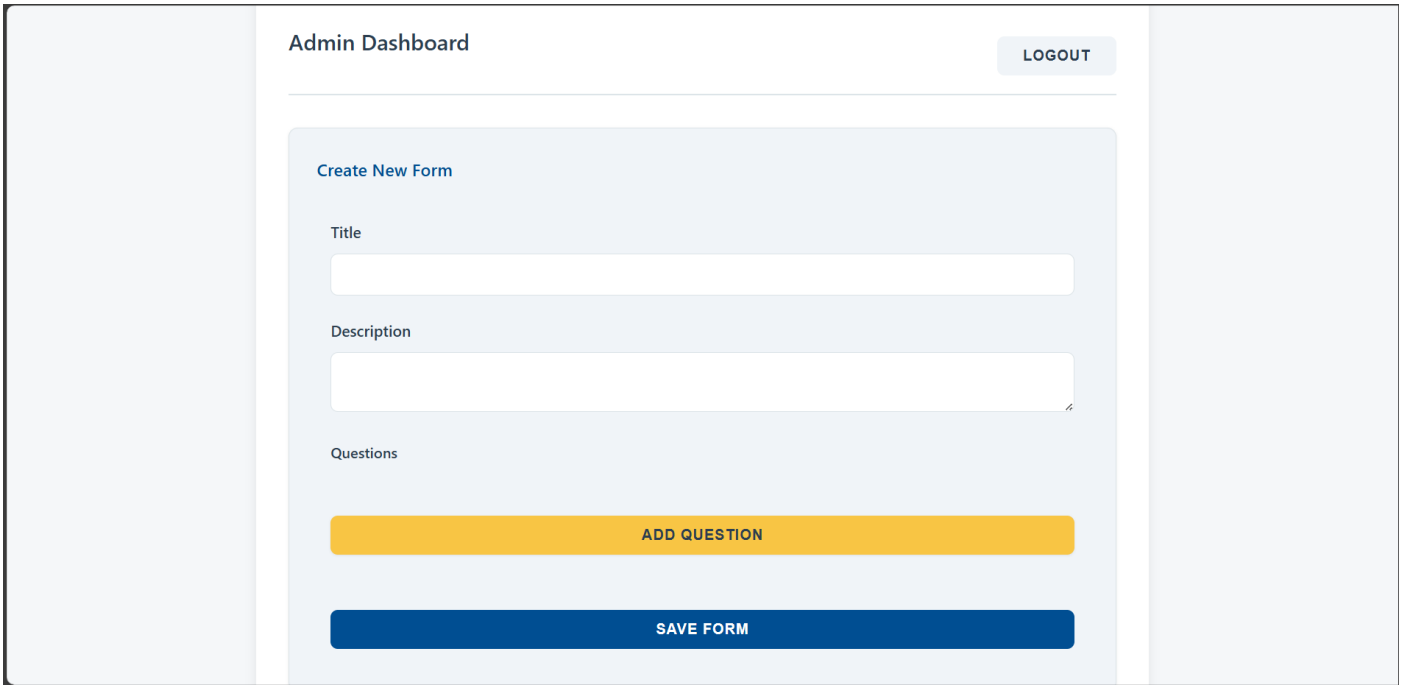
For new admin signup page



Admin Dashboard

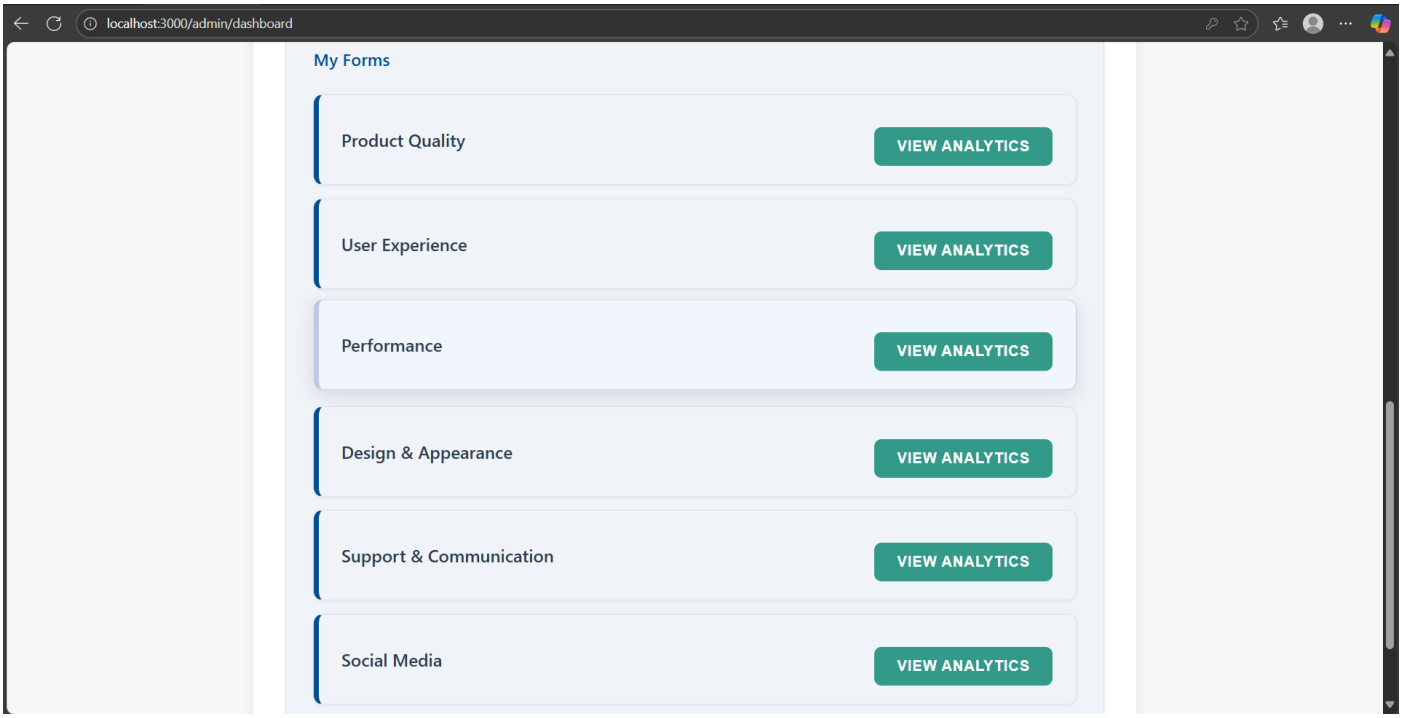
Interactive analytics with charts.





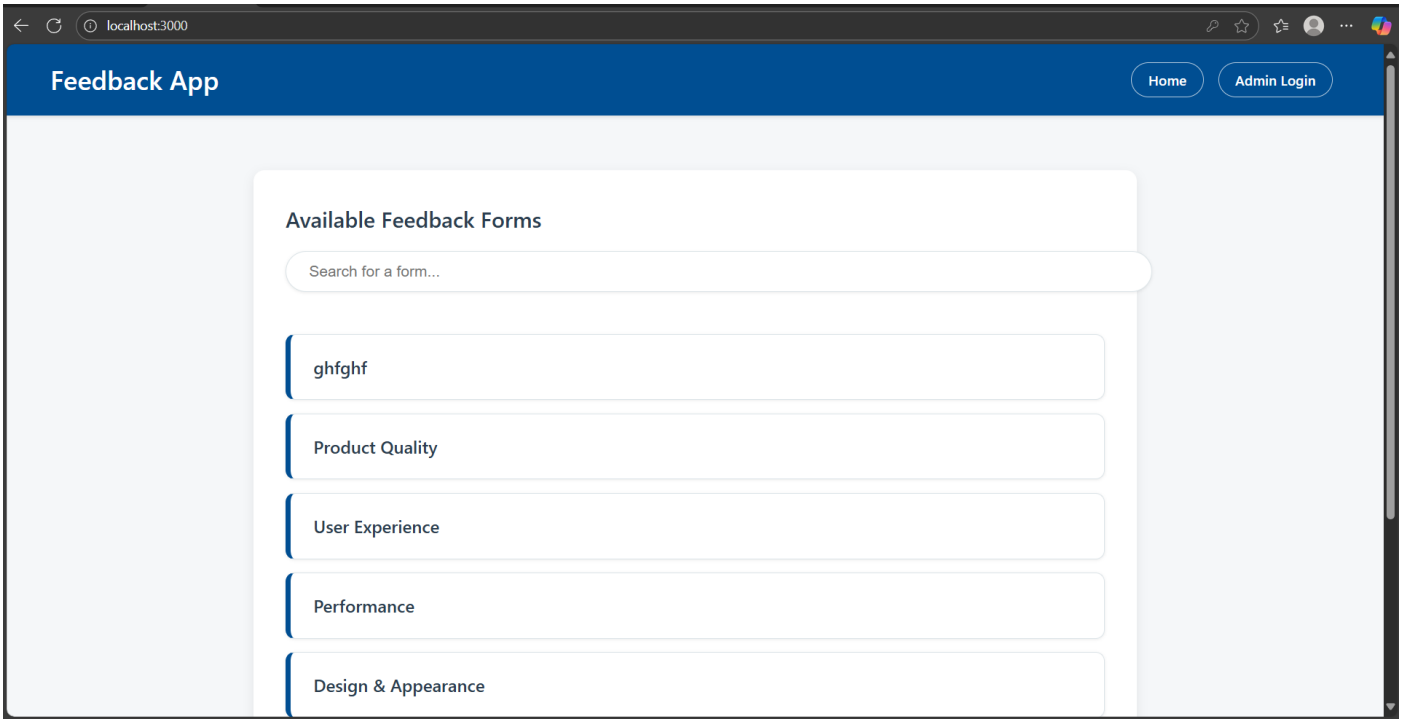
Admin From

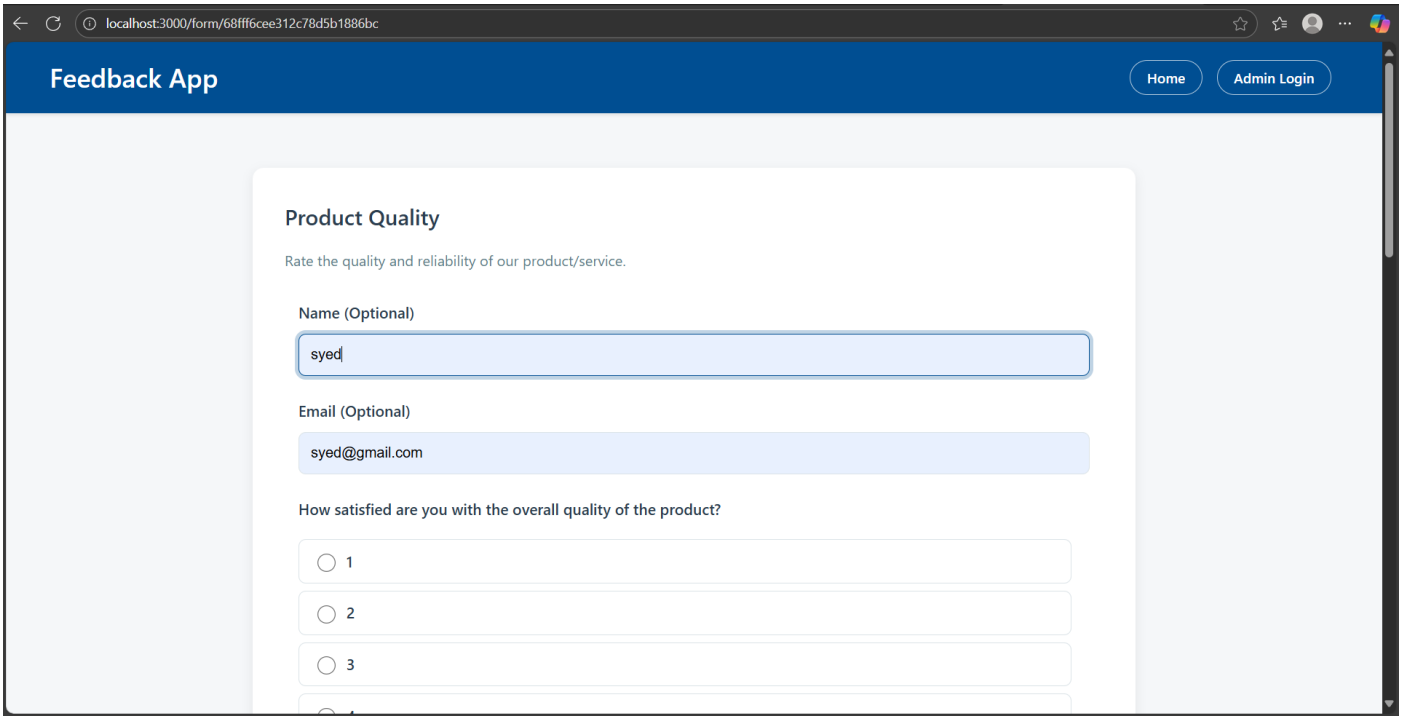
Admin can created the from for many.



Users

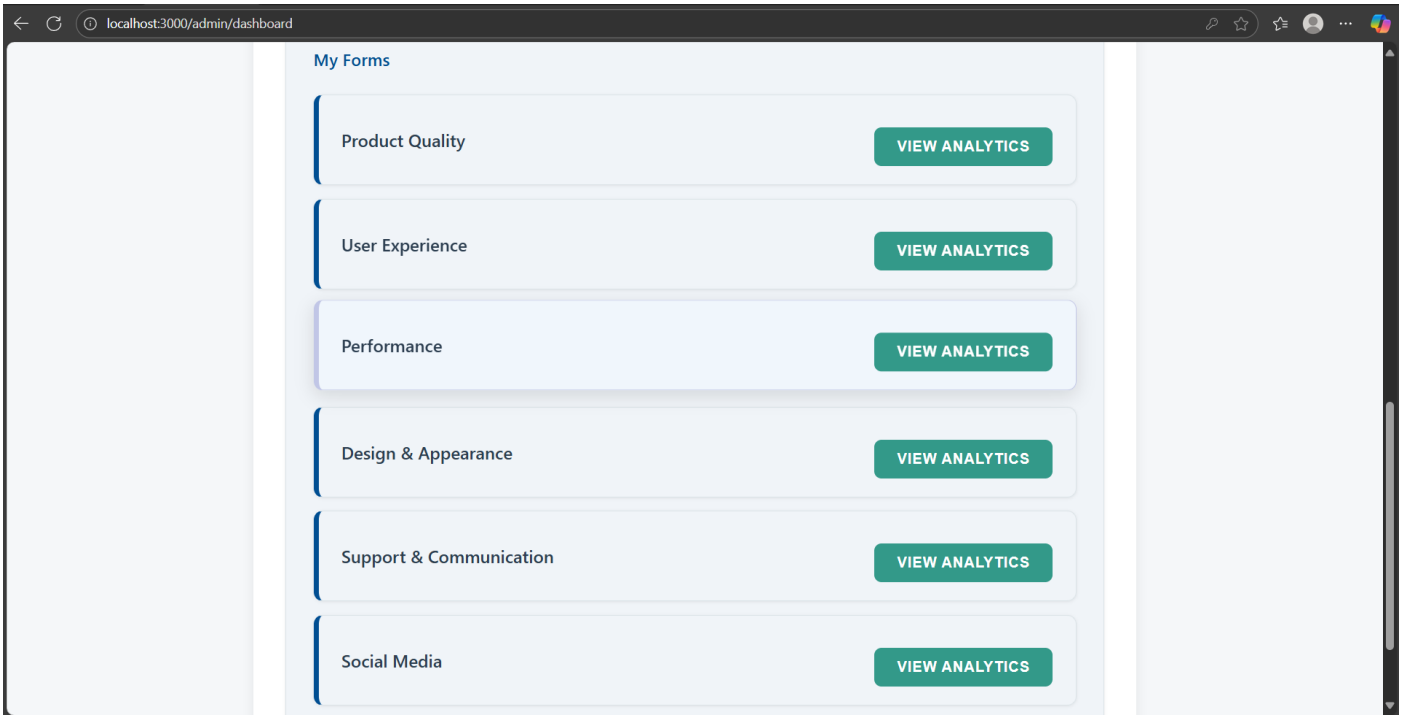
Users can seach the from for feedback and submit.

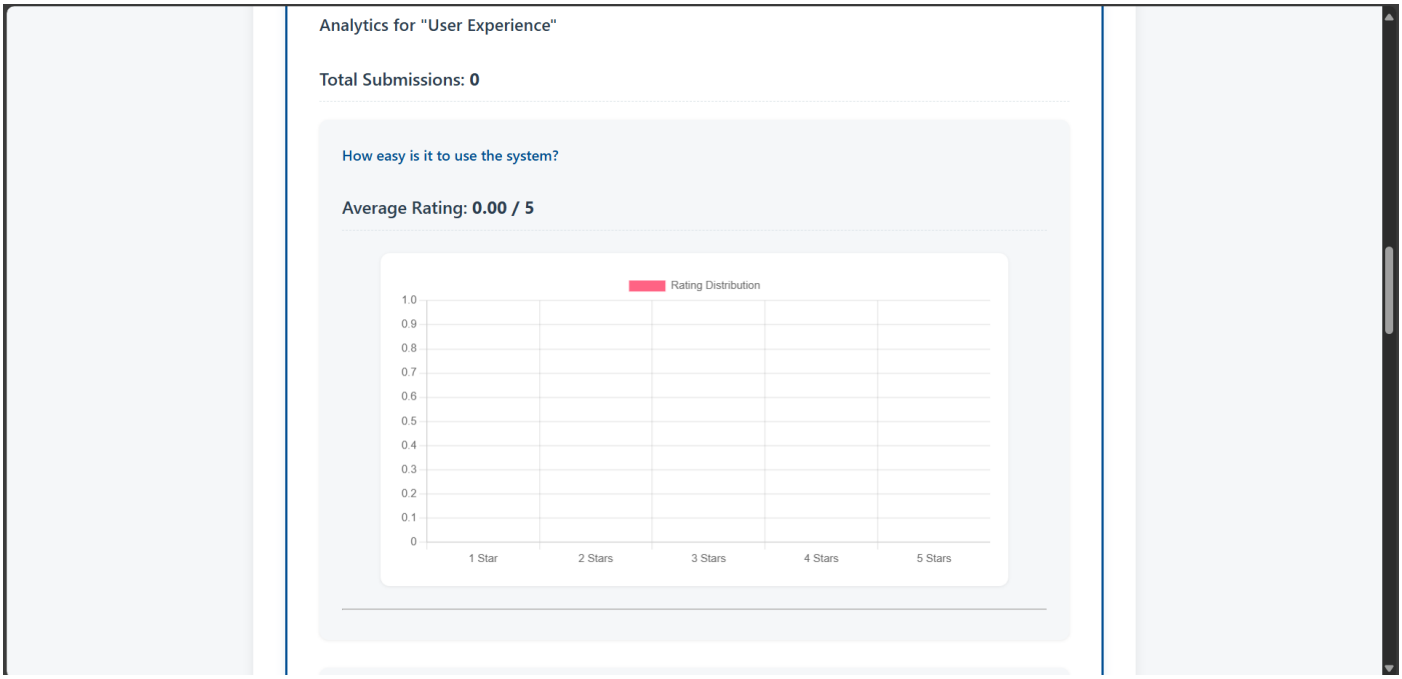


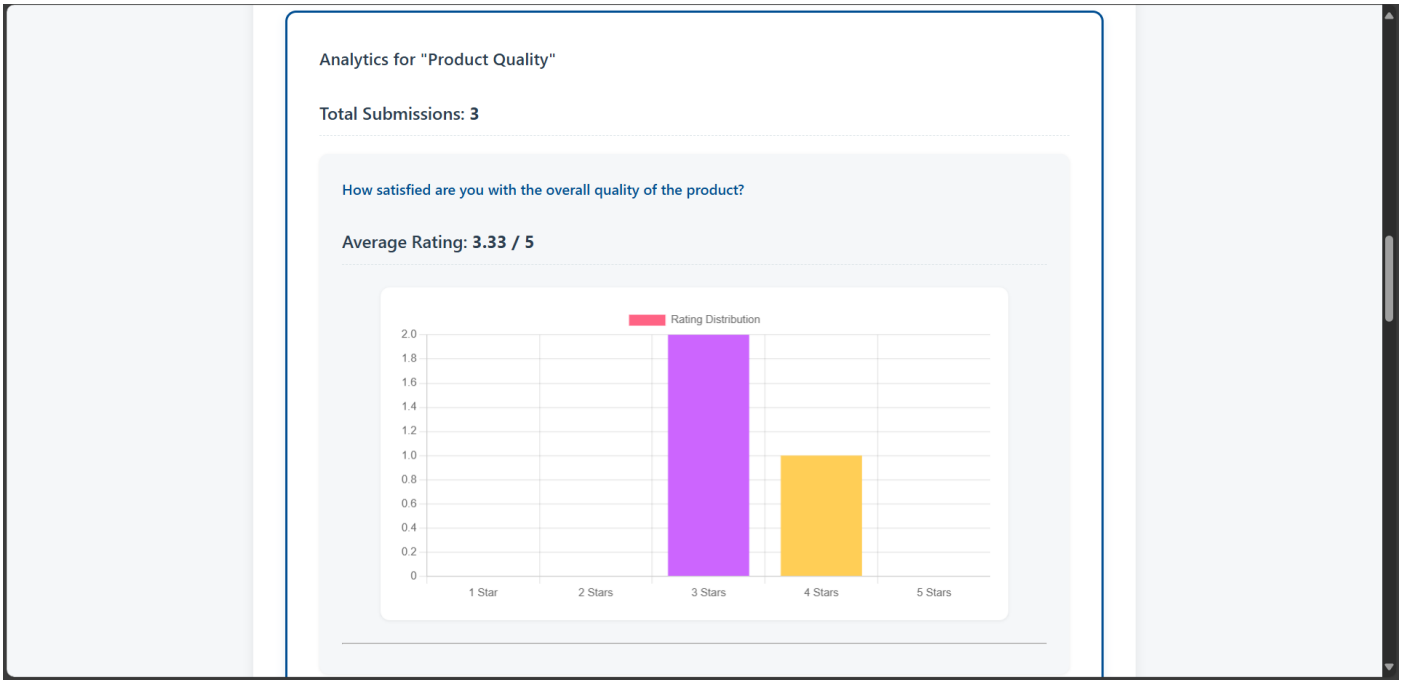


View Analytics

Admin can view the analytics how many user feedback and are we change will analyes.







API Documentation

Method	Endpoint	Description
POST	/api/auth/register	Register a new admin
POST	/api/auth/login	Login admin and issue JWT token
GET	/api/forms	Retrieve all forms created by admin
POST	/api/forms	Create a new feedback form
GET	/api/forms/:id	Retrieve a specific form
POST	/api/forms/:id/submit	Submit user feedback
GET	/api/analytics/:id	Fetch analytical data for a form

Challenges & Solutions

Challenge	Description	Implemented Solution
Data Validation	Invalid or incomplete user inputs during submission.	Used express-validator for input sanitization and server-side validation.
Authentication Security	Prevent unauthorized dashboard access.	Implemented JWT authentication with role-based middleware.
Real-Time Chart Updates	Delay in analytics rendering after new feedback submission.	Integrated frontend re-render triggers via React state management (useEffect hooks).
Cross-Origin Issues	CORS errors between frontend and backend servers.	Configured CORS middleware in Express and proxy setup in React.
Deployment Integration	Backend and frontend communication on cloud.	Deployed backend using Render & frontend using Vercel with environment-based API URLs.

GitHub README & Setup Guide

Project Overview

The Feedback Collection System is a full-stack web application built using the MERN (MongoDB, Express, React, Node.js) stack.

It enables organizations, educators, and developers to create, distribute, and analyze custom feedback forms — similar to Google Forms — with real-time analytics and an intuitive user experience.

Admins can dynamically design feedback forms (A–Z categories, rating, text, multiple-choice), while users can easily respond via a clean, responsive interface.

All submissions are securely stored in MongoDB and instantly reflected on the admin dashboard with analytical insights.

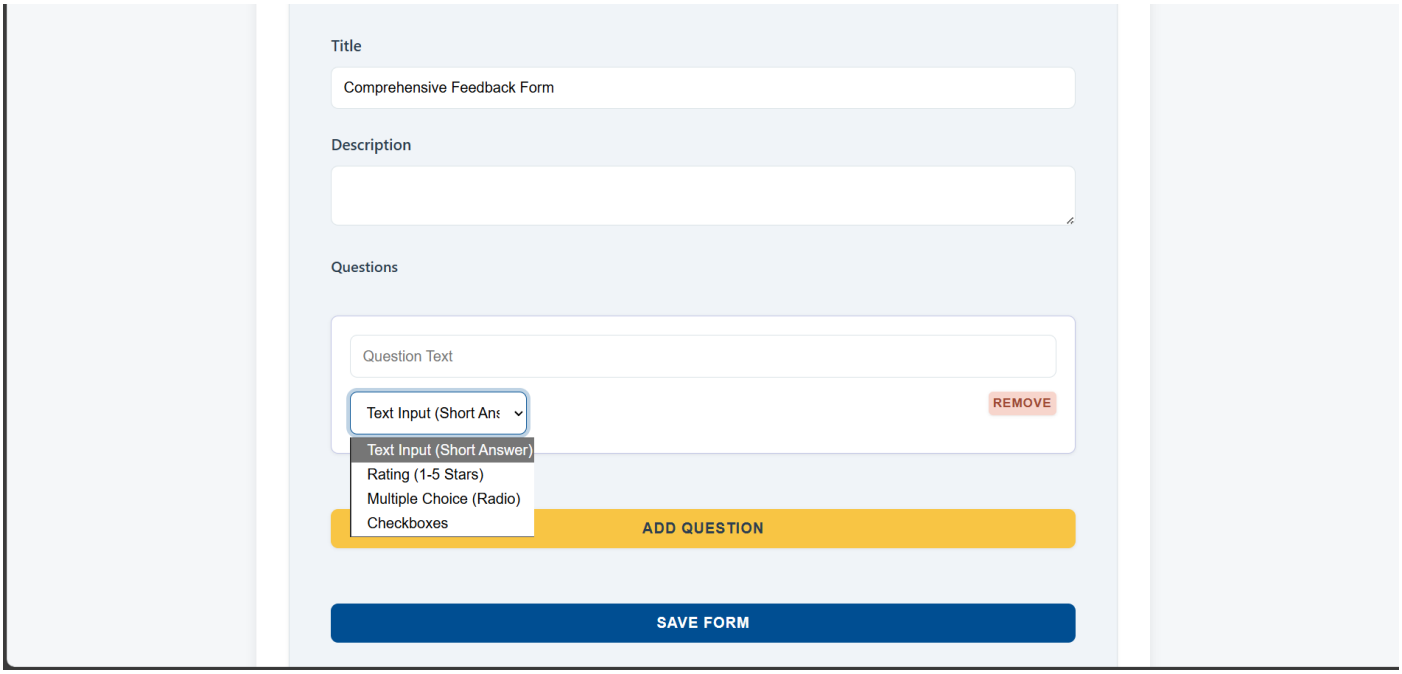
Key Features

Dynamic Form Builder

Create fully customized forms with drag-and-drop simplicity.

Supports multiple field types:

Text input:



Secure Admin Panel

Admin login & registration using Email ID and Password.

Role-based access control to manage forms and view submissions securely.

Real-time Analytics

Instant data visualization with charts and tables:

Rating distributions

Choice frequency

Comments and textual responses

Public Form Access

Published forms can be accessed publicly via links or searched by title.

Smooth, mobile-friendly UI for user submissions.

Aesthetic UI/UX

Modern and clean design with professional color themes.

Responsive layout for desktops, tablets, and mobile devices.

Simple, intuitive navigation inspired by Google Forms.

Tech Stack:

Frontend:

React.js

React Router

Axios

Chart.js / D3.js (for analytics)

Backend:

Node.js

Express.js

MongoDB

JWT Authentication

Bcrypt for password hashing

Database:

MongoDB Atlas (Cloud)

Installation & Setup

Clone the repository

git clone https://github.com /feedback-collection-system.git

cd feedback-collection-system

Install dependencies

For backend:

cd backend

npm install

For frontend:

cd ../frontend

npm install

Set up environment variables

Create a .env file in the backend directory and add:

PORT=5000

MONGO_URI=mongodb://localhost:27017/feedbackapp

JWT_SECRET=your_super_secret_jwt_key

Run the application

Run backend:

cd backend

npm start

Run frontend:

cd ../frontend

npm start

Frontend runs on(ie. http://localhost:3000)

Backend runs on (ie.http://localhost:5000)

Future Enhancements

Role-based multi-admin support

Email notifications for submissions

AI-based feedback summary generation

Export analytics reports (PDF, Excel)

Dark mode toggle

License

This project is licensed under the MIT License — you're free to use, modify, and distribute it with attribution.

Conclusion

The **Feedback Collection System** successfully demonstrates a scalable, secure, and user-friendly solution for collecting and analyzing user opinions.
It bridges the gap between traditional survey tools and modern analytics by providing **real-time visualization**, **cloud-based storage**, and **intuitive design**.

Through this project, advanced concepts of **MERN full-stack development, RESTful API design, authentication, and deployment** were effectively implemented and validated.

Final Submission (Repo):

Github Repository: Feedback-collection-system