

Mini Issue Tracker (Frontend + Backend) Requirements

Problem Statement

Build a Mini Issue Tracker where users can create, update, and view issues in a dashboard. This is a full-stack task using a **React + Django with GraphQL** stack, incorporating an AI-powered feature using **LangChain and Google Gemini** for enhancing issue descriptions. You're free to use any AI tools (e.g., Copilot, Cursor, Windsurf, ChatGPT) to assist your work.

Functional Requirements

Backend (Django with GraphQL)

- **User Authentication:** Implement JWT-based or session-based authentication.
- **GraphQL APIs** for:
 - **Issues:** CRUD operations for issues (fields: `title`, `description`, `status` (OPEN, IN_PROGRESS, CLOSED)).
 - Optional: Support for `tags` or `priority` fields.
 - Query to fetch issues assigned to a user.
 - Mutation to invite a team member to the board.
- **Permissions:** Users can only edit/delete their own issues.
- **AI Feature:** Integrate **LangChain with Google Gemini** to enhance issue descriptions. When a user submits a rough description, the Gemini model refines it into a clear, professional format before saving.

Frontend (React with GraphQL)

- **Login Page:** Simple authentication interface.
- **Issue Dashboard:** Display issues with status badges (OPEN, IN_PROGRESS, CLOSED).
- **Create/Edit Issue Modal or Page:** Form to create or update issues, including AI-enhanced description processing.
- **Filters:** Filter issues by status.
- **Invite Team Member:** Interface to invite a team member to the board.

- **Real-Time Updates:** Use WebSocket (e.g., via Graphene-Django subscriptions) or polling for real-time issue updates.
- **Drag-and-Drop Status Update:** Allow users to drag issues between status columns (e.g., Kanban-style board).

Optional Extras (Nice-to-Have)

- Markdown support for issue descriptions (post-AI enhancement).

AI Tools Requirement

You **must** use at least one AI-based tool in your workflow, in addition to the mandatory **LangChain + Google Gemini** integration for enhancing issue descriptions. Examples of additional AI tool usage:

- **Cursor:** Generate boilerplate code or React components.
- **Copilot:** Assist with form handling, GraphQL schema generation, or Django models.
- **ChatGPT/Codeium:** Generate README, test cases, or code optimizations.

Submission Guidelines

- **GitHub Repository:** Create a public GitHub repository.
- **README.md:**
 - Project setup instructions (backend and frontend separately).
 - GraphQL APIs used (queries, mutations, subscriptions).
 - Tooling used (explicitly mention AI tools and their purposes, including LangChain + Google Gemini for description enhancement).
 - Known limitations.
- **Loom Video Demo** (2–3 mins, strongly preferred):
 - Walkthrough of the app (login, issue creation, AI-enhanced description, drag-and-drop, etc.).
 - Highlight which parts were assisted by AI tools (including LangChain + Google Gemini).
- **Sample .env.example:** Include if environment variables are needed (e.g., for Google Gemini API keys, Django settings, etc.).
- **AI Tool Clarification:** Specify which AI tools were used and for what purpose (e.g., "Used Cursor for React component scaffolding, Copilot for GraphQL schema, LangChain + Google Gemini for description enhancement").



Time Expectation

Aim to complete the project within **3 days** of focused effort.



Evaluation Criteria

Area	Evaluation Focus
Technical Accuracy	Clean Django + GraphQL and React + GraphQL code, working APIs, correct AI integration.
AI Usage	Effective use of LangChain + Google Gemini for description enhancement and other AI tools.
Code Structure	Logical folder structure, modularity, adherence to GraphQL and React/Django best practices.
Dev Experience	Clear setup instructions, high-quality README, proper environment variable handling.
Product Thinking	Intuitive UX (modals, dashboard, status filters, drag-and-drop), responsiveness.
Delivery	Promptness, clarity, and completeness of submission.



Final Delivery

Please share:

- **GitHub repository URL.**
- **Loom video link**