Internship Diary - Narendra Babu

Phase 2 :

Date: 25th March 2025

- Work Done:

Continued work on the Grocery Store Management backend project. I focused on integrating the dashboard module with the existing APIs. Implemented real-time data aggregation for order and inventory tracking and linked metrics such as daily sales, active customers, and order statistics. Used MongoDB aggregation pipelines to compute statistics and added endpoints for daily and monthly summaries.

- Learnings:

  - Aggregation techniques in MongoDB
  - Structuring dashboard APIs efficiently

Date: 26th March 2025

- Work Done:

Completed final integration and testing for the inventory shipment tracking module. Added location-based updates for shipment progress. Started documenting all APIs using Swagger, making sure schema validations and responses are properly annotated.

- Learnings:

  - Swagger documentation best practices
  - Structuring backend for scalability

Date: 27th March 2025

- Work Done:

Worked on the Angular frontend for the Grocery Store project. Designed UI components to visualize shipment data and connected the backend endpoints using Angular services. Ensured authentication using JWT for protected routes.

- Learnings:

  - Frontend-backend integration with Angular
  - Implementing route guards and secure API calls

Date: 31st March 2025

- Work Done:

Started working on a new AI-driven product demo platform as part of a team assignment. The platform aims to assist users in interacting with product demos using voice and screen sharing. I helped plan out the architecture for backend services using FastAPI and WebSocket support.

- Learnings:

  - WebSocket integration in FastAPI
  - Planning architecture for real-time interaction

Date: 1st April 2025

- Work Done:

Developed the backend for capturing voice and screen inputs from the frontend and integrated Google Gemini APIs to generate AI responses. Implemented modules to handle audio input, convert it to text, and provide real-time voice feedback using Gemini's streaming API.

- Learnings:

  - Integrating generative AI with real-time systems
  - Working with Google Gemini Live APIs

Date: 2nd April 2025

- Work Done:

Worked on improving the latency and performance of AI responses by optimizing image capture intervals and PCM audio processing. Helped team members debug issues in synchronizing audio and video streams in the frontend.

- Learnings:

  - Optimization of media stream handling
  - Real-time debugging strategies

Date: 3rd April 2025

- Work Done:

Assisted in integrating product walkthrough workflows using JSON files and enabling voice-triggered demo actions. Enabled the backend to interpret the current screen and respond contextually.

- Learnings:

- Designing AI workflows using screen snapshots
- Making demos interactive using WebSocket and AI

Date: 4th April 2025

- Work Done:

Began working on user authentication and authorization features for the AI demo tool. Integrated JWT-based login and restricted access to certain demo flows.

- Learnings:

  - JWT token generation and validation
  - FastAPI security dependencies

Date: 8th April 2025

- Work Done:

Refactored the backend to allow dynamic workflows per user. Handled file uploads and converted uploaded JSON demo flows to actionable steps in the AI agent module.

- Learnings:

  - File handling in FastAPI
  - Workflow mapping logic for custom AI tasks

Date: 9th April 2025

- Work Done:

Started implementing Jira integration to extract user stories and task details using the Atlassian API. Authenticated using API keys and filtered stories by status, epic, and labels for better prompt generation.

- Learnings:

  - Working with Jira's REST API
  - Constructing JQL queries for filtering

Date: 10th April 2025

- Work Done:

Implemented FastAPI endpoints to fetch and return Jira user stories from our project board. Stored API credentials securely and enabled frontend filtering support based on status or epic.

- Learnings:

  - Secure API integrations

- FastAPI query parameter handling

Date: 11th April 2025

- Work Done:

Improved the formatting and structure of the Jira story responses for better usability. Enabled exporting stories in a readable format and planned integration with frontend prompt generation.

- Learnings:

  - Response modeling and serialization
  - Preparing Jira content for AI prompt engineering

Date: 15th April 2025

- Work Done:

Continued testing of Jira integration. Assisted with bug fixes related to authentication failures and API throttling. Improved retry logic and added logs to monitor issues.

- Learnings:

  - API rate limits and error handling
  - Logging for debugging integrations

Date: 16th April 2025

- Work Done:

Started integrating the Jira user story module with the frontend form that allows users to select filters and view task details dynamically.

- Learnings:

  - Building filterable UI for story lists
  - Linking backend query logic with UI controls

Date: 17th April 2025

- Work Done:

Final testing and documentation of the Jira integration module. Ensured all endpoints were secure and responses correctly handled on the frontend. Prepared a summary for mentor evaluation.

- Learnings:

  - Final-stage documentation practices
  - Preparing modules for deployment and review