Annexure – IV

Project Diary

Name of Student : _____   **Name of Guide :** _____

Enrollment No.   : _____   **Semester :** _____

Project Batch Number : _____

Date	Discussion Topics/Activity Details	Work Allotted Till Next Session/Corrections Suggested/Faculty Remarks	Dated Signature of Faculty
07/01/2025	• Discussed project ideas – the domain, and topics which could be considered and implemented	• Select 3 topics, create an abstract for them and present them to the mentor	
08/01/2025	• Selected 3 topics namely – SQLify, EEG to Text, Women safety device • Presented these topics to mentor	• Create a detailed 3 page abstract including the modules included for the selected topic - SQLify	
08/01/2025	• Created a 3 page abstract which included the modules/features, sample design, Real-life use case • Finalized the topic	• Prepare the system desing and sample workflow diagram of the project	
13/01/2025	• Created System design and workflow diagrams • Set up Git repo, Python virtual environments, and base React frontend.	• Prepare a report stating all the requirements – software, hardware, external APIs, dependencies • Establish a project development schedule and work distribution table	

15/01/2025	• Initialized Flask backend with basic routing. • Installed dependencies: Flask, CORS, dotenv, SQLAlchemy. Set up MySQL for testing.	• Create user-friendly API endpoints for schema and query generation. • Show initial progress	
20/01/2025	• Implemented schema generation module using Code Llama (LLM). • Developed dynamic prompt templates for LLM interaction.	• Optimize schema prompt strategy and test across multiple sample databases.	
21/01/2025	• Developed natural language to SQL conversion (query generation) using SQLCoder-7B. Enabled Trino/MySQL/Postgres selection.	• Create fallback logic and test with ambiguous queries. • Make the Result generation faster	
22/01/2025	• Made the Result generation time faster by enhancing the LLM and quantization it.	• Develop a feature to connect to local database and allow query execution on the database • Improve the result generation	
27/01/2025	• Worked on the schema generation and query generation module – decided to go with Meta Llama 3 instead of LLMs	• Develop sample Frontend / Figma design	
28/01/2025	• Changed the approach from LLM to API call – Response generation time improved from 1.5 min to 10 seconds	• Integrate the 2 developed modules with the frontend • Show the demo of project developed this now and provide the general idea of modules left to implement.	

	• Designed React frontend : dashboard, SQL editor, schema viewer. Implemented API integration.		
29/01/2025	• Developed the Unit tests and Integration tests for Schema and Query Module • Integrated the functionality to connect local database	• Extend the functionality to multiple databases . • It should support multiple databases connectivity, dialect specific responses	
03/02/2025	• Extended the connectivity to Trino, MySql, Postgres . • Developed unit tests for testing the module with various databases	• Finalize the Schema and Query Module, along with their integration • Develop a SQL Learning module	
04/02/2025	• Started working on gamified learning module – A way to learn SQL	• Develop the storyline and basic design • Design levels according to difficulty levels	
05/02/2025	• Created 3 difficulty levels – basic, intermediate, advanced • Developed Storyline for each level	• Test the learning platform with mentor • Make it more interactive	
10/02/2025	• Worked on developing the Gamified Learning module • Developed the questions, answer evaluation system and result execution system	• Demonstrate the working of the module and integrate it in the project	
11/02/2025	• Work on Generate Synthetic Data Module. • Establishing the connectivity the database – the data will automatically inserted into the database	• Specify the need and working on as to how would it be generated • Minor changes in the UI	

Date			
12/02/2025	• Established the core logic of developing the synthetic data based on user's requirements • Adjusted minor UI issues	• Integrate the module in project • Demostrate the working of the module	
17/02/2025	• Developed unit tests to test the working and functionality of Synthetic Data Generation • Identified the issues and corrected them	• Develop login and authentication system • Maintain user session and results	
18/02/2025	• Implemented Authentication system using Supabase • Developed registration/login functionality	• Fix UI issues arising while navigating the site from one page to other.	
24/02/2025	• Fixed the UI issues • Implemented session management of user	• Complete responsive design implementation. • Enchance the UI/UX Experience	
25/02/2025	• Finalized responsive design across the application. • Re-designed the software to make it more the UX more flexible and user friendly	• Test the software as a whole and find out its limitations and boundary • Collect feedback on the new functionalities.	

03/03/2025	• Conducted unit testing for all major modules: Schema Generator, Query Generator, Synthetic Data Generator. • Documented test cases and outcomes.	• Begin integration testing of all modules in a combined environment.	
04/03/2025	• Performed integration testing across backend and frontend modules. • Identified bugs in module communication and fixed API payload inconsistencies.	• Prepare a checklist to ensure all module interactions are stable and error-free.	
05/03/2025	• Completed end-to-end testing with real datasets and multiple user accounts. • Logged and resolved UI/UX and backend compatibility issues.	• Begin polishing and optimization of existing modules.	
10/03/2025	• Improved UI for Schema Viewer and SQL Editor based on user feedback. • Optimized frontend responsiveness and fixed overflow/scroll bugs.	• Enhance performance of query execution and error feedback display.	
11/03/2025	• Optimized query generation module with fallback logic for ambiguous input. • Improved loading states and added retry for API failures.	• Add inline explanations for queries and schema results to improve usability.	

12/03/2025	• Refined the gamified learning module UI, added visual score indicators. • Improved SQL evaluation logic with better error prompts.	• Finalize all modules and begin preparing demonstration materials.	
17/03/2025	• Created final presentation slides for mentor demonstration. • Prepared demo scripts and walkthrough of all modules with sample inputs.	• Conduct internal demo and rehearsal for mentor session.	
18/03/2025	• Demonstrated SQLify project to mentor successfully. • Incorporated minor feedback: button alignment, form validation on inputs.	• Start drafting final project report including diagrams, screenshots, and code structure.	
19/03/2025	• Worked on final report: Introduction, Problem Statement, System Architecture, Module Description. • Inserted diagrams and UI snapshots.	• Complete remaining sections: Testing, Results, Future Scope.	
24/03/2025	• Completed documentation of testing results, tools used, and limitations. • Finalized Future Enhancements and Conclusion sections.	• Proofread entire report and prepare for print and submission.	

Date			
25/03/2025	• Reviewed and corrected formatting, index, and citation in report. • Mentored peers in preparing theirs.	• Submit final project report softcopy to mentor	
26/03/2025	• Submitted final project report. • Uploaded codebase to GitHub with documentation and installation guide.	• Include the details mentioned by mentor in the presentation and reflect on the feedback	
01/04/2025	• Rehearsed individual and team explanation of modules. • Minor adjustments in the ppt and presentation	• Perform a final round of checks and dry run for presentation.	
02/04/2025	• Conducted a mock presentation with all team members in the presence of mentor • Reflected on the feedback of mentor	• Await final feedback and prepare a brief for submission to external panel.	
15/04/2025	• Final wrap-up: Archived project assets, finalized GitHub documentation. • Wrote individual reflections, daily and weekly report and submitted to mentor.	• Stay prepared for viva and future presentations.	