Project Initialization & Planning Phase

Date	31 January 2026
Team ID	LTVIP2026TMIDS66183
Project Title	Civil Engineering Insight Studio
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

Civil Engineering Insight Studio For Your Next Journey is a centralized data analytics and visualization platform designed to support efficient planning, monitoring, and management of civil engineering projects. The system transforms fragmented project data into meaningful insights that assist engineers, managers, and stakeholders in making informed decisions. The application is built using Streamlit and provides a simple interface for users to make decisions and assist work quickly.

Project Overview	
Objective	The objective of our Civil Engineering Insight Studio project is to develop a centralized analytics platform that provides real-time insights for effective planning, monitoring, and management of civil engineering projects.
Scope	This project focuses on the development of a data-driven analytics and visualization platform to support effective planning, monitoring, and management of civil engineering projects. The project primarily emphasizes data analysis, reporting, and decision support rather than physical construction activities.
Problem Statement	
Description	**Civil Engineering Insight Studio** is a data-driven analytics and visualization platform that helps monitor and manage civil engineering projects efficiently. It centralizes project data, provides clear insights on progress, cost, and resources, and supports informed decision-making through interactive dashboards.

Impact	It improves efficiency and decision-making in civil engineering projects by providing centralized data analytics and visualization. It reduces manual effort, enhances project transparency, enables early detection of delays and risks, improves cost and resource management, and supports better planning and infrastructure monitoring, leading to more reliable and timely project execution.
Proposed Solution	
Approach	Project requirements are first analyzed to identify key metrics and user needs. Relevant civil engineering data is then collected, cleaned, and stored in a centralized database. Analytical techniques are applied to process the data and extract meaningful insights. These insights are presented through interactive dashboards and reports, enabling stakeholders to monitor progress, manage resources, control costs, and make informed decisions effectively.
Key Features	• Centralized data management for civil engineering projects • Real-time monitoring of construction progress • Cost, schedule, and resource utilization analysis • Interactive dashboards and visual reports • Early identification of project delays and risks

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	Standard personal computer	Windows 11 Home Single Language
Memory	Minimum 4 GB	16 GB
Storage	Minimum 20 GB free space	256 GB SSD
Software		
Frameworks	Python, Streamlit frameworks	Streamlit
Libraries	google-generativeai, streamlit	google-generativeai, streamlit

Development Environment	IDE, version control	Visual Studio Code, Git
Data		
Data	Resource data (labor, materials, equipment usage) Schedule data (planned vs actual dates)	User Input