Project Initialization and Planning Phase

Date	31 January 2026
Team ID	LTVIP2026TMIDS66291
Project Title	Civil Engineering Insight Studio
Maximum Marks	3 Marks

Project Proposal (Proposed Solution)

Project Overview	
Objective	The Civil Engineering Insight Studio project aims to develop an AI-powered image analysis system that assists construction supervisors in identifying and documenting materials used in building projects.
Scope	The scope of the Civil Engineering Insight Studio project includes the development of an AI-based system that enables construction supervisors to upload images of building sites and automatically identify construction materials such as concrete, steel, and bricks.
Problem Statement	
Description	The Civil Engineering Insight Studio project is an AI-powered solution designed to assist construction supervisors in efficiently identifying and documenting materials used in building projects. The system enables users to upload images of construction sites, which are then analyzed using advanced image recognition and artificial intelligence techniques to detect materials such as concrete, steel, and bricks.
Impact	Solving this problem helps users improving efficiency, accuracy, and decision-making at construction sites.

Proposed Solution	
Approach	The system is developed as an interactive web application using Streamlit, enabling users to upload images of construction sites and optionally provide descriptive inputs.
Key Features	- User-friendly Streamlit interface - Accurate information about material generation based on topic and word count - AI-powered content generation using genai - Programmer joke display for better user experience

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU for application execution	Standard system CPU
Memory	RAM required to run application	8 GB
Storage	Disk space for application files	50 GB SSD
Software		
Frameworks	Python web framework	Streamlit
Libraries	AI and utility libraries	google-generativeai
Development Environment	IDE and version control	VS Code, Git
Data		
Data	User input image	Recipe topic and photo entered by user