Project Initialization and Planning Phase

Date	23 July 2025
Team ID	Sukriti
Project Title	**Predicting Plant Growth Stages with Environmental and Management Data Using Power BI**
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	To analyze environmental and agricultural data to identify key factors influencing plant growth and recommend optimal conditions for enhanced growth performance.
Scope	This project involves analyzing a dataset with multiple features such as soil type, sunlight hours, humidity, temperature, and fertilizer usage to classify growth milestones. The analysis is performed using data visualization and statistical modeling in Power BI.
Problem Statement	
Description	Farmers often lack precise insights into how environmental and input variables such as soil, water frequency, sunlight, and fertilizer impact plant development. This leads to suboptimal resource allocation and inconsistent yields.
Impact	By identifying and understanding the variables that most affect plant growth, this project can support data-driven decision-making in agriculture, increasing crop yield, reducing input waste, and improving sustainability.
Proposed Solution	

Approach	Use data cleaning and visualization techniques in Power BI to derive insights from the dataset. Categorize and analyze temperature, humidity, and water patterns to predict plant growth stages.
Key Features	Use of Power BI for rich data visualization, Feature mapping for growth stage classification, Identification of optimal ranges for temperature and humidity.

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	MSI GL63 – Intel Core i7, GTX 1050 Ti
Memory	RAM specifications	8 GB RAM
Storage	Disk space for data, models, and logs	512 GB SSD
Software		
Frameworks	Not applicable	
Libraries	Not applicable	
Development Environment	IDE, version control	Power BI Desktop
Data		
Data	CSV file with plant growth data	193 rows, 15+ columns, tabular format