Project Initialization and Planning Phase

Date	14 Dec 2024
Team ID	739884
Project Title	Smart Lender – Automative Kickstart
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 develop an AI-driven solution for accurately classifying plant seedlings to improve crop management and sustainability
Scope	The project focuses on building a scalable and efficient system for farmers and researchers to automate seedling identification using deep learning.
Problem Statement	
Description	Accurate classification of plant seedlings is essential for efficient crop management but remains a challenge due to manual processes and the lack of automated tools.
Impact	Solving this problem will streamline seedling identification, save time, reduce errors, and enhance decision-making in early-stage crop management, contributing to higher agricultural yields and sustainability.
Proposed Solution	
Approach	Utilize convolutional neural networks (CNNs) for image classification. Train the model on a dataset of seedling images categorized by species and growth stages. Implement a user-friendly interface for uploading images and receiving classifications.
Key Features	**Accuracy:** High precision in identifying species and growth stages. **Scalability:** Capable of handling large datasets and multiple plant types.

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		

Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask
Libraries	Additional libraries	e.g., TensorFlow,glob
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 5500 images