Project Initialization and Planning Phase

Date	12 July 2024
Team ID	739663
Project Title	Estimating the stock keeping units using Machine Learning
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	Develop accurate predictions of future demand for each SKU based on historical sales data ,seasonality, trends and external factors.
Scope	The scope involves collaboration across different terms within the organization, including supply chain management,finance,marketing,IT to ensure alignment with business objectives and effective implementation of the solution.
Problem Statement	
Description	The problem is to address inefficient inventory management often leads to increased costs.it outlines the core challenges,objectives,deliverable,stakeholders and timeline for an ML project aimed at estimating SKUs to improve inventory management efficiency and operational effectiveness.
Impact	Solving this problem will lead to improved forecasting accuracy , optimized inventory management , cost savings, and overall enhanced customer satisfaction, competitive advantage.
Proposed Solution	
Approach	The methodology will help organizations to effectively leverage machine learning techniques to estimate SKUs,optimize inventory management strategies and enhance operational efficiency while meeting customer demand effectively .

Key Features	•**Real time predictions**: The model will predict future stock levels based on incoming data as it becomes available . • **Seasonal adjustments**: The model will account for seasonal variations and peak times to maintain accuracy throughout the year. • **Customizable parameters**: Businesses can adjust model parameters to fit specific needs and constraints.

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
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 10,000 images