Project Initialization and Planning Phase

Date	24 June 2025
Team ID	SWUID20250176341
Project Title	Machine Learning Approach for Employee Performance Prediction
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal aims to enhance employee performance evaluation using machine learning, improving accuracy and decision-making. It addresses manual inefficiencies, enabling better workforce planning, reduced bias, and smarter talent management. Key features include a predictive model and a user-friendly web interface.

Project Overview	
Objective	The primary objective is to improve employee performance evaluation by applying machine learning techniques to deliver faster, more consistent, and data-driven assessments.
Scope	The project focuses on building a predictive system that analyses employee-related data to forecast productivity, aiding HR and management in making informed decisions.
Problem Statement	
Description	Inaccuracies and inefficiencies in manual performance reviews limit effective workforce planning and can lead to biased decisions.
Impact	Addressing these issues enables better resource allocation, targeted training, and improved organizational performance.
Proposed Solution	
Approach	Applying machine learning to analyse performance-related data and predict employee productivity through an integrated web-based system.
Key Features	- Implementation of a machine learning-based productivity prediction model.

	- Instant prediction through a user-friendly web interface. - Adaptable to different employee and department profiles for broader usability.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Standard CPU (4 cores)
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	PyCharm
Data		
Data	Source, size, format	Kaggle dataset (Garments Worker Productivity), 93KB, CSV