Project Initialization and Planning Phase

Date	26 June 2024
Team ID	740674
Project Title	Power Consumption Analysis for Households
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The project report aims to analyze power consumption patterns in households using machine learning, providing insights for energy efficiency and cost-saving measures. The project seeks to identify trends and patterns that can help households optimize their energy usage.

Project Overview	
Objective	The primary objective is to analyze the power consumption and provide insights to the users by implementing advanced machine learning techniques, ensuring faster and accurate results.
Scope	The project provides the power consumption analysis which helps households optimize their consumption.
Problem Statement	
Description	The project aims to analyze power consumption patterns in households to provide insights for energy efficiency and cost-saving measures. By analyzing historical power consumption data along with other relevant factors such as weather conditions, occupancy patterns, and appliance usage, the project seeks to identify trends and patterns that can help households optimize their energy usage.
Impact	This information can help households adjust their energy usage to reduce costs, identify inefficiencies and opportunities for improvement.
Proposed Solution	

Approach	Applying machine learning techniques to analyze and predict power consumption.
Key Features	-provide insights for energy efficiency and cost-saving measures.

	- suggesting more energy-efficient alternatives. -provides recommendations to households on how to reduce their energy consumption and save costs.

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Intel(R) Core (TM) i51135G7,4 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	Google Collab, Spyder
Data		
Data	Source, size, format	Kaggle dataset, 125MB, txt