Project Initialization and Planning Phase

Date	10 July 2024
Team ID	SWTID1720074204
Project Title	Prediction and analysis of liver patient data using ml
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

Liver disease is a significant global health concern with a substantial impact on public health. Early detection and accurate prediction of disease progression are crucial for effective treatment and management. This project aims to develop a machine learning model to predict liver disease progression based on patient data. By analyzing historical patient records, we aim to identify patterns and correlations that can aid in early diagnosis and improved patient outcomes

Project Overview	
Objective	To develop a machine learning model for accurate prediction of liver disease progression.
Scope	Develop, train, and evaluate ML models to predict liver disease progression using patient data. Identify key factors influencing disease progression.
Problem Statement	
Description	**Predicting liver disease progression using machine learning.** This involves analyzing patient data to identify patterns, build predictive models, and support early intervention.
Impact	ML-based prediction improves liver disease management by enabling early detection, accurate diagnosis, optimized treatment, and resource allocation, ultimately enhancing patient outcomes.
Proposed Solution	
Approach	Collect, preprocess, and analyze liver patient data. Develop ML models, evaluate performance, identify key factors, and create a user-friendly tool for prediction and analysis.

Key Features	Key features include patient demographics, medical history, lab results (bilirubin, ALT, AST, ALP, albumin), and lifestyle factors (alcohol consumption, smoking).

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	2 x NVIDIA V100 GPUs
Memory	RAM specifications	12 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy
Development Environment	IDE, version control	Jupyter Notebook, Git
Data		
Data	Source, size, format	Kaggle dataset , csv file