Project Design Phase
Proposed Solution Template

Date	26 June 2025
Team ID	LTVIP2025TMID39531
Project Name	Revolutionizing Liver Care : Predicting Liver Cirrhosis using Advanced Machine Learning Techniques
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Liver cirrhosis is often diagnosed at a late stage due to the absence of early symptoms and lack of accessible predictive tools. Early detection using traditional methods is time-consuming and resource-heavy, especially in underserved healthcare systems.
2.	Idea / Solution description	The proposed solution is a machine learning model trained on medical data to predict liver cirrhosis based on clinical parameters like hemoglobin, albumin, blood pressure, etc. The model is integrated into a user-friendly Flask web application that allows healthcare professionals to input patient data and receive instant prediction results.
3.	Novelty / Uniqueness	Uses ML to automate and accelerate the diagnostic process. - Web app makes it accessible to any clinic with internet access. - Can work with commonly available patient data (no invasive tests needed). - Supports early intervention before serious symptoms appear.
4.	Social Impact / Customer Satisfaction	Helps save lives by enabling early detection. - Reduces cost and time for both patients and healthcare providers. - Increases diagnosis rate in rural or low-resource areas. - Boosts trust in technology-based healthcare support.
5.	Business Model (Revenue Model)	Free basic model for public hospitals or NGOs. - Premium version for private hospitals with added analytics & reporting. - Can be licensed to diagnostic labs or health startups. - Custom integration options for EMR (Electronic Medical Records) providers.

6.	Scalability of the Solution	The solution can be scaled to include more liver-related diseases. - Can be adapted to support other chronic conditions with new datasets. - Cloud deployment allows multiple hospitals to use it simultaneously. - Multilingual UI and mobile app version can be developed.