Project Design Phase
Proposed Solution Template

Date	25 June2025
Team ID	LTVIP2025TMID60884
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 a progressive and potentially fatal disease often diagnosed at late stages due to lack of early detection tools. Delayed diagnosis leads to poor treatment outcomes and high healthcare costs. There is a need for a proactive, data-driven approach to predict liver cirrhosis in its early stages.
2.	Idea / Solution description	The project aims to develop a predictive system using advanced machine learning techniques that analyzes clinical and biochemical data to accurately detect early signs of liver cirrhosis. The system will be trained on real patient datasets to identify patterns and risk factors, offering early alerts to medical professionals.
3.	Novelty / Uniqueness	Unlike traditional diagnosis methods, this solution leverages machine learning to provide early-stage detection, higher accuracy, and pattern recognition capabilities. It introduces an automated, non-invasive prediction mechanism tailored for liver cirrhosis.
4.	Social Impact / Customer Satisfaction	Early prediction can significantly improve patient outcomes, reduce treatment costs, and increase survival rates. The model empowers healthcare providers with a reliable diagnostic aid, thus improving public health and enhancing trust in digital healthcare systems.
5.	Business Model (Revenue Model)	The model can be integrated into hospital management systems, diagnostic labs, or telehealth platforms as a subscription-based service. Additional revenue streams include licensing the model, data analytics services, or offering it as a SaaS (Software as a Service) solution to healthcare providers.

6.	Scalability of the Solution	The solution is highly scalable and can be adapted to various regions by retraining with localized data. It can also be extended to predict other liver diseases or integrated with HER systems for holistic liver care. Cloud deployment further ensures easy access and scalability.