

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	27 June 2025
Team ID	LTVIP2025TMID38326
Project Name	<b>Revolutionizing Liver Care: Predicting Liver Cirrhosis Using Advanced Machine Learning Techniques</b>
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Upload Patient Health Data	Upload Patient Health Data
FR-2	Model Training	Train models using ML algorithms (KNN, SVC, Logistic Regression, XGBoost)
FR-3	Prediction Output	Predict liver cirrhosis outcome (Yes/No) based on new input data
FR-4	Model Evaluation	Display Accuracy, F1-Score, Confusion Matrix for each model

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Easy to use via Google Colab; potential Flask UI for end-users
NFR-2	<b>Security</b>	Dataset used locally; No external data exposure (safe in offline or cloud-secured environments)
NFR-3	<b>Reliability</b>	Trained with multiple models; outputs cross-verified using metrics
NFR-4	<b>Performance</b>	Handles 950 records efficiently; optimized with in-memory processing
NFR-5	<b>Availability</b>	Executable anytime on Google Colab or can be deployed via cloud
NFR-6	<b>Scalability</b>	Can be scaled with Flask/Streamlit UI + cloud deployment with REST APIs