Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 June 2025
Team ID	LTVIP2025TMID59671
Project Name	Revolutionizing Liver Care: Predicting Liver Cirrhosis using Advanced Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

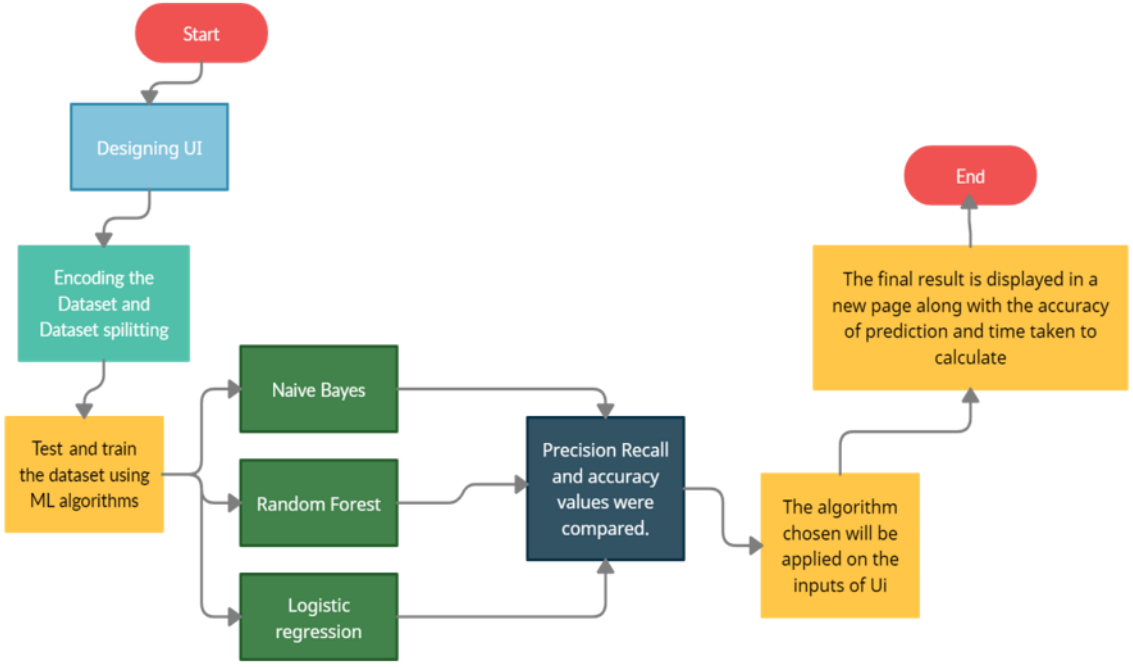

Table 1 : Technology Stack

S.No	Characteristics	Description	Technology
2	Application Logic-1	Logic for preprocessing clinical data (e.g., normalizing Bilirubin, Age)	Python, pandas, scikit-learn
3	Application Logic-2	Logic for Random Forest model prediction	Python, scikit-learn
4	Application Logic-3	Logic for web interface and user interaction (data input, result display)	Flask, HTML, CSS
5	Database	Storage for user data and prediction logs	MongoDB
6	Cloud Database	Cloud-hosted database for scalable storage	MongoDB Atlas
7	File Storage	Storage for model and normalizer files (model.pkl, normalizer.pkl)	Local Filesystem
8	External API-1	Not used in the current application scope	None
9	External API-2	Not used in the current application scope	None
10	Machine Learning Model	Predicts liver cirrhosis risk based on clinical data	Random Forest (scikit-learn)
11	Infrastructure (Server/Cloud)	Application deployed on a local server with potential cloud scalability	Local Server, Gunicorn, Nginx