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

Date	17 October 2022
Team ID	PNT2022TMID52707
Project Name	Project - Statistical Machine Learning Approaches To Liver Disease Prediction
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	Patients with symptoms of Liver disease	Patient having liver disease dataset contains age of the patient, gender, Alkaline Phosphotase , Total Bilirubin etc.
FR-2	Predicting the liver disease using Ensemble model	Machine Learning
FR-3	Pre-processing of liver disease dataset	Principal Component Analysis (PCA)
FR-4	Ensemble Model Training	K-Nearest Neighbors , Decision Tree, Random Forest
FR-5	Model Evaluation	Predicting the accuracy of our ensemble model and comparing it with other algorithms such as Support Vector Machine (SVM) etc.
FR-6	Model Deployment	Deploying the Machine learning model in cloud platform.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system provides a natural interaction with the users. It is user-friendly.
NFR-2	**Security**	The model enables with the high security system, as the user's data won't be shared to the other sources. Only the authorised person can access the system.
NFR-3	**Reliability**	As the system is build using a rich Ensemble model, mostly all the user input can be processed without failure in 95 per cent of use cases and since all the processing are done on cloud, the system is consider to be highly reliable.
NFR-4	**Performance**	Our system should run on 32 bit (x86) or 64 bit (x64) Dual-core 2.66-GHZ or faster processor.
NFR-5	**Availability**	The system should be available for the duration of the user access, until the user terminate the access.

		The system response to request of the user in less time and the recovery is done is less time.
NFR-6	**Scalability**	It provides an efficient outcome and has the ability to increase or decrease the performance of the system based on the datasets. It is cost effective and user friendly.