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

Date	26 October 2022
Project Name	Detecting Parkinson's Disease using Machine Learning
Team Members	Kamali Sri J Karthika S Kavya M Nayana A S
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	User Authentication	Registration through Gmail, Login to the application, Confirmation via mail and OTP
FR-2	Data management	Web server has access to change/edit data and update it to server.
FR-3	Input data upload	Data is uploaded for analysis and prediction
FR-4	Testing	Applying the algorithms on the test data
FR-5	Prediction	Prediction is made by the model
FR-5	Result	Results of presence of Parkinson or not is displayed

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The UI of the application must be user-friendly and easy to use. The input loading should be enabled faster.
NFR-2	**Security**	The image and voice records should be secure and must not be accessible by everyone.
NFR-3	**Reliability**	The prediction of the system must be with higher accuracy so that it will be trusted by users.

NFR-4	**Performance**	The XGBoost algorithm used for detecting PD should incorporate a sparsity-aware split finding algorithm to handle different types of sparsity patterns in the data. Out-of-core computing feature of the XGBoost algorithm should optimize the available disk space and maximizes its usage.
NFR-5	**Availability**	The application should be available to all groups of people all the time.
NFR-6	**Scalability**	XGBooster should not only able to keep up with all those other algorithms but exceeds them in performance. XGBoost should be able to solve real world scale problems using a minimal number of resources.