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

Date	10 October 2022
Team ID	PNT2022TMID20847
Project Name	Detecting Parkinson's Disease using Machine Learning
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 Accessibility	The accessibility is given to the doctors for the purpose of identification of the disease.
FR-2	HOG	Sub task: ● Image preprocessing ● Feature descriptor Hog is highly accurate.
FR-3	Random Forest Algorithm	This ML algorithm is used to diagnose the PD severity from the handwriting of an individual
FR-4	EHR Encryption	If malware gets into a server, encrypting sensitive data items will reduce the amount of valuable information it can steal.
FR-5	Spiral and wave image inputs	These inputs help in distinguishing a healthy individual from a Parkinson's affected individual.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This model is useful in detecting the disease at an early stage and helps in taking preventive measures.
NFR-2	**Security**	Data encryption protects information on servers. Patients are better protected from identity theft.
NFR-3	**Reliability**	Random Forest Algorithm is used in this model because the accuracy obtained is greater than any other ML algorithm.
NFR-4	**Performance**	Due to early detection of the disease, the symptoms can be controlled and the cost of illness is greatly reduced.
NFR-5	**Availability**	Currently, there is no cure for Parkinson's disease. Using this model early detection is possible
NFR-6	**Scalability**	Both random forest and hog are highly scalable in nature