

Solution Requirements (Functional & Non-functional)

Date	16 October 2022
Team ID	PNT2022TMID14058
Project Name	PARKINSON'S DISEASE DETECTION 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	Analyzing Symptoms	Stiffness in muscles Rigidity and slowness in body movements Breaking of voice and shivering in tone Difficulty with walking Emotional and behaviorial changes Dementia and depression
FR-2	Collecting voice dataset	Speech and voice recordings of the patient is collected. Various voice parameters are measured.
FR-3	Working on dataset	Voice recording is measured against the parameters. Data is preprocessed and dependent variables are found. Data is split into train and test data. Training and testing is done and the model is evaluated.

FR-4	Applying SVM algorithm	<p>SVM finds a hyper-plane that creates a boundary between the types of data.</p> <p>We plot each data item in the dataset in an N-dimensional space.</p> <p>The algorithm tries to find the optimal hyperplane which can be used to classify dataset into healthy person or person suffering from Parkinson.</p>
FR-5	Providing insights of dataset	<p>Raw data collection and sharing of data and systems are essential factors in hospital management.</p> <p>According to these data appropriate measures can be taken.</p> <p>Providing data set without error.</p> <p>Providing treatment for the patients who are suffering from Parkinson.</p>

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Usable systems are straightforward to use by as many people as possible, both in case of either end users or administrators to view the hospital records when needed.
NFR-2	Security	Patient identification: To recognize and analyze the patient perfectly.
NFR-3	Reliability	Understanding the current trend and working on to it to solve the problem in an efficient manner. Being software as a service, HMS is highly resilient to any technology disruptions, downtime, or crashes experienced by other technology systems.
NFR-4	Performance	Response time: Providing acknowledgment in minimal time about the patient information. Comfortability: To ensure that the guidelines and accessibilities are followed.
NFR-5	Availability	Better coordination with the hospital management to provide all its resources accessible when needed. Accessibility of all medical facilities.
NFR-6	Scalability	Make sure that the work is done in more efficient way with the appropriate resources. Make complex decisions understandable with proper data.