Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID35637
Project Name	Detecting Parkinsons' Disease Using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Parkinson's disease (PD) is a neurodegenerative movement disease where the symptoms gradually develop start with a slight tremor in one hand and a feeling of stiffness in the body and it became worse over time. It affects over 10 million people worldwide. At present there are no conclusive results of tests for this disease by non-specialist clinicians, particularly in the early stage of the disease where identification of the symptoms is very difficult in its earlier stages. The disease is majorly is said to be affecting the individuals who are living in village areas with their respective ages over 40 and 50 which outcomes itself as a reason for Parkinson's disease to occur at unexpected times. Lack of adequate knowledge poses a barrier in the provision of appropriate treatment and care for individuals with Parkinson's Disease. The main target of this project is to develop a machine learning powered web application model with the strong building of user interface features that helps to identify and predicts the disease by the identification of symptoms.
2.	Idea / Solution description	It processes the breathing signals using a neural network that infer whether the person has Parkinson's disease, and if they are identified then it assesses the severity of their disease in accordance with the Movement Disorder Society- Unified Parkinson's Disease Rating Scale using ML algorithms. User can place their values and interact with the friendly user assistance bot which guides the person in using the application.

		Great classification of the right variation of true and fake samples of data that is entered by users in the application.
3.	Novelty / Uniqueness	Parkinson's Disease is detected at the secondary stage only which leads to medical challenges. Also, doctor must manually examine and suggest medical diagnosis in which the symptoms might vary from person to person so suggesting medicine is also a challenge. So hence the disease examination varies at different instances of the medical operations. Here by using machine learning methods, the problem can be addressed with very less error rate. The voice dataset of Parkinson's disease from the UCI Machine learning library is used as input. Also, our proposed system provides accurate results by integrating spiral drawing inputs of normal and Parkinson's affected patients. We propose hybrid and accurate results by analyzing patient both voice and spiral drawing data. This application offers medical advice and solutions as the next step after user is confirmed based on the presence of Parkinson's disease. This can be used direct by medical team for analyzing and offering the solutions at much positive scaling time.
4.	Social Impact / Customer Satisfaction	• Free for low-income class • Increases interaction with the human and application • Personalize the UI experience • Improves accurate result as expected • Accurate prediction at good time complexity.

5.	Business Model (Revenue Model)	• For use by clinics/hospitals:
		  ○ Package 1: Fixed cost per use
		  ○ Package 2: Monthly expense model
		  ○ Package 3: Lifetime package
		• For use by individuals: Fixed cost per use
		• For people who can prove low-income levels: Free of cost

6.	Scalability of the Solution	• Model works same irrespective of number of users • Proper evaluation occurs during production phase to ensure it is highly scalable • On spot results