

Project Design Phase - I
Proposed Solution Document

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Team ID	PNT2022TMID09274
Project Name	DETECTING PARKINSON'S DISEASE USING MACHINE LEARNING

Proposed Solution:

Problem Statement (Problem to be solved)	Parkinson's disease is a neurological movement disorder. Common symptoms include tremor, slowness of movement, stiff muscles, unsteady walk and balance and coordination problems. Biomarkers derived from human voice can offer insight into neurological disorders, such as Parkinson's disease (PD). PD is a progressive neurodegenerative disorder. Due to the decrease in motor control that is the hallmark of the disease, voice can be used to detect and diagnose PD. We provide evidence to validate this concept here using a voice dataset collected from people with and without PD.
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Idea / Solution description	<p>It is a classification problem where we must predict whether a person has Parkinson's disease or not. The Classification algorithm is a Supervised Learning technique that is used to identify the category of new observations based on training data. In classification problem, we must predict discrete values based on a given set of independent variables. Binary classification, in this classification we have to predict either of the two given classes. For example: classifying whether a person has Parkinson's disease or not (yes/no).</p>
Novelty / Uniqueness	<p>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 a hybrid and accurate results analysing 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 analysing and offering the solutions at much positive scaling time</p>
Social Impact/ Customer Satisfaction	<ul style="list-style-type: none"> • Increase interaction with the human and application • Personalize the UI experience • Improves accurate result as expected

	<ul style="list-style-type: none"> • An automated chatbot controls the user interaction environment • Accurate prediction at good time complexity.
Business Model (Revenue Model)	<ul style="list-style-type: none"> • Solutions prospects of improvement • Suits for better saving of involvements • Economic Development • Easy interface
Scalability of the Solution	<ul style="list-style-type: none"> • Good conversation with ethnicity. • Saves time for performing internal operations. • Cost effective. • On the spot result.