

**Project Design Phase-I**  
**Proposed Solution Template**

Date	24 September 2022
Team ID	PNT2022TMID18356
Project Name	Detecting Parkinson's 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)	<ul style="list-style-type: none"><li>• Parkinson's disease is a progressive disorder of the central nervous system affecting movements and inducing tremors and stiffness</li><li>• More than 10 million people are living with Parkinson's Disease worldwide , according to the Parkinson's Foundation. While Parkinson's cannot be cured, early detection along with proper medication can significantly improve symptoms and quality of life.</li><li>• If laterly predicted , it results in cause several threatens to attected persons</li></ul>
2.	Idea / Solution description	<ul style="list-style-type: none"><li>• For perfect estimation, we collect some data from the user and analyse by using Machine learning to give more accurate result.</li><li>• Using better Machine Learning Algoritm will result in perfect estimation.</li></ul>
3.	Novelty / Uniqueness	<ul style="list-style-type: none"><li>• Due to tremors and rigidity in muscles ,making it difficult to draw smooth spirals and waves.</li><li>• Our goal is to quantify the visual appearance of these drawings and then train a machine learning model to classify them</li></ul>

		<ul style="list-style-type: none"> <li>• In this project, we are using, Histogram of Oriented Gradients (HOG) image descriptor along with a Random Forest classifier to automatically detect Parkinson's disease in hand drawn images.</li> <li>• For perfect estimation, we collect some data from the user and analyse by using</li> </ul>
		Machine learning to give more accurate result.
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> <li>• The main aim of this application is early prediction and proper treatments can possibly stop or slow progression of this disease to end stage.</li> <li>• Hence Customer will not suffer from serious effects of Parkinson's disease</li> </ul>
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> <li>• Can generate revenue through direct customer.</li> <li>• Can collaborate with health care sector and generate revenue from their customers.</li> <li>• Can make an advertisement of hospitals that have special treatment of Parkinson's Disease, and if patients allow ,we share the details of the patients to that hospital for medication.</li> </ul>
6.	Scalability of the Solution	<ul style="list-style-type: none"> <li>• In order to get user friendly and more accuracy , we additionally add some data collection from user and analyse easily by draw smooth spirals and waves.</li> <li>• An Application is developed where data about patients are recorded and Suggest some medication if they have Parkinson's Disease.</li> <li>• Due to improvement in accuracy of detection, user will trust the application and very helpful for Doctors to treat the patients at earlier stage.</li> <li>• To help in early detection of Parkinson's disease which would help in early diagnosis thus slowing down disease progression.</li> </ul>