

## Project Design Phase-I Solution Fit Template

Date	26 September 2022
Team ID	PNT2022TMID05881
Project Name	Detecting Parkinson's Disease using Machine Learning
Maximum Marks	2 Marks

Define CS, fit into CC

### 1. CUSTOMER SEGMENT(S)

CS

Who is your customer?  
i.e. working parents of 0-5 y.o. kids

1. Person with Parkinson Disease Symptoms.
2. Those over 65 more who are in the high risk zone for the illness
3. People who does a full body check up.
4. Prediction for a cost free diagnosis.

### 6. CUSTOMER CONSTRAINTS

CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

1. Easy interface
2. Budget
3. Finding difficult to use the app

### 5. AVAILABLE SOLUTIONS

AS

Which solutions are available to the customers when they face the problem

or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital

1. It has advantages and is applied precisely.
2. Encourages the user to be aware of early disease detection.

**2. JOBS-TO-BE-DONE / PROBLEMS****J&P**

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

1. Our project assists users in identifying Parkinson's disease at an early stage and displaying the precise proportion of people who have the condition.
2. Using machine learning techniques, we aim to measure the visual appeal of the spiral and wave datasets for the clients.

**9. PROBLEM ROOT CAUSE****RC**

What is the real reason that this problem exists? What is the back story behind the need to do this job?  
i.e. customers have to do it because of the change in regulations

1. Parkinson's disease detection and prognosis
2. Lessening the medical team's or the healthcare employees' disruption or interference.

**7. BEHAVIOUR****BE**

What does your customer do to address the problem and get the job done?

i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work

1. To get reliable findings, start utilising the detector.
2. Verifying that none of the symptoms given in the ML online application apply to them.
3. Enter their symptoms to see whether they are affected by the condition.

**3. TRIGGERS****TR**

The implementation of the dataset is the primary driver for this project design. due to the fact that the data is in picture formats. The algorithm data training is complicated if the data are picture formats.

**4. EMOTIONS: BEFORE / AFTER****EM**

How do customers feel when they face a problem or a job and afterwards?  
i.e. lost, insecure > confident, in control – use it in your communication strategy & design.

1. Initially, the person will be unsure if they have Parkinson's disease or not.
2. They will be able to determine whether they are affected by the disease after utilising the ML online application.

**10. YOUR SOLUTION****SL**

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.

If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

The visual appearance of the spiral and wave drawings may be quantified, and a machine learning model can be trained to categorise them in order to detect Parkinson's disease. We can automatically identify Parkinson's illness in hand-drawn spirals and waves using the Histogram of Oriented Gradients (HOG) image descriptor and a Random Forest classifier.

**8. CHANNELS of BEHAVIOUR****CH****8.1 ONLINE**

What kind of actions do customers take online? Extract online channels from #7

1. Looks for physicians who are open
2. Thoroughly examines the illness
3. Lists adjacent medical facilities

**8.2 OFFLINE**

What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

To diagnose the sickness, we just utilise the manually generated spirals or wave visualisations as input. Finally, updating the model is simple (Using new data set of algorithms)