**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 24 September 2022 |
| Team ID | PNT2022TMID23111 |
| Project Name | Fertilizers Recommendation System For Disease Prediction |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

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

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Agriculture is the most important sector in today’s life. Most plants are affected by a wide variety of bacterial and fungal diseases. Diseases on plants placed a major constraint on the production and a major threat to food security. Hence, early and accurate identification of plant diseases is essential to ensure high quantity and best quality. In recent years, the number of diseases on plants and the degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods, and inadequate plant protection techniques. |
|  | Idea / Solution description | An automated system is introduced to identify different diseases on plants by checking the symptoms shown on the leaves of the plant. Deep learning techniques are used to identify the diseases and suggest the precautions that can be taken for those diseases. |
|  | Novelty / Uniqueness | Finding the leaf disease is an important role of agriculture preservation. After pre-processing using a median filter, segmentation is done.The disease-based similarity measure is used for fertilizer recommendation. |
|  | Social Impact / Customer Satisfaction | The proposed model will be very much helpful for the farmers, to choose the correct fertilizer and safeguard their crops, which therefore lead to more crop yield and also reduces the loss. |
|  | Business Model (Revenue Model) | The system comes with a model to be precise and accurate in predicting crop yield and deliver the end user with proper recommendations about required fertilizer ratio based on atmospheric and soil parameters of the land which enhance to increase the crop yield and increase farmer revenue |
|  | Scalability of the Solution | Data (fertilizer) can be recommended based on the disease predicted at the earliest. |