**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 23 September 2022 |
| Team ID | PNT2022TMID19524 |
| Project Name | Project - IOT Based Smart Agriculture Using WSN |
| 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) | * Soil parameters indicate the**state of soil ecosystem characteristics**, which especially reflect production, buffering, filter and other soil functions. * Nowadays inadequate of water and outdated irrigation techniques leads to affecting the production. * **Crop** **damage** caused by wildlife is a serious **problem , e**lectric fencing is used in many agricultural areas. |
|  | Idea / Solution description | * The system checks the soil parameters and automates irrigation system and captures real time images using camera interfaced to microcontroller. * The system also consists of an android application which allows the user to give input based on which the watering will be controlled. * The system also senses the invasion of animals and sends notification to farmer. |
|  | Novelty / Uniqueness | * **Soil fertile is identified by analyzing the availability of the soil nutrients level to grow suitable crop in that particular soil a**nd also it is useful to find the deficiency of soil nutrients. * The soil NPK sensor is suitable for detecting the content of nitrogen, phosphorus, and potassium in the soil, and judging the fertility of the soil. |
|  | Social Impact / Customer Satisfaction | * By identifying the nutrient level in the soil and recommending the fertilizer at the earlier stage helps in improvement of production and the quality. * Which helps farmers and prevention of plant loss. |
|  | Business Model (Revenue Model) | * Helps the farmers to make good production of food products and to reduce the production loss at an earlier stage. * With the proposed system crop yield, crop efficiency, agricultural product output will be increased. * A high gain can be seen in agricultural output and profit will be increased. |
|  | Scalability of the Solution | * Business to business and business to customer can be implemented and it can be used for enhancing the profit in large scale. |