**Project Design Phase-I**

**Proposed Solution Template**

|  |  |
| --- | --- |
| **Date** | **17 October 2022** |
| **Team ID** | **PNT2022TMID28767** |
| **Project Name** | **IoT Enabled Smart Farming**  **Application** |
| **Maximum Marks** | **2 Marks** |

**Proposed Solution Template:**

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | 1. Overuse of pesticides and fertilizer in agricultural fields leads to destruction of the crop as well as reduces the efficiency of the field increasing the soil vulnerability toward pest. IoT applications may be used to update the farmer/user about type & quantity of pesticide required by the crop. 2. The biggest challenges faced by IoT in the agricultural sector are lack of information, high adoption costs, and security concerns, etc. Most of the farmers are not aware of the implementation of IoT in agriculture |
|  | Idea / Solution description | IoT based Smart Farming improves the entire Agriculture system by monitoring the field in real-time. With the help of sensors and interconnectivity, the Internet of Things in Agriculture has not only saved the time of the farmers but has also reduced the extravagant use of resources such as Water and Electricity. |
|  | Novelty / Uniqueness | * The future of IoT in agriculture allows predictive analytics to help you make better harvesting decisions. * Through collecting data from sensors using IoT devices, you will learn about the real-time state of your crops. IoT sensor nodes collect information from the farming environment, such as soil moisture, air humidity, temperature, nutrient ingredients of soil, pest images, and water quality, then transmit collected data to IoT backhaul devices. |
|  | Social Impact / Customer Satisfaction | * IoT ensures accurate and efficient communication to farmers of real time data related to dynamic agricultural processes (like weather forecasts, planting, harvesting, etc.), weather forecasts, soil quality, and availability and cost of labor. * THE BENEFITS OF SMART FARMING **Increased production**: the optimisation of all the processes related to agriculture and livestock-rearing increases production rates. * **Water saving**: weather forecasts and sensors that measure soil moisture mean watering only when necessary and for the right length of time. |
|  | Business Model (Revenue Model) | **Revenue (No. of Users vs Months):**    User  Months  The global **agriculture IoT** market is expected to be driven by factors such as the integration of advanced technologies such as guidance systems |
|  | Scalability of the Solution | Scalability in smart farming refers to **the adaptability of a system to increase the capacity**, for example, the number of technology devices such as sensors and actuators, while enabling timely analysis |