**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 24 September 2022 |
| Team ID | IBM-EPBL/IBM-Project-33228-1660216502 |
| Project Name | SmartFarmer - IoT Enabled Smart Farming Application |
| 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) | According to a report released by more than 200 NGOs from 75 countries, one person dies of hunger every four seconds. It also reported that 345 million people are acutely hungry, a figure that has doubled since 2019.Additionally, water overuse can cause water shortage, often occurs in areas of irrigation agriculture, and  harms the environment in several ways including increased salinity, nutrient pollution, and the degradation  and loss of flood plains and wetlands |
|  | Idea / Solution description | IoT-based agriculture system helps the farmer in monitoring different parameters of his field  like soil moisture, temperature, and humidity using some sensors.  Farmers can monitor all the sensor parameters by using a web or mobile application even if the farmer is not near his field. Watering the crop is one of the important tasks for the farmers. They can make the decision whether to water the crop or postpone it by monitoring the sensor parameters and controlling the motor pumps from the mobile application itself.  Benefits of smart farming:-  Increasing control over production leads to better cost management and waste reduction. The ability to trace anomalies in crop growth or livestock health, for instance, helps eliminate the risk of losing yields. Additionally, automation boosts efficiency. |
|  | Novelty / Uniqueness | 1. Observation . Sensors record observational data from the crops, livestock, soil, or atmosphere.  2. Diagnostics. The sensor values are fed to a cloud-hosted IoT platform with predefined decision rules and  models—also called “business logic”—that ascertain the condition of the examined object and identify any  deficiencies or needs.  3. Decisions . After issues are revealed, the user, and/or machine learning-driven components of the IoT  platform determine whether location-specific treatment is necessary and if so, which.  4. Action . After end-user evaluation and action, the cycle repeats from the beginning. |
|  | Social Impact / Customer Satisfaction | One of the benefits of using IoT in agriculture is the increased agility of the processes. Thanks to real-time monitoring and prediction systems, farmers can quickly respond to any significant change in weather, humidity, air quality as well as the health of each crop or soil in the field |
|  | Business Model (Revenue Model) | Smart farming is an advanced and innovative  way to get maximum cultivation and minimize  the human efforts. |
|  | Scalability of the Solution | Automatic adjustment of farming equipment  made possible by linking information like  crops/weather and equipment to auto adjust  temperature, humidity, etc. It has enabled  farmers to reduce waste and enhance  productivity with the help of sensors. |