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Project Design Phase-I
Proposed Solution Template

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Date	16 September 2022
Team ID	PNT2022TMID45187
Project Name	Project – Smart Farmer - IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Agriculture plays a vital role for the economic growth of a country. Some issues concerning agriculture have been always hindering the development of the country. Farmers must meet the changing needs of our planet and the expectations of regulators, consumers, and food processors and retailers. There are increasing pressures from climate change, soil erosion and biodiversity loss and from consumers' changing tastes in food and concerns about how it is produced. And the natural world that farming works with – plants, pests and diseases – continue to pose their own challenges. Farmers need to deal with many problems, including how to: • Cope with climate change, soil erosion and biodiversity loss • Satisfy consumers' changing tastes and expectations • Meet rising demand for more food of higher quality
2.	Idea / Solution description	☐ We are about to propose a solution for monitoring different parameters of his field like soil moisture, temperature, and humidity using sensors such as soil

		□	moisture sensors, temperature sensors and a humidity sensor.
		□	Capacitive soil moisture sensors measure or estimate the amount of water in the soil.
		□	These sensors can be stationary or portables such as handheld probes.
		□	Stationary sensors are placed at the predetermined locations and depths in the field, whereas portable soil moisture probes can measure soil moisture at several locations.
		□	A temperature sensor is for detecting and measuring the hotness and coolness present in the environment and converts those inputs into an electrical signal.
		□	A humidity sensor is to detect and measure the water vapour or water droplets present in the atmospheric air and with those inputs it measures the humidity present in the air.
		□	Considering these parameters such as temperature, humidity, soil moisture as a basic inputs for watering the particular crop in the field or not is our proposing solution that we are about to solve for the farmers who are the constituents for our GDP as well as the backbone of our country
3.	Novelty / Uniqueness	□	Modernizing the current traditional methods of agriculture.
		□	Internet of Things (IoT) enables various applications of **crop growth monitoring** and selection, **automatic irrigation** decision support.

4.	Social Impact / Customer Satisfaction	☐ One of the greatest advantages of this smart irrigation system is its ability to save water.
		☐ In general, traditional watering methods can waste as much as 50% of the water used due to inefficiencies in irrigation, evaporation and overwatering.
		☐ Our system use sensors for real-time or historical data to inform watering routines and modify watering schedules to improve efficiency.
		Users can configure these systems to manage irrigation on demand. ☐
5.	Business Model (Revenue Model)	☐ Consequently, the solution to the problem addressed by in our problem statement is smart agriculture by modernizing the current traditional methods of agriculture.
		☐ **ESP8266 IoT Automatic irrigation system** to modernize and improve the productivity of the crop.
6.	Scalability of the Solution	☐ The impact of the network was a significant and unanticipated component.
		☐ Considering the quantity of sensors, these IoT-based systems were successful in simulating a large-scale smart agricultural setting.
		☐ Because of the price and scale of the farms, we anticipate having fewer sensors.