Project Design Phase-I
Solution Architecture

Date	19 September 2022
Team ID	PNT2022TMID50334
Project Name	Project – IOT based smart crop production system for agriculture
Maximum Marks	4 Marks

Solution Architecture:

A greenhouse consists of walls and a roof, which are usually made from transparent materials, such as plastic or glass. In a greenhouse, plants are grown in a controlled environment, including controlling for moisture, nutrient ingredients of the soil, light, temperature, etc. Consequently, greenhouse technology makes it possible for humans to grow any plant, at any time, by providing suitable environmental conditions. the below figure, a smart agriculture IoT system for monitoring greenhouse farming factors based on IoT ecosystems.

An introduced IoT-based greenhouse environmental monitoring system for multipoint monitoring in large greenhouses. Instead of using multiple sensors at different locations, this solution involves a drive system that allows the sensor system to move to different locations in the greenhouse. The experimental results show that the proposed system can effectively monitor multiple points in large greenhouses. An energy-saving temperature control technology for smart greenhouses. This study proposed two intelligent control methods: active disturbance rejection control and fuzzy active disturbance rejection control. The experimental results demonstrate that the proposed technology saves over 15% of the total energy consumption of the greenhouse. We designed an intelligent IoT system to monitor and control greenhouse temperature for energy efficiency and improve crop productivity.

SOLUTION ARCHITECTURE DIAGRAM