PRANVEER SINGH INSTITUTE OF TECHNOLOGY

Major Project Proposal

Team Id: 25_CS_4D_11

Team Details:

S No	Full Name	Roll No	Branch & Section	Mob No
1	(Team Leader) Saqib Khan	2101640100234	CS-III-D	7651908895
2	(Member) Ritik Katiyar	2101640100220	CS-III-D	7817911586
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Project Title:

SMART Agriculture System

Domain: (Select all relevant Options)

1. Software-Web Application	2. Software-Mobile Application
3. Artificial Intelligence/Machine Learning/Deep Learning	4. Computer Vision/Image Processing
5. Blockchain	6. Internet of Things ☑
7. Natural Language Processing	8. Big Data / Cloud Computing
9. Others (Specify if any):	

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Problem Statement:

The agriculture sector plays a crucial role in ensuring food security and sustaining global economies. However, traditional farming methods often face challenges related to inefficiency, resource wastage, and inadequate monitoring, leading to reduced yields and economic losses. To address these issues, there is a need for advanced technological solutions that enable precision farming and real-time monitoring of agricultural parameters. This device can prove to be quite handy in such situations.

Proposed Solution:

The existing agricultural monitoring systems lack the capability to provide comprehensive, real-time data on crucial factors such as soil moisture levels, temperature, humidity, crop health, and environmental conditions. This project aims to develop a Smart Agriculture Monitoring System using IoT technology, integrating various sensors and devices to collect data from agricultural fields and transmit it wirelessly via the IoT Cloud. This project seeks to contribute to the advancement of precision agriculture practices, enabling farmers to optimize resource usage, enhance crop productivity, and promote sustainable farming practices in an increasingly challenging agricultural landscape.

Unique/Distinctive feature of the solution:

- Real-Time Monitoring
- Responsiveness & Accuracy
- Scalable & Adaptive
- Customizable & User-friendly

Tools/Technology Uses:

Hardware Requirements:

ArduinoUNO + ESP8266 WiFi Module / NodeMCU ESP8266, DHT11 Temperature & Humidity Sensor, BMP180 Pressure Sensor, Soil Moisture Sensor Module, YL-83 Raindrop Sensor Module, LDR Sensor Module, 16 x 2 LCD Display, I2C Module, Mini Submersible 3-6V DC Water Pump, Flexible PVC Tubing, 5V 1-Channel Relay Module, Active Buzzer Module, 12V Mini LED Strip, 12V DC Battery, Breadboard, Jumper Wires

Software Requirements:

Arduino IDE, Blynk IoT Cloud Platform

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(To be Filled by Faculty/Evaluator)

Proposal Evaluation:

1. Right Identification of the Problem (Appropriate selection of the problem)?
   a) Excellent   b) Good   c) Needs Improvement   d) Unacceptable

2. Relevance of the Solution (Adequately addressing the problem/need)?
   a) Excellent   b) Good   c) Needs Improvement   d) Unacceptable

3. Innovativeness in the Solution (Distinctive innovative components/features of the solution)?
   a) Excellent   b) Good   c) Needs Improvement   d) Unacceptable

4. Uniqueness of the Solution (Intellectual Property Component)?
   a) Excellent   b) Good   c) Needs Improvement   d) Unacceptable

Improvements/ Suggestions by the Evaluator:

1.

2.

3.

4.

Name of Faculty:

Designation:

Signature with Date:

Instructions:

- One Proposal per team will be submitted by the team leader only.
- A Team can have maximum 5 Members.
- Upload the document in .doc or .pdf format with font size 12, single spacing, Times New Roman font only.