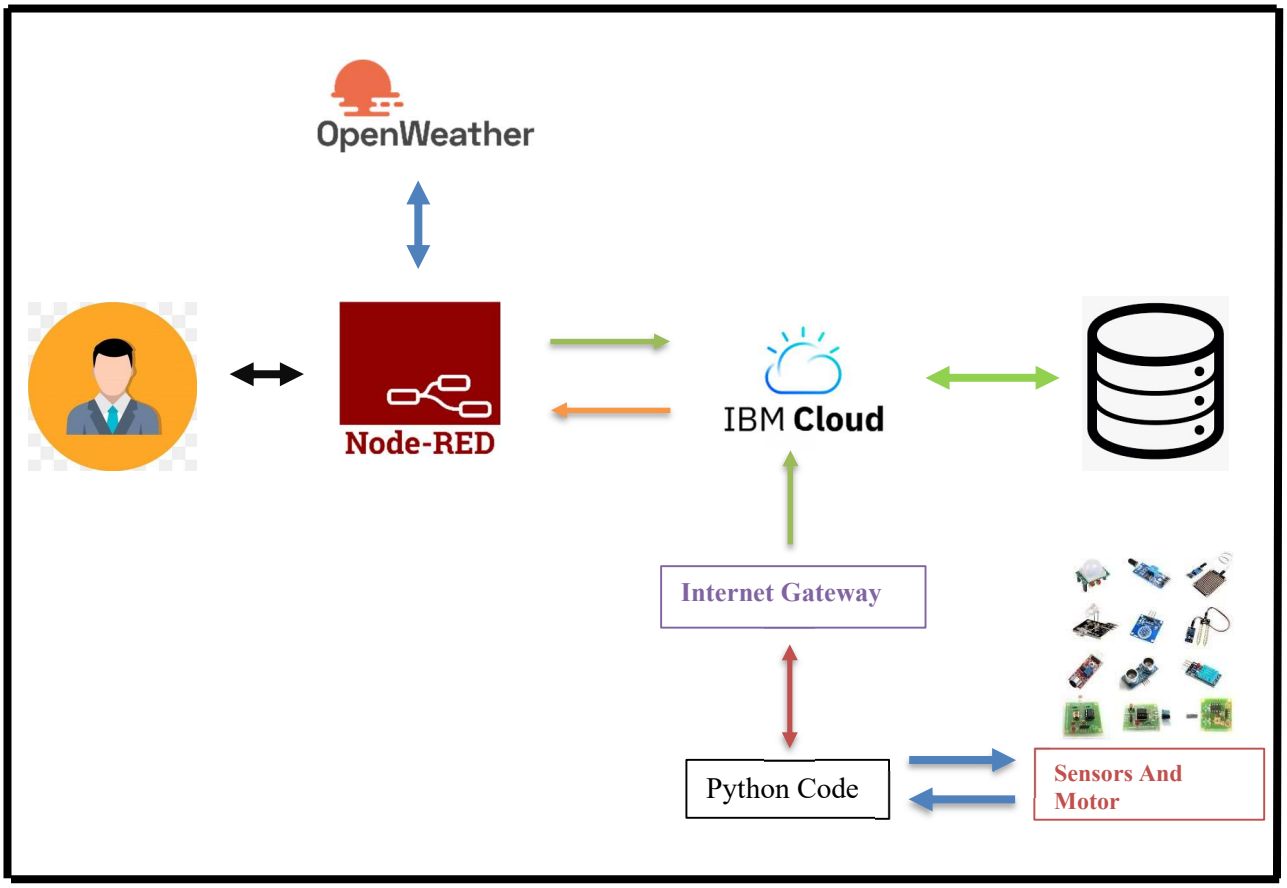
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID39877
Project Name	Project – Smart Farmer- IoT Enabled smart farming Application
Maximum Marks	4 Marks



1. All The Sensors (i.e. : soil temperature, soil moistures, Motion Sensor, Hazardous Gas Sensor and humidity Sensor) are Calculated And obtained value Are stored in the IBM cloud.
2. The Microcontroller Board (Arduino Mega) Is Used To calculated The Sensor Values And Store It In Cloud To Show To User.
3. NODE-RED is used as a programming tool to write the hardware, software and APIs.
4. All The data are provided to the user through a mobile application Created using the MIT app inventor. By using the app User Can operate the motor And Other Major Devices.

Table-1 : Components & Technologies:

Component	Description	Technology
1. User Interface	Interaction with application.	MIT App Inventor
2. Application Logic-1	Logical Data Operation And Sourcing.	Python
3. Application Logic-2	Application Processing.	IBM Watson IOT service
4. Application Logic-3	Application Processing.	IBM Watson Assistant
5. Database	Type Of Data And Management	MySQL, NoSQL, etc.
6. Cloud Database	Database Service on Cloud	IBM Cloud
7. File Storage	Storage Sources	IBM Block Storage or Other Storage
8. External API-1	Used in the application For Weather	Open Weather API
9. Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open-source frameworks used In This	Technology of Opensource framework
2.	Security Implementations	private data must be protected	Node-Red,Open weather App API, MIT App Inventor
3.	Scalable Architecture	Scalability plays an Important Role for IoT platforms. The real time decision-making is feasible in environment composed of dozens of Data's.	IBM Cloud And Related Technologies.