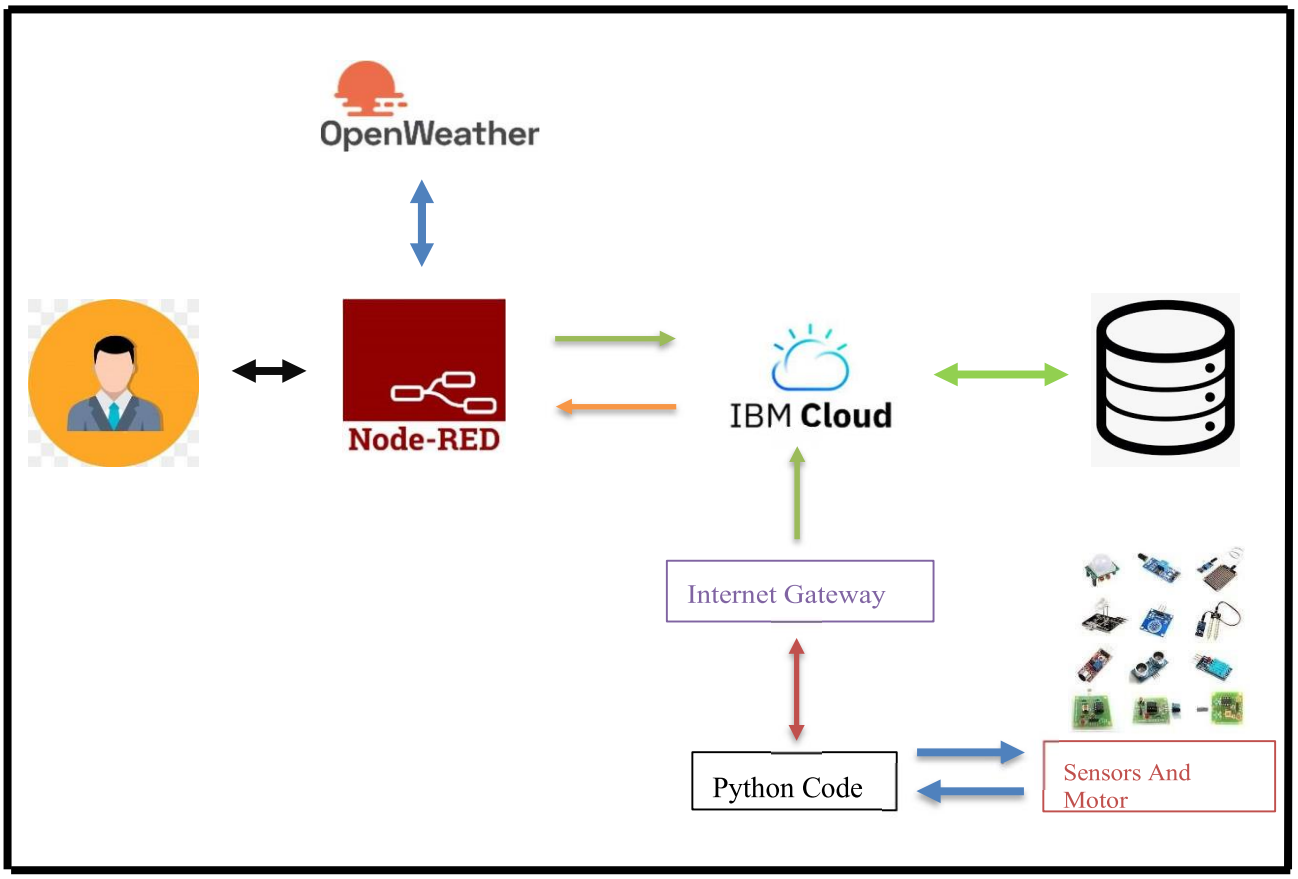
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 October 2022
Team ID	PNT2022TMID04728
Project Name	Project – Smart Farmer- IoT Enabled smart farming Application
Maximum Marks	4 Marks



1. All of the sensors (including the humidity sensor, motion sensor, hazardous gas sensor, and soil temperature and moisture sensors) are calculated and their results are stored in the IBM cloud.

2. The sensor values are computed by the microcontroller board (Arduino Mega) and stored in the cloud for display to the user.

3. In order to write the hardware, software, and APIs, NODE-RED is utilised as a programming tool.

4. A mobile application made with MIT App Inventor provides the user with all the info. The user may control the motor and other important devices by using the app.

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.