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

Date	03 October 2022
Team ID	PNT2022TMID21342
Project Name	SmartFarmer - IoT Enabled Smart Farming Monitoring Application
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

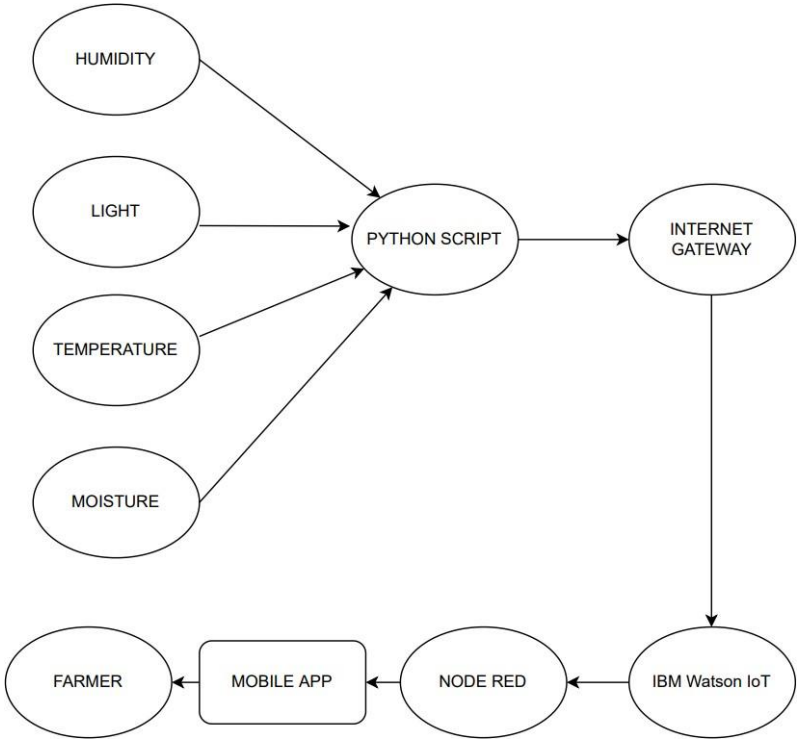

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	GUI	XML file in MIT APP helps to act as front-end	XML
2.	Temperature Sensor	The App will process data from sensors in Arduino then it will show it to the user and the user can control it manually	Python
3.	Humidity Sensor	Python helps us to backend work with the help of Django flask	IBM Watson STT service
4.	Moisture Sensor	Logic for a process in the application	IBM Watson Assistant
5.	Database	VARCHAR and Int	MySQL
6.	Cloud Database	Database Service on Cloud	IBM
7.	File Storage	System Storage	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	External API s help us to send and receive data from one place to another	REST API, etc.
9.	External API-1	External APIs help us to send and receive data from one place to another	Arduino API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition
11.	Mobile Installation	Application Deployment on Mobile System	MIT App inventor

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python, Arduino.	Backend works
2.	Security Implementations	penetration testing using owasp zap	OWASP
3.	Scalable Architecture	Scale is Tier 2	Java
4.	Availability	There is good availability of all these because most of them are open-source	Cloud
5.	Performance	Performance is purely based on efficiency and it is 70 %	Arduino UNO

References:

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d