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

Date	03October 2022
Team ID	PNT2022TMID35924
Project Name	Project - SmartFarmer - IoT Enabled Smart Farming 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

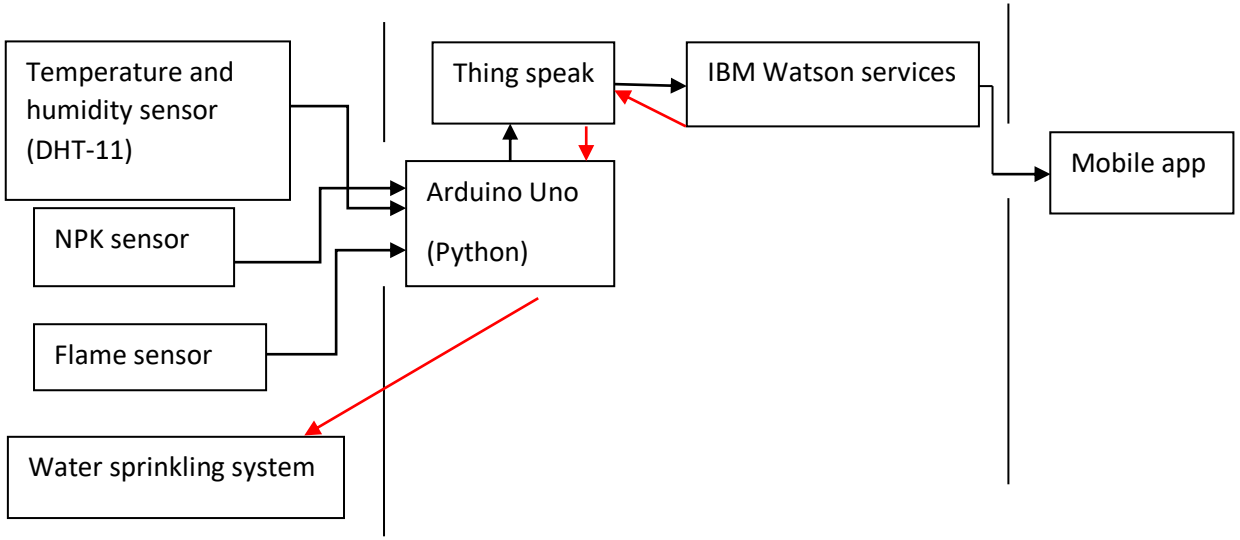

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	GUI	MIT APP helps to act as front-end	XML
2.	Temperature and humidity Sensor	The App will process data from sensors in Arduino and will show it to the users	Python
3.	Moisture Sensor	Will monitor moisture content	Python
4.	NPK sensor	This monitors the Nitrogen, Phosphorus and Potassium content in the soil	python
5.	Flame sensor	This monitors if the field catches fire or not	Python
6.	Water sprinkling system	This sprinkles water on field if fire is detected	Python
6.	Database	VARCHAR and INT	MySQL
7.	Cloud Database	Database Service on Cloud	IBM cloud service
8.	File Storage	System Storage	IBM Block Storage or Other Storage Service or Local File system
11.	External API-1	External APIs help us to send and receive data from one place to another	Arduino API
12.	Mobile app	Application Deployment on Mobile System	MIT App inventor

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	For backend process	Python, MIT app inventor, Arduino
2.	Security Implementations	Login through username, password; OTP, OWASP	OWASP
3.	Scalable Architecture	3 tier architecture	Python
4.	Availability	Can accommodate more users at a time	IBM Cloud services
5.	Performance	Fast data transfer	IBM cloud, Thing speak