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

Date	18 October 2022
Team ID	PNT2022TMID08036
Project Name	SmartFarmer – IoT enabled smartfarming 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

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

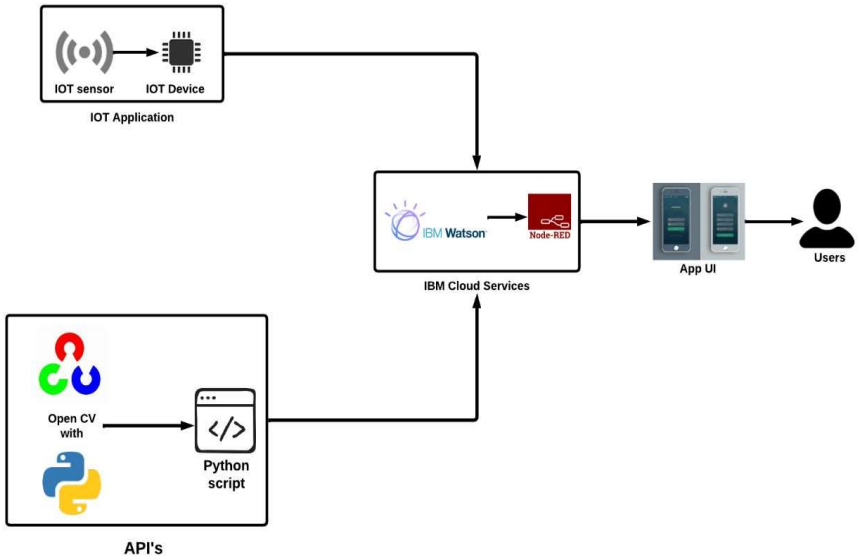

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The User interface used here is mobile app where the user can get all the information.	MIT app inventor
2.	Arduino UNO	All the sensors are integrated with Arduino UNO and used as a processing unit.	Python
3.	Application Logic-2	Logic for a process to access the cloud platform	IBM Watson
4.	Application Logic-3	To build connectivity interfaces between application and devices.	IBM Watson Assistant
5.	Database	Sensor data values are stored	MySQL

6.	Cloud Database	To store the data in cloud database service.	IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	To monitor the weather	IBM Weather API
9.	Infrastructure (Server / Cloud)	Application Deployment on IBM cloud	Node RED, Kubernetes

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Full-stack frameworks and microframeworks	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

References:

https://c4model.com/

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