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

Date	15 October 2022
Team ID	PNT2022TMID20272
Project Name	IOT Based Smart Crop Protection System For Agriculture
Maximum Marks	4 Marks

727819TUEC212	SANKAMITHRA SU-TM
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Technical Architecture:

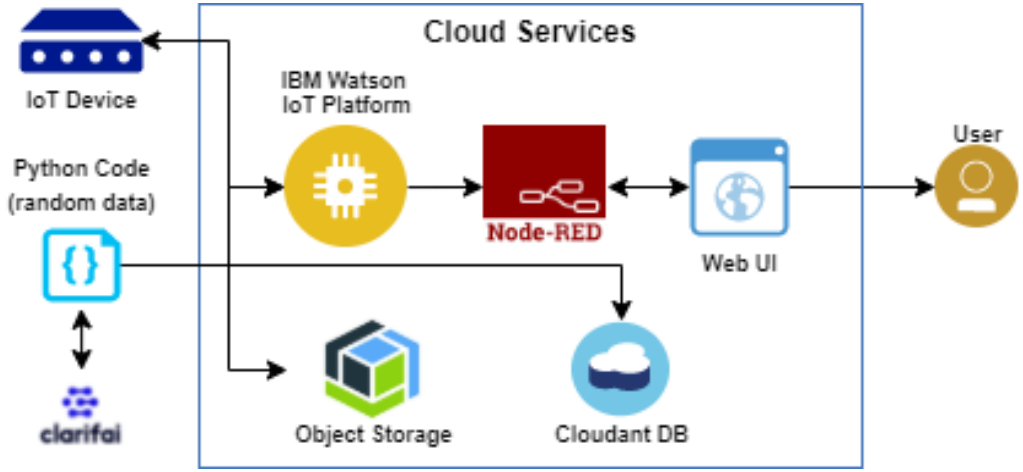

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Interacts with IOT Devices	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	Infrastructure(Server/Cloud)	Application Deployment on Local System/Cloud local configuration	Local, Cloud foundry, Kubernetes,etc.
8.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
9.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
10.	IOT Model	Purpose of IOT Model for integrating the sensors with user interface.	IBM IOT Model, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python
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)	Web UI Application server-python, clarify database server-IBM cloud services Technology.
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM cloud services
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	IBM cloud services

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