

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

Date	17 October 2022
Team ID	PNT2022TMID33206
Project Name	IoT Based Smart Crop Protection System For Agriculture
Maximum Marks	4 Marks

Technical Architecture:

Project: IoT Based Smart Crop Protection System For Agriculture

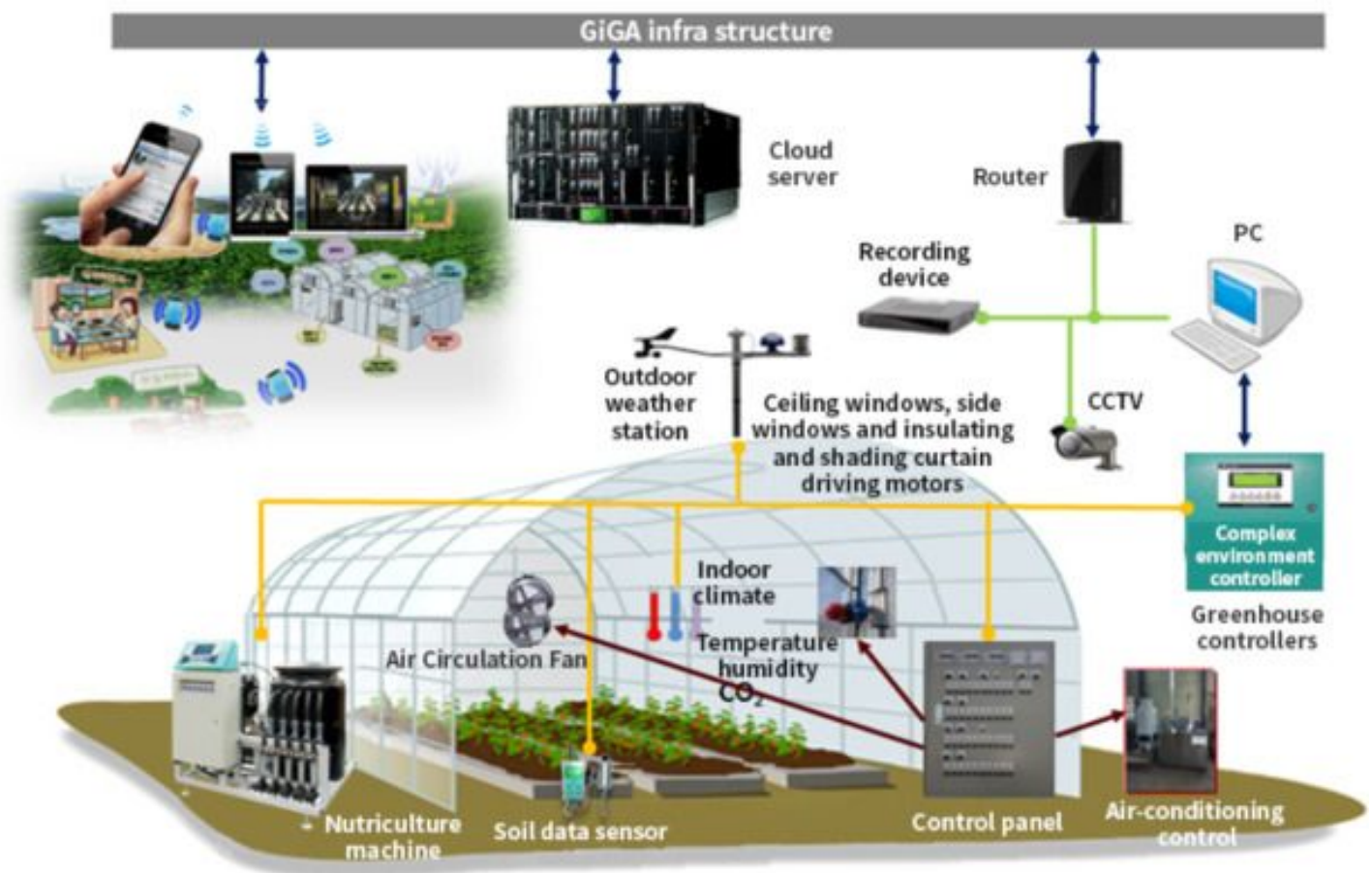


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with application and websites e.g. Web UI, Mobile App, Chatbot etc.	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.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
8.	External API-1	Purpose of External API used in the application	Node-RED API ,IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Bot API, Third party API ,etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, ML ,etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	eg. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	AIT echnology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM DB2Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	CWMP/USP Technology used