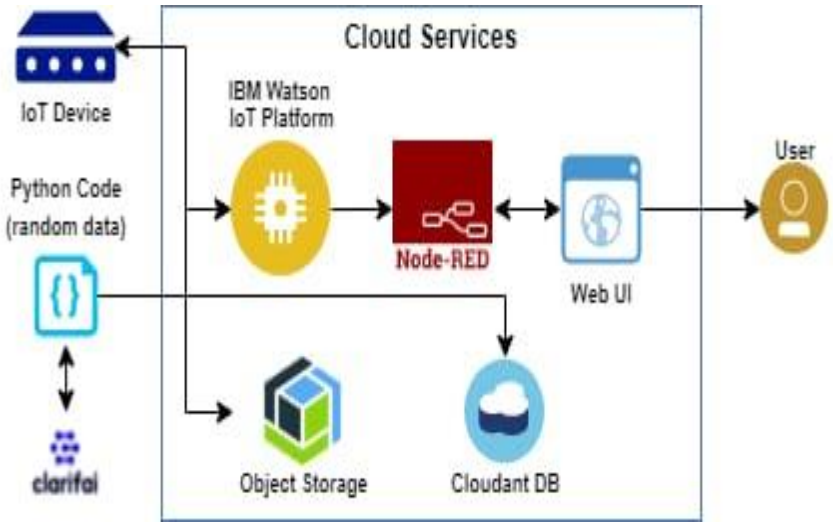
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID50111
Project Name	IOT Based Smart Crop Protection System For Agriculture
Maximum Marks	4 Marks

Technical Architecture:

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



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	The point of human-computer interaction and communication in a device (E.g)Display screen	SMTP email ,IP network protocol
2.	Application Logic-1	The logic governing what a computer program is trying to accomplish	High- Level programming include C++,Java, Python
3.	Application Logic-2	Since application logic is user- facing ,any glitches will directly affect consumers	E commerce application Technology
4.	Application Logic-3	Research and product development ;demonstration and market validation; and commercialization	GPS technology
5.	Database	A n organized collection of structured information, or data, typically stored electronically in a computer system	Moisture sensors ,Aerial image , and GPS technology
6.	Cloud Database	ITS a digital data visualization tool connected to sensor placed around the farm and software that makes sense of the information the gather	Monitor and optimize
7.	File Storage	A hierarchical storage methodology used to organize and store data on a computer hard drive	Facilitates the storage of unstructured data
8.	External API-1	Agriculture practices that use high amounts of external-inputs, such as inorganic fertilizers, pesticides and other amendments	Utilization of drones
9.	External API-2	Increased dependence on high cost external inputs in agriculture also made framers to depends on external credit on a regular basis	Collect data link, Agriculture drone are some technology
10.	Machine Learning Model	A file that has been trained to recognize certain types of patterns	Scholarly articles for machine learning for technology in agriculture
11.	Infrastructure (Server / Cloud)	The agriculture infrastructure sector is important to enhance the productivity and to reduce the post-harvest losses	3G and 4G cellular network

Table-2: Application Characteristics:

S .No	Characteristics	Description	Technology
1.	Open-Source Frameworks	By integrating agriculture data from multiple frames into open source communities	GNU/Linux and Android
2.	Security Implementations	The farm security method is right now going that is more unplanned typical way adopted time consuming and us well as laborious	REID Technology
3.	Scalable Architecture	A system, network, or process that is designed to handle a workload that may change in scope	Supports Higher workloads without any fundamental changes to it
4.	Availability	He assurance that an enterprises IT infrastructure has suitable recoverability and protection from system failures, natural disaster	The quality or state of being available
5.	Performance	Considering al l these aspect within an industrial segment ends up becoming a complicated practice	Remote sensing technologies and Tele-metrics positioning technologies