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

Date	03October 2022
Team ID	PNT2022TMID32605
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

Technical Architecture:

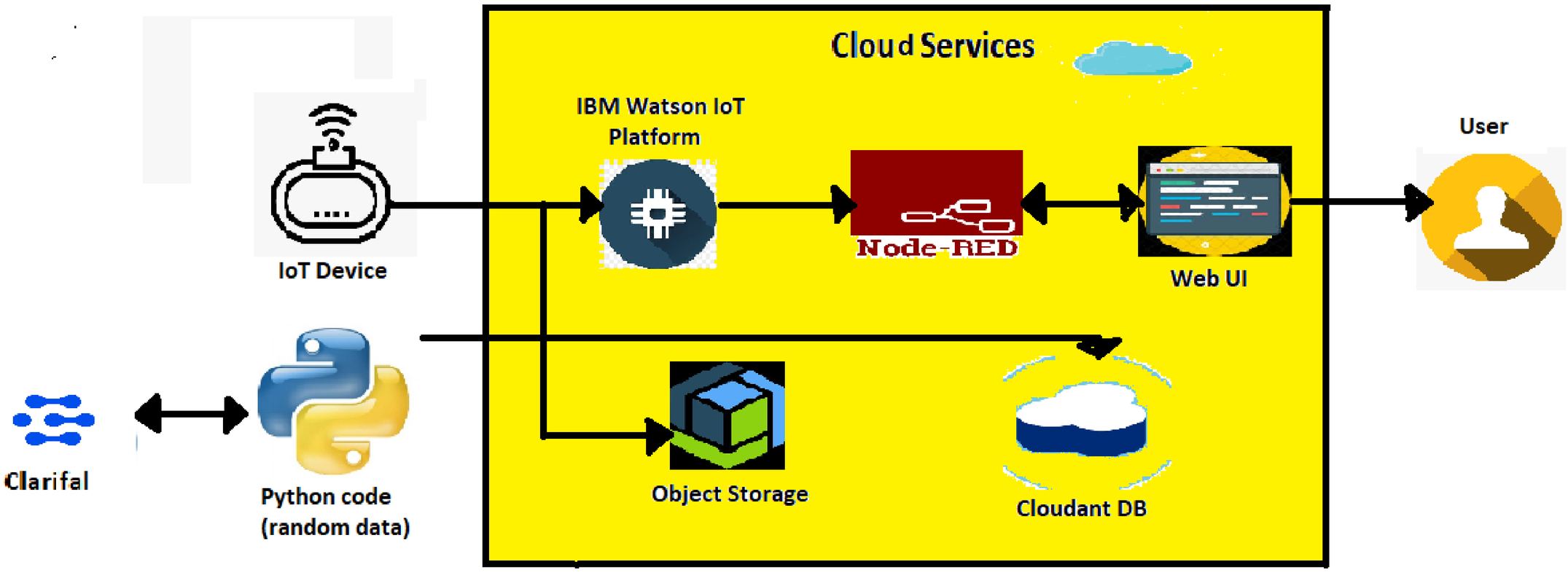

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User can get notification and turn on Motors and sprinklers	Web UI
2.	Application Logic-1	Get data from Raspberry pi(sensor) and process using python	Java / Python
3.	Application Logic-2	Store data collected in the cloud	IBM Watson STT service
4.	Database	CSV data from Raspberry pi	IBM Watson cloud
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Get Humidity, Weather and Temperature	IBM Weather API, etc.
8.	Machine Learning Model	Open CV	Animal and Bird Recognition Model.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	IBM Watson cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Create functionality by writing together flows of data between nodes using a browser.	Node-Red
2.	Security Implementations	Offers security and reliability.	SHA-256
3.	Scalable Architecture	Massive network that supports IoT devices and applications.	Cloud App
4.	Availability	Availability is more.	IBM Cloud
5.	Performance	Performance is high such that number of requests per sec is high, use of Cache and use of CDN's in high.	Node-Red, IBM cloud