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

Date	21 October 2022
Team ID	PNT2022TMID18361
Project Name	Project - Smart farmer-IOT enabled smart Farming Application
Maximum Marks	4 Marks

Technical Architecture:

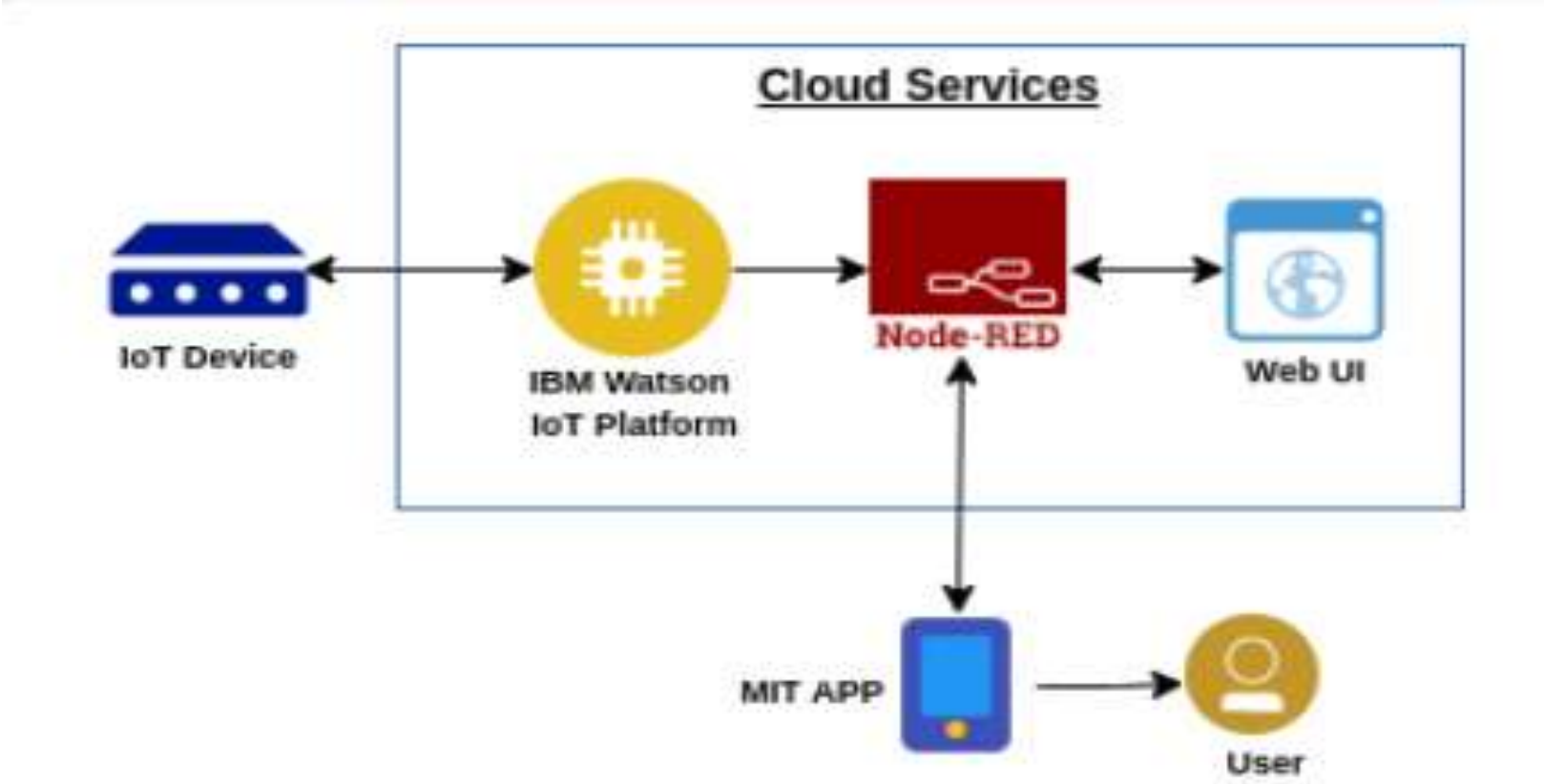

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The interface between the iot system and the farmer	MIT App Inventor
2.	Raspberry pi	It is used as a processing Unit	Python
3.	MQTT protocol	The data to be collected and sent to the farmer via MQTT protocol thereby providing the data toeasily monitor the crops	IBM Watson IOT service
4.	Database	Data Type, Configurations	MySQL
5.	Cloud Database	Database Service on Cloud	IBM Cloud
6.	File Storage	Different soil parameters obtained values	IBM Block Storage
7.	Web application	An application program that is stored on a remote server And delivered over the internet via a browsing interface	Node-red

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-SourceFrameworks	MQTT protocol	Python
2.	Security Implementations	Sensitive and private data must be protected from their production until the decision-making and storage stages.	Node-Red, MIT App Inventor
3.	Scalable Architecture	Scalability is a major concern for IoT platforms. It has been shown that different architectural choices of IoT platforms affect system scalability and that automatic real time decision-making is feasible in an environment composed of dozens of thousand.	Node-Red service
4.	Availability	The application is made available as an API	MIT app inventor
5.	Performance	The Iot Sensor nodes gives accurate soil and moisture parameters to the user.	Node-Red, MIT App Inventor