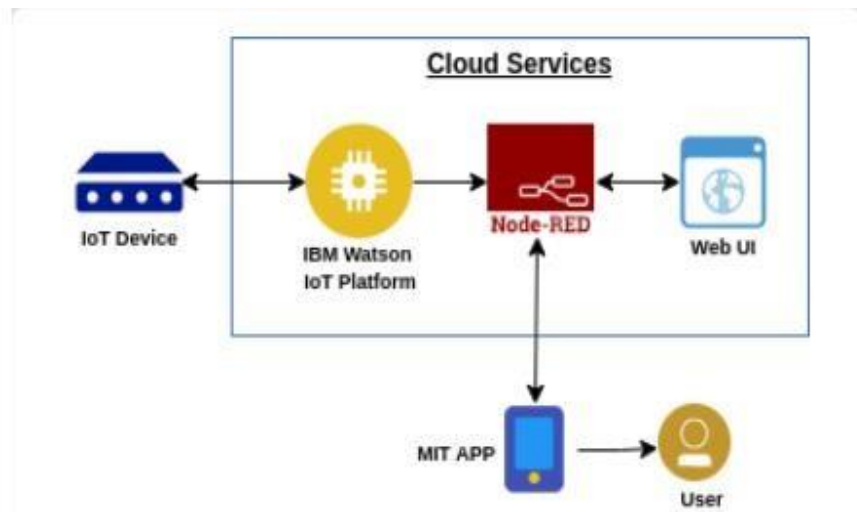


## TECHNOLOGY ARCHITECTURE

Date	14 October 2022
Project Name	Project – Smart Farmer – IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

### Technical Architecture:

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



**Table-1 : Components & Technologies:**

S.No	Component	Description	Technology
1.	User Interface	Web UI, Node-RED, MIT app	IBM IoT Platform, IBM Node red, IBM Cloud
2.	Application Logic-1	Create Ibm Watson IoT platform and create nodered service	Ibm Watson, ibm cloudant service,ibm node-red
3.	Application Logic-2	Develop python script to publish and subscribe to IBM IoT Platform	python
4.	Application Logic-3	Build a web application using node-red service	IBM Node-red
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant
7.	File Storage	Developing mobile application to store and receive the sensors information and to react accordingly	Web UI,python
8.	External API-1	Using this IBM Weather API we can track the weather in the agriculture land and based on the weather reading the sensors will activate	IBM Weather API
9.	External API-2	Using this IBM Sensors it detects the weather, humidity, soil fertility and provides the activation of motors to web UI	IBM Sensors
10.	Machine Learning Model	Using this we can derive the object recognition model	Object Recognition Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Cloud Server Configuration	IBM cloudant, IBM IoT Platform

**Table-2: Application Characteristics:**

<b>S.No</b>	<b>Characteristics</b>	<b>Description</b>	<b>Technology</b>
1.	Open-Source Frameworks	MIT app Inventor	MIT License
2.	Security Implementations	IBM Services	Encryptions, IBM Controls
3.	Scalable Architecture	sensor-IoT Cloud based architecture	cloud computing and AI
<b>S.No</b>	<b>Characteristics</b>	<b>Description</b>	<b>Technology</b>
4.	Availability	Mobile, laptop, desktop	MIT app
5.	Performance	Detects the water level, soil growth, humidity, weather	sensors