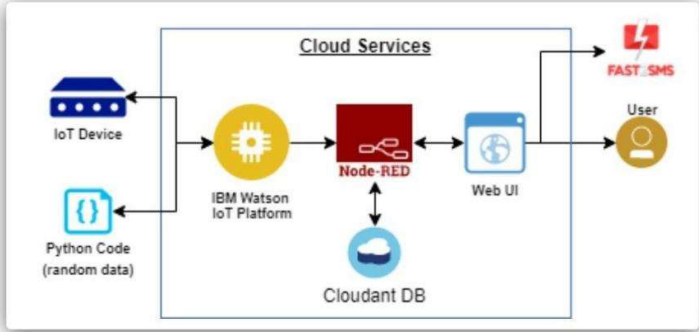


PROJECT DESIGN PHASE-I
PROPOSED SOLUTION

Date	31 October 2022
Team ID	PNT2022TMID43889
Project Name	SMART FARMER – IoT ENABLED SMART FARMING APPLICATION
Maximum Marks	2 Marks

PROPOSED SOLUTION TEMPLATE:

S.NO.	PARAMETER	DESCRIPTION
1.	Problem Statement	Designing an IoT enabled smart farming application that is used for automating agriculture and sending notifications to farmers when the threshold level is met.
2.	Idea / Solution description	<p>Our solution for smart farming system includes</p> <ul style="list-style-type: none">• Our system includes a humidity sensor and moisture sensor to detect the current soil conditions and to know whether there are any deviations from the pre-determined threshold.• If a particular threshold is met in the water level, then the servo motor is automatically ON or OFF.• Notifications regarding the soil conditions and the moisture level will be sent to the farmer using blink app.
3.	Novelty / Uniqueness	<p>Preceding system's objectives:</p> <ul style="list-style-type: none">➤ In the prior systems, the main objective is to switch on or off the servo motor based on the pre-determined threshold.➤ The farmer will not be able to know about what is happening in the field.➤ <p>Proposed system's objective:</p> <ul style="list-style-type: none">➤ We will be designing a system in which the notifications regarding the water level and the soil conditions will be sent to the farmer directly using blink app.

4.	Social Impact / Customer Satisfaction	<p>Social Impact of Fire Accidents on buildings:</p> <ul style="list-style-type: none"> ➤ If there is no irrigation control, then the amount of water usage will increase and the water will be wasted for unnecessary purposes. Some crops will need less amount of water for their growth. In such cases if the irrigation control is not in the hands of the farmer, then the health of the crops will be spoilt. ➤ If the soil is not monitored continuously, the farmer will not get profit in the yield. <p>Customer Satisfaction:</p> <p>The main objectives of this proposed solution are</p> <ul style="list-style-type: none"> ❖ User-friendly – Easy access for the farmer with the help of notifications. ❖ Flexible – Check status of the water level and soil conditions under all the conditions.
5.	Business Model (Revenue Model)	<p>Technical Architecture:</p>  <p>The diagram illustrates the technical architecture of the system. It shows an IoT Device and Python Code (random data) feeding into the IBM Watson IoT Platform. The IBM Watson IoT Platform is connected to Node-RED, which in turn is connected to a Web UI. The Web UI is connected to a User. The Web UI also connects to Cloudant DB. The User is connected to FAST SMS, which sends notifications. The entire system is labeled as Cloud Services.</p> <p>DESCRIPTION OF THE TECHNICAL ARCHITECTURE:</p> <ul style="list-style-type: none"> • Sensors values can be viewed by the farmers using their mobile phones. • Notifies the farmer when the random values crosses the threshold value.
6.	Scalability of the Solution	<ul style="list-style-type: none"> ❖ The solution can be easily expandable to larger fields by deploying sensors wherever needed. The values would be read and based on the threshold, warnings and notifications could be given to the farmer. ❖ By using GSM modules, the farmer gets notifications quickly and the automation can also be done without any manual interruption.