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

Date	03 October 2022
Team ID	PNT2022TMID53630
Project Name	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

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

ARCHITECTURE:

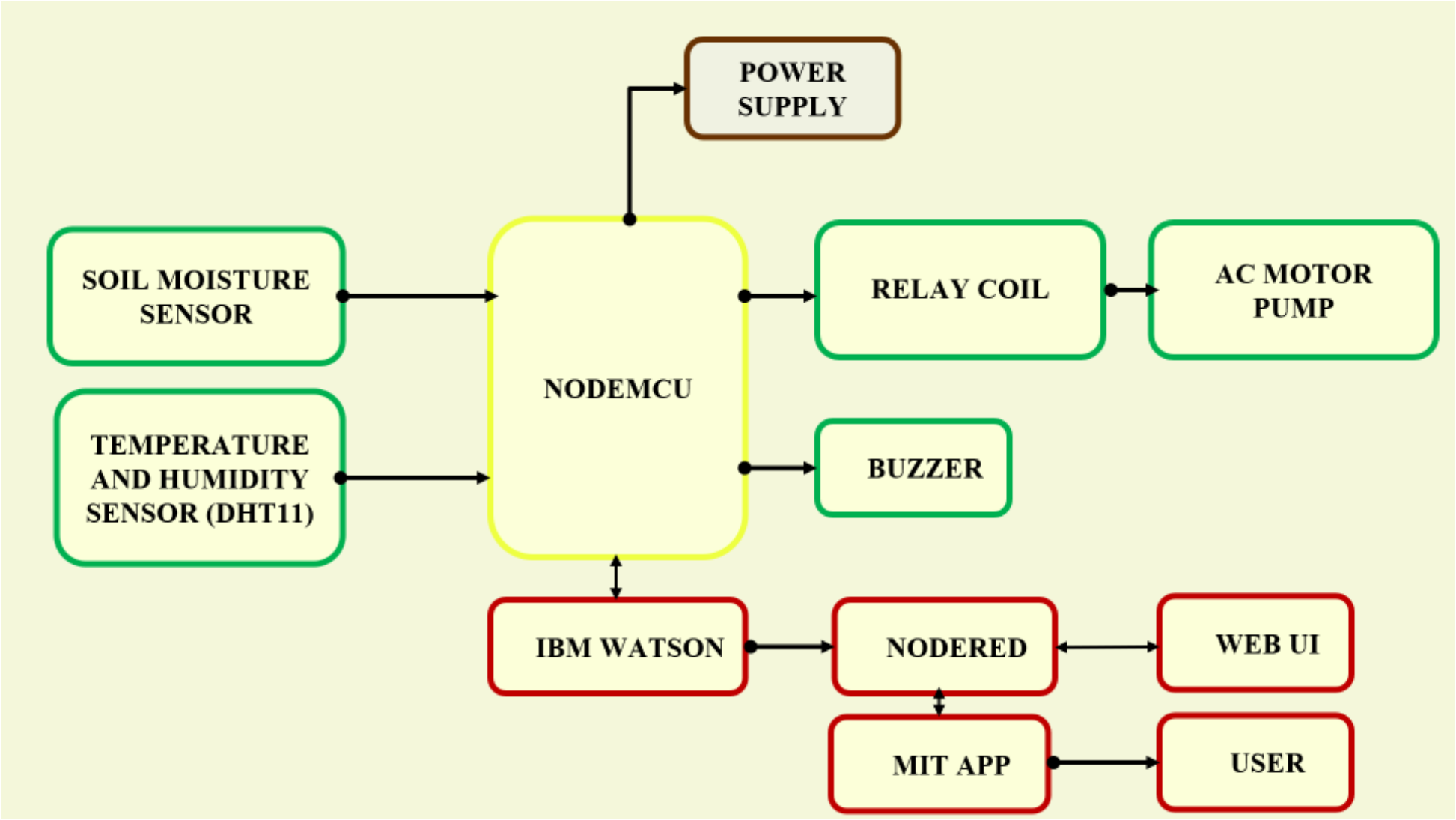
POWER SUPPLY
SOIL MOISTURE SENSOR
NODEMCU
RELAY COIL
AC MOTOR PUMP
TEMPERATURE AND HUMIDITY SENSOR (DHT11)
BUZZER
IBM WATSON
NODERED
WEB UI
MIT APP
USER

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	MIT app
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	Node red, IBM Watson
4.	Application Logic-3	Logic for a process in the application	Node red, IBM Watson
5.	Cloud Database	Database Service on Cloud	IBM Watson cloud
6.	File Storage	File storage requirements	IBM Block Storage
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Cloud Foundry
8.	NodeMCU	Microcontroller board which provides the facility of internet connectivity	
9.	DHT11	To monitor the temperature and humidity of crop	
10.	Soil moisture sensor	To monitor the temperature of soil	
11.	Electric motor pump	To provide the required water supply to the crop	
12.	Buzzer	To give an alarming sound once the values reach above threshold	

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	IBM Watson, Node red, MIT app	Software
2.	Scalable Architecture	Our product enables automatic real time decision-making in an environment composed of dozens of thousands of sensors continuously transmitting data through the web dashboard without causing any interference.	Software,Hardware