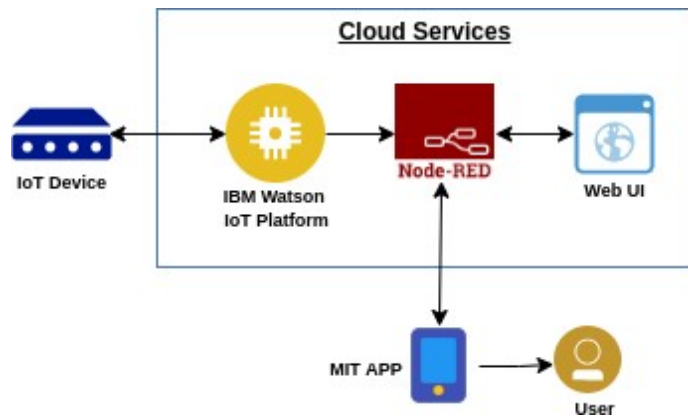


Project Design Phase-II Technology Stack (Architecture & Stack)

| | |
|---------------|---|
| Date | 16 October 2022 |
| Team ID | PNT2022TMID40049 |
| 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



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

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 | Node red/IBM Watson/MIT app |
| 3. | Application Logic-2 | Logic for a process in the application | Node red/IBM Watson/MIT app |
| 4. | Application Logic-3 | Logic for a process in the application | Node red/IBM Watson/MIT app |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM cloud. |
| 7. | Temperature sensor | Monitors the temperature of the crop | |
| 8. | Humidity sensor | Monitors the humidity | |
| 9. | Soil moisture sensor (Tensiometers) | Monitors the soil temperature | |
| 10. | Weather sensor | Monitors the weather | |
| 11. | Solar panel | | |
| 12. | RTC module | Date and time configuration | |
| 13. | Relay | To get the soil moisture data | |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|------------|
| 1. | Open-Source Frameworks | MIT app, Node-Red | Software |
| 2. | Security Implementations | Drone technology, pesticide monitoring, Mineral identification in soil | Hardware |