

Project Design Phase-II

Technology Stack(Architecture & Stack)

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| Date | 03 October2022 |
| Team ID | PN2022TMD41919 |
| Project Name | SmartFarmer-IOTEnabledSmartFarmingApplication |
| Maximum Marks | 4Marks |

Technical Architecture:

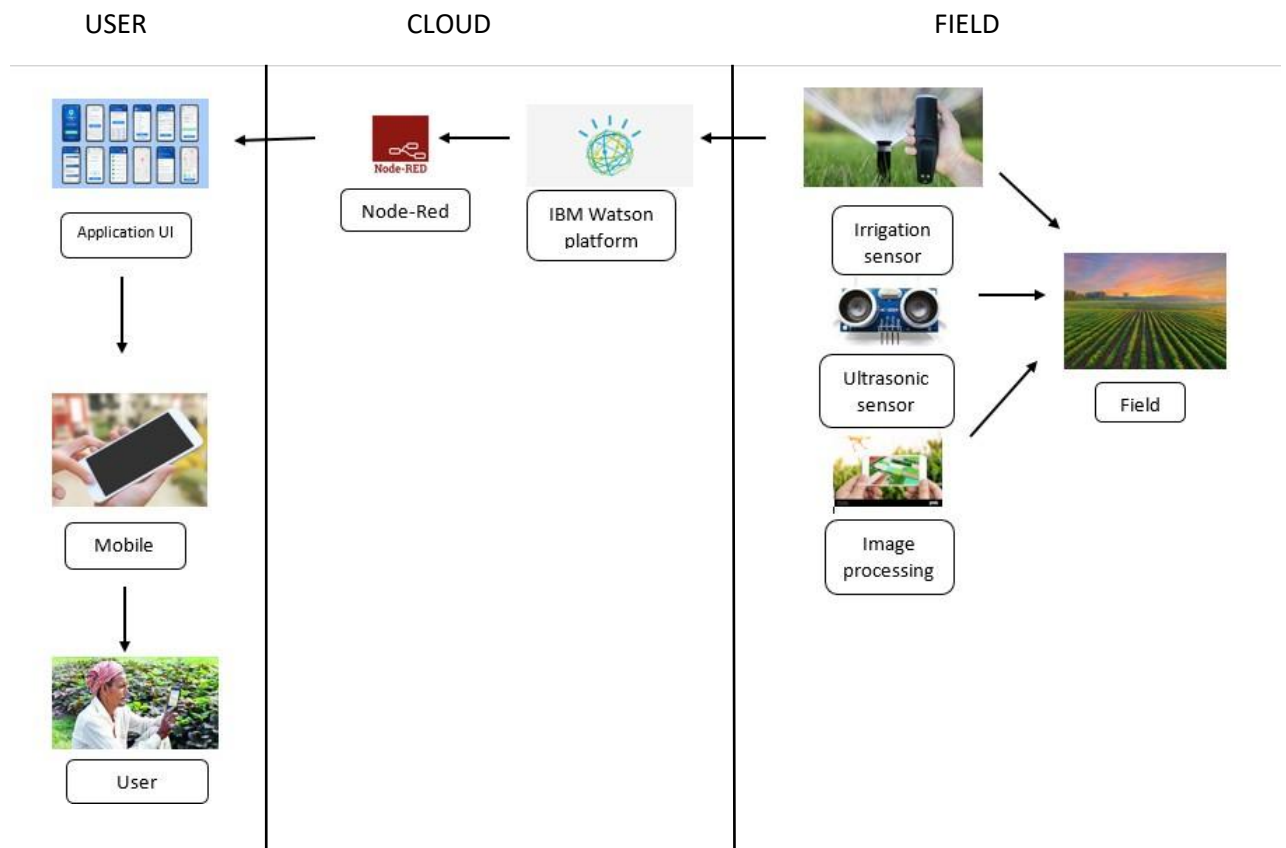


Table-1:
Components & Technologies:

| S.No | Component | Description | Technology |
|------|----------------------|---|------------------------|
| 1. | Mobile Application | Through the mobile application, user get to know all live data from the devices. | MIT inventor |
| 2. | Web UI | It is used as Web Socket communication in binary mode between the web browser (UI) and your application. | Node red, Python |
| 3. | IBM Watson | Use your data to create, train, and deploy self-learning models. Leverage an automated, collaborative workflow to build intelligent applications. | IBM Watson STT service |
| 4. | IBM Watson Assistant | Watson Assistant lets you build conversational interfaces into any application, device, or channel | IBM Watson Assistant |
| 5. | Ph sensor | It used for sensing the Ph level of the soil | sensor |
| 6. | Ultra-sonic sensor | It detects the animal movement in the soil | Sensor |
| 7. | Temperature Sensor | It collects the data of the temperature and humidity of the environment | Sensor |
| 8. | Soil Moisture Sensor | It collects water level in soil | sensor |
| 9. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 10. | Cloud Database | Database Service on Cloud | IBM DB2 |
| 11. | Cloud Storage | It is used for File and data storage | IBM Block Storage |
| 12. | Open weather API | It provides highly recognizable weather product that make working with weather data a way easier | IBM Weather API |

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|-----|---------------------------------|--|-----------------------------------|
| 13. | Aadhar API | It can authenticate the Aadhaar cards of any other individual without any issue | Aadhar API |
| 14. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration, Cloud Server Configuration. | Local, Cloud Foundry, Kubernetes. |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|---|---|
| 1. | Open-Source Frameworks | The open-source framework is a set of tools that can be used to create websites, user interfaces and basic software applications. | Mozilla Firefox\GNU\Linux |
| 2. | Security Implementations | Application security Data security | SHA-256/Encryptions/IAM Controls/OWASP. |
| 3. | Scalable Architecture | Each segment or functional unit of the divided IOT application, performs a separate function. | Micro services Architecture |