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

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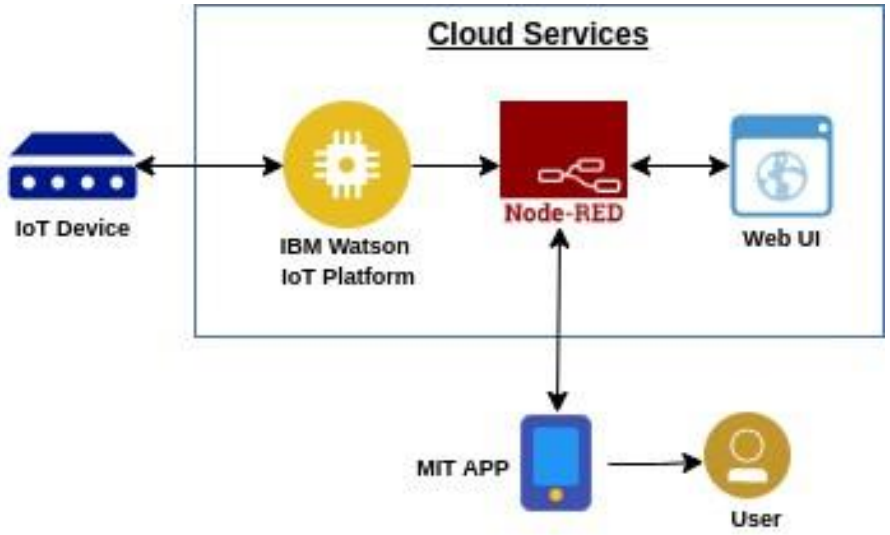
|---|---|
| Date | 03 October 2022 |
| Team ID | PNT2022TMID26635 |
| Project Name | Project – IOT based smart crop protection for agriculture |
| Maximum Marks | 4 Marks |

**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 | Web UI, Mobile App, etc. | Python |
| 2. | Application Logic-1 | Logic for a process in the application | Java / Python |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
| 4. | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant ,nodered etc |
| 7. | File Storage | File storage requirements | IBM cloudant |
| 8. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 9. | External API-2 | Purpose of External API used in the application | Aadhar API, etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model, etc. |
| 11. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud<br>Local Server Configuration:<br>Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1. | Open-Source Frameworks | *The internet of things system(IoT) refers to the set of devices and systems that systems that stay interconnected with real word sensors and actuators to the internet | Internet of things |
| 2. | Security Implementations | *We can use sensors for detecting surroundings | Sensing technology |
| **S.No** | **Characteristics** | **Description** | **Technology** |
| | | *We can use buzzer to alert the farmer | |
| 3. | Scalable Architecture | *it is clearly explained the IoT concept ,crop Damage issues and the need of using smart crop protection system | Internet of things |
| 4. | Availability | *This system is developed using board programmed in embedded C and interfaced with sensing the surroundings | Microchip technology |
| 5. | Performance | *The novelty of the work is that the system automatically alert the farmer by sending sms ,when animals enter into the fields | PIR sensor |