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

| Date | 03 October 2022 |
|------|-----------------|
| Team ID | PNT2022TMID30928 |
| Project Name | IOT based smart crop protection system 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
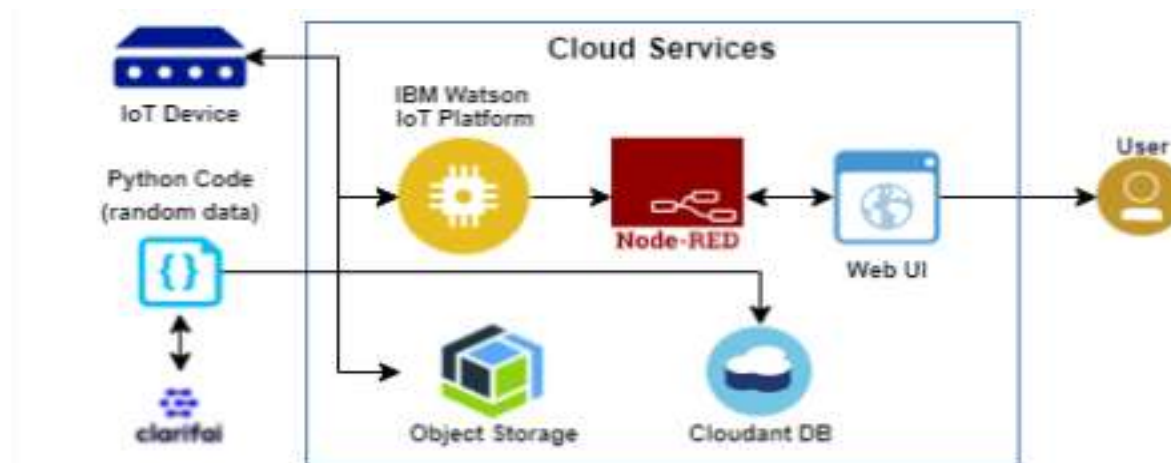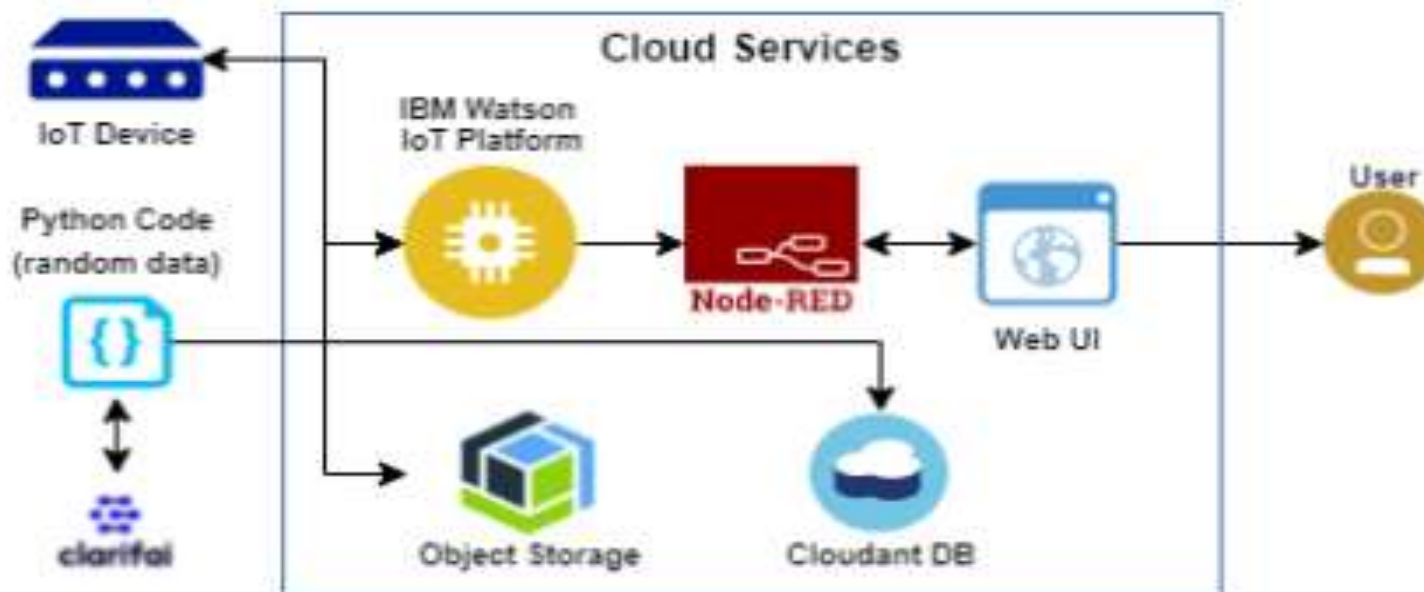
**Table-1 : Components & Technologies:**

| S.No | Component | Description | Technology |
|------|-----------|-------------|------------|
| 1. | User Interface | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. | In app development |

| 2. | Application Logic-1 | Logic for a process in the application | 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. | Influx DB,NoSQL |
| 6. | Cloud Database | Database Service on Cloud | Cloudant. |
| 7. | File Storage | File storage requirements | IBM Block storage |
| 8. | External API-1 | Purpose of External API used in the application | IBM Weather API |
| 9. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model |
| 10. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration : | Cloud Foundry |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|------|-----------------|-------------|------------|
| 1. | Open-Source Frameworks | List the open-source frameworks used | SAN - SAF |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | IBM encryptions |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | IBM cloud architecture |
| 4. | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | To deal with climate changes,resourse efficiency,food safety, and animal welfare |
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Iot compromises smart webs of connected and context-sensitive objects that can be identified,sensed and controlled remotely |