

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

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| Date | 20 October 2022 |
| Team ID | PNT2022TMID17719 |
| Project Name | Project - Emerging methods for the early detection of forest fires |
| Maximum Marks | 4 Marks |

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

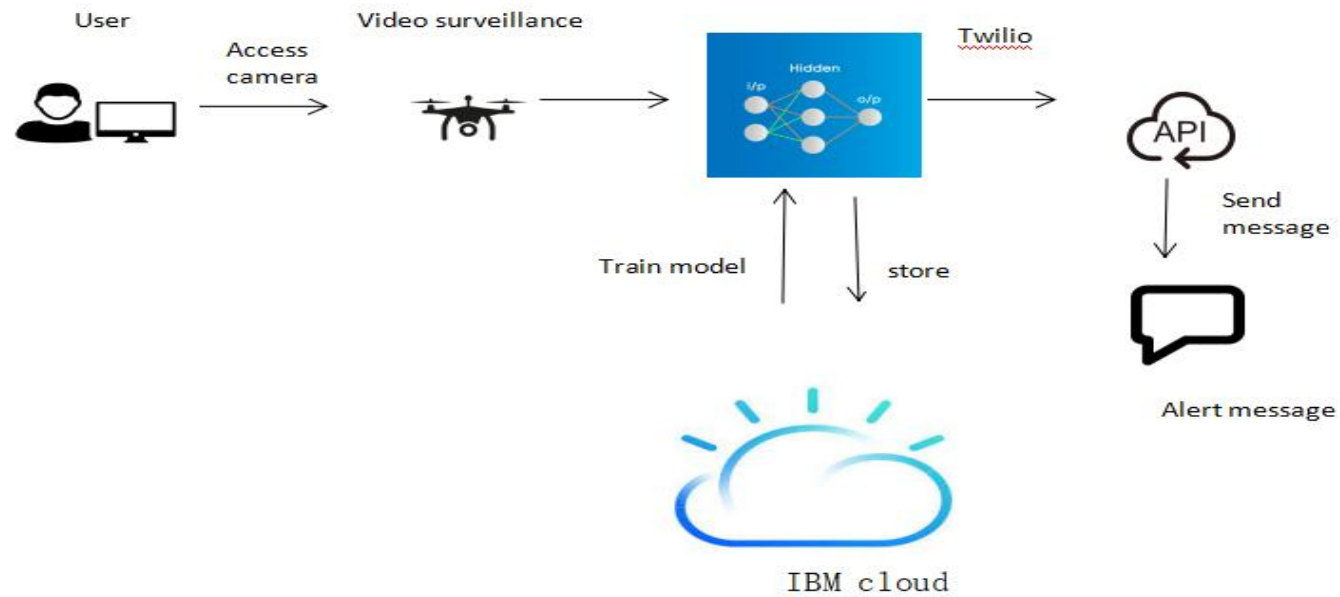


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|------------------------------|---|------------------------------------|
| 1. | Input | Video feed | Web camera or drone |
| 2. | Input processing | Video input is converted into frames | Deep learning technology (Open CV) |
| 3. | Application Logic-1 | Logic for a process in the application | IBM Watson Assistant |
| 4. | Application Logic-2 | Logic for a process in the application | Python |
| 5. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
| 6. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 7. | Training & Testing the Model | Training the model continuously to determine the fire | CNN |
| 8. | External API | To alert the user by messages | Twilio API, Open CV |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|---|
| 1. | Open-Source Frameworks | List the open-source frameworks used | Technology of Opensource framework |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used |

| S.No | Characteristics | Description | Technology |
|------|-----------------|---|-----------------|
| 4. | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | Technology used |
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Technology used |