## Project Design Phase-II
## Data Flow Diagram & User Stories

| Date | 31 October 2022 |
|---|---|
| Team ID | PNT2022TMID17691 |
| Project Name | Emerging Methods for Early Detection of Forest Fires |
| Maximum Marks | 4 Marks |

**Data Flow Diagrams:**

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

**Data Flow Diagram:**

```
┌─────────────────────────┐                                    ┌─────────────────────────┐
│   Checking for smoke     │                                    │     Original Image       │
└─────────────────────────┘                                    └─────────────────────────┘
            │                                                              │
            ▼                                                              ▼
┌─────────────────────────┐                                    ┌─────────────────────────┐
│   Detection of Smoke     │                                    │ Segmented image-Image   │
└─────────────────────────┘                                    │       Frames             │
            │                                                   └─────────────────────────┘
          [ Yes ]                                                           │
            ▼                                                               ▼
┌─────────────────────────┐                                    ┌─────────────────────────┐
│ Sends SMS to user and   │                                    │     Image Training       │
│ control central and     │                                    └─────────────────────────┘
│   initiate alarm         │                                                 │
└─────────────────────────┘                                                  ▼
            │                                            ┌──┐   ┌─────────────────────────┐
            ▼                                            │  │   │ Convolutional Neural     │
┌─────────────────────────┐                             │I │   │      Network             │
│    Switch on camera      │                             │m │   └─────────────────────────┘
└─────────────────────────┘                             │a │                │
            │                                            │g │                ▼
          [ Yes ]                                        │e │   ┌─────────────────────────┐
            ▼                                            │  │   │     Network Model        │
┌─────────────────────────┐                             │T │   └─────────────────────────┘
│     Live updates         │                             │e │                │
└─────────────────────────┘                             │s │                ▼
   [ No ]     │                                          │t │   ┌─────────────────────────┐
            ▼                                            │i │   │   Recognition Result     │
┌─────────────────────────┐                             │n │   └─────────────────────────┘
│ Sends SMS after incident │                             │g │
│      taken care          │                            └──┘
└─────────────────────────┘
```
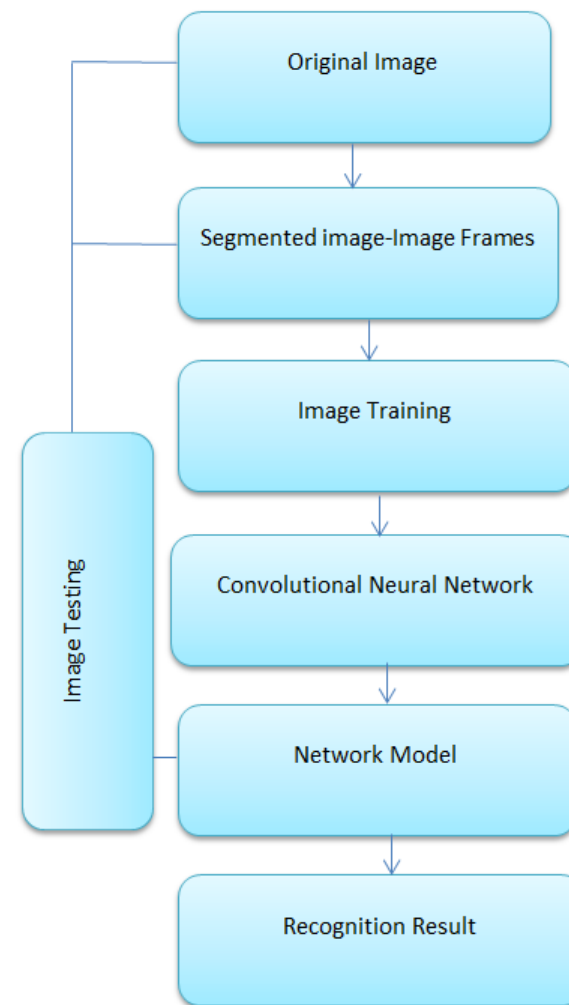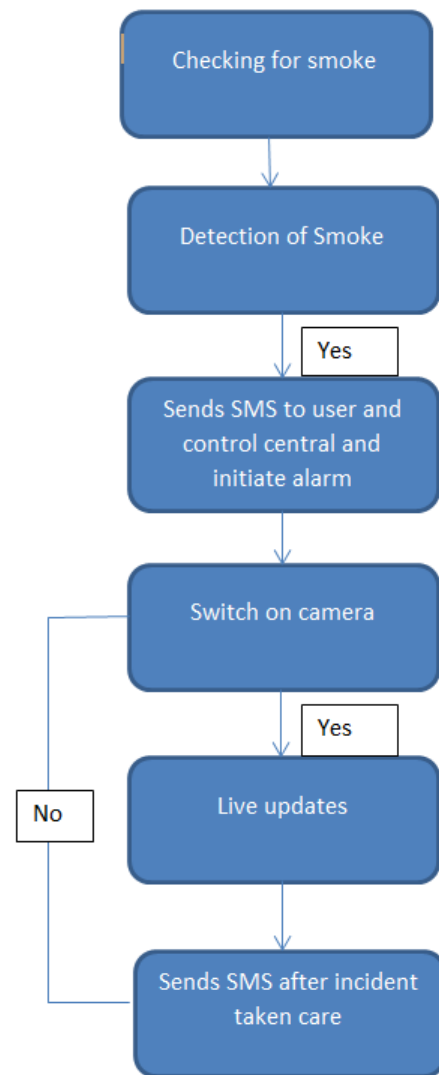
**User Stories**

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|-----------|------------------------------|-------------------|------------------|--------------------|----------|---------|
| Forest Authority | Collect the data | USN-1 | As an Environmentalist, it is necessary to collect the data of forest which includes data like temperature, humidity, wind and rain | I can analyse the data collected | High | Sprint-1 |
| | | USN-2 | Identify algorithms that can be used for prediction | collect the algorithm to identify the accuracy level of each algorithms | Medium | Sprint-2 |
| | Identifying the algorithm | USN-3 | Identify the accuracy of each algorithms | Accuracy of each algorithm-calculated so that it is easy to obtain the most accurate algorithm | High | Sprint-2 |
| | Evaluate Accuracy of Algorithm | USN-4 | Identify accuracy, precision, recall of each algorithms | These values are important for obtaining the right output | High | Sprint-3 |