Project Design Phase-II
Data Flow Diagram & User Stories

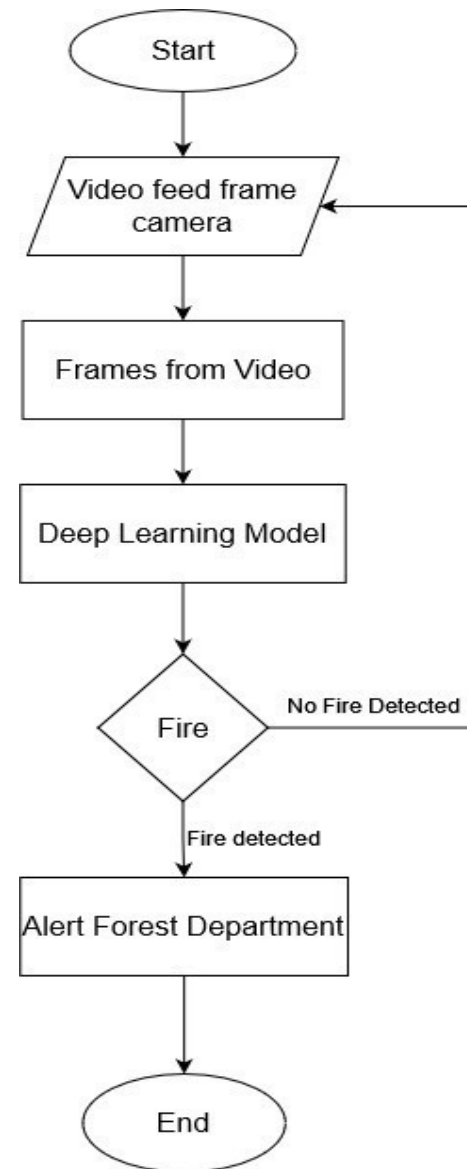| Date	27 AUGUST 2022
Team ID	PNT2022TMID38822
Project Name	Emerging methods for early detection of Forest Fire

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.

Customer

Registration

Receive Alert Message

Select Video Feed

Store Customer Data

Customer data

Send Alert Message

Forest Fire Detection System

Customer info

Confirmation Process

Select Video Feed

Grant access

Processing Video Feed

Video Feed

Send Alert Mesage

Video Feed

Detecting the forest fire

Store Event Log
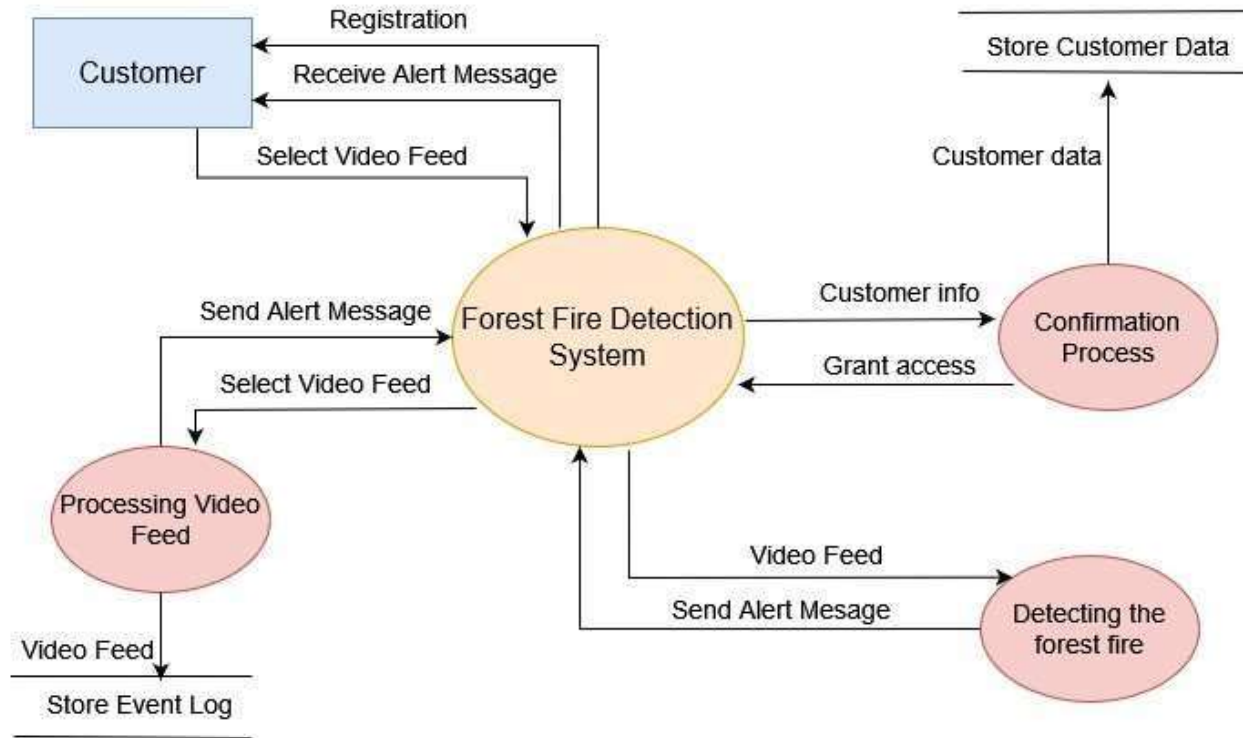
Flow Diagram:

A flow diagram is a visualization of a sequence of actions, movements within a system and/or decision points. They're a detailed explanation of each step in a process, no matter the level of complexity of that process.

```
                    ┌───────────┐
                    │   Start   │
                    └─────┬─────┘
                          │
                          ▼
              ╱───────────────────╲
             ╱  Video feed frame    ╲◄──────────┐
             ╲      camera          ╱           │
              ╲───────────────────╱             │
                          │                     │
                          ▼                     │
              ┌───────────────────────┐         │
              │   Frames from Video    │         │
              └───────────┬───────────┘         │
                          │                     │
                          ▼                     │
              ┌───────────────────────┐         │
              │  Deep Learning Model   │         │
              └───────────┬───────────┘         │
                          │                     │
                          ▼                     │
                      ◇─────◇   No Fire Detected │
                     ◇  Fire  ◇──────────────────┘
                      ◇─────◇
                          │
                     Fire detected
                          ▼
              ┌───────────────────────┐
              │ Alert Forest Department│
              └───────────┬───────────┘
                          │
                          ▼
                    ┌───────────┐
                    │    End    │
                    └───────────┘
```

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Forest Department and Environmentalist	Registration	USN-1	As a user, I can register for the application by entering correct my email, password, and confirming my password.	Only authorised government employees can be accepted	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application.	I can receive confirmation email & click confirm	High	Sprint-1
	Login	USN-3	As a user and a forest fire department staff, I will be provided with unique login ID and password.	I should enter correct email & password	High	Sprint-1
	IBM Cloud Server	USN-4	The forest fire is detected using computer vision algorithm based cameras. These cameras continuously monitor the forest and the data is sent to the server.	I can receive the data	High	Sprint-2
		USN-5	I can fetch the details/data from the cloud server.	I can access the data	High	Sprint-2
	Data Collection	USN-6	I must gather information about forest fires.	I should collect the accurate data	High	Sprint-3
		USN-7	I must draft and point out the algorithms to predict the forest fire.	I must analyse the algorithms with respect to its accuracy.	Medium	Sprint-3

	Algorithm Implementation	USN-8	I must determine the precision of each algorithm.	I must calculate the accuracy of the algorithm	High	Sprint-4
		USN-9	Extracting and assessing the Dataset	I must pre-process the dataset before training	High	Sprint-4
	Evaluating the Algorithm	USN-10	I must determine the precision, recall and accuracy of the algorithm.	Accuracy is essential for detecting the presence of forest fire	High	Sprint-4