Project Design Phase-II
Data Flow Diagram & User Stories
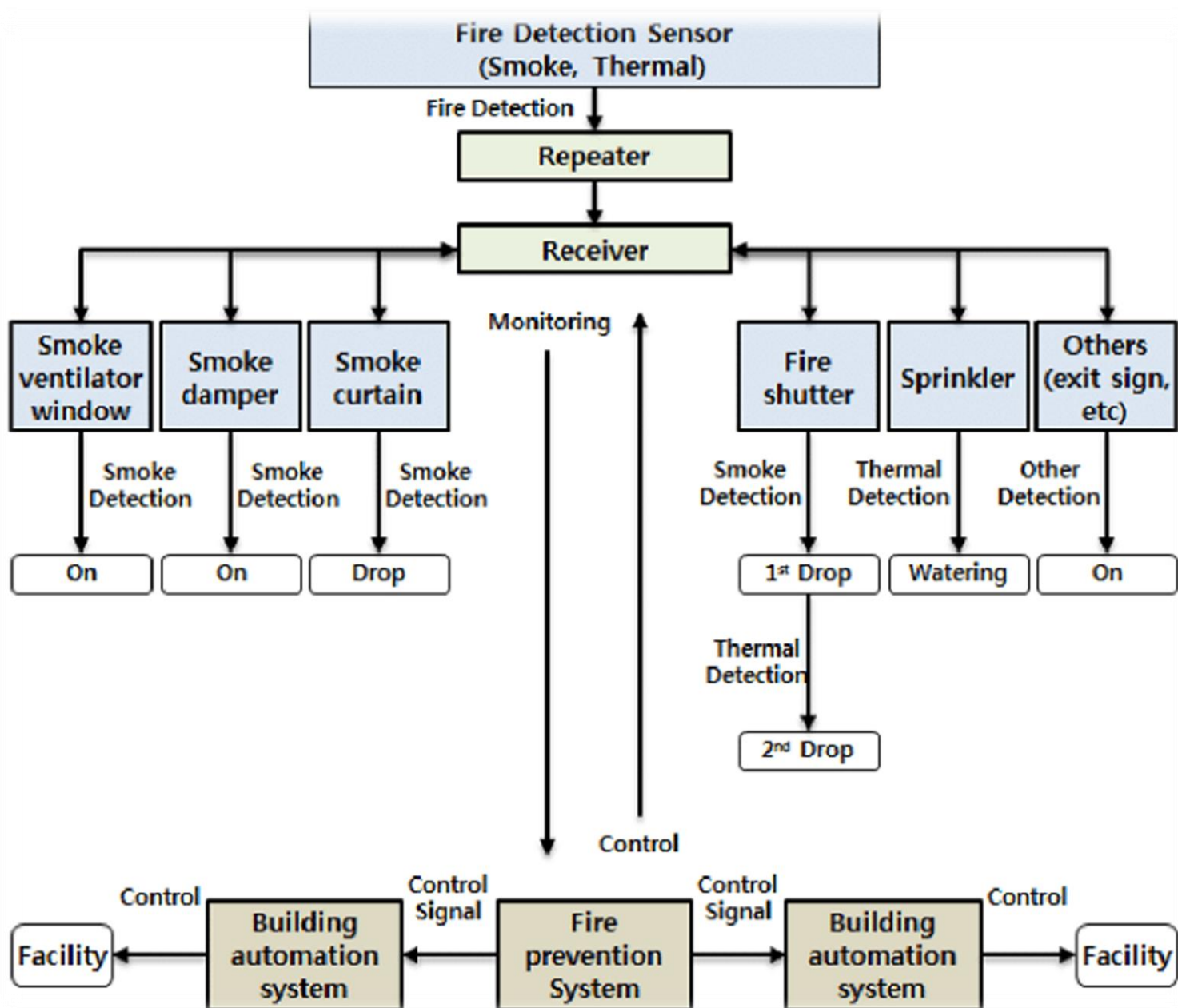
Date	15 October 2022
Team ID	PNT2022TMID35457
Project Name	Industry – specific intelligent fire management system
Maximum Marks	4 Marks

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.

FLOW:

❖ High-Rise and Large Office Building has potential elements of fire occurrence, it expects casualties and property damage in case of fire.

❖ For this reason, buildings build fire prevention system which included in the BAS(Building Automation System). But it operates separately and remains simple monitoring and control. Therefore, this research introduces the integrated platform for fire suppression which is developed with reviews of BAS and fire prevention systems in Intelligent Building.

❖ As a result, the proposed integrated platform for fire suppression consists of the fire detection algorithm using temperature data, the occupancy detecting algorithm using RFID, CCTV and PIR(Pyroelectric Infrared Radial) sensor, the fire suppression algorithm using HVAC system, and connections with Building Management System in BAS for fire situation.

Fire Detection Sensor
(Smoke, Thermal)

Fire Detection

Repeater

Receiver

Monitoring

Smoke ventilator window
Smoke damper
Smoke curtain

Fire shutter
Sprinkler
Others (exit sign, etc)

Smoke Detection
Smoke Detection
Smoke Detection

Smoke Detection
Thermal Detection
Other Detection

On
On
Drop

1st Drop
Watering
On

Thermal Detection

2nd Drop

Control

Control
Control Signal
Control Signal
Control

Facility
Building automation system
Fire prevention System
Building automation system
Facility

USER STORIES:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Industry owner)	Installation	USN-1	As a user, I will analyse the feasible positions to fix the fire detection sensor/system	I can easily identify the place	High	Sprint-1
		USN-2	As a user, I will make proper wiring and piping connections	I make sure that the wire is free from faults	High	Sprint-1
	Fault finding	USN-3	As a user,I ensure that I have installed properly	I can receive information without attenuation	Medium	Sprint-2
	Monitoring system	USN-4	As a user, I ensure that the battery fully charged	I can ensure,even without power supply the system will work	Medium	Sprint-2
	Sprinkler system	USN-5	As a user, I can ensure that the sprinkler sprinkles the suitable retardant when the system detects fire	I can ensure that the retardant tank is filled for controlling the fire	Medium	Sprint-1
	Sensor system	USN-6	As a user,I will install the various sensors(temperature sensor,smoke detection sensor)	I make sure thate the sensor detects fire	High	Sprint-1
	Alarm system	USN-7	As a user,I will use the buzzer for alerting when the system detects fire	I can confirm that the fire is detected	High	Sprint-1
	Alert system	USN-8	As a user,I will use Google API for identifying the location and alert the fire station using GSM	I make sure that I have proper internet connection	High	Sprint-1