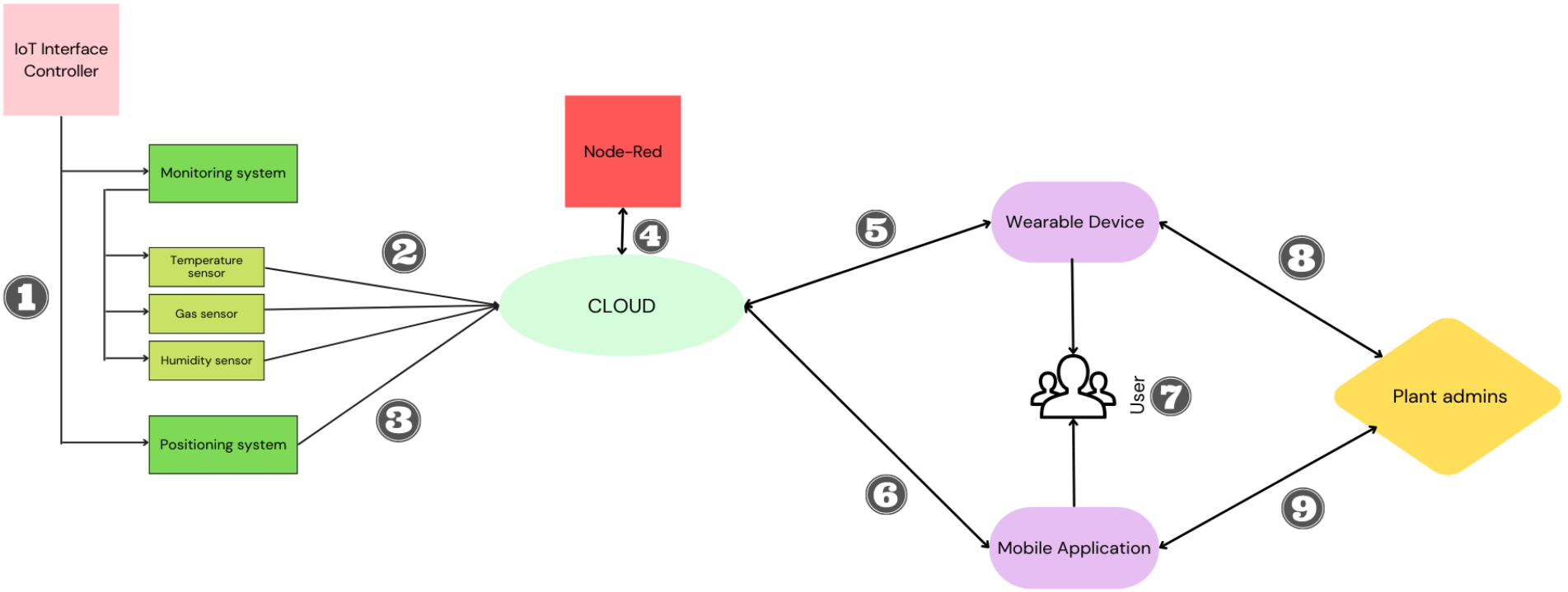
Project Design Phase-II

Data Flow Diagram & User Stories

Date	17 October 2022
Team ID	PNT2022TMID00340
Project Name	Hazardous Area Monitoring for Industrial Plant Powered by IoT
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.



1 - IoT Interface Controller is fed the base python code which is used to run the monitoring and the positioning system.

2, 3 - Data collected from monitoring sensors and their positions are sent to the cloud.

4 - Using Node-Red, hardware devices will be wired together.

5, 6, 7 - Both the wearable device and the mobile application supply necessary data to the cloud and display final output to the user.

8, 9 - The safety admins in the plant can make changes to the wearable device and mobile application interfaces whenever necessary.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Technician	Deployment	USN-1	The technician must deploy all the remote sensor nodes to the hazardous areas which need monitoring	Sensor nodes are found in areas to be monitored	High	Sprint-1
Technician	Data Gathering	USN-2	The sensor nodes collect the required critical data and send it to the cloud	Critical parameters like temperature, gas present are monitored	High	Sprint-1
Technician	Development	USN-3	The wearable device, mobile application and their user interface needs to be developed	These elements are used to send out the alerts	High	Sprint-1
Working personnel	Registration	USN-4	As a user, I can register for the application by entering the credentials given by the industry	I can access my account / dashboard	High	Sprint-1
Working personnel	Login	USN-5	As a user, I can enter my employee details to access the wearable device	I can use the wearable device while working in the plant	High	Sprint-1
Working personnel	Alert system	USN-6	The users need to receive alerts in times of a hazard either through the mobile application or through the wearable device	Timely and accurate alerts are sent to both the mobile application and the wearable device	High	Sprint-2
Plant administrator	Admin Dashboard	USN-7	The admin can send additional information to the working personnel through the admin dashboard	The UI can be altered by the admin	Medium	Sprint-2
Plant administrator	Alert system	USN-8	The admin can send out manual alerts whenever necessary to the personnel through the mobile app and the wearable device	The admin can view the collected data and send out alerts	Medium	Sprint-3
Customer Care Executive	Maintenance	USN-9	The deployed sensors and the wearable device need to be checked for faulty conditions	Finding faulty conditions and documenting them to avoid potential lawsuits	Medium	Sprint-4
Customer Care Executive	Updates and bug fixes	USN-10	Necessary updates to the monitoring algorithm should be made as per requirements of the future	To make updates to match with the changing times	Low	Sprint-4