Project Design Phase-II
Data Flow Diagram & User Stories

TOPIC	GAS LEAKAGE MONITORING AND ALERTING SYSTEM
TEAM ID	PNT2022TMID53804
DATE	11 NOV 2022

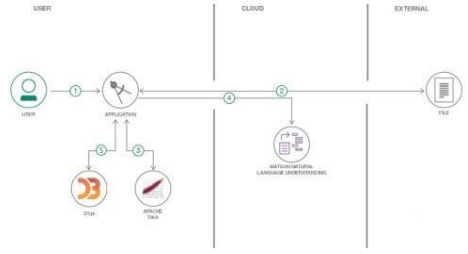
Data Flow Diagrams:

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 rightamount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

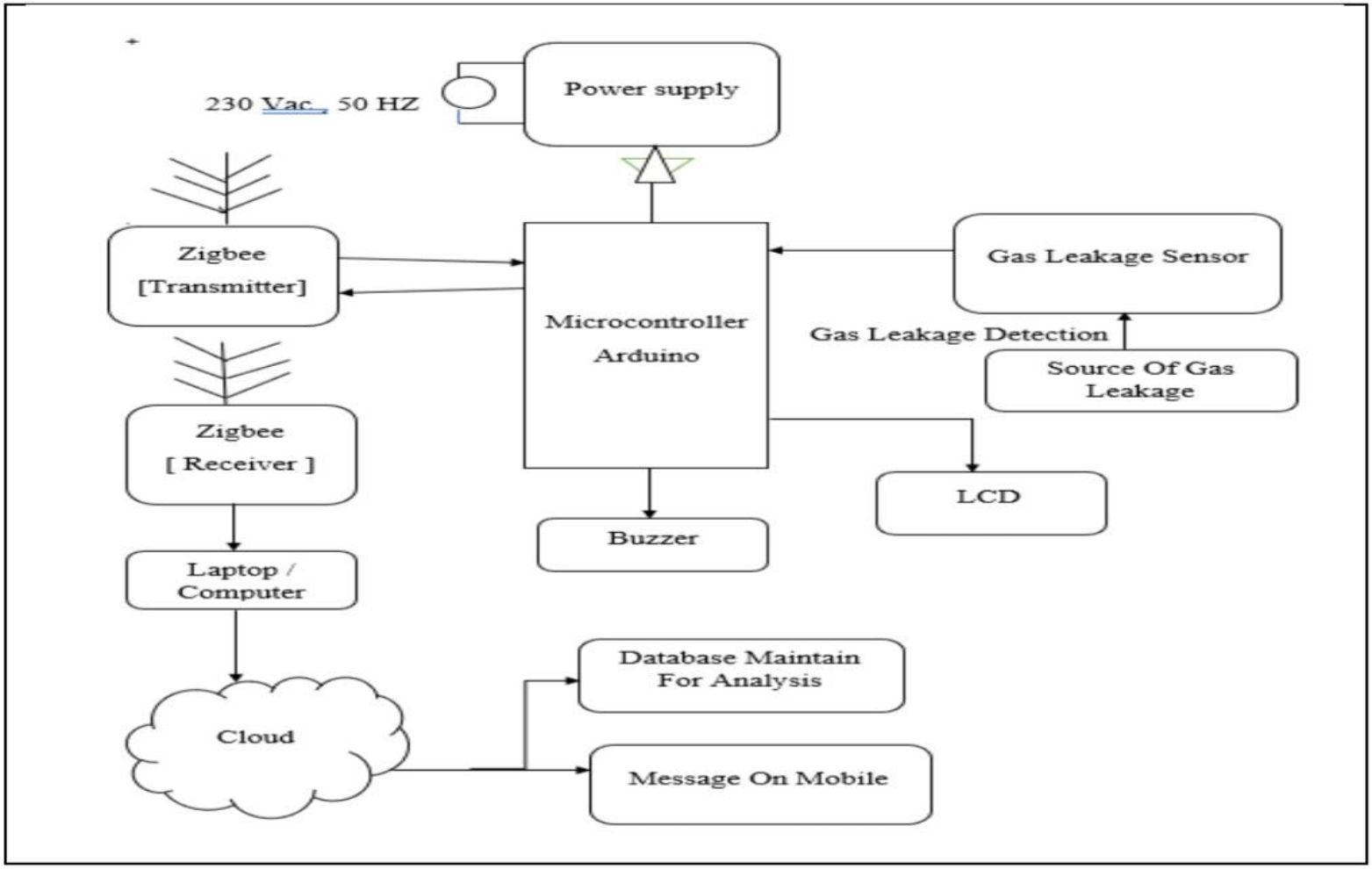
Example: (Simplified)

Gas Leakage Monitoring And Alerting System In Industries

Flow



1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.


230 Vac, 50 HZ
Power supply
Zigbee
[Transmitter]
Microcontroller
Arduino
Gas Leakage Sensor
Gas Leakage Detection
Source Of Gas
Leakage
Zigbee
[Receiver]
LCD
Buzzer
Laptop /
Computer
Database Maintain
For Analysis
Cloud
Message On Mobile

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
Worker in industry	Gas detection design coverage	USN-1	Area Coverage for Gas Detectors Like smoke detectors, a gas detector is capable of providing up to 75SQM area coverage based on a 5M radius of operation.	Design coverage measures the percentage of test cases coverage against the number of requirements	High	Sprint-1
Owner in industry	Leak detection	USN-2	In industrial settings leak detection is a routine procedure that is necessary for monitoring product movement.	To detect leaks in fluid system such as piping network and pressure vessels	High	Sprint-1
Owner in industry	Gas detection actions	USN-3	A gas detection system is usually connected with an alarm system, so as soon as the potentially dangerous gas is detected, the alarm is set to ON automatically, which warns the workers in time to safely evacuate.	Gas detection systems are used to monitor and either alarm or be part of processing control	Low	Sprint-2
Worker in industry	Gas detection location	USN-4	A gas detection sensors should be located near the floor for gases or vapors three or four times heavier than air. They should be installed near the ceiling or roof to detect lighter-than-air gases.	To detect install your natural gas detectors in locations close to sources of natural gas.	Medium	Sprint-1
Worker in industry	Gas detection levels	USN-5	A gas detection levels programmed, typically 10-20% LEL for a first alarm (warning) and 20-40% LEL for a second stage alarm to evacuate or take further action	Gas detection level shows the percentage within a safety range of 0-10% of the Lower Explosive Limit (LEL) and, ideally, should read 0%	High	Sprint-1
Worker in industry	Gas detection calibration	USN-6	A gas detection calibration must be traceable to a national or international standard in order to be considered accurate for calibration.	Calibration is recommended annually or if bump testing indicates an out of spec sensor	High	Sprint-1