PERFORMANCE TESTING

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Project Title	Gas Leakage Monitoring And Alerting System For Industries

1. **Problem Statement (Problem to be solved) :**

Workers who are engaged with a busy industries packed with gas either harmful or harmless needs a way to monitor their gas pipelines continuously and detect early if there is any leakage of gas in their surroundings so that they can work efficiently on major crises rather than worrying about monitoring or leakage of gas, this will indeed reduce the manpower of that industry and create a peaceful environment.

2. **Idea / Solution description:**

Real time gas monitors can overcome delayed response times to such gas leaks. Hence, multiple gas monitors can be placed strategically across any potential source for early gas leak detection. Also, mapping of such gas leaks in these industrial zones can help the safety in charge to take timely corrective actions. Hence, by setting appropriate thresholds, various data-driven environmental automation can be implemented for industrial safety.

3. **Novelty / Uniqueness:**

Even though there are many existing solutions for this problem they failed to satisfy the needs of customer. Some of the solutions are only detecting some particular gases where some others failed to alert the main department and other solutions are with some delays. Our solution not only notify the industry person but also notify the fire fighters so that can take control over the situation and our solution will alert the workers even there is a small leak of gases.

4. **Social Impact / Customer Satisfaction:**

Our solution will be very helpful for the workers and the society which is associated or located nearby the industries. Our solution will prevent great disasters like Bhopal Gas Tragedy so that so many lives can be saved. Through this project the workers mental pressure will be reduced so that they can concentrate on other works or by relaxing them.

5. **Business Model (Revenue Model):**

The main target of our solution is Industries so we have planned to visit industries and explain them about the benefits of our products. So that they can aware of the importance of this solution and use it.

6. Scalability of the Solution:

Our solution can be integrated for further future use because the solution we have provided will be lay on the basic or initial stage.

NFT - Risk Assessment

S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Load/Volume Changes	Risk Score	Justification
1	Light ON/OFF	Existing	Low	No Changes	Low	>5 to 10%	GREEN	Changes occurs less
2	Fast SMS	New	No changes	No Changes	Low	>5 to 10%	GREEN	Changes occurs hardly
3	Sprinkler ON/OFF	Existing	Low	No Changes	Low	>5 to 10%	GREEN	No changes occurs
4	Sensor values	Existing	Moderate	No Changes	Moderate	>10 to 30%	ORANGE	Some changes occurs
5	automatic ON/OFF	New	No changes	Adding component	Low	>10 to 30%	GREEN	Some changes occurs

NFT - Detailed Test Plan

S.No	Project Overview	NFT Test approach	Approvals/SignOff	Assumptions/Dependencies/Risk
1	Python script	Python coding	https://www.python.org/psf/sponsors/#heroku	Depend on the delivered code
2	Node Red	Sensor & command values	https://node-red-bwjoc-2022-11-10.eu-gb.mybluemix.net/red/#flow/23dd2f57ea08c746	Sensor values
3	MIT Inventor	Light/Sprinkler/Sensors notification	http://ai2.appinventor.mit.edu/#5630201331081632	Notifications

End Of Test Report

S.No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Identified Defects (Detected/Closed/Open)	Recommendations	Approvals/SignOff
1	Python Code	Python coding	Met	Pass	GO	Closed	Efficient code	https://www.python.org/psf/sponsors/#heroku
2	Node Red	Sensors&command values	Met	Pass	GO	Closed	Sensing the values perfectly	https://node-red-bwjoc-2022-11-10.eu-gb.mybluemix.net/red/#flow/23dd2f57ea08c746
3	MIT Inventor	Light/Sprinkler/Sensors notification	Met	Pass	GO	Closed	Notifies the users at correct time	http://ai2.appinventor.mit.edu/#5630201331081632