IOT BASED GAS LEAKAGE DETECTION AND PREVENTION SYSTEM

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3. Problem description: LPG cylinders are now being used in rural India. Every year, many incidences of LPG leakage occur, resulting in significant financial damage to families as well as the loss of their homes and family members in almost all situations. Design and develop a solution to detect gas leaks and switch the cylinder off automatically.

4. The offered solution to overcome the problem.

Developing a sensor based mechanical equipment to close/open the gas knob automatically. It has a mechanical block consisting a rotatory gripper element which is attached to one of the three handles of the cylinder. It takes the input from a remote sensor and then initiates the device to close/open based on the command passed. In addition to the automated detection and control, the device also generates a buzzer alarm and initiates a warning message to be send to the user mobile.

5. Utilities/applications of the solution.

- Gas leakage detection.
- Automated Knob movement control system.
- Hazard prevention.
- Lesser human interference.
- Informing the user about the leakage and action taken by the machine.

6. Advantage of the proposed solution in view of the existing/conventional solution.

- **Automated gas detection and Knob control system.**
  - Till now there are separate products to do detection and gripper system but there is no single prototype solving the issue automatically.
  - The requirement for manual intervention is eliminated with the proposed design.

- **Hazard Prevention**.
  - Automated inspection and rectification of the hazardous situation.
  - Real time monitoring of gas leakage.

- **Informing the user.**
  - Providing the information of the amount of gas leakage using a scale.
  - Reminder messages to user.
  - If the manual action is not taken by user taking the decision to switch off the knob and informing the user.

7. Economic potential or commercial applications for the proposed solution/technology.

- As this product will have a reasonable price and from security perspective it is a great solution, it will find its place in the market quite well.
- As the world is moving towards automation and remote controlling this product abides by this thought.