**IARE-New-Logo_Black.png INSTITUTE OF AERONAUTICAL ENGINEERING**

**(Autonomous)**

Dundigal, Hyderabad - 500 043

**Innovation / Prototype**

1. **Student Details**

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| **Name of the Student** | **Roll Number** | **Branch** | **Mobile Number** |
| **M.SAIPAVAN** | **20951A04G2** | **ECE-B** | **6301152931** |
| **E.SAI KUMAR** | **20951A04F4** | **ECE-B** | **9390041716** |

**2. Title of the Innovation or Prototype**

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| Gas Leak Detector |

**3. Define the problem and its relevance to today's market / society / industry need (Max: 100 Words)**

* Now a days the home safety detection system plays the important role for the security of people.
* Since all the people from the home goes to work on daily bases, it makes impossible to check on the appliances available at home specially LPG gas cylinder, wired circuits, Etc.
* Last three years there is a tremendous hike in the demands of liquefied petroleum gas (LPG) and natural gas. To meet this access amount of demand for energy and replace oil or coal due to their environmental disadvantage, LPG and natural gas are preferred.
* These gases are mostly used on large scale in industry, heating, home appliances and motor fuel. So as to track this leakage gas, the system includes MQ6 gas sensor.
* This sensor senses the amount of leak gas present in the surrounding atmosphere. Through this, explosion or getting affected by the leakage of gas could be avoided.

**4. Describe the Solution / Proposed / Developed (Max: 100 Words)**

* Fire hazards are not uncommon. In order to avoid damage from fire accidents, gas leak/smoke detectors are installed.
* These devices detect smoke as the fire breakout and invoke an early alarm.
* This way, before the fire spreads to other parts of the building, people can be evacuated and countermeasures can be done immediately.
* In this project, a gas leak/smoke detector has been designed

**5. Explain the uniqueness and distinctive features of the (product / process / service) solution (Max: 100 Words)**

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* As intended, the MQ5 sensor does detect the gas and lets the Arduino know.
* The Arduino board efficiently sends the signal to the software.
* As we have programmed in the software, it does run the program and hence the output is seen as the buzzer sound is heard.
* Hence, the harmful gas, smoke and fumes can be distinguished by this detector, alerted to the user, prevented from danger and achieve an environment-friendly surrounding.

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**6. How your proposed / developed (product / process / service) solution is different from similar kind of product by the competitors if any  
(Max: 100 Words)**

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* These gases are mostly used on large scale in industry, heating, home appliances and motor fuel. So as to track this leakage gas, the system includes MQ6 gas sensor.
* Fire hazards are not uncommon. In order to avoid damage from fire accidents, gas leak/smoke detectors are installed
* Also, in industries and factories, we can avoid the disaster and ensure the safety of the workers
* As it ensures safety in our house from the gaseous hazards. Also, in industries and factories, we can avoid the disaster and ensure the safety of the workers.

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| **Name of the PBL Handling Faculty :** |  |
| **Signature :** |  |