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UNIVERSITI TEKNOLOGI MARA

INTELLIGENT GAS LEAKING DETECTOR

FACULTY	: Faculty of Electrical Engineering
PROGRAMME CODE	: EE 242
GROUP	: Mask Sdn. Bhd
SEMESTER	: September 2019 – January 2020
GROUP MEMBERS	: 1. Muhammad Asyraaf Bin Ismail (2016718717)
	2. Wan Nurhakim Hazuan Bin Wan Mohamad (2016341183)
	3. Mohamed Arif Bin Mustapai (2016564953)
	4. Sahal Bin Ab Manan (2016309811)
	5. Amirull Danial Bin Mohd Hairii (2016309897)
LECTURER	: **Madam Hajjah Zanariah Binti Zainal Abidin**

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CHAPTER 1
PRODUCT DESCRIPTION

1.1 Introduction

The product that had been developed is named an intelligent gas leaking detector, safety is a very important aspect that need to be taken seriously at every corner of human life. Based on previous research, it had been confirmed that gas leakage is one of the most fatal accidents that can happen anywhere even in an open environment. By introducing our product to the world, can really saves injuries or more fatal accident regarding to any gas leakage accidents.

The idea that engaged the team to develop this product was based on the gas leakage accident that had happened at Pasir Gudang, Johor Bahru. The accident took a huge number of lives which include kids, senior citizens and also adults. Therefore, the team had took a step in developing a gas detector that is not only can detect gas leakage, but it can also display the gas level, alert the authorities if the gas percentage is at a dangerous level and also inform the user using an app provided. Eventually, by using this product the user can be notified quickly and saves a lot of lives.

1.2 Purpose of development

The purpose of developing this product is to saves lives and reducing any fatal injuries in the workplace or any environment that is dealing with gas. Some of the places such as factories, houses, or any industrial area that uses gas in their life on a daily basis. Sometimes a flammable gas leakage can happen, but it can hardly be notified by the workers or any individual near the area, this can lead to deaths or serious injuries. Using our newly developed product could improve the safety of workplaces, residential area and most importantly lives.

1.3 Product concept

- The product was designed for places that have a risk of gas leakage.
- The product improved the safety of not only offices and factories but also the housing area.

1.4 Application

1.4.1 Function

1. Smart LCD Display : To display gas level and the percentage of it.
2. Portable and rugged design : Strongly made and capable of withstanding rough handling. Improve worker safety with wearable and hand-held personal gas monitors.
3. Real-time GPS : To show the precise location of the gas detector to the user.
4. Long-lasting battery : Detect LPG and Butane Gas.
5. Built-in alarm : To alarm the surrounding of the hazard.
6. Rechargeable Solar Panel : Convert solar power into electric energy.
7. Multi-gas sensor : Detect LPG and Butane Gas.

1.5 Unique Features

The uniqueness of the product for availability in Malaysia market consists of:

The Intelligent Gas Leaking Detector prototype features:

- Reading real-time gas level.
- Can be used in a harsh environment.
- Show the precise location of the gas accident.
- The battery that alerts upon reaching hazardous level.
- Take only 4 hours to charge a dead battery.
- The battery can last for a week without sunlight.
- Rapidly measures almost any gases.

The Intelligent Gas Leaking Detector app features:

- Simple and user-friendly app for all ages access.
- Compatible to all smartphone devices.
- Configuration alert and data logs.

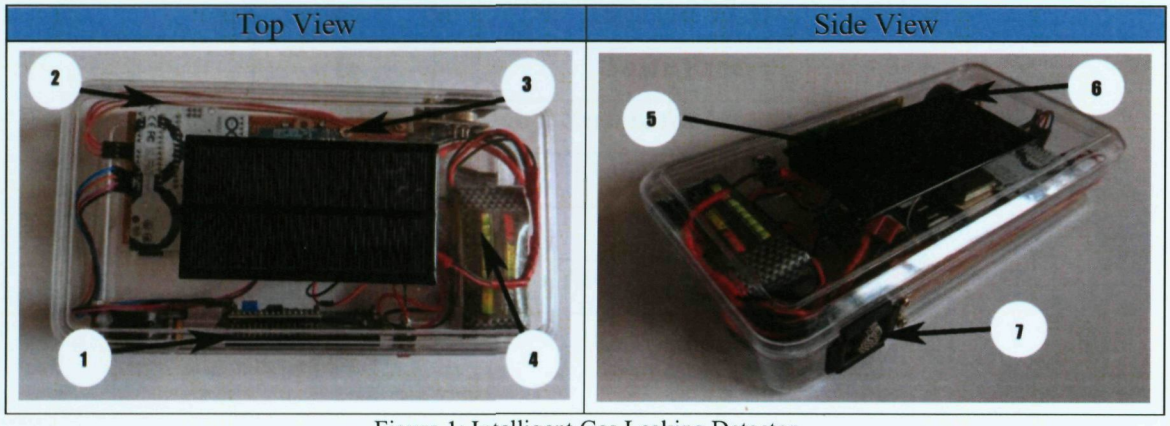

Figure 1: Intelligent Gas Leaking Detector