



**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**DEVELOPMENT OF HUMAN SECURITY ALERT**

**SYSTEM BASED ON IOT TO SEND SOS**

This report is submitted in accordance with the requirement of the University Technical Malaysia Melaka (UTeM) for the Bachelor of Electronic Engineering Technology (Industrial Electronics) with Honours.

by

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I hereby, declared this report entitled DEVELOPMENT OF HUMAN SECURITY ALERT SYSTEM BASED ON IOT TO SEND SOS is the results of my own research except as cited in references.

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## **APPROVAL**

This report is submitted to the Faculty of Electrical and Electronic Engineering Technology of University Technical Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Mechanical Engineering Technology (Industrial Electronics) with Honours. The member of the supervisory is as follow:

Signature: .....

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## ABSTRAK

Sejak tahun 1940, salah laku seksual telah berlaku di Amerika kepada wanita terutama dalam jumlah yang banyak, dan ini telah memberi kesan kepada negara dalam pelbagai cara. Sering kali, mangsa salah laku seksual tidak mendapat bantuan yang diperlukan secepat mungkin. Tindakan kejam ini secara perlahan mencemari benua Asia. Di Malaysia, salah laku seksual telah berlaku kepada ketiga-tiga kaum utama di Malaysia. Kesalahan seksual yang berlaku di tempat kerja mungkin salah satu yang paling sukar untuk dilalui, kerana ia melibatkan begitu banyak aspek yang diperlukan untuk kehidupan yang stabil. Mangsa keadaan seperti ini, seringkali tidak mendapat bantuan akhirnya. Untuk membantu mangsa keadaan seperti ini, produk yang boleh menghantar mesej SOS yang memerlukan tindakan pantas nampaknya merupakan penyelesaian yang sah.

## **ABSTRACT**

Since 1940, sexual misconduct has taken place in America to women especially in a large number, and this has affected the nation in many way. Often times, the victim of sexual misconduct do not get the help needed as soon as possible. This heinous act has slowly contaminated the Asian continent. In Malaysia, sexual misconduct has occurred to all three major races in Malaysia. Sexual misbehave which takes place at the workplace is probably one of the toughest to fight through, because it involved so many aspects that is required to a stable life. Victims of these sort of situation, stay just as that, victims, without getting any help at the end of the day. In order to help these victims, a product which would be able to send a SOS message that would require fast action seems to be a valid solution.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This part of the report consist of the project background, problem statement, objective, and the scope of the project. The main objective of this project is to tackle the problem that is affirmed in the problem statement.

### 1.2 Background

For the longest time, sexual harassment, a violation of human rights, has taken place at work environment. These sort of indecency are hard to deal with especially for woman. Sexual harassment happens to both men and women, but an international survey data shows that a large number of victim, happens to be women (Maypole & Skaine, 1983). Higher authorities with shallow ethics would try to press themselves on woman at every chance that they get.

Most of the time, when a report is lodged on a higher authority or any other person, male or female, they could buy their way through bribing or even through connections that they might have with the Human Resource department, which could be rather unfair and unethical when it comes to the victim. An immediate call for help happens to be absent, prompt action would cut down the space for errors.

Even when a police report has been lodged, the police personnel would not be able to prevent the heinous incident from taking place, therefore to send help before the situation gets worse. A device which would send information of the situation right on

the spot will be beneficial. Stating the specific location also a picture of the place of incident or even a picture of the perpetrator.

### **1.3 Problem Statement**

Being stuck in situation where a person is faced with a sexual assault, they may feel helpless, because there is no place to cry for an immediate help and it can be devastating. From a victim's point of view, the problem is that, the victim would not be able to make an immediate report of a certain unfortunate event. It is normally reported to the higher authority only after the crime is perpetrated. But a call for help, while being in a such situation is absent. Besides that in order to frame the perpetrator, often a proof is needed, and if the perpetrator happens to be someone influential, a proof in the form of a picture is very difficult to obtain.

### **1.4 Objective**

The main objective on producing this product:

1. To develop a system that can immediately send SOS, to the authority with the location of the victim using IoT in real time.
2. To ensure that the system can send picture of the location of the scene or the picture of the perpetrator, if attacked face forward.

## **1.5 Scope of the project**

The extend of this project is to be able to help men or women who would need help informing the authorities or even to reach out for help (fast). This project is triggered the variation of the pulsation that a person would go through, when a sexual misconduct has been encountered, having it personalized. This project, would be able to interface with the IOT server, only when Wi-Fi is available. This product is also made for the age group of 20-40 years office workers within an office. Also this system focusses on people with normal heart rate, excluding the exterior factors such as temperature, body weigh emotions, and also health condition.

## **1.6 Project of significance**

In terms of safety precaution, this project would be able very useful for times when, a person especially a women in distress because this project can be attached to the body and would send prompt message to the authority. It would be accessible everywhere with Wi-Fi. Furthermore the cost of the project and the significance of it would be levelled due to the importance of the project at hard.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter would be focusing on the background of the project and the reviews of several related work that has been conducted in the literature .The literature review focuses on the introduction of the human security which is based on the variation of the heart rate pulsation through IOT. As for the reference, there are a few articles and journals that are studied in order to complete this whole project.

#### 2.2 Related Cases

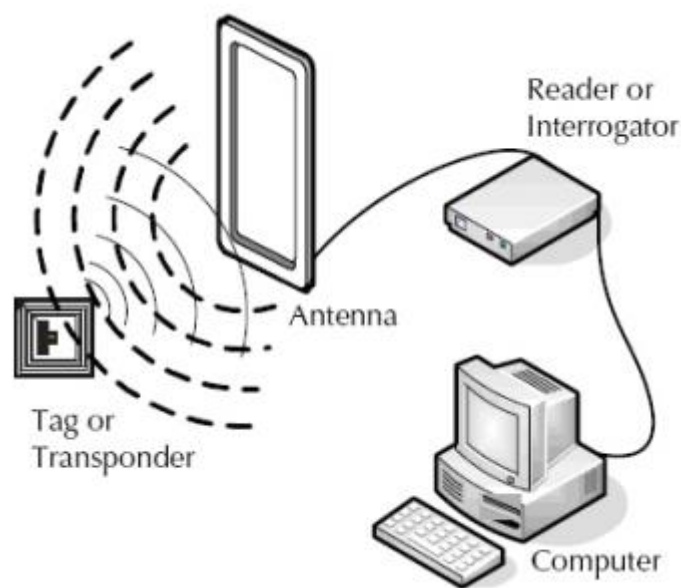
Few decades ago sexual harassment was not even addressed as a harassment, yet it went by the moniker of sex discrimination. After further examination, then the whole heinous act was recognized as a sexual harassment and was prohibited from having it called as a sex discrimination(Mackinnon & Siegel, 2003). The idea of having women being confined in their respective households all day long is not applicable anymore(Voydanoff, 1987). This is due the reason that women working, is larger in number now and involuntarily these involvement has unsheltered them to sexual harassment in these places (W. & Shuy, 2012). Therefore, based on a research that was done approximately 50% of women tend to experience undesired and heinous sex-related attitude at the work place Magley, V. J., Hulin, C. L., Fitzgerald, L. F., & DeNardo, M. (1999). Outcomes of self-labeling sexual harassment. *Journal of Applied Psychology*, 84, 390-402. <http://dx.doi.org/10.1037/0021-9010.84.3.390>. In 2008, a

Senior Manufacturer at an electronic company owned by Freescale Semiconductor was actually discharged for smacking the back of a woman without her consensus, but towards the end the claimant, then verbalized that he was actually being victimized by his Manufacturing Manager. Whereas in 2009, Galaxy Automation Sdn Bhd a woman whom did not want to extend her managers sexual offer received a dismissal letter from her company. According to the claimant, she has been sexually harassed particularly by her manager more than couple of times. After deeper investigation and taking into account of the whole chronology, that was when the claimant had been proven right. Next, in 2010 at Sistem Televisyen Malaysia Berhad (TV3), the victim, who was a trainee at the time, accused an executive broadcast journalist from the same company for allegedly lying on her lap, without mutual consent. Besides that, apparently he made sucking noise while looking at her breast and asked her if he could bite it. After, scrutinizing the proof that was obtained a little further, she was then proven right and actions were taken according to the law, towards the perpetrator (Halili Hassan & Lee Zing, 2015).

### **2.3 Evolution of Human Security System**

After such debate on sexual harassment for the longest time, engineers and engineering school's has been putting so much effort in making technology that may lend a helping hand in aiding this problem. Initial products were made, in hopes to locate and track women's whereabouts by using GPS. Later on the delivery on that particular information took various platforms and ways. Radio Frequency Identification (RFID) based tracking system was one of the very few pioneer ways methods in this

field. RFID is a small chip with an antenna, it can be connected via mark or even a tag but per user only. The labels in a RFID will be entrenched with the transmitter and the recipient. RFID is made up of two parts, the microchip and the receiving wire. In order to have data instilled in the tag, a two way radio transmitter-beneficiary is used to emanate a flag to the wire, and this tag would respond to the data that it has received. Only then will the user send the data received to be read through a RFID PC program. Data would not be jumbled up, as each transmitter would have it's known serial number(Designs, 2017)



**Figure 2.1 Basic RFID connection**

Sooner or later, Global System for Mobile communication (GSM) was brought to light. GSM reinforces most of the global mobile phone networks. It is very much used, hence its success in wireless technology. GSM happens to be the world's most rapid growing mobile standing and this is due to the fact that, it is a digital cellular technology that is used to transmit mobile voice and data service which has the tendency to operate at 900MHz and 1.8GHz band. It can transfer data through a speed