UNIVERSITI
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MALAYSIA

NEW DEVELOPMENT PRODUCT REPORT

SAFETY VEST

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2. EXECUTIVE SUMMARY.

Law enforcement officers are empowered with the awesome responsibility and authority to maintain public order. At the same time, officers have the unique opportunity to engage with citizens, identify and solve problems, and positively affect their communities on a daily basis. The result is a dynamic profession that blends tactical response, critical thinking, and interpersonal skill. Law enforcement agencies respond to tens of thousands of calls for service each year. Each day presents new challenges that require application of these varied skills in new and different situations.

The goal of this project is to develop and study a device that can detect pressure and send the data over a wireless transmission. Wireless hands-free technology is rapidly adapting to a variety of technology today. The purpose of this project was to take the "Officer Down" protocol and simplify it into a device that handles the procedure without user input. The solution was a body vest that is worn under the current equipment and detects harmful attacks. It then reports these attacks back to the station. Currently, the police use a button attached to the belt to alert the dispatcher if there is a problem. However there may be situations in which the officer becomes incapacitated or unable to alert the proper channels. It is possible to design sensors and equipment that will make the users that much safer.

Various materials needed to be researched to determine which would be best suited for the device. The goal is to build a device that would detect an impact inflicted onto the vest which would then transmit the signal to an on board computer, and further sends that information to the dispatcher. Once the dispatcher takes hold of the signal, they can use proper protocol to ensure the safety of the officer. One of the major pieces of the device is the sensor. It is designed to be flexible and detect certain impacts. The sensor monitors a variable capacitance, and once the threshold is reached, the signal is sent over to the transmitter. The transmitter needs to be low power and mobile as the officer needs to be able to walk where he needs to and not worry about being attached to the car. A proper receiver would then be determined signals that may interfere. This project details how the blocks mentioned come together to meet the device requirements. In the end we were able to successfully construct the device, though we had some issues.

3. INTRODUCTION

-Problem Statement/Issues

Reinforcement often seems incomplete and risky during enforcement activites especially in relation to the law. They need an easy-to-use tool for running amplifiers such as easy-to-use video shoots, a tool for recording conversations and a tool capable of making amplifiers can communicate with other amplifiers in carrying out reinforcement activities to make the activity easier, regular and smooth. Power amplifiers are often exposed to any risk that causes them to feel unsaved even if they are protected by law. For example, the JPJ (Jabatan Pengangkutan Jalan) is one of the officer that doing the enforcement among the drivers which they didn't even know the background of the driver. It possible fir the driver to bring along a gun with them.

Additionally, enforcement officers are also seen doing their own work as well as holding a car too fast by the patrol unit. For any law enforcement activity, an authorized officer should conduct any prosecution-related activity with evidence. For example, law enforcers who feel suspicious of vehicles, have the power to withstand the vehicle but what are the risks faced by the officer?

-Methodology: Data Collections (Who, Where, When, How)

for data collection methods, the risk data faced by law enforcement officers is normally recorded by special units in a particular part of the department. so cross sectional methods such as interviews, secondary data reviews, observations and journal references have been implemented to obtain relevant information.

This methodology approach is implemented randomly in the departments involved with enforcement. Among the departments surveyed were district health departments, fire departments, city councils and police offices. The data obtained include extortion types, complaints and safety reports by their respective members. the position is randomly assigned within the respective districts of the state in Malaysia. For example, Melaka Tengah District Office. The method used to obtain the information is to provide a letter and sent to the respective departments.

-Limitations

Not all departments give concerted work on the interview and conduct detailed interviews. Some departments claim that information is private and can not be disclosed to

the public. To carry out this activity, our side also has a shortage of members. so, planned activities are running out of schedule as planned

4. NEW PRODUCT DEVELOPMENT

4.1 Definition

Safety E Vests have become a staple of the security and defense industries. Modern police officers, infantry soldiers, and security guards feel safer in the knowledge that their vital areas are better protected from enemy gunfire. Obviously, no article of clothing can provide absolute ballistic protection, but the advantage of modern body armor is significant, and since the 1970s they have saved the lives of thousands of law enforcement officers. As technology has improved over the decades, these vests have become stronger, thinner, and better able to stop bullets, and this trend will continue for the foreseeable future.

However, there is a downside to this helpful technology. When a ballistic vest stops a bullet, the force of the impact is still enough to cause significant blunt trauma. While the wearer's life will likely be saved, he may be temporarily incapacitated by these injuries. The result is a hurt individual in a dangerous situation who may very well be unable to call for assistance on his radio. This system would potentially save lives in situations where a law enforcement officer is alone and is unable to call for backup either due to injuries or to active engagement with an attacker.

After doing some research, the team chosen a product that can benefit to all enforcement officers in Ministry of Health at each district. The main problem for enforcement is their safety on field work.

4.2 Classification of NPD

The product is a safety clothing project that includes several devices such as navigation software, flashlights, security alerts, sensors, audio and video recorders and features that enable users to record every activity that takes place during enforcement activities. In addition, this product is the first product in the world capable of running several different functions at one time. It is very helpful to the user in carrying out legal