DESIGNING AND IMPLEMENTING A COST-EFFECTIVE NETWORK OF A COMMERCIAL QUICK DIAL AND QUICK RESPONSE DISTRIBUTED SYSTEM

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ABSTRACT

Emergency response is a vital element in an emergency response team. The ability to provide reliable signal and accurate information during emergency situations allows the law enforcement to provide a quick response during life threatening situations. A delayed response is a denied response. By creating a network of distributed emergency response systems, we will be able to create a cost-effective systematic method that enables a quick dial, quick response during emergency situations. The goal of this project is to provide a proof of concept where selected candidates will be able to send a distress signal simulating an emergency. These signals must be picked up in real-time by the receiving party upon triggering the SOS button wherein the operations officer assigned in the command center may call out the mobile patrol unit to provide help. At the end of this paper, we will provide a conclusion that will help us understand the architectural design of all the components needed for this implementation.

INTRODUCTION

Designing and implementing a security control structure should not end with crime prevention in mind. While preventing crime is impossible, the ability to formulate a multi-controlled environment which includes a deterrent, detective and preventive control structure is doable. These control principles, if implemented correctly, allows the law enforcement together with the local government unit to strengthen its logical security posture towards crime prevention.

According to Gayon (1990), reducing the response time through developing a command-and-control system for each central police station is an essential element in improving police effectiveness. During that time, the installation of police call boxes for public use and creating a single telephone number are some of the methods that can be used to create a direct link to law enforcement. As wireless technology began to be offered for public consumption, the Global System for Mobile Communication (GSM) System was developed to offer wireless-based calls and Short Messaging System (SMS). Cell towers were provisioned as part of this global communication infrastructure which paved the way for telecommunication companies to offer the 2nd Generation (2G) wireless network (Radiolinja, 1991).

PROBLEM DEFINITION

A crime is determined by a popular cultural summation called a categorical trinity. These are: Motive, Opportunity and Means (MOM). These three (3) aspects must be established to convince a jury of guilt in a criminal proceeding ("Means, Motive and Opportunity," 2021). Breaking anyone (1) from the categorical trinity will hinder it ineffective.

On January 30, 2021, a 7-Eleven convenience store at Esteban Abada, Loyola Heights, Quezon City was robbed by two (2) armed and hooded gunmen. The two were posing as customers pretending to be doing a Gcash transaction. Luckily, another customer in the store, one Joseph Manzano, was a member of the Philippine Navy Reserve Command who was armed at the time and was able to neutralize the situation (Luna, 2021).

While this incident did not incur any casualties, the robbery holdup which happened on October 07, 2021, in another 7-Eleven store at Antipolo, Rizal took the life of a security guard on duty. Five (5) suspects went inside the store and the two (2) declared a holdup. The security guard immediately responded and one of the armed gunmen fired multiple shots that killed the guard immediately (Tupas, 2021).

One of the most gruesome bank robberies in Philippine history happened on May 16, 2008. It has been called, without exaggeration, the bloodiest bank robbery-massacre in the country's history where ten people were shot in the head killing them immediately inside RCBC Cabuyao, Laguna branch. The killers got away with an estimated P9 million to P12 million in cash. (The Warrior Lawyer, 2008).

Aside from these three (3) incidents, several crimes were also committed in different establishments like computer shops, gasoline stations, jewelry shops, sari-sari stores, etc. They all have one thing in common, the lack of a sufficient and working signaling system for police assistance during emergencies.

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