ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)
Vol4, Issue 6, June 2017

Rapid Action System for Safety Purpose

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***Abstract*— With augment in the crime rates in major cities, government have various steps to check on the problem at hand .But is not that effective because of various reasons. One of the major reasons is being easy accessibility to the spot because of various geographical reasons. Another reason for delayed in the action against the crime. Keeping these short coming in mind we have devised a system that is capable of taking quick action against the crime. The system comprises of a control room, a unmanned vehicle (drone) and a smart watch. The system works when this watch send a danger signal to the control room along with its location, and the control takes a quick by sending the unmanned vehicle which will reach the given location .The drone is controlled and monitored by control room. The drone consists of a camera,a teaser gun, a tear gas bomb and accompanied by GPS and GSM .Once the drone reaches the spot it will send the live video to the control room and necessary action can be taken and if requires we can momentarily paralyze the suspect with help of teaser gun. Even if location changes the will follow the location. Through this system we can monitor the activities in and around the city.With effective implementation of this system we can bring down the crime rates and make our society a better place to live.**

***KEYWORDS*:Smart watch,Drone, taser gun, tear gas,GPS and GSM.**

I. INTRODUCTION

It is quite obvious that the rate of crimes are increasing day by day in all societies in the world, but I personally do believe that there are a lot which can be done by both the governments and the individuals to reduce the crimes in communities.

To make our society a safe place it requires a good coordination between common men and police department. A good coordination can be achieved by providing a channel for communication. There have been various steps taken by government and also by police department that, maximum numbers of crimes are reported and necessary rapid action could to be taken. But these for steps fail to achieve their goal because of mobility constrain and inaccessibility to certain places as they do not have good road connectivity.

REQUIRMENT FOR NEW HIGH TECH SOLUTION –to decrease the continuous increase crimes in recent past years

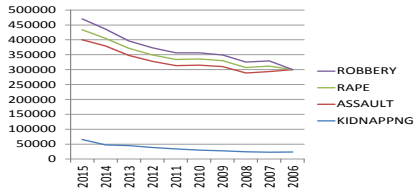


Figure 1-Data From National Data Center

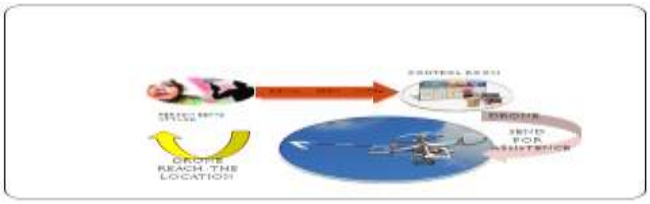
II. DIFFRENT CRIMES COUNT IN PAST FEW YEARS AN OVER VIEW OF SYSTEM

The system consist of following module

1. The Watch or the finger ring
2. The Control room.
3. The unman vehicle –Drone.
4. Camera.
5. Taser gun.
6. Tear gas bomb.
7. Loud speaker.

When person wearing the watch or the ring is being assaulted, kidnapped ,raped or being robbed off or feel any kind of insecurity and threat to his life will send the signal to the control room by pressing the specially provided signal button on the watch or the ring. The control room will receive the alarm signal along with the location of the person. Control room in response to the signal received will send a drone equipped with camera, taser gun, loud speaker and the tear gas bomb as an immediate assistance to the victim.The camera in the drone will send the real time situation and based on the which the person controlling the drone from the control room will make use of either of equipment provided to save the victim.

III. BLOCK DIAGRAM OF SYSTEM



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DETAIL DESIGN OF SYSTEM THE SMART WATCH

The smart watch is like any other watch with its basic function but added with extra feature of GPS and GSM module in it. The watch have an extra button which would be used by person if he/she require an immediate assistance. The button provided should be pressed twice,which will activate GSM module of the watch.

Once GSM module is activated it will send an emergency signal contain its location to the nearest control room via SMS.

In order to give an extended battery life to the watch so that it does not fail in case of emergency,two power is provided for watch that is the battery could also charged by the ultra violet rays of sun light.

THE FINGER RING

Some time a person is not comfortable wearing a watch so he/she can chose the finger ringhaving the same feature as that of the smart watch.

THE CONTROL ROOM

The control room will have a receiver to receive the signal send by person.

The control room will be controlled by an expert who will send the drone to the received location and it will continuously follow the person based on real time scenario captured by the camera placed in drone at the crime location he will make use of the equipment in the drone or will take necessary steps.

As every police station has a control room thus this facility can be easily incorporated in every police station.

The room will have the capability of controlling more than one drone at a time so crime at different can be controlled simultaneously.

THE DRONES SPECIFICATION

Drones are an aircraft without a human pilot aboard also called as UAV (Unmanned Aerial Vehicle). It works through a ground-based controller and a system of communication between them. Compared to manned aircraft it is preferable for dangerous missions. Apart from military it is could also be used for other purposes such as surveillance, product deliveries or aerial photography.

Surveillance drones are widely used all over the world. Usually, it is used by military to keep a close eye on enemies without reaching at their bases and even not being noticed. But this technology had a wide scope it could also be used by cops.

The drone in this system can fly at a height of 500ft, have a camera, a speaker to give a verbal warning, a taser gun which can aim up to 100ft and is capable to partially immobilizing an assailant, a tear gas bomb to scatter the mob and have a battery which let it to fly and operate for 2 hours. Drone once reaches to the crime location,camera will give the real time scenario based on which the person controlling the drone will make use above provided equipment to save the victim and bring the situation under control.With help of camera culprit can be identified and further necessary action can be taken and if necessary a rescue team can be sent at the location.

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CAMERA IN DRONE

Camera sends the real time situation video to operator in good quality of 12 megapixel resolution. It had inbuilt microphone which records the audio allowing operator to better understand the situation. It has high durability by which it could withstand heavy strikes like stones. Raining is never a concern as the camera is waterproof. The camera can also be zoomed in and out as required.

THE TASER GUN

Taser gun are unparalleled in technology and effectiveness. A Taser gun has a higher instant incapacitation rate than an 9mm handgun and they don't require special permission. It releases two high-voltage electrodes, designed to temporarily paralyze the muscle function of an attacker. Taser gun can immobilize an assailant from up to 15 feet away giving you valuable time to escape the situation.

SPEAKER

Speakers allow the operator to convey his warning to the culprit and to console the victim. Voice of the speaker is clear and natural. It is durable, water resistant and light weight therefore it does not trouble the flight. Its voice is audible within a range of 200ft.

TEAR GAS BOMB

During the riot conditions police could push back the mob but they will never stop until they scatter. This could be achieved if the drone could drop tear gas bomb in the middle of crowd. It is being used from decades to control the mob but using it by drone would give an upper hand to the police, without even facing the stones by mob.

IV. CONCLUSION

The above purpose technology had a huge potential to modernizing the way today's crime is being control and solved. With proper implementation of system and awareness among the masses the crime rate will come down in our society to larger extent. The system will act as a friendly tool for police department and will a lead over the evil element of our society. Even if the police failto prevent the crime they will have enough evidence to put culprit behind the bar. Apart from preventing and solving crime the system can also be used in disaster management.

V. ACKNOWLEDGEMENT

At the very onset, I gratefully acknowledge my indebtedness towards the department of Electrical and Electronic, Aeronautical Engineering of DayanandaSagar College of Engineering, Bangalore,Karnataka for allowing us to pursue our project on this domain. It is my great pleasure to thank Mr. Hareesha N Gowda for helping and enabling us to go forth on this hugely satisfying project report. I sincerely thanks to Mr. Satish B.A for his excellent guidance, supervision and full cooperation throughout the project and also for being the instrumental in completion of project.

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