

## Live Assistance And Tracking System (LATS) using Cloud and IoT

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**Abstract**— Current socio-economic situations around the world have seen a drastic rise in crime rate all over the world, which proves difficult to control for any type of authorities and most of the resources are wasted on crimes which have been already committed. The emphasis of our system is to stop the crime before it is even anticipated ensuring safety of a loved individual and also saving the extra resources the authorities may encounter. Our system proposes an immediate live assistance in case of an emergency by special armed task force designed to encounter dangerous situations and kill the crime in the cradle.

**Keywords**— IoT, Arduino, GPS, GSM, Safety, Live Assistance, Tracking, Cloud, Police alert.

### I. INTRODUCTION

Growing crime rates all over the world demand better and better use of technology to counter the social problems all over the world. Police resources are available world-wide on hotlines which are too slow most of the time. The police efficiency is tempered by delayed arrivals, most of the time, and then further police resources are wasted by investigation, legislation, courts and arrests. Our system presents an efficient way to handle a special team of trained officers designed for combat in any situation. These forces can be assisted with the technology that will help them track their fellow victims with greater ease and diffuse the situation early.

#### Motivation of project

There has been a huge increase in crime rates on a global scale. Authorities all over the world have implied better and evolved techniques, both psychological and physical, to try to reduce the crime rates. But the truth is, with growing economic imbalances in society and the inevitable human psychology for violence and thus prisons and legislative obligations won't stop an individual from committing a crime. As most of the Government over the world have their emphasis on preventing the crimes by bringing the criminals to justice, our system would stop the crimes before they even occur presenting a much better system and a lot of efficient police resources are saved which involves a complicated process.

The System proposed through this paper introduces a new methodology in the conventional tracking techniques to make efficient use of the police resources which used to be wasted before due to miscommunication.

Rest of the paper is organized as follows, Section I contains the introduction of LAT System, Section II contain the related work of Literature Survey, Section III contain the description of the existing system, Section IV contain the architecture and other specifications of the proposed system, section V explain the Data Flow inside system with data flow diagram, Section VI describes the conclusion, Section VII discusses the future scope of the project.

### II. LITERATURE SURVEY

[1] The following system tries to use a hardware module for detection of an emergency situation using various sensors like temperature sensor and pulse rate sensor. Although using a sensor to detect the human psyche is a good idea it is often unreliable as humans experience a range of emotions all day and it is unreliable.

[2] The system is designed to be used as an app which informs an emergency situation to friends and family. The main drawbacks of this system are friends and family may never reach to the individual on time.

[3] The Paper discusses the use of a smart watch which is able to communicate with the users via GPS and GSM. The drawbacks of this system are it depends on the GPRS protocol to communicate back and forth thus making the system inefficient at various places. GSM signals are attenuated over huge walls so using any kind of internet protocols for a homing device is inefficient.

[5] The system again proposes use of heavy network resources which is not possible all the time and it is difficult

to carry a jacket everywhere as it is simply impractical. The evidence stored on the device is broken in a struggle and also the jacket would be uncomfortable to wear also informing the family of the victim.

### III. EXISTING SYSTEM

#### 1. VithU App:

This is an emergency app initiated by popular Indian Television series 'Gumrah' aired on Channel V. When the power button of the smartphone is pressed twice consecutively, it begins sending alert messages with a link of the location of the user every two minutes to the contacts.

#### 2. Smart Belt:

Smart belt tries to utilize the similar concept and inform the authorities.

#### 3. Wearable Electronic Jacket:

This type of jacket is used to shock the assaulter with high kV to help victim escape along with the GPS tracker.

### IV. PROPOSED SYSTEM

Our system is based on three-tier architecture:

- i) Hardware (at victim's end).
- ii) Cloud Interface.
- iii) Software Front end with the authorities.

1. The first phase of the system introduces a special hardware device with GPS and GSM which communicates with the cloud architecture. The device uses very low power and is always ON. The device consists of two buttons Emergency and Panic.

a) Low power technology: the device consumes very less power to turn on GSM and GPS capabilities and has a standby time of more than 2 days.

b) Low frequency GSM signals ensure that the device also works in the areas of lower reception.

c) Emergency button: After pressing this button immediately a state of emergency is declared and the co-ordinates get sent to the cloud demanding the immediate assistance.

2. All the nodes connect to a central cloud architecture which plays a vital role.

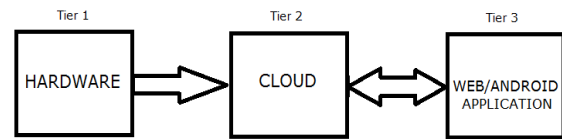
a) Cloud tracks location of each and every member on the task force in real time.

b) In case of emergency situation the location of the nearest task force from victim is computed based on the algorithm.

c) The nearest task force is pinged on the situation and once he accepts the request the system will start sending location updates to the task force.

d) Profiles of victim are also returned to the task force for better local identification.

3. A front end will be designed for the task force to deal with emergency situation and deal with the conditions. They could be able to accept or divert the requests. Interface could allow them to track members of their fellow task force members



SYSTEM ARCHITECTURE DIAGRAM

Fig 1 : Architecture Diagram

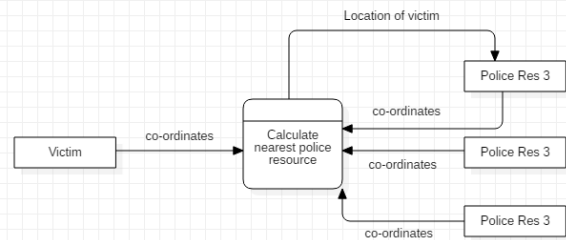
4. The panic button tackles situations where the attack is not confirmed. It deals with the dilemma situation of the victim about whether the attack is going to happen or not. A specially designed loop will manage the situation accordingly.

### OTHER TECHNOLOGIES:

AGPS: Accelerated GPS is another type of tracking system designed to track a user's location based on 3D triangulation.

Last Location: In case of any type of failure, the last location of the victim will be saved and can be retracted from the cloud.

### V. DATA FLOW



DATA FLOW DIAGRAM

Fig 2 : Data Flow Diagram

### VI. CONCLUSION

Thus the aim of this project is to reduce the overall crime rates all over the world by carefully using technology and man power to stop crimes before their anticipation. We aim to make the city safe for everyone and can be used by almost all the social classes like children, women, senior citizens and physically handicapped people.

## VII. FUTURE SCOPE

The project has a lot of future scope in terms of its implementation. It can be used by the government bodies for better regulation of the police force. The government revenue can be increased by similar type of systems. This system can be also used by private protection agencies with proper legislation and can turn out to be a good business.

## REFERENCES

- [1] G C Harikiran, "Smart Security Solution for women based on IoT", IEEE, **978-1-4673-9939-5/16/31.00**, 2016.
- [2] B Chougula, "Smart Girls Security System", International Journal of Application or Innovation in Engineering Management, Volume 3, Issue 4, April 2014.
- [3] A Helen, "A smart watch for women security based on IOT concept watch me", IEEE, **978-1-5090-6221-8/17/31.00c**, 2017.
- [4] K S Hasan, "Cost Effective GPS-GPRS based Object tracking system", IEEE, **978-988-17012-2-0**, 2015.
- [5] S N Gadhave "Electronic jacket for Women Safety", International Journal of Application Innovation in Engineering in Engineering Management, Volume: 04 Issue: 05 May 2017.
- [6] E M Abd, "GIS based Decision support system for criminal tracking", Institute of Electrical and Electronics Engineers, **978-1-4673-2824-1/12/31.00**, 2012.
- [7] M Verma, "Service gap analysis of the public buses in Bangalore with respect to women safety", Transportation Research Procedia, Volume 25, Pages **4322-4329**, 2017.
- [8] S P Purnachandran, "Context Aware Public Safety in Pervasive Environment Wireless Public Safety Networks", International Journal of Application or Innovation in Engineering Management, Pages **99-111**, 2017.

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