Emergency Alerting System with Location Tracking and SMS Alerting

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Abstract*: In today's world, people using smart phones have increased rapidly and hence, a smart phone can be efficiently used for personal security or various protection purposes. This existing paper presents Sahayya Android Application for Emergency Alerting. This revolutionary application offers a seamless solution for activating emergency notifications with a single click, enabling a quick reaction in times of need. The app aims to address the importance of alerting mechanisms during unexpected situations by acting as a vital link in the chain of crisis communication. The one-click activation function emphasizes the application's user-friendliness, making it accessible to a wide spectrum of people, regardless of technical ability. In times of crisis, the capacity to transmit timely information is critical, and this application aims to streamline and speed the alerting process for enhanced safety and minimized impact during emergencies. A single on this application identifies the location of place through GPS and sends a message comprising the location URL, to the registered contacts. Information of the victim is sent via SMS (Short Message Service) which helps to find the location of the victim quickly and can be rescued safely*

Keywords: safety, alert messages, android app, Global Positioning System (GPS).

I. INTRODUCTION

A wide range of tracking systems has been developed for tracking vehicles and displaying their position on a map, applications has been developed which tracks the mobility of a human being. Now days, tracking a person's mobility has become a crucial issue where network is not stable, specifically in outraged areas where there is no signal to communicate one another in emergency situations. If tracking a human being could be implemented as a system which is cost effective by using a GPS equipped mobile phone rather than using a handheld GPS receiver.

The main aim of our project is to develop an application that reduces the overall cost of tracking based on GPS system, which is satellite-based service and it is available 24X7 everywhere in the whole world. GPS system can be used to get location which includes details like latitude, longitude and altitude values along with the time details, etc. It is a free of cost service available to every individual. In order to track the movement of the person we have used Google maps for mapping the location sent by the mobile phone. The mobile phone fetches the GPS location which communicates with the server using General Packet Radio Service (GPRS). This system is a low-cost service which is wireless data communication system. Mobile phone equipped with GPS receiver are easily available in the market. The mobile

phone technology has enabled us to communicate across the world. The GPRS is one of the best and cheapest mode of communication available today This research aims to improve construction safety using an emergency alert system through which a single click on this app identifies the location of a place through the Global Positioning System (GPS) and sends a message comprising the location URL to the registered contacts to help the victim in a dangerous situation. It is a free of cost service available to every individual. This application can be activated by a single click, whenever the need arises. In order to track the movement of the person, Google maps for mapping the location is used and sent on the mobile phone. This system is a low-cost service which is wireless data communication system. The information is sent via SMS, through which messages are delivered almost instantly, providing a quick and efficient mode of communication. This is particularly important for time- sensitive information. SMS texts are more trustworthy than other kinds of communication since they are less prone to challenges such as email filtering and internet connectivity problems as they work on cellular networks, which makes them useful in areas with limited or no internet access.

II. PROPOSED METHODOLOY

In today's world, smartphone usage has exploded, establishing these devices as adaptable instruments that may be used for personal security and a variety of other protection objectives. The dynamic capabilities of mobile phone technology have not only enabled smooth communication around the world, but have also paved the way for creative apps that cater to a wide range of demands. One such program is precisely developed to act as a lifeline for workers who find themselves suddenly in emergency situations that require immediate contact. This user- friendly tool, which can be started with a single click, proves to be an invaluable asset at times of crisis.

This program stands out by its advanced features, which allow it to move beyond the restrictions of conventional systems. Its functioning is based on the Global Positioning System (GPS), a technological cornerstone that allows for exact location tracking. To fully utilize the capabilities of this program, users must ensure that their cell phones are GPS-enabled, which ensures precise sending of location details to pre-registered contacts. Activating the app with a single click starts a complete procedure in which the GPS recognizes the position and generates a message with the location URL. This message is then sent to the registered contacts, acting as a beacon of help in dangerous situations. Going deeper into its complexities, the application uses Google Maps to follow the movement of the person in distress, displaying a visual representation of the location on the recipient's mobile phone. In essence, this safety and security program combines a variety of capabilities, including GPS monitoring and real-time text updates that show the victim's current location as well as the device's battery level. Such a comprehensive and technologically advanced solution demonstrates the changing landscape of safety applications, effortlessly merging innovative features to provide an effective and dependable instrument for personal security and emergency response.
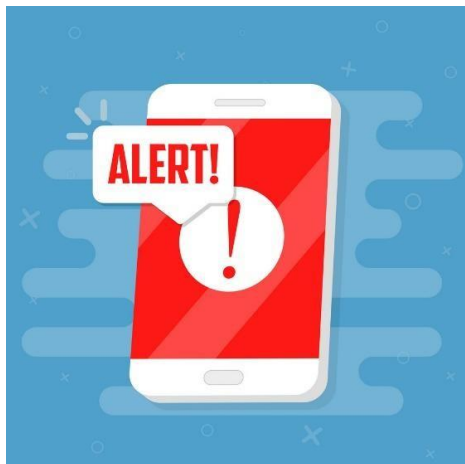
Features:

- Your loved ones and close friends can AUTOMATICALLY receive a text message
- Your location (with map link).

- The battery level of victim's phone.
- Exact time of the alert triggered.

III. OBJECTIVES OF THE STUDY

The extensive examination focuses on the vital importance of safety precautions in locations prone to outrage and emergencies. The objectives are to improve the efficiency and efficacy of emergency alert systems, bringing in a disruptive paradigm. These devices become critical tools for enhancing safety regulations and expanding protective measures in emergency scenarios. The study aims to provide information by looking into complex safety elements in places prone to indignation and emergency situations. These contributions provide as an engine for the advancement of emergency alert systems, creating a landscape in which safety requirements are adjusted to suit particular issues in outraged contexts. In essence, the project aims to pave the path for a more flexible, adaptable strategy to protecting lives and property during a crisis.

IV. ADVANTAGES

- App will help the victim, so that help can be attained to them at earliest.
- User interface is easy.
- Free of cost.
- Cost of GPS devices are reduced.
- Easy installation and setup
- Enhanced worker safety awareness and confidence.

V. LIMITATIONS

- We require internet for accessing this application.
- We require android mobile phones.

VI. FUTURE SCOPE

The future of emergency alert systems is full of potential, thanks to constant technological breakthroughs that transform our ways of communication and emergency response. As we see the rapid expansion of cutting-edge technology, such as 5G networks, the proliferation of Internet of Things (IoT) devices, and the incorporation of AI-powered algorithms, emergency alert systems are on the verge of a transformative era. This imminent shift anticipates the use of these technical wonders to convey alerts with unprecedented speed and dependability, extending their reach to the most remote and inaccessible locations. Furthermore, these advanced systems are prepared to deliver emergency alert signals in situations where standard communication techniques may fail, such as zero-balance events. Furthermore, they aspire to deploy programs effortlessly without relying on internet connectivity, ensuring that crucial alerts can be distributed under a variety of conditions.

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Looking forward, robotics is expected to play a critical role in improving alert accuracy and significance. Robotics will contribute to precise notification customizing by using advanced algorithms to assess real-time data from many sources. The future of emergency alert systems will be marked by increasing efficacy, unsurpassed speed, and extraordinary adaptability. This trajectory promises to strengthen our collective ability to respond to and mitigate a wide range of disasters, ushering in a future in which technology serves as an indispensable partner in safeguarding the safety and well-being of communities around the world.

VII. CONCLUSION

The Emergency Alert System project is a comprehensive program aimed at ensuring human safety through the use of smartphones equipped with an array of tools and features that people may rely on in an emergency. This multidimensional system combines advanced features, such as real-time communication and location tracking capabilities, with the aim of helping significantly improve emergency response times. With a single click on the dedicated app, a message with the exact location URL is sent to pre-registered contacts, providing critical aid to the victim in distress. It is critical to emphasize that the scope of this initiative goes beyond only protecting human lives; it also plays an important role in creating a safer and more efficient work environment.

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