iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** IV **Month of publication:** April 2026

DOI: https://doi.org/10.22214/ijraset.2026.79887

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue IV Apr 2026- Available at www.ijraset.com

Stay Safe Security App with Screen Alert

H.D. Gujar[1], Anchal Sarode[2], Gayatri Lambade[3], Vedanti Mohite[4], Sampada Thombare[5], Janhavi Kuralkar[6], Arpita Pardhi[7]
Computer Science and Engineering Department, PRPCM

Abstract: ***Personal safety has become one of the most important concerns in modern society due to increasing crime rates and unsafe environments faced by individuals, especially women, children, and elderly people. In emergency situations, victims often do not have enough time to manually contact help or activate safety applications. Therefore, an intelligent automated system is required to detect danger and notify trusted contacts immediately. This paper proposes a Stay Safe Security App with Scream Alert, a mobile-based security application designed to improve personal safety using smartphone technology. The application continuously monitors environmental sound using the smartphone microphone and detects distress signals such as loud screams. Once a scream is detected, the system automatically activates an emergency alert mechanism and sends notifications along with the user's real-time GPS location to registered emergency contacts. The proposed system integrates multiple technologies including Android development, GPS location tracking, and real-time alert messaging to provide fast emergency assistance. Such systems help reduce response time and increase the chances of receiving help during dangerous situations [1].***
Keywords: Scream Detection, Personal Safety Application, Mobile Security, Machine Learning, GPS Tracking.

I. INTRODUCTION

Personal safety has become a major concern in today's world due to the increasing number of crimes and unsafe situations faced by individuals while traveling or working alone. Women and elderly people are particularly vulnerable to such incidents. Mobile technology provides an effective platform for developing smart safety systems that can help individuals during emergency situations [2].

Modern smartphones are equipped with various sensors such as microphones, GPS modules, cameras, and internet connectivity. These technologies enable developers to create intelligent applications capable of monitoring the user's environment and providing immediate assistance during emergencies. Several mobile safety applications have been developed that allow users to send SOS alerts or share their location with trusted contacts [3].

However, most existing systems require manual activation, which may not be possible in panic situations. To overcome this limitation, this research proposes the Stay Safe Security App with Scream Alert, which uses sound detection technology to automatically detect distress signals such as screams. When a scream is detected, the system activates an emergency alert and sends location information to predefined contacts [4].

II. LITERATURE SURVEY

Many researchers have worked on mobile safety systems using smartphone technologies. A GPS-based safety system was developed to track the user's location and send emergency alerts to predefined contacts using GSM communication [1]. This system enables quick assistance by sharing the exact location of the victim.

Another research study proposed an Android-based women safety application that provides SOS alerts and real-time location sharing using messaging services and GPS modules [2]. The system allows users to send emergency messages to family members during dangerous situations. Similarly, a mobile application called Raksha Safety Alert App was developed to improve women's safety using smartphone sensors and emergency alert mechanisms [4]. The system sends emergency notifications and location information when the user activates the alert function.

Although these systems provide useful safety features, most of them depend on manual activation. Automated detection of distress signals such as screams can further improve emergency response systems and increase personal safety [5].

III. PROBLEM STATEMENT

Despite the availability of several safety applications, many challenges still exist in providing reliable emergency assistance. Most existing applications require users to manually activate emergency features such as pressing an SOS button or opening the application to send alerts [3].

©IJRASET: All Rights are Reserved

During dangerous situations, individuals may panic and fail to access their phones quickly enough to activate these features. Another major limitation of existing systems is the lack of automatic detection of emergency situations. These applications generally do not monitor the user's environment or detect distress signals such as screams or abnormal sounds [5].

Therefore, there is a need for an intelligent safety system that can automatically detect emergency situations and send alerts without requiring manual interaction from the user.

IV. OBJECTIVES OF THE PROPOSED SYSTEM

The main objective of the proposed Stay Safe Security App with Scream Alert is to develop an intelligent mobile-based security system that can automatically detect emergency situations and provide immediate assistance to the user. The system aims to use the smartphone microphone to identify distress signals such as loud screams that may indicate danger or unsafe conditions. When such a signal is detected, the application automatically activates an emergency alert system and sends notifications to predefined contacts along with the user's real-time location information.

Another important objective of the proposed system is to improve emergency response time by using GPS technology for real-time location tracking. By sharing the user's exact location with trusted contacts, the system ensures that help can reach the victim quickly during dangerous situations. Such automated alert systems have been shown to significantly enhance personal safety and reduce response delays during emergencies [1].

The proposed system also aims to create a user-friendly mobile application that can be easily used by individuals of all age groups. By integrating sound detection technology, GPS location tracking, and automated messaging systems, the application provides a reliable and accessible safety solution for individuals in distress [2].

V. METHODOLOGY

The methodology of the proposed Stay Safe Security App with Scream Alert focuses on detecting distress signals through sound analysis and automatically sending emergency alerts with the user's location. The system is implemented as a mobile application that continuously monitors environmental sound through the smartphone microphone. When the application is activated, it begins analyzing sound intensity

Once a scream is detected, the system verifies the sound characteristics to ensure that it matches the threshold level of a distress signal. After confirmation, the application automatically activates the emergency alert mechanism. At this stage, the system collects the user's real-time GPS location using smartphone location services. The application then generates an emergency message containing the user's location information and sends it to the registered emergency contacts through messaging services or internet-based notifications.

This automated process eliminates the need for manual interaction and ensures that emergency alerts are sent immediately during dangerous situations. Similar automated safety systems using GPS and mobile communication technologies have been proposed in previous research studies to enhance emergency response mechanisms [3].

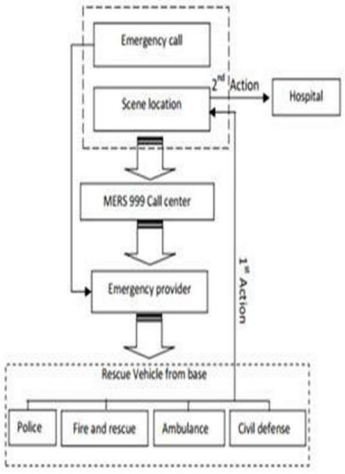


Figure 1. Flowchart of handling a road accident emergency.

VI. SYSTEM ARCHITECTURE

The architecture of the proposed system consists of several modules that work together to detect emergencies and send alerts. The user interface module allows users to register, add emergency contacts, and configure application settings.

The sound detection module continuously monitors environmental sounds using the smartphone microphone and identifies distress signals such as screams [6]. The location tracking module collects real-time location data using GPS services. Finally, the notification module sends emergency messages and location information to registered contacts through messaging services [2].

These modules together create an automated emergency response system that improves personal safety.

VII. CONCLUSION

The Stay Safe Security App with Scream Alert provides an effective solution for improving personal safety by combining sound detection, location tracking, and emergency alert systems. The proposed system reduces response time during emergencies and allows individuals to seek help even when they cannot manually activate safety features.

By integrating modern smartphone technologies, the system provides a reliable and efficient personal safety solution that can significantly improve security in dangerous situations [4].

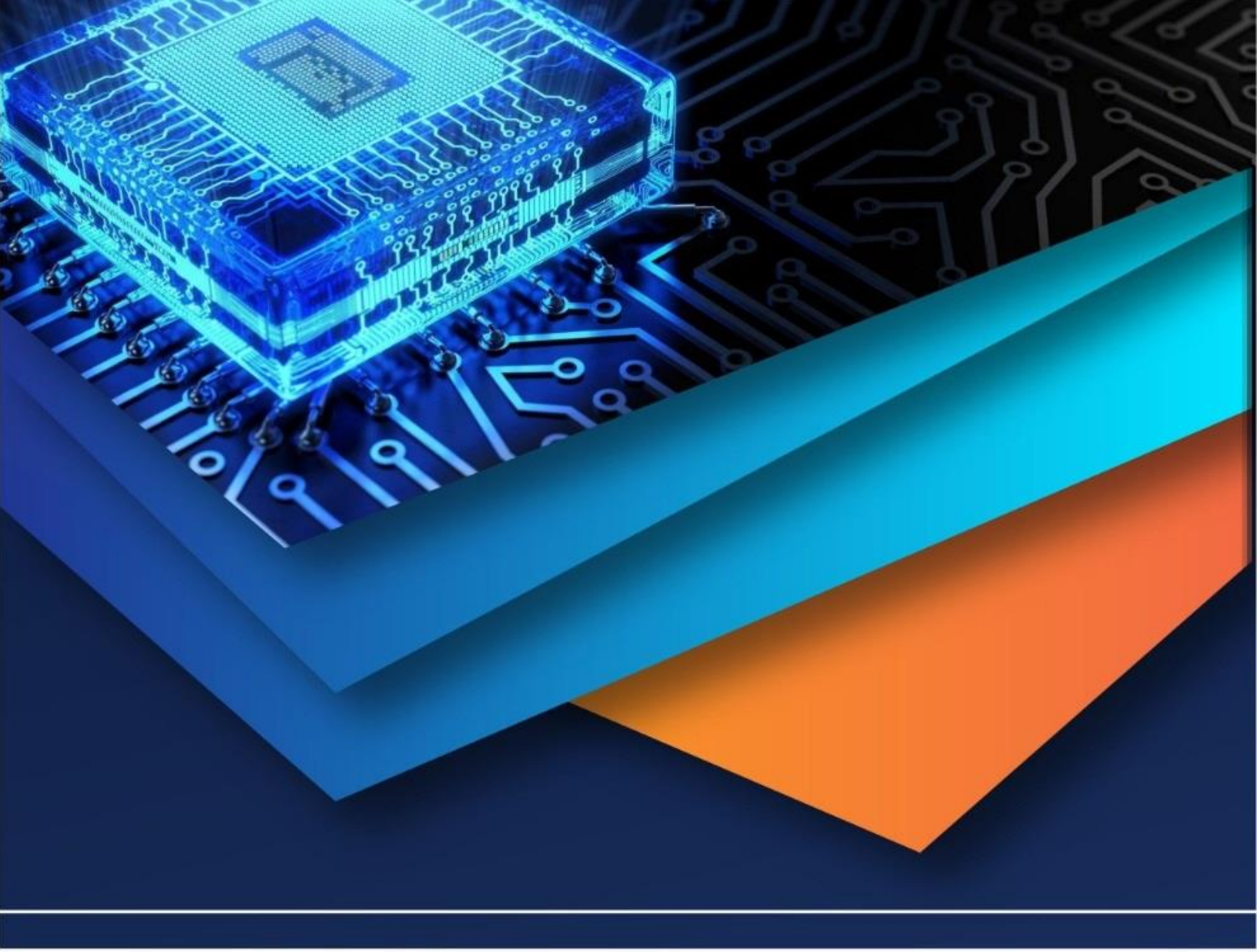
VIII. FUTURE SCOPE

The proposed Stay Safe Security App with Scream Alert provides a strong foundation for improving personal safety using smartphone technology. However, the system can be further enhanced by integrating advanced technologies such as artificial intelligence and machine learning for more accurate sound recognition. Machine learning models can be trained to differentiate between normal sounds and distress signals with higher accuracy, reducing false alerts and improving system reliability [5].

REFERENCES (IEEE)

[1] P. Sravani et al., “Women Safety System Using GPS and GSM Tracking,” International Journal of Engineering and Science Research, 2025.
[2] J. Bengare et al., “Android-Based Women Safety Application with Real-Time Alerts and Location Tracking,” International Journal of Scientific Innovation and Engineering, 2025.
[3] K. Srinivas et al., “Android App for Women Safety,” International Journal of Computer Science and Engineering, 2021.
[4] B. Sahu et al., “Raksha: A Safety Alert App,” International Journal for Research in Applied Science and Engineering Technology, 2022.
[5] A. Kulkarni et al., “Woman Safety Android Application,” International Journal for Research in Applied Science and Engineering Technology, 2023.
[6] S. Krishna et al., “Smart Women Security System Using Android and GPS,” International Journal of Research in Engineering Science and Management, 2021.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)