

# International Journal of Innovative Research in Science, Engineering and Technology

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## Automatic Emergency Calling for Mobile Applications

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**ABSTRACT:** In today's world, people using smart phones have increased rapidly and hence, a smart phone can be used efficiently for personal security or various other protection purposes. The heinous incident that outraged the entire nation have waken us to go for the safety issues and so a host of new apps have been developed to provide security systems to Human via their phones. This paper presents an Android Application for the Safety of Humans and this app can be activated by a single click, whenever need arises. A single click on this app identifies the location of place through GPS and sends a message comprising this location URL to the registered contacts and also call on the first registered contact to help the one in dangerous situations. Continuous location tracking information via SMS helps to find the location of the victim quickly and can be rescued safely.

**KEYWORDS:** Android; GPS; URL; Registered Contacts

### I. INTRODUCTION

Human are accomplished at mobilizing diverse groups for frequent causes. They often work across racial, sacred, opinionated, and intellectual divides to encourage tranquility. We are aware of importance of Human security, but we must recognize that they should be well secured. A Woman is not much powerful when compared to men physically, in a crisis situation and needs a helping hand to relieve them. The best way to minimize chances in becoming a victim of violent crime (robbery, sexual assault, rape, domestic violence) is to identify and call on resources to help you out of unsafe situations. Whether you are in instant trouble or got separated from friends during night and do not know how to get home, having these apps on your phone can diminish your risk and bring assistance when you require it.

In the light of recent outrage in Delhi which shook the nation and woke us to the safety issues for our relatives, public are gearing upbeat in different ways to fight back. A swarm of new apps have been developed to provide security systems to Human on their phones.

Here, we introduce an android app that ensures the safety of Human. It reduces the risk and helps us in need by identifying the location of person who is in danger.

The key features of our app that makes it different from other apps designed till now are as follows:

- 1) Initially, we have to enter the four contact numbers of police, family members and friends in to the application say and click on "save" button.
- 2) While travelling, run the application and whenever need arises, click "start" button.
- 3) As soon as "start" button pressed, it firsts make a call to the first saved registered contact number and also sends the message containing location URL of the victim to all the contact numbers.
- 4) Unique feature of this app is message with location URL is sent.

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Android is the most widely used mobile OS motorized by Linux kernel. This is the first complimentary platform which is robust and is expected to gain much popularity. It was developed by Google team and allows writing managed code in the Java language. The current system is developed on the basis of android platform. Android utilizes a custom virtual machine that was designed to optimize memory and hardware resources in a smart phone. Android does not differentiate between the phone's core applications and third-party applications. Any application that is built will definitely have equal access to a phone's capabilities providing users with a broad spectrum of applications and services

## A. Existing Systems

As a part of literature survey, we investigated some applications that offer the same or similar services for android and other platforms. [1] The aim is to see how these applications work and to see how they can be improved.

Today the cases of atrocities on Human are growing. In these types of cases, a smart phone plays an important role for safety of Human. Now android is budding on some apps for Human security purpose. These apps are as follows –

1. **FIGHTBACK:** - This app is developed by Mahindra faction. In earlier days, this app was not complimentary, customer have to compensate for this app. But after Delhi gang rape incident, this app is on hand at no cost. This app sends a message to your friend or contacts that "user is in trouble" through E-mail, SMS and GPRS. This app works on those mobiles that support Android Java Programming. [3]
2. **SECUREME BETA:** - This app is developed by Think MPI Consulting Private Limited. It helps us to raise alert and we can get help in case of life threatening emergencies. After installing the app, initially we have to give a pin number for security purpose and then after emergency contacts must be registered in the app. By pressing a tap on secure button, it notifies the contacts with location co-ordinates. [4]
3. **VANITHA ALERT:** - This app is developed by ABC Mobile Learning Communication click on " HELP" button on our mobile's home screen in an emergency situation can deliver a distress text message to the registered mobile number ,E-mail id, face book id seeking help and indicating the user's location.[5]
4. **RAKSHA – HUMAN SAFETY ALERT:** - This app is launched by BJP on May 15, 2014. By clicking on this app, it sends location of the user to the contacts registered and the user can also get the details of the location of the contacts. A distress signal just by pressing a single key sends out a loud buzzer to our near and dear ones. We can add multiple contacts to this app and when there is no data connection, this app alerts the contacts by sending SMS. [6]
5. **GLYMPSE – SHARE GPS LOCATION:** - This is the recent application developed on January 28, 2015. This app is a fast, free and a simple way to share our location using GPS tracking in real time with friends and family. This app does not need any sign up and do not need any contacts to manage.[7]
6. **GUARDLY:** - This app is developed basically for Human safety intention, to put a phone call by your name, instantaneous location, and emergency hit to your selected friends. In this app you have to give your details in profile sheet e.g. birth date, tallness, weight, eye-colour, blood group, hair-colour, etc. This app is also used in I-Phone, I-Pad, BlackBerry, Windows Phone etc. [8]
7. **STREET SAFE:** - This application is developed on worldwide Human's day. It will call community to help Human in any situation and has four features for crisis which would be started by just clicking on the button. These features are as – First, it automatically updates on your Face book account with your recent location. Second, SMS will be sent to chosen associates with your locality. Third, an alarm is started with large volume on your mobile. Fourth, call is to be found to your chosen emergency number. [9]

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## II. PROPOSED SYSTEM

To develop a system for android users for keeping track through several applications. This application uses GPS for identifying the location of the person in trouble and the system can be divided into two modules:

1. First module can be the victim's phone i.e the root device which uses 3G/4G data connection for tracking the location of the victim through GPS.
2. Second module can be the mobile phone of registered contacts either police or friends or family members which receives the message containing URL of location of victim that is sent from the root device.

## III. BLOCK DIAGRAM

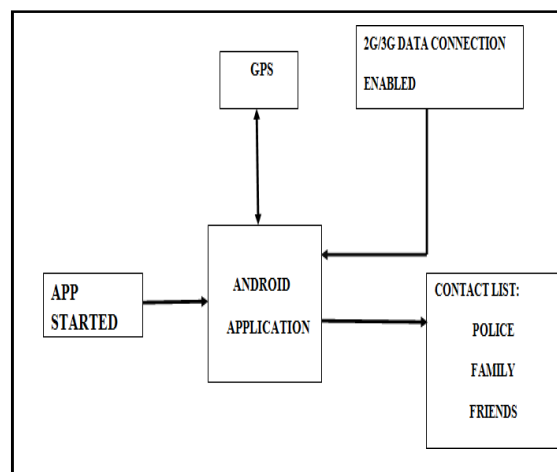


Fig. 1. Block Diagram for the Proposed System

“Fig 1” shows the block diagram of the system. Initially, when we click on the app, it first checks whether the location settings, data connection settings in the application are on or not. Then, it tracks the location of the victim via GPS and sends these location co-ordinates in the form of URL through message to the registered contacts. Here, registered contacts means the contact details that are saved in the Emergency calling application during its initialization. Now, at the received device, by clicking on the URL in the message, it spots the exact location of the victim.

## IV. EVALUATION RESULTS & UNIQUENESS

The total evaluation can be done in three major steps which are described individually. Evaluation describes the whole working of the application in three major steps.

The first major step is to enter the contact details in the application created. Those contacts can be our relatives, friends and chief cop of the particular city the person we live in. When the application is installed in the smart phone for the first time the above contact details should be provided. The application will save the given information.

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The second major step is to send the GPS information (GPS information can be in the form of the Co-ordinates or the URL which leads to the location of the person any stock map application in the likes of third party application like Google, Nokia etc) to the registered contacts at danger times or when the person is needed to be rescued. This step is followed only when the rescue button is pressed in application. The whole process of this step is done only when the device is connected to the proper mobile network and location service in the device is switched on (GPS).

The third major step comprises of work done in sending the message containing location URL continuously to the registered contacts. Here, we have set the time interval as 5minutes, so for every five minutes of time-lapse, SMS is sent to the registered contacts. Therefore the exact location of the person can be tracked by the application continuously which is the primary aim of the proposed system and the person can be rescued

## Uniqueness

In the existing systems, we have mentioned many Android applications having similar feature to my application. In all those applications, victim's location is sent only once to the registered contacts in different forms like SMS, EMAIL etc. But in practical situations, the victim may not be kept at one place standing, she may be moving around. So, in all those applications, we can know only one location immediately after the start of the application, but practically after sometime she may not be present at that place. The unique feature of my application is location is sent continuously for every five minutes till "STOP" button in the application is pressed. So, even if the Human is made to move around in the city, because of this feature of continuous location tracking, she can be rescued quickly and safely. Also, one of the contacts will be receiving a call, sometimes there may be chance for people not seeing the SMS, but after receiving the call they get alert and can look at the SMS and can identify that their near ones is in danger quickly.

## Results

The following figures are the screen shots of Emergency calling application initially from the starting of it.

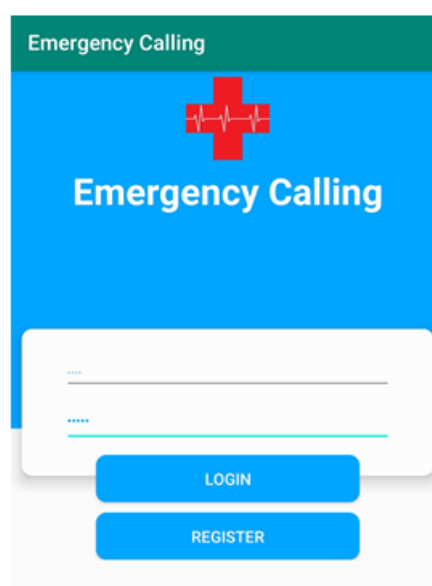


Figure 1 : Login screen

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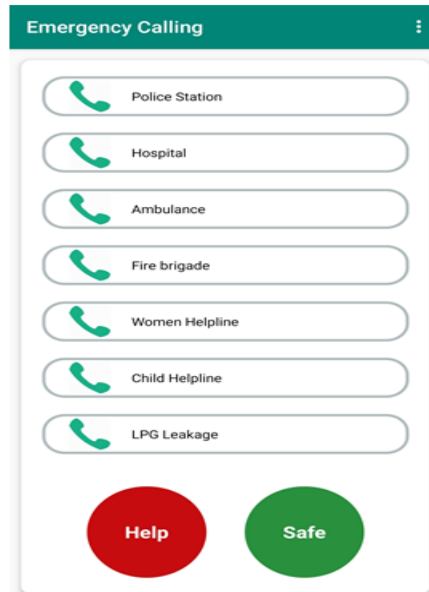


Figure 2 : Options for emergency calling

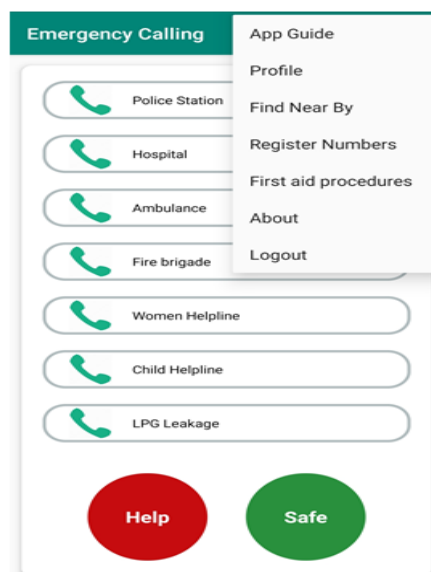


Figure 3 : Options menu

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Emergency Calling
<b>How To Use Emergency Calling Application</b>
Step 1: Register with all user primery information
Step 2: Login with valid credentials(userName, Password)
Step 3: After Login we can see dashboard there is verious buttons by taping them we can directly connect to that emergency help
Step 4: On dashbord there is two primary button of help and safe by taping help buton we can directly connect with your parent or frind and also sent message them help messages with your current location. for using this feature we need to register the friends or parents numbers frist
Step 5: safe button is for sending safe messages
Step 6: In the option menu have five function like profile, find near by places, registerd numbers, first aid procedure, about and logout
Profile : Shows all user information like mail id, phone number, gender etc.
Find near by places : we can find nearest emeryeny places on google map like hospital, police station etc.
Register numbers : we can register parents or friends number here for calling and sending message in emergency situation
About : in about section shows project information and name of developers and guide name
First aid procedure : basically here display all information after the insidence happens like burn, insect bite etc.
Logout : By taping this option and backpage logout pop Up shows which ask for logout conformation if you tap yes the user gets Logout from this app

Figure 4: User guide/ manual

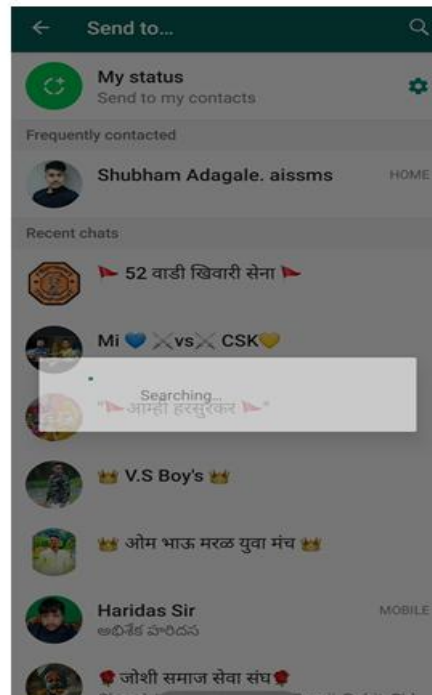


Figure 5 : Auto SMS sending

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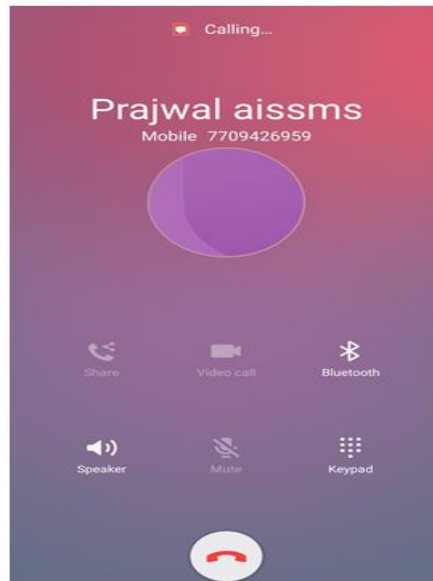


Figure 6: Auto calling

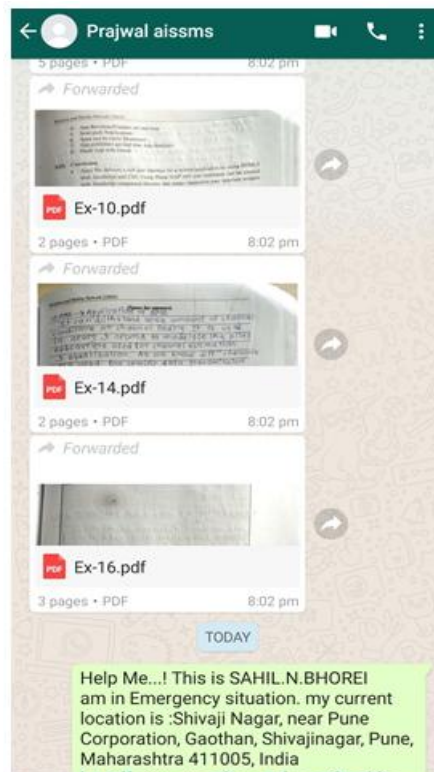


Figure 7: Emergency message auto delivey

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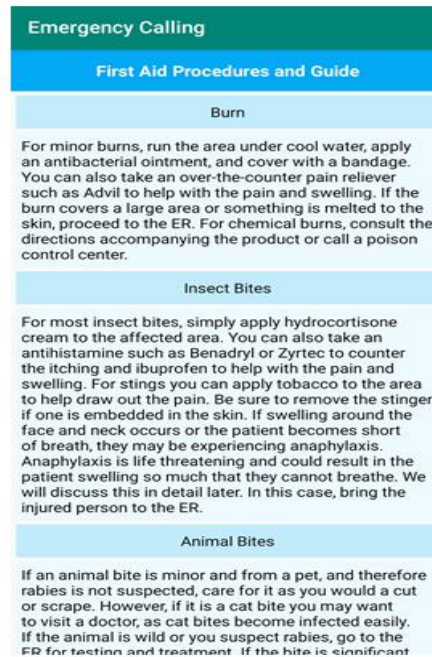


Figure 8: Procedure Guide

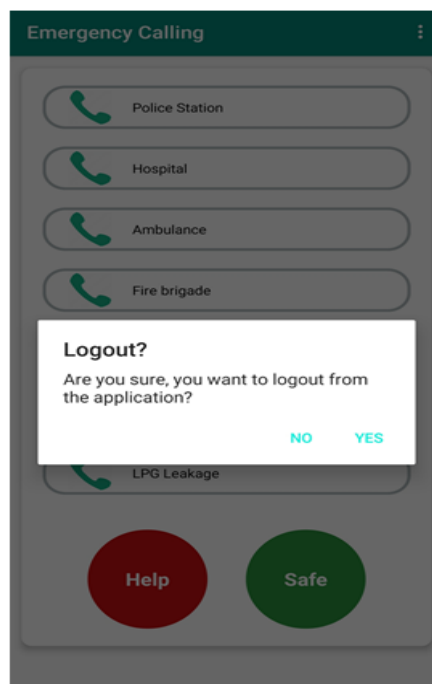


Figure 9: Logout caption



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## V. CONCLUSIONS

In this paper, we have described Emergency calling, an Android Application for the safety of Human. This application helps in live tracking of the location of the victim through GPS along with one of the registered contacts receives a call from the root device. The merit of this application is even when the location of the root device is changing rapidly; we can identify the exact location. As a future scope, this application can be integrated with the law enforcement database, which includes all the phone numbers of regional cops. Some use cases such as rescuing victim, when the mobile network is not available, after initial alert or switch off condition. Further, it can be developed for IOS and Windows mobile platforms. Thus, this application can help the Human in a big way from unsafe conditions.

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