

Dual Security Application Based On GPS Using Mobile Shake

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Abstract— Let it be in the past or in the future, women's security is something which is being a very critical topic. Today, in the current global scenario, the only thought haunting every girl's mind is when they will be able to move freely in the streets even in the odd hours without worrying about their security. There are many applications as well as many embedded systems which have been developed for the safety of women. But all of these methods are facing a common challenge. That is, providing security when the lady neither has mobile data nor sufficient balance to send a message. In that case, this application gives the user to provide the alert by making a call to the emergency number "100" which will be intimated when the user performs vigorous shake to the mobile when encountered some kind of danger. The other features of this application is similar to the existing systems where both the online and offline mode features are added. This application works best even when the phone is locked.

Key Words—Activation, Button, Danger, Message, Mobile, Phone, Security, Shake

1. INTRODUCTION

Security has been a very challenging task in the lives of many women and children. The main challenge faced in the existing systems is they work either online or offline but never both. The proposed system provides security at any situation, that is, it provides alerts even when the data is switched off. In the developing world, it becomes a basic necessity to provide security to everyone. One cannot stop a disaster from happening but taking necessary steps to prevent it from happening will surely make a difference. So basically, this application may fail to provide security at some unavoidable situations. But this can create some preventive measures and pre-planned alerts to reduce the disaster from happening. This application makes use of an activation button which must be pressed ON by the user before they seem to go out in an odd time. After activation, if the user feels unsafe in any kind of situation, then she can shake the phone 2-3 times vigorously which is regularly what a woman does while encountered a danger. After this, the system application will check if the GPS and the mobile internet is ON. And if they are found to be in an activated state, then the message alert will be sent to the registered mobile numbers along with the GPS location of the user. If the data is OFF along with GPS, then the application will request the network provider to send the details of the nearest tower to the registered mobile numbers to track the user when this action is performed. Suppose the user in a

frightened state throws the mobile on the floor and it gets power OFF. In such a case, if the activation button was previously switched ON, it will keep track of the power of the mobile and intimates the registered numbers that the phone is switched OFF.

1.1 Existing System

The existing system consists of applications that work either online or offline. Some applications track the path of the user using the GPS (Global Positioning System) which can be hacked and the information can be misused by unauthorized persons. Certain Security applications involve the usage of power button or volume button to alert and send messages through the application which can be pressed mistakenly by the user while handling the device leading to confusions. Few applications work well only when the device is unlocked and suffers a problem of accessing when the device is locked. There is no activation app for security. If the particular person caught into an emergency, they may get the help only by shouting or making a call.

1.2 Limitations of the Existing System

The main limitation of the existing application is that it does not provide the services offline. Some applications involve sending of alert messages to the user's registered trusted phone numbers without authorizing them using OTP (One-Time Password). This paves a way for fraudulent activities by setting any phone number and misusing the application to provide alert signals to unknown persons. They may not get a proper help. The user may not get the help when she is far away from the people or people living area.

2. PROPOSED SYSTEM

The main problem in existing applications is that they either work online or offline but never both. Our project is to give security to the people at any cause, with or without internet. In present day, providing security for every person is mandatory. We have existing applications which provide security with internet but here our ultimate aim is to provide security to people without the internet. This application can be used at any place and at any time with ease. This application will work best to provide dual security when the application is activated and the user must make sure the GPS of the device is ON. After activating the device, when the user feels unsafe at any place, he has to tap multiple times (more than two) on the selected surface of the screen. If the user is

not friendly to perform this action, then the user can shake the phone more than 3 times vigorously based on the user's convenience. If the user's device is connected to the internet or Wi-Fi, then our application will provide the information about the location of the user to the list of persons whose data has been uploaded by the user in the application during registration. Otherwise, it will make a call to "100" during offline. Even if the user hasn't activated the system, then the system will be able to provide an alert when the user shakes the device vigorously for more than 6 times. All these services are provided even when the phone is locked. Hence, there is a greater change of protecting the user at the right time.

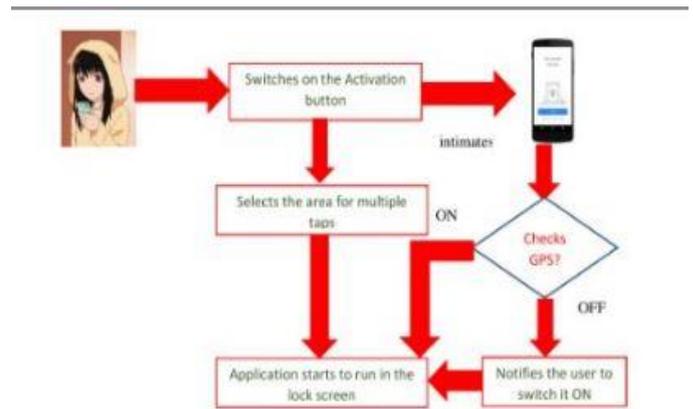
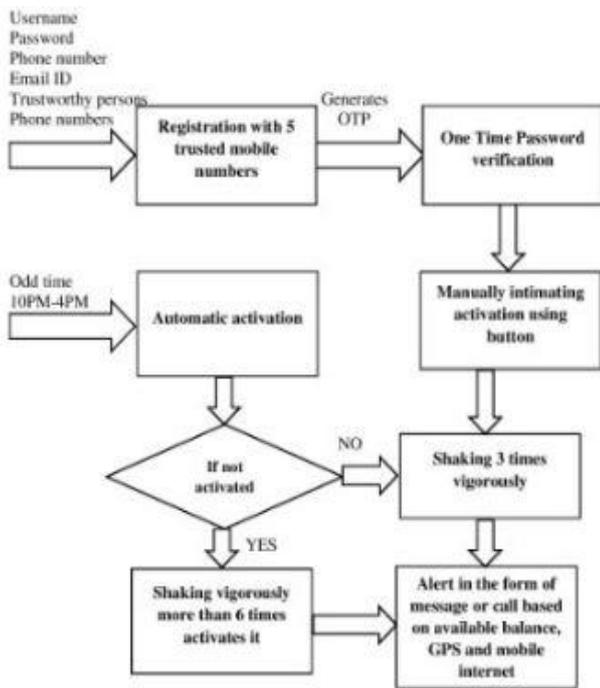
2.2 Advantages of the Proposed System

The system works both in an online mode as well as offline mode. The application provides dual security based on the convenience of the user. The system application monitors the GPS location of the user. This application can provide prevention of incidents rather than focusing on the aftermath.

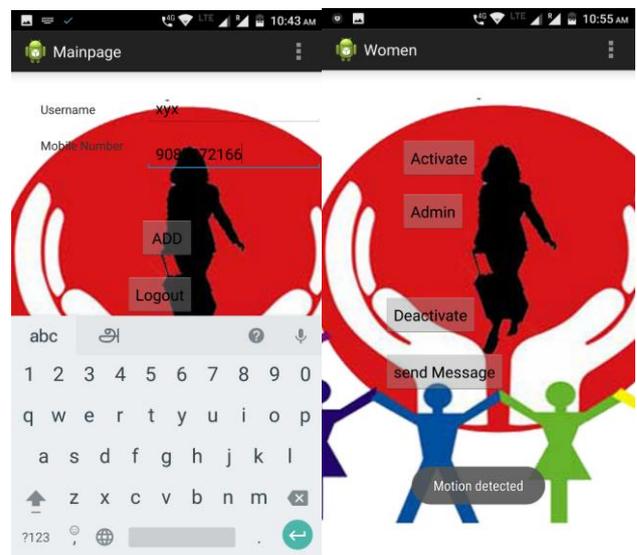
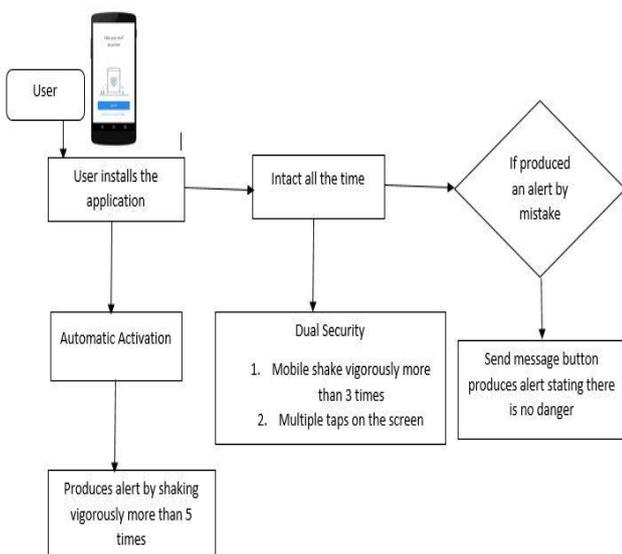
3. MODULE DESCRIPTION

3.1. Service Initialization

As soon as the user registers to the application, the user is asked to set up the activation place in the mobile screen. Here, the user will be asked to choose a space in the screen to be intact when the activation button is pressed ON. This will be intact even when the lock screen is ON. The system services will be activated to double protection services after this process. The process of security involves either providing multiple taps on the lock screen or by shaking the mobile more than 3 times when the service is activated.

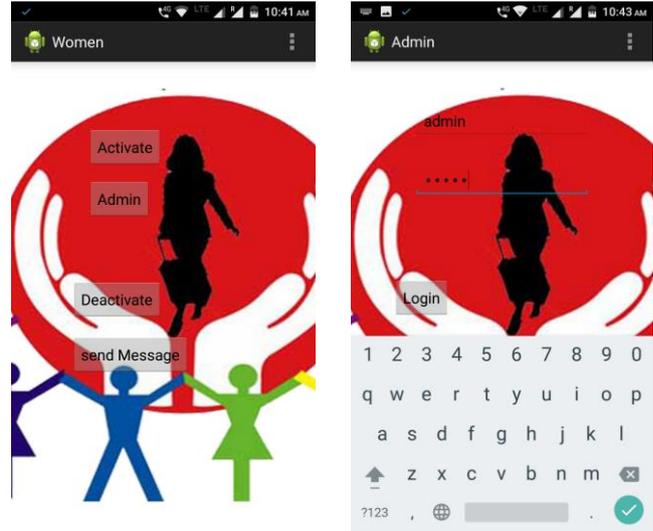
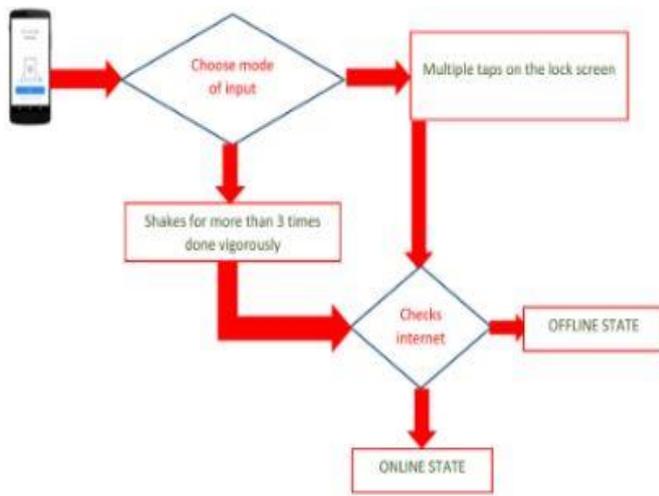


2.1 General Architecture



3.2. Activated Stage

When the user wants to go out in an unusual time or whenever she feels unsafe to move, she can make the system activated by just pressing a single button. When the button is pressed ON, the application provides double security to the user and if the GPS is set OFF, the system will notify the user to set it ON. Based on their own convenience, the user can choose one among the two choices discussed earlier. Upon activation, the system provides an alert by checking the internet connectivity and enters either into an online state or offline state.

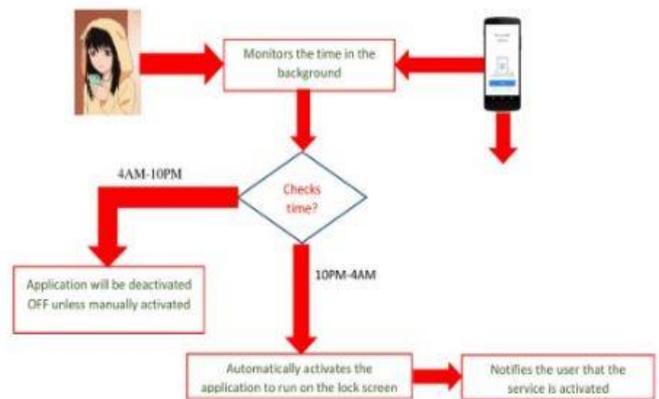
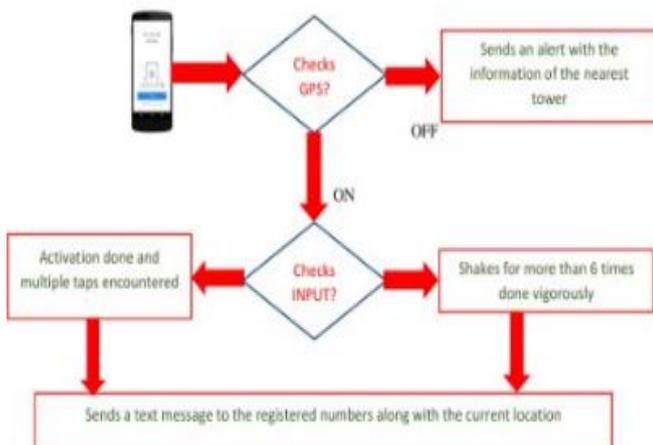


3.3.B. Offline State

When the system is in an offline state, that is, there is no internet connectivity intact in the user's mobile after encountering a danger. In such a case, the system application checks whether the user has a sufficient balance to send a message. If there is sufficient balance, then with the help of network provider, the system will send a message with the information about the nearest tower of the user to the registered mobile numbers. If there is no sufficient balance to send a message, then the system application makes a call to the emergency number "100".

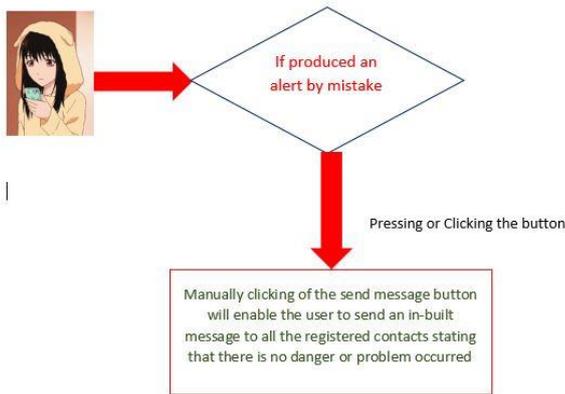
3.3.A. Online State

The system enters into an online state when the internet connection is set ON the user's device. The application checks if the GPS on the mobile is set ON. If it is set ON, then the system will send the alert to the registered mobile numbers the information about the location of the user. And if the GPS is not set ON, then the system will send a request to the network provider to provide information about the tower the user is connected to. This information will be sent to the registered mobile numbers to track the user's whereabouts.



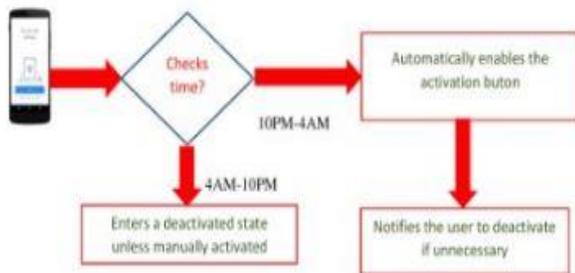
3.4. Manual Alert

In a situation when the user sends an alert by mistake due to some accidental usage by a kid or by the user itself without the need for help, the user can intimate a normal alert message to inform all the alerted registered contacts stating that the user is safe and the alert was produced by mistake. This application uses a button which produces the alert message which is built-in by default when the user clicks or presses this button. This needs to be used to avoid unnecessary worries by the people being alerted without any danger.



3.5. Automatic Activation

If the user fails to activate the system in the odd hours, and if the user is not familiar with the shaking of mobile, in such a case, providing double security will be a crucial task. So this application solves this issue by providing automatic activation when it encounters the time between 10PM-4AM. The user will be notified that the service is activated automatically. This is done because, if the user doesn't need any monitoring at this time, then the user can manually deactivate it.



CONCLUSION:

The problem of the women safety is increased rapidly in this environment, so providing a very efficient and user-friendly application is a mandatory thing. The women security system is the helpful tool to have self-defense for women. There are chances to reduce crimes against molestation, kidnapping, murder etc. It is not possible to predict when the disaster will be happening but one can definitely make some preventions before any incident might occur.

This application provides a way to prevent the disasters from happening and also to stay alert at any situation. A user-friendly application, the system can help the user to enable the services at any point of time even when the lockscreen is intact. Unauthorized users will not be allowed to track the information of any user without proper registration. These methods will be helpful to prevent that violence rather than communication. It helps to efficiently increase the security and safety of women's. The system will provide correct information as physical devices gives guarantee for the same.

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