MOBILE APPLICATION WITH REAL TIME DATA COLLECTION FOR TRACKING USER SAFETY

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Abstract- A mobile app is a software application developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers. Mobile apps are designed with consideration for the demands and constraints of the devices and also to take advantage of any specialized capabilities they have. A gaming app, for example, might take advantage of the iPhone'saccelerometer. Mobile apps are sometimes categorized according to whether they are web-based or native apps, which are created specifically for a given platform. A third category, hybrid apps, combines elements of both native and Web apps. As the technologies mature, it's expected that mobile application development efforts will focus on the creation of browser-based, device-agnostic Web applications.There are many mobile apps available for women safety some of them are,Himmat, Bsafe,Nirbhaya,Safetipin and Raksha. Howeverour application includes all the features such has real –time location tracking,SOS. The application requires an initial registration alongwithemergency contacts and the user is asked to update theemergency contacts from time to time. When the user istravelling from one place to another, the dynamic GPStracking offered by PubNub's channel is turned on to view theuser's location on a map. Users with the same app can monitorother users with this app through the dynamic GPS Trackingsystem through the PubNub channel. When the SOS button ispressed then an alert message which contains the name of theuser, GPS Location and a help message is sent via SMS. Theuser has access to first-aid information and toll free helpline phone numbers. All the information and data is integrated with firebase.

Key terms: accelerometer, hybrid apps, web apps, SOS

1. INTRODUCTION

Nowadays, the safety of women is in danger especially in India. The rate of crimes against women is not decreasing but in fact increasing at an alarming rate especially harassment, molestation, eve teasing, rape, kidnapping and domestic violence. Many preventive measures have been taken by the government to stop these misbehaving activities but still has not affected the growing rate of these crimes and has remained unaffected. So it is primitive to provide an application which helps the women to tackle this problem rapidly and efficiently. Hence we propose the development of an application both in Android and IOS. The app uses various features such as spy-camera, Real-time GPS Tracking .The user can be constantly tracked by the user's emergency contacts.

SafetiPin was designed as a technology to be used for a safety audit. The safety audit is a simple method for identifying a particular public space as unsafe, and the factors that make it seem so. SafetiPin was to take the idea of a safety audit, and adapt it in an app to be sussed in public crowd-sourcing (that is, getting information from a large number of people), as well as by trained auditors. While crowd-sourcing ensures that citizens become engaged and active in safety, their data, collected randomly, and is complemented by data collected

through trained auditors, which enables us to have a wider and representative coverage of the city, especially for advocacy purposes. If we need data across the city and of a certain volume, it may not always get generated through crowd-sourcing; crowd-sourced data will have an inherent bias towards owners of smartphones and are likely to be from areas that are socio-economically higher.

SafetiPin app identifies safe and unsafe areas in the city, through requiring users to rate a space using a set of key parameters of safety, using a rubric-based method of assessment. The app is supported by its own website, which provides a technological environment where individuals, communities, researchers, NGOs, government, and service providers can come together to share information. When someone uses the app to do an audit of a particular place, the information immediately becomes public data visible for any other SafetiPin user to see and use. Each audit appears as a pin on the map – green for safer areas, orange for less safe areas, and red for unsafe areas. As more and more pins appear on the map, this generates data for urban service providers to work on initiatives and projects for improving safety.

When the user encounters any misbehaving activity, the user can press the SOS button which uses GPS and GSM system to get the accurate location coordinates and send SMS to the emergency contacts. Video Recording can be activated to capture the happenings through the camera. Toll free numbers are also given to call to various helpline numbers to provide immediate help. First-aid information is also given for emergency assistance.

2. REVIEW OF LITERATURE

In this paper the intelligent safety system for women security is implemented. Here by pressing the button of the system for a specific time the helping request message along with her location will be transmitted by the system to the police station and too fewrelatives so that they will get aware of her current situation .Moreover she is also able to give shock to the attacker with the help of system, so that she get some time to rescue from that attacker. We drive the concept of safe guarding the women from the critical situation and defend themselves until the police reaches location is arrived from “All in one intelligent safety systemfor women security [1]”.

B’safe and B’secure is an android application that ensures both safety and security for women .This app contains unique features such asif the user is in trouble and doesn’t have internet connection at that time the text message will be sent to the registered contacts with the user’s current location using SOS technique. This app can also be used in case of emergency, the user can trace the location and contacts of nearby hospitals and police stations using GPRS. This method of ensuring women safety event in the offenses of internet is learnt from “B’safe &B’secure: The Door to safety swings [2]”.We in our paper implemented same principle of women safety in the offenses of internet facilities.

WoSapp is a mobile application which is a realiable for women safety which gives an emergency call to the police at the time of criticality. The user can easily and discreetly trigger the calling function by shaking her phone, or by explicitly interacting with the user interface of the application via a simple press of a PANIC button on the screen. A message containing the geographical location of the user, as well as contact details of a pre-selected list of emergency contacts, is immediately sent to the police. “A mobile application for women’s Safety: WoSAPP [3]” is the motivation for women safety.

3. MOTIVATION

3.1 Existing System

The application incorporates all the unique features such as real-time location tracking and integrates all the features offered by the existing system such as GPS tracking, SOS. The application requires an initial registration along with emergency contacts and the user is asked to update the emergency contacts from time to time. When the user is travelling from one place to another, the dynamic GPS tracking offered by PubNub's channel is turned on to view the user's location on a map. Users with the same app can monitor other users with this app through the dynamic GPS Tracking system through the PubNub channel. When the SOS button is pressed then an alert message which contains the name of the user, GPS Location and a help message is sent via SMS. The user has access to first-aid information and toll free helpline phone numbers. All the information and data is integrated with Firebase.

3.2 Drawbacks:

- SOS feature which will send out message based alerts by holding the power button on the watch for six seconds and tapping on the SOS option.
- Works only if the user's phone is connected to an Apple iPhone, since a watch itself does not have any call or messaging capabilities in isolation.
- Mistakenly someone press power button 3 or 5 times, this service will be enabled.

4. PROPOSED SYSTEM

In this work, we design an appwhich identifies safe and unsafe areas in the city, through requiring users to rate a space using a set of key parameters of safety, using a rubric-based method of assessment. When someone uses the app to do an audit of a particular place, the information immediately becomes public data visible for any other user to see and use who are all currently using this app. Each audit appears as a pin on the map green for safer areas, orange for less safe areas, and red for unsafe areas. As more and more pins appear on the map, this generates data for urban service providers to work on initiatives and projects for improving safety. The data we are collecting through the app and mapping on the website can be analysed by all these stakeholders to learn more about the factors that lead to lack of safety and gendered violence in public spaces in our cities. We aim to share the data widely, so city authorities can respond to findings and make public spaces safer.

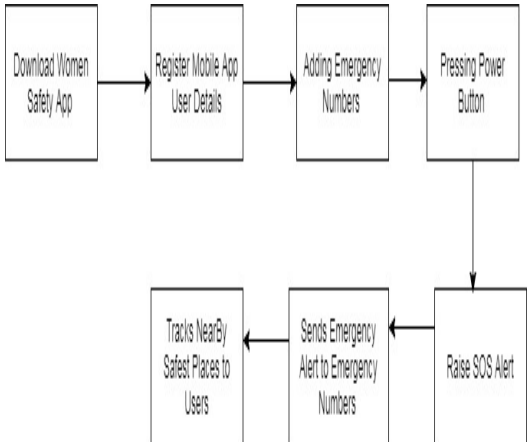

Fig 1: PROPOSED ARCHITECTURE

After downloading the app apk file in mobile smart phone. The users need to register their personal details and the emergency contact numbers in the smart phone.

This app works just by simply pressing the power button the app activates and It sends alerts to emergency registered contact numbers with specific location information and Thereby It also tracks nearby safety places to the mobile users with the help of GPS information

This app is used to rescue the women from abnormal situational places by generation alerts to the nearby contacts and also rescue them to safety places.

5. CONCLUSION

Thus in this work, the key elements in addressing the lack of safety in cities is identifying the causes. SafetiPin, a mobile app, is one tool that has been developed to collect data on safety in cities. Building on the international methodology of safety audits, SafetiPin has transformed it into a mobile app that crowd sources data and information on insecurity in cities. Using SafetiPin, data have been collected in seven Indian cities. Thus this app aim is to share the data widely, so city authorities can respond to findings and make public spaces safer.

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