Mobile Application for Crime Recognition System

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Abstract-**In 21st century where mobile and information technology have become an integral part of our lives. Smart cities have the combination of technology and human resources to improve the quality of life. This allows us to take steps towards implementing smart, safe cities, by using the personal mobile devices and social networks to make the people alert and aware of their surroundings Hence we are developing an android application which provides an indication of the crime to the user through an android application. This application has a functions like search crimes by locations, posting a crime incident (record crime) and crime places integrated on google map with different colours, SOS along with emergency numbers.**

Keywords- **Android, Mobile technology, Location safety aware, crime detection, crime reporting.**

I. INTRODUCTION

Today's world is all about to technology and human resources. Technology can be used in many fields like mobile technology, messaging, E-mail, gaming and so on. One such area is crime area detection and storing criminal data record. It is very crucial job to police to get the right information on time through their walkie-talkie [2]. Recently there was an android application Vic PD which was launched by the Victoria police in the Canada for people safety. In that application they had a communication gap between police officials and the investigation of crime because the data is not available remotely .The another problem is that suppose if anyone of the user reported a crime which had happened recently, that record was directly gone into the police database without even verification of police official. So there was a possibility that anyone can make a fun of the both other users and the police [1]. Also the another proposed system is crime area detection and criminal data record in which their the system recording crime and giving alternate routes to user as soon as user enters in the particular area but this system failed to indicate a crimes locations to the user by google map [3].

This paper proposes an android application which is developed for the crime awareness among the people and about their safety. This system is basically divided into two parts such as an android application for user and the website for the police officials. An android application has a functions like search the crime, post the crime, search safety places and the SOS service and also some emergency numbers. The website has the logins only for the local police stations and there is one master login for the admin (main police official)

which can monitor on all the activities. The local police stations have all the rights to add, remove and modify the records in the database. They can also see the online users. The website and android app have one more new functionality which was not there in previous systems is that somewhere if recently the crime is happened and the area is declared as the high alert then the user can share this scenario with all the other users and it is verified by the local police officials.

II. PROPOSED SYSTEM

In this paper we have proposed an android application to highlight prone areas, register crime (live crime occurring at some place), view emergency number etc. The proposed system has provision to store the criminal records. We are also storing user input like user's name, address etc. (User's personal detail) on this server. Our system also provides an application for the user which consists of an alternate path if they are passing by crime area. With the help of android application user can report incidents and get it verified by the police officials. We are going to develop a web application for police officials which can perform database operations on criminal record and allows user for efficient retrieval of required information from the centralized database present on server. This information is represented on the android application by mapping the result of user request on google map. Our system mainly targets general public and police officials for managing the incidents and crime. This proposed system will be divided into three major modules.
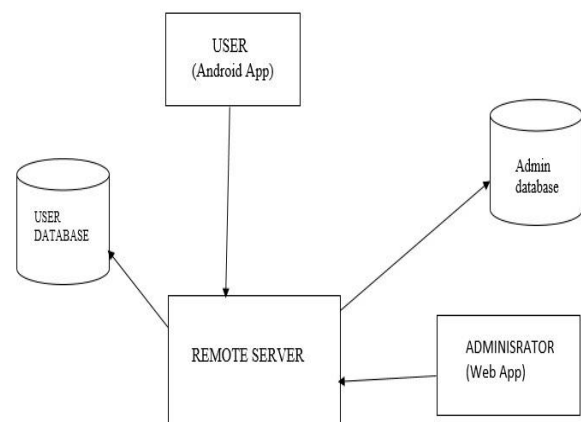
1. The system's block diagram

Fig. 1. Block Diagram

A. Police Application

In this module the police official needs to create a new username account and after successful creation of user account they can enter user- name and password, enter the application. This application is not publicly available for the general users it is only for police officials. After logging into the application, it provides different services like reporting incidents (crimes and incidents causing traffic jam), can view incidents reported by the other or same user, can enter criminal database on the server using this application. Incidents reported by the user need to be verified by the police officials if it is correct, then database will be updated and the notification will be broadcasted to all the users using the android application. If police find crime reported by the user is awry then police can take appropriate action against the user. Police will be given privilege to do the criminal database modifications.

B. General User Application

This module is for mainly general public. Initially, the users will need to do one time registration before using the application. In the registration phase user need to provide its personal detail like name, address, UID-number (a valid UID will be accepted), phone-no, create password etc. After registration phase user need to login where user need to enter it's valid registered email-id and valid password. After login user is provided with the facilities like report live crime incidents, view emergency numbers, view different areas where different types of crime has occurred like murder, rape, chain snatching etc, SOS. User will be able to see criminal areas using Google map. On this map a pop sign will be displayed for different types of crime.

In proposed application we are going to display telephone number and address of the police station, hospital numbers, and fire station numbers. Moreover, choice to view the alternate path using google map will be provided to user by the police officials or user can itself find alternative way, if user finds the way to which they are passing is dangerous. While posting for live crime occurring User need to keep the GPS activated always. As the user's physical location will be tracked automatically. Physical location of the user will be tracked with the help of GPS which is inbuilt in the cellular phone. After successful posting of live crime occurring by the user this will be verified by the nearest patrolling police team, if it is true it will be displayed otherwise it will be rejected by police. User's location will be saved in to the along with crime reposted. SOS button will be help to the user where user may not call or text message to the police. Emergency contact of the police officials will be helpful in emergency cases only. User will not be given any privilege to make changes in the criminal database

C. Server

The server stores all the data in the database which is remotely accessible to both user and the police. The database contains all the tables such as user table, police table and the crime records table. Whenever the user and the local police station login through their system the server first authenticate the user and also provide the authorization to the police station.

2.   Flowcharts

2.1   Android application description

A. Registration:

User will do registration in an Android application on his/her mobile. User will fill the details of Full Name, Phone/Mobile number, Aadhar UID number (Aadhar number need to unique, no reparation allowed), Email-Id, Password. Then the user information will be added to the Database.

B. Login:

Once the user is registered, user can login into system using username and password. The username will be user's email-id provided at the time of registration process. Afterwards user can change the password and update their profile.

C. Search Crime:

The User will search the desired location for which user wants to see the crime data. User can even search the crime by its type like robbery, murder, homicide etc.. .The user will be able to the see the data through markers on the map. The sector of that location which will have highest rate of crimes will be shown in red colour on the map, lowest with yellow colour and which has medium rate will be shown in pink colour. User can also see the data through numbers on the side of map.

D. View Emergency Numbers:

The user can view the emergency numbers of nearby Police outposts, Hospitals, Fire-Brigades and can use it if user sees some crime or got stuck himself.

E. Post Live Crime:

User can post the recently happened live crime status by filling details of the crime. These details will first go to the admin side. Admin then will verify these details with the help of nearby police outcast of that location. After verifying that the details are correct, admin then will update the database and user can see that details of crime as well.

F. Logout:

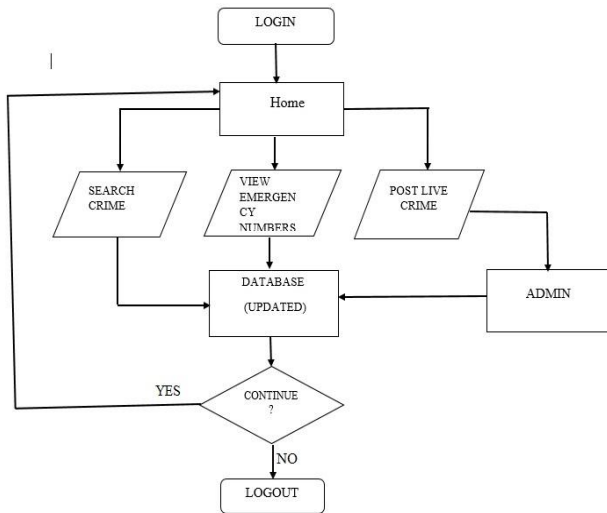At the end, user can simply logout just by clicking logout button provided on the page.

Fig.2.1 Android Application

2.2 *Web application description*

A. Login:

There is the main Admin who is in-charge of the whole area, gives Login and Password to each Police Station's Admin. Station's Admin can see the crime data of the area of whose he is in in-charge of main admin can view data of each Station's Admin.

B. Records:

Admin can view, delete, and modify the records in the database.

C. Verify Posted Crimes:

Admin verifies the crimes posted by the user by calling local patrolling team. If the details are true, he adds/imports the records in the database.

D. Logout:

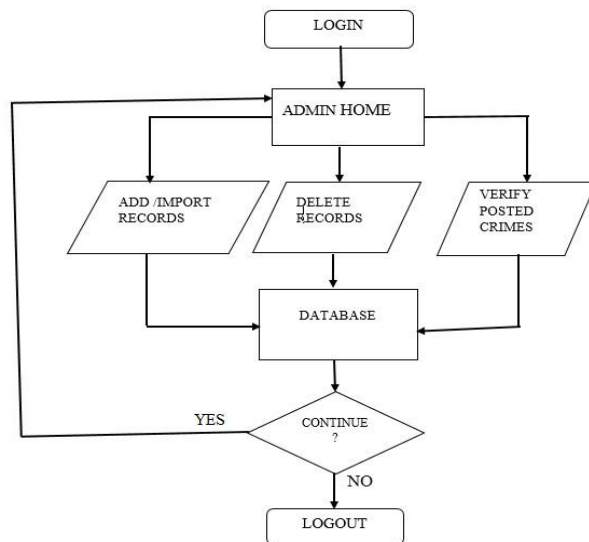After doing his work, he logouts from the system

Fig.2.2 Web application

III. CONCLUSIONS

The proposed system can reduce the communication gap between the local police and the people (Users) and we created the communication bridge between them by keeping all the data on the remote server which can be accessible at any time by the both user and the police. This gives flexibility to the user in terms of saving their time to go to police station and register a complaint. And another advantage is that everyone can help the police by posting a crime immediately not only to the police but also aware among themselves and the post is verified by the police.

IV. FUTURE SCOPE

Some of the enhancements that can be made in the system in near future are listed below:

1. The only challenge to this proposed system is that the user's internet and the GPS should be activated 24x7.
2. Some more security algorithm can be implemented to secure the data.
3. The posted crime takes time to verify by local police as still it is a manual process so solution to this problem is that we can take help of video surveillance system to verify the posted crime place and the current situation of that place.

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