C App - A Mobile App for Crime Report

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Abstract -"C APP-A MOBILE APP FOR CRIME REPORT" is an android application which tracks the investigation status of criminal cases with logs as well as it also tracks complaints logged by the user. In this system, society itself helps the authority to get the crime details quickly and to proceed with the investigation. They will help the authorities to find out the crime ratio in society. The system keeps logs of a case which includes case summary, people involved, disputes, past criminal history of those involved, Items recovered on scene and other details. The system realizes the type of case, allows admin to update the status of the investigation, upload more images of crime and items found on the scene, etc. User can post their missing person's details with a photograph. User may also check for the status updated by the admin.

Keywords – Complaint App - *Android, Crime Reporter, Missing Person Finder, Complaints, Crimes*
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1. Introduction

Crime is one of the major challenges that most governments around the world are strangling with. Crime is a human experience and is as old as the human race. Crime is geographical. It occurs at a specific place, specific time and for a specific reason. It can affect everyone and anyone at any time. Research indicates that the principal determinant to solving crimes is the completeness and accuracy of eyewitness reports. However, 50% of crimes go unreported due to fear and privacy concerns. Reports of missing persons worldwide have increased significantly in the past recent years, from roughly 450,000 in 1990 to about 10,000,000 this year. The increase was driven in part by the ever growing population. The numbers indicate that more people are becoming victims each day.

The report published by the National Crime Records Bureau compared the crime rates of 1953 and 2006.The report noted that the murder rate has increased by 7.39% (from 1953 to 2006) and missing cases has been increased by 47.80% (from 1953 to 2006). At this increasing rate of crimes and missing cases, it becomes difficult for a common man to bring his case in consideration of the authority. Smartphone shipments worldwide reached 485 million in 2011, increased to about 655 million in 2012,

and expected to raise over one billion smart phones by 2016. Another key factor making mobile phone technology a viable medium for fighting crime is the advancement of cellular networks technologies.

The introduction of 3G/4G cellular network technologies by most mobile network operators has improved the communication demands for mobile user's .With these two factors in place, development of dedicated mobile platforms for detecting and reporting criminal activities is a great possibility. Most of the mobile users are using smart phones to use health guide, news alerts and many more applications in daily life routine. Therefore a mobile application can be developed to show locations of crimes and to report a crimes. The application that will be developed can be used by the people of the specific area of which the database of police will be connected to application.

This research article designed for a mobile app for crime report. This is an android application implemented for the purpose of directly sending complaints/information to police department in a district. The users can use the services after creating an account in the application with their details. The petitioner/informer, after providing personal details can register complaints/information using

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the application in the concerned department. Details from the department are also included in the system.

2. Literature Review

Harshitha1, Darshitha P Shetty2, Shesna Giri3, Shruthi4, Prof. Ramesh Nayak5 in [1], "Android App for Crime and Missing Person Reporter," International Journal of Scientific & Engineering Research Vol.9, Issue 4, April-2018 24, ISSN 2229-5518 proposed an android application for Crime Reporting and missing person reporting. Using this app the person can register in to the Crime Reporter application and file a complaint with all the details required, which will be viewed by the higher authorities directly.

User can post their missing person's details with a photograph. User may also check for the status updated by the admin .When a particular case is under consideration, the higher authority officer will update the progress of the considered case and the user can view these updates from any part of the world. By this quick investigation process, the crime and missing cases can be solved to a great extent. The system will have all kinds of details like summary, people involved, past criminal history, items required on scene and other details.

BIRARI HETAL1, SANYASHIV RAKESH2, PORJE ROHAN3, SALVE HARISH4, "Android Based Application - Missing Person Finder," IRE Journals, Volume 1, Issue 12, JUN 2018 proposing a system will be very beneficial for finding missing person. This application will upload complaint on web server which can be accessed by any of the trust member having this application. This research Finding Missing Person using Face Detection on Android Application presents the solution for this problem. Syed MujtabaRaza and Prof.Leelavathi Rajamanickam in[3],"A Proposed Solution for Crime Reporting and Crime Updates on Maps in Android Mobile Application" proposed and developed an android mobile application for the general public awareness of the crime situation of their area and to provide them crime locations on the map. This application also helps general public to report a crime to law enforcement agency. This android mobile application will help public to see the locations on the map which will help them to track the current situation of their surroundings. The proposed app shows only the crime prone area, whereas it doesn't provide a platform to register the cases. It provides only public awareness.

V.Yadagiri, C.HruthikTeja, D. Sai Suma and A.Chaithanyain [4],"Crime Reporter and Missing Person Finder" proposed an android crime reporter which tracks the investigation status of criminal cases with logs as well as it also track complaints logged by the user. The system is proposed to help agencies like CBI, CID and other such bureau's to speed up their investigation process and track status of multiple cases at a time. In this system, the society itself helps the authority to get the crime details quickly and to proceed with investigation.

They help the authorities to find out the crime ratio in the society. The system keeps logs of a case which includes case summary, people involved, disputes, past criminal history of those involved, items recovered on scene and other details. The system realizes the type of case, allows admin to update the status of the investigation, upload more images of crime and items found on scene etc. User can post their missing person's details with a photograph. User may also check for the status updated by the admin. The system is designed to aid investigation teams to work collectively on cases, coordinate and also speed up the process by suggesting logical suspects based on data provided. The proposed paper provides access for multiple cases at a time, which will result in skipping of cases according to people's interest.

Wlliam Akotam Angangiba and Millicent Akotam Agangiba in [5],"Mobile Solution for Metropolitan Crime Detection and Reporting" proposed a mobile infra-structure for detecting, reporting and tracking down criminal perpetrators using a mobile device. This is based on client-server architecture; allowing users (the general public) to exchange various categories of crime/criminal related information with law enforcement agencies in real time. In this app the database is structured to contain information units in text, picture and video data formats.

The DB Analyzer Module analyses the database and establishes crime trends in the metropolis. In this app both police and the general public use same client app on their mobile devices to interact with the server. Whereas police have the privilege of accessing all sort of information on the server, the general public is not. The police are identified by their service number while special groups of IDs are generated for the general public during installation. In the proposed application, even the police authority need to log in, in order to use the app. This paper provides mobile version even for officers, which will result in unauthorized access and thus results in misuse of the data.

3. Existing System

The existing system in which a victim has to visit the nearest police station makes crime reporting a very

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strenuous action as a result of difficulties involved before information on a particular crime is lodged. Most victims prefer to report directly to court as to maintain law and order in a bid to seek justice. At times, the criminal parties gave the bribe to the police officers for not to lodge the FIR.It is also possible that when the victim is going to police station the criminal party attacks on him/her.In this case, the victim was not be able to visit the police station and may be killed by the criminal party. The existing system is fully manual i.e. a lot of paper work has to be done by the authorities as well as by the victim.

The current crime reporting system is faced with several difficulties as there is no instant means of reporting crime other than telephone calls, messaging or perhaps face-to-face which is usually cumbersome especially where the reporter wishes to keep anonymity.

Manual System for finding missing person has very long procedure and takes more time. More time is requiring for launching an FIR (First Information Report) in police station. Also time required for finding lost person is more. Also during manual process number of manpower for searching lost person is less. Some existing application does not show the proper information about the Missing person, which is difficult to find out missing person .Some missing person related website only shows the database of missing person.

The currently existing systems are:

- Complaints are registered by written complaints.
- Websites for each department are there. But complaint or information system is not included.
- The petitioner/informer has to approach the offices directly to register complaints and the complaints are written manually
- Difficult for the public to approach the offices directly.
- Documents are in the form of physical documents .So the record management is more difficult.
- More time consuming.
- Does not receive a confirmation, that is the user is not sure that the complaints has been filed or not.

4. Proposed System

"C APP-A MOBILE APP FOR CRIME REPORT" is an android application implemented for the purpose of directly sending complaints/information to police department in a district. In this research, users must download the Android C APP (Complaint Application) to

their Android based phone. Common people can directly send complaints/information or crimes happened around them to police department in a district. Documents and pictures can be attached with the complaints/information if needed. Details from the department are also included in the system.

This App allows user to file complaints or missing reports and keep a track of it. There are three categories that a user can file; Complaint, Crime Report and Missing Report and can see all the status of what action has been taken by the admin. To file any of the above 3 the user should register himself to the system and provide his right credentials to file them.

The App also allows other user who doesn't want to register but can check the crimes at his or any other area, just provide the pin code and in return the system displays the crimes if any filed. The offline i.e. the unregistered user can also take advantage of checking the missing persons but he is refrained from getting complaints done by the users.

The Front End of the App is done using Android Studio and SQL serves as a backend to store books lists and inventory data. The App has both the user as well the Admin Part, the role of admin is to just check all the 3 modules or categories and update their status likewise. This App helps the user in tracking any report filed to the law and take an advantage of reporting any complaint from anywhere bringing the whole system online.

Advantages of proposed system

The proposed system is intended to avoid all the drawbacks of existing system. It will add some more features than the existing system. The proposed system is a cost effective way of doing the manual processes done in the existing system.

The proposed system is intended to do the following:

- Help to decrease the processing time.
- Prepare and produce accurate outputs.
- Reduce the expenses and complexity
- Make information flow efficient.
- Attractive user interface.
- Few spaces for storing purpose.

The proposed system will be divided into two major modules
- Admin
- User

Admin Module

Here admin is the police department authorities. Admin can login to the system and view details of all the crimes happened. They can see the details of missing persons and complaints. They can also view which user sent the details. Status of each crime can be changed by the admin.ie, if the case is under processing or completed etc. They can send this status to the user side.

These are the main activities in admin module:
- View user complaint: This module helps the admin to view user's complaint details
- Update Status of User Complaints: Admin Can change the status of complaints from Submitted to Seen, Working or Completed.
- View User Crimes: This module helps the admin to view user's crimes details.
- Update Status User Crimes: Admin Can change the status of crimes from Submitted to Seen, Working or Completed.
- View Missing Person: This module helps the admin to view Missing person details.
- Update Status of Missing Person: Admin Can change the status of Missing person details from Submitted to Seen, Working or Completed.
- Logout: At the end, Admin can simply logout just by clicking logout button provided on the page.

User Module

User is the common people. Any user can view the details of crimes around them or missing persons around them by providing their pin code. If a user got any complaints to inform the police department, they can login to the app and send their complaints to the authorities. They also inform crimes happened around them along with they can upload image. They even can provide the details of missing persons with their photo to the admin. The status currently undergoing can be viewed under each complaint or crimes informed or missing persons details provided. Each complaints/missing details/crimes are provided with an id.

These are the main activities in user module:

- User Registration: User has to register to file complaints, crimes or missing report.
- User Login: User can login to system to file and check the status of his complaints or missing reports.
- Complaints: Complaints consist of basic details the system asks and the user has to fill in order to register a complaint and check the status of his complaints.
- Crimes: Crimes consist of all the details that the user has to fill in to register a complaint and provide a picture, if he has one related to the crime, also can check the status of the crimes he has filed.
- Missing Persons: The System asks the user to enter all the details of the person with a photograph. The system also allows the user to check the status his previous filed cases.
- Without Login: The System allows the user to check for crimes against the pin code provided by the user. The User can also check for missing people.
- Logout: At the end, users can simply logout just by clicking logout button provided on the page.

5. Implementation

C App is opened first a window is showing three options

- Crimes around you
- Missing People and
- User login.

Any user can view the details of crimes around them or missing persons around them by providing their pin code. If a user got any complaints to inform the police department, they can login to the app and send their complaints to the authorities. A new user who wants to register a complaint, can click on the icon "Sign Up" and proceed. To register, a user need to provide certain information like, the users first name, last name, username, password, address , e-mail, mobile number and Aadhar number. After successful registration, it directly redirect to Login page. User can directly login to app using their username and password.

After login, it proceeds to the main page. In main page, the user can see six tabs, i.e. Crime, Missing Person, Complaint, Crime Status, Missing Person Status, and Complaint Status. Once the user selects the tab, the process leads to the next page, based on selection. By clicking on Crime tab, user can upload the crime details with photo. By clicking on Missing Person tab, user can upload the missing person details. An upload button is also provided in that window where user can upload data of missing persons with their Name, Photo, Age, Address. User can register complaints by using Complaint tab. User can also see their complaint status using Crime Status, Missing Person Status, and Complaint Status.

297

Admin can directly login to app using their username and password. After login, it proceeds to the main page. In main page, there are six options are available Crimes, Missing Person, Complaints, Visitors info, Contact and Sign out. Complaint option helps the admin to view user's complaint details. Admin can change the status of complaints from Submitted to Seen, Working or Completed. Crimes option helps the admin to view user's crimes details. Admin can change the status of crimes from Submitted to Seen, Working or Completed.

Missing Person option helps the admin to view Missing person details. Admin can change the status of Missing person details from Submitted to Seen, Working or Completed. By Clicking on Visitors info admin can see all the user registration details. Admin can accept or reject user registration. User can only login to app after they got accepted by admin. Admin can send mail to users by using Contact option .At the end, Admin can simply logout just by clicking logout button provided on the page.

Methodologies for developing mobile applications based on the Application Programming Interfaces (APIs).XML is used to provide Graphical User Interface(GUI) to Android application.PHP script will get information from database. This script will create a JSON object of the data which is collected from database. That JSON object will be sent to android application.

6. User registration

To register, a user need to provide certain information like, the users first name, last name, username, password, address , e-mail, mobile number and Aadhar number (Fig. 1)
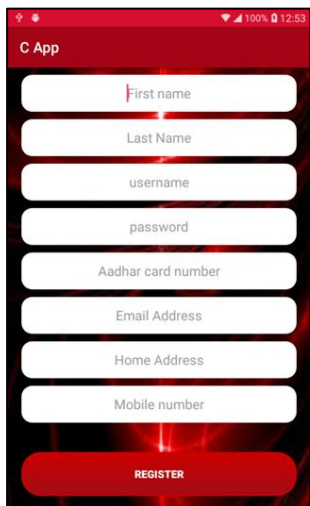

Fig 1: User Registration

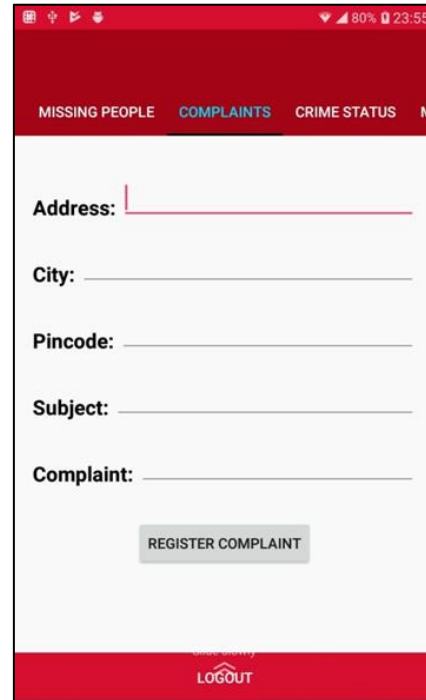User can register complaints by using Complaint tab. (Fig.2).

Fig 2: Complaints Registration

By clicking on Crime tab, user can upload the crime details with photo (Fig.3).

Fig 3: Crimes

298

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By clicking on Missing Person tab, user can upload the missing person details (Fig.4).
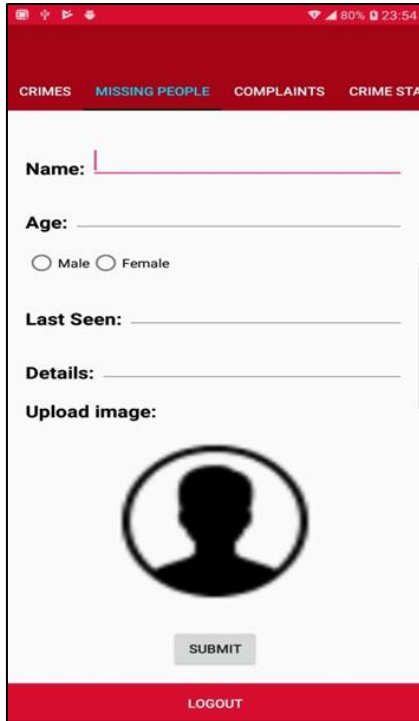

Fig 4: Missing Person

7. Conclusions and Future Enhancement

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.

For future work this application can also be further expand to convert into send live videos from android application to view the current situation of Crime, fight etc. GPS location tracking can also be integrated to the application. The facial expression algorithms can be used to find criminals. The photos and videos which will be sent by people to check whether video or photo is edited or not some steps can be taken in the application to avoid fake evidences for example the images can be embedded with special identity so that if someone try to send edited image that image will not be accepted and police department can take action against the reporter.

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