

CRIMINAL-ALERT APP

Priya Garg¹

B.Tech Student, Department of Computer Science Engineering, Sharda University, Greater Noida, Uttar Pradesh, India

Aradhana Rawat²

B.tech Student, Department of Computer Science Engineering, Sharda University, Greater Noida, Uttar Pradesh, India

Priyanka Kumari³

B.tech Student, Department of Computer Science Engineering, Sharda University, Greater Noida, Uttar Pradesh, India

Parveen Mor⁴

Assistant Professor, Department of Computer Science Engineering, Sharda University, Greater Noida, Uttar Pradesh, India

Abstract— The “Criminal-Alert” application for online complaints is an android-based application. A person who wants to file a complaint or report an incident in this application must first register before logging in, and once the user has been authenticated by the admin, he or she can log in and file a complaint. This complaint will be received by police, who will be able to give the person who filed the complaint a note about the status of the complaint. This application can also be used by police departments to manage various types of crimes that were previously handled manually in police stations. Police also gets their login-password from admin. The application allows users to view modules such as unidentified dead bodies, missing people, and most wanted criminals. As a result, this application facilitates police in recognizing social problems without requiring them to visit a police station.

Keywords— FIR-First Information Report; technology; crime; complaints; police station; Information; Consuming

I. INTRODUCTION

In today's world, smartphone is used in many ways and applications such as games, maps, emails, text messages, photography, and so on. Identification of crime and the preservation of criminal records is one such sector. Except for crime prevention, everything is moving online these days. Many ordinary citizens who want to file a report do so at their local police station. These complaints and FIRs, as well as several other documents, are manually maintained by police in police stations. This software solves these problems by allowing the public to file complaints online and keeping track of FIRs, Unidentified Dead Bodies, Missing Persons, and Most Wanted Criminals for police. This prevents both the police and the general public a significant amount of time. The crime reporting system's front end is built with Android Studio, with Firebase serving as the backend for storing book lists and inventory details. The programme has both a consumer and an admin section. This application allows users to monitor any report filed with the law and to report any complaint from anywhere, essentially taking the whole system online.

II. LITERATURE SURVEY

Sourav Bhowmick created a web-based framework inside this paper [1] titled "Criminal Report Management System" to manage data from various sources details about offenders and their crimes. Not just that, but it also contains information on police stations and their present status. It records the offenders' GD, FIR, number of cases, and all other information about them. This system also has a search feature to determine whether or not a person has a criminal background.

Mohammad Shahnawaz created an application that extends to all police stations around the world and directly looks at the matter of Crime Record Management in this paper [2] titled "Crime Reporting and Crime Updates." The value of an extremely sensitive knowledge technology backbone in crime prevention, investigation, and prosecution is well understood. The efficiency of the police function and the consistency of which it combats crime are determined by the accuracy of knowledge obtained from current records and the speed with which it can be accessed. The technology would be implemented first in cities and villages, then integrated so that a police officer could obtain information from all systems throughout the state, enabling inquiries to be conducted more rapidly and successfully. The project was built with a virtualized environment in mind, with server storage centralised. The storing data application has been developed.

Srinidhi Eragam Reddy, Ramya Sahithi Amathi, and Priyanka Vakkalagadda designed a project in their paper [3] entitled “Crime Reporting Interface Design Using Mobile Technology” that aims to create a crime database to keep computer controlled logs of all FIR toward crime. The system is a desktop software that officers from around the department can access. This method can be used to manage the records of numerous activities in the police department's criminal log that are related to first knowledge files.

R. G. Jimoh, K. T. Ojulari, and O. A. Enikuomelin developed a project in this paper [4] titled "A Scalable Online Crime Reporting System" to aid the Nigerian Police in their quest to solve crimes by providing timely and valuable information about criminals and/or their mode of activity in order to nip criminal activities in the bud in a given locality. Eventually, a crime reporting system prototype was developed using four distinct forms of reports: a complaint or alert reporting form, a crime incident report form, a joint case summary report, and an arrest summary report. A data collection module, a report monitoring and control module, and a data consumption module are the three major modules that make up the framework. Practice on the crime monitoring platform in the future will be customised to improve flexibility (mobile version), awareness, and usage.

A. Existing System

In today's world, filing a FIR or petition is a very time-consuming procedure because it involves a lengthy legal process. In the new framework, people who wish to file a complaint must go to the police station on their own, which takes time. Normally, police hold records on paper, which is a time-consuming and complex operation. There's a risk that important records will be lost, and critical crimes that need to be solved right away might be delayed.

Major limitations are: ☐

- ◆ Time consuming
- ◆ Documentation needed
- ◆ Database loss
- ◆ Information on offenders and ordinary citizens is not kept up to date.

To escape those dreadful circumstances, we created an Android application that accomplishes all in a matter of minutes.

B. Proposed System

The primary aim of this project is to develop an Android app capable of detecting crimes. Victims may file a police complaint using the various sections of the application. If photo evidence is needed, it can be submitted through the internet. The police can access the records at any point from a criminal record. Users who sign up for the service will have their information kept secret, and only their reports will be routed to the closest police station. The server immediately forwards the complaint number of users, and the concept of cookies and IP addressing is used to distinguish location and authentic entity. If the user has photo evidence, he should apply it while registering a case on the website to build a

solid case. Users will be notified if the police have filed a FIR. This programme is also beneficial to law enforcement. In these cases, the FIR will be filed as soon as possible so that doctors can continue their practise or treatment.

The primary goals are as follows:

- ◆ Reduced time consumption
- ◆ No paper work required
- ◆ No record loss centralised database management information on both offenders and ordinary citizens is properly managed
- ◆ Limit the extent of the error

1. Police Application:

This will lead to the formation of a police android programme that will work as follows. Since this programme is not freely accessible to the general public, the police must first enter with their username and the password given to them. By logging into the programme, officers would be able to use a variety of services such as monitoring accidents and viewing user-reported incidents. Once the particular event has been verified, the log will be modified, and a message will be sent to all customers who will be using this programme. The police would then be given the authority to manipulate criminal databases.

2. General User Application

This will be the first step in the implementation of a general user programme, which will work as follows. Until using the programme, users must first complete a one-time registration process. After registering, users may be able to monitor injuries and display alerts that provide information such as the phone number and location of a local police department, ambulance, or fire station. The police would also have the option to view an alternative route. The user would not be granted any form of access to the criminal database. The user's physical location can be monitored using GPS, which we developed into the cellular phone. Users may also recommend a secure alternate path via the app, which would be provided by police, to bypass all crime-affected areas.

3. Cloud Database

The cloud can also be included with this programme to store all criminal databases in order to provide remote access. As described in the police client device, the username and password used by the officers will be cross-verified with those stored in the database. The crime's complexity would be determined on a first-come, first-served basis. The SHA-1 algorithm will be used to secure the database.

Advantages: ☑

- Ensure data accuracy ☑
- Proper control of the higher authority ☑
- Minimize manual data entry ☑
- Greater efficiency ☑
- Better service ☑
- User friendliness and interactive ☑
- Minimum time required ☑
- Minimum time needed for the various processing

III. SYSTEM DESIGN AND IMPLEMENTATION

A. System Analysis

The system is very much flexible and versatile. This application has a user-friendly screen that helps the user to use without any disturbance or inconvenience. Validation checks induced have reduced a lot errors. Provisions have been also made to upgrade the application.

The analysis was carried out while keeping the project's two modules in mind. The user module was the part of the project that deals with analysis. We concentrated on our design, which had to be as user friendly as possible, because users of this application may or may not have any computer knowledge. The next most critical step was to provide protection at the user level. It was important to give community members privacy. Another consideration was the app's appearance; it needed to be friendly and respectable enough to entice the customer. Last but not least, the administrators needed to be given authority. Validation of the registration form should be done properly.

Functional needs:

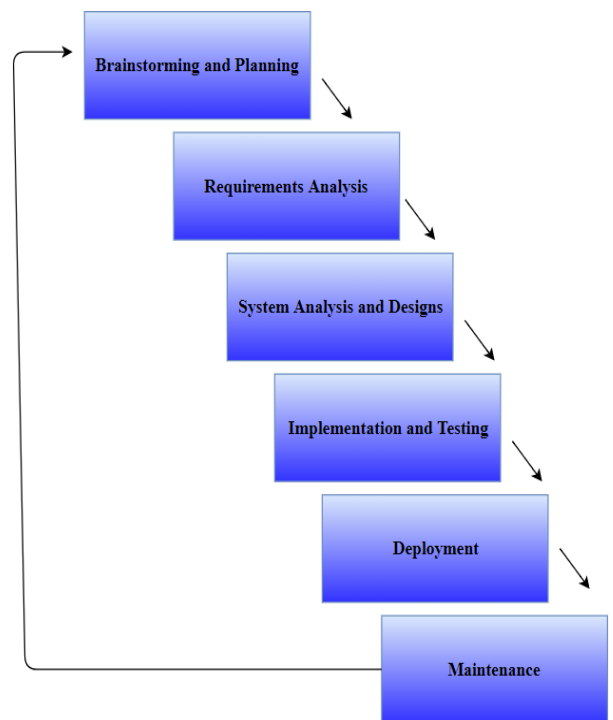
- Forms for reporting crimes, tracking progress, and evidence attachments
- Reporting and searching for missing national or valuables.
- The registration process is completely safe and private.

Non-functional needs:

- 24/7 functional.
- It is designed to provide high efficiency during peak traffic periods.
- This style of design is not only useful for the current, but it can also be expanded or revised as requirements change in the future.

B. System Design

The software development model used for this Android project is known as the Waterfall model. This model uses a sequential order to ensure that each step is completed



before moving on to the next. This waterfall model emphasises preparation in the early stages, is used in projects where all of the system specifications are defined, and it also works well for projects where quality management is a major concern due to its extensive documentation and planning.

There is a simple operating methodology in place so that the customer can understand the various capabilities clearly and quickly. As a first step, an executable programme must be created and installed on a standard server machine that is accessible to all clients, and the server is also linked to a device.

Modules:

- Registration module
- FIR module
- Victim information
- Crime information
- Criminal module
- Criminal alert module
- Admin module

• Registration Module

Users must use the sign up option to register. The user id, name, occupation, date of birth, aadhar card number, and the area to which they belong are all required fields on the registration form. They are allowed to use the app once they have signed up.

• FIR Module

Victim Information: The victim's name, address, telephone number, father's name, FIR number, and

nationality are all included in this module.

Crime Information: This module includes information about the crime. It includes the date and time, the police department where the report was filed, the name of the officer who filed the complaint, the type of the crime, the location of the crime, and the names of the suspects (if any).

• Criminal Module

This module contains the criminal's information. It includes the following information: criminal number, criminal name, age, occupation, crime type, date of arrest, and address.

• Criminal alert module

This module sends out an alert about a suspect in our neighbourhood. If any criminals are discovered in our city, we will be notified.

• Admin module

This module allows the administrator to monitor and respond to user concerns and crimes, as well as add and remove hot news and missing persons information.

C. Actors of the Project

User: Posting complaints, sending updates, and checking the status of his complaint are all things that the user can do.

Administrator: Viewing complaints, viewing reminders, and generating reports are all tasks performed by the administrator.

Department: Detect offenders and punish them in accordance with the law.

D. Technology Description

1. Java:

Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. It is a computing platform for application development. Java is fast, secure, and reliable, therefore. It is widely used for developing Java applications in laptops, data centers, game consoles, scientific supercomputers, cell phones, etc.

2. Firebase:

Backend-as-a-Service (BaaS) is what Firebase is (Baas). It offers a wide range of tools and resources to developers in order to help them create high-quality applications, expand their user base, and benefit. It is based on the technology provided by Google.

Firebase is a NoSQL database application that stores information in JSON-like formats.

3. Android Studio:

The official Integrated Development Environment (IDE) for Android application development is Android Studio. Android Studio adds new features to help us be more productive when developing Android apps.

Features of Android Studio

- It has a flexible Gradle-based build system.
- It has a fast and feature-rich emulator for app testing.
- Android Studio has a consolidated environment where we can develop for all Android devices.
- Apply changes to the resource code of our running app without restarting the app.
- Android Studio provides extensive testing tools and frameworks.

IV. CONCLUSIONS

This project is called "CRIMINAL-ALERT" and it is an android programme. A completely integrated and convenient framework is being developed that can be used by both the general police and the public, making it a win-win situation for both. This framework includes features for reporting online crimes, grievances, missing persons, missing searches, and information on the most wanted people, as well as chatting. This software is developed with extensibility in mind. More of these modules can also be easily added as required. The framework was designed using a modular design. All modules were successfully checked in this application with both valid and invalid data. Since then, the system has achieved all of the defined goals and is capable of replacing the current system.

V. FUTURE WORK

In this paper, a fully integrated framework is being built that can be used by both the general public and the police. In the future, we will use a QR code scanner to protect the user's privacy while downloading the FIR data.

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