

**SOFTWARE REQUIREMENT SPECIFICATION
FOR
SECURITY MANAGEMENT SYSTEM**

**Under the Subject of
Software engineering
(Semester – V)**

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**Guide
Mr. Krunal Sir**

**Academic Year
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L.J. Institute of Engineering & Technology, Ahmedabad (LJU)

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CERTIFICATE

Date:

This is to certify that the Software Engineering Work entitled “Security Management System”, carried out by the group of students mentioned below under my guidance is approved for the Degree of Bachelor of Engineering (Semester-V) of L. J. Institute of Engineering and Technology (LJU) during the academic year 2023-24.

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Declaration of Originality

We hereby declare that this Software Requirements Specification (SRS) report is a product of our own independent work and reflects our understanding of the project requirements. All external sources of information and assistance are duly acknowledged.

This document has not been submitted for any other purpose, and any similarities with existing works are purely coincidental

Signature: _____

Name: _____

Date: 24/02/2024

ACKNOWLEDGMENT

The Software Requirement Specification(SRS) model for the Crime Reporting System (CRS) provides a detailed framework for the development of a sophisticated crime management software. Emphasizing user-friendliness, privacy, and security, the SRS outlines specific use cases, functional requirements, and system constraints. It details incident categorization, prioritization, and real-time analytics, along with interfaces for seamless communication between users and law enforcement agencies. The integration of social media platforms for community engagement is also addressed. The SRS defines the system architecture, including hardware and software requirements, and outlines performance metrics, scalability considerations, and reliability requirements.

Furthermore, the document highlights testing and validation procedures, ensuring the CRS meets rigorous standards throughout the development lifecycle. In summary, the SRS serves as a comprehensive guide, ensuring the successful implementation of an innovative crime management system that meets the needs of both the public and law enforcement entities.

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Intended Audience and Reading Suggestions:

- This document is intended for the users, law-enforcers and testers. Users will be able to view whether the document covers all the tasks which were to be accomplished and the functionalities provided in the software according to them.
- An easy way to understand the document easily is to thoroughly read the first portion of the document which tells about the product's features, the environment and interface. And to understand the working of the tasks, readers can view the diagrams at the end - as visual representation of the project will be easy to interpret for the users. It gives an gist of how the system operates and relation between functionalities.

Product scope:

- User-friendly mobile application enabling citizens to report and document various types of crimes securely
- Integration with local law enforcement systems for immediate response and case tracking.
- Emergency features, such as panic button for immediate assistance.
- Notification system to keep users informed about the status of reported incidents.

Product Perspective

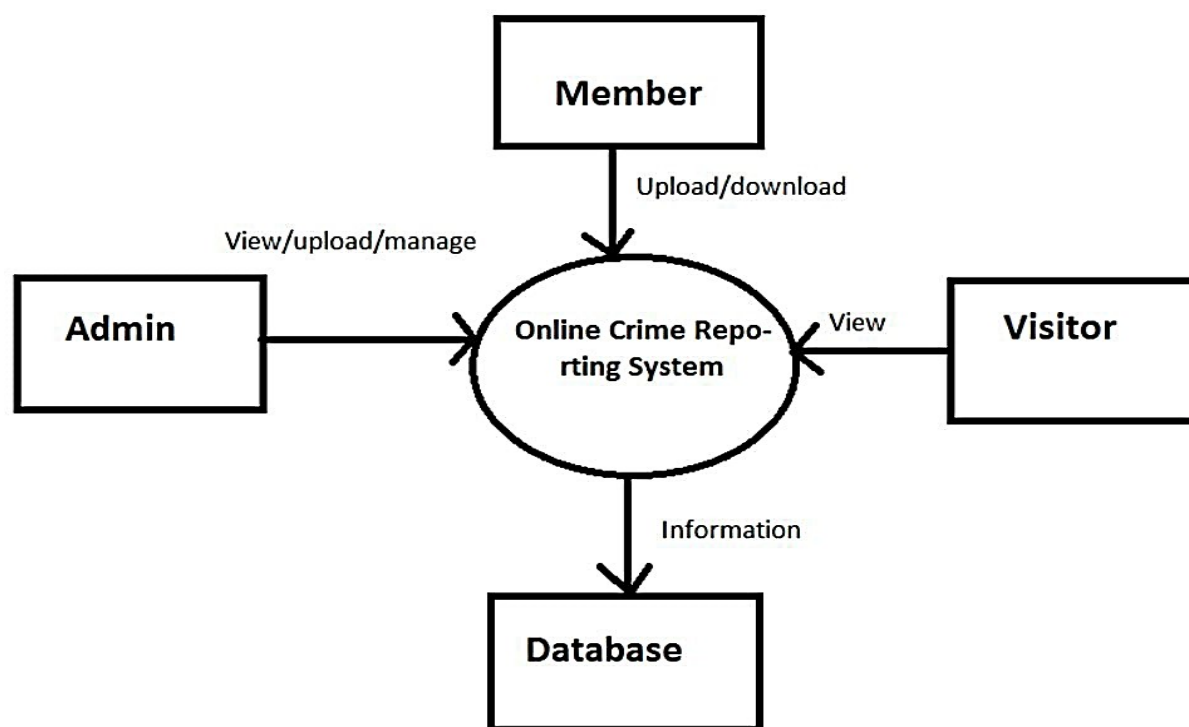
- This product is a replacement of some of the already existing systems.
- There are many systems related to crime reporting and searching for police stations via app. But most of them are not available 24/7 which makes it unreliable in emergencies and rest of the sources which provides information like tracking police station for multiple interpretations which is also unreliable.
- Hence, this system is an advanced version of existing systems/sources.

Product Functions

- Safety Measures: by using this function user can get safety tips by just enter the characteristic of type.
- Privacy: This function protects the privacy of information.
- Manage record system: This system is used to manage or save the record like cases and protect the privacy of informer and prevents the reported information etc.
- Manage FIR this system is used to manage the FIR like edit my FIR.
- Avoid disclosure: This function avoids the disclosure of informer identity in the award procedure.
- Search near by police station: this is used for search nearby Police station in the case of emergency, thus you can reach on time at police station
- Prevent cases: This function is used to prevent cases from being erased.

A context level diagram explaining all the major functions of the system:

System Architecture



User Classes and Characteristics

The most important user class among these is member.

They are the one who will use this application for most of their emergencies and needs. They are the primary users.

users	characteristics
admin	Admins are the secondary users. Admin is the one who manages all the back ends tasks of the system. Admin will be Protected by username and password. ordinary user of website will not be permitted to enter into the application. Admin can manage all record related to application that manage the crime detail.
Member	Members are the primary users. Members can add crime detail of the criminals. Members will be able to register themselves by giving there credentials and selecting their cities. Members are able to search for all emergency contacts in Pakistan. They have access to report complaints online.
Visitors	Visitors can view all crime details and their main task will be to only read the previous records.

Operating Environment

- System will operate on any operating system like Microsoft Windows, Apple Mac OS, Linux, Android and Apple's iOS on latest as well as old versions. Hardware of any contain at least 4GB ram good processor etc. used of any registered company like dell, HP etc.
- It also easily co exists with other applications like Google map etc.

Design and Implementation Constraints

The system must be developed at C++/Java. The color scheme is blue family and the font style is Arial with bold headings. Only English language shall be used. System shall be built for 4GB RAM systems and above.

User Documentation:

Users will be able to download the history from the application.

Users will be able to view the “Help” option to see how will the application work.

Assumptions and Dependencies

- All the users have access to smart phones. Since this application will only be compatible with smart phones. Both IOS and android.
- Members and Admin have access to internet.
- Members have already registered themselves once, before using this application causally.
- All the users are residing in India (Since the system will be used and managed in the cities of India only for now).

User Interfaces

Home Screen:

- A simple, visually appealing home screen with options to report a crime, track an existing report, and view information about the reporting process.

Report a Crime Form:

- A form that allows users to report a crime with details such as the type of crime, location, date and time, description of the crime, and contact information of the reporter. The form should be designed to be simple and user-friendly, with clear instructions and feedback on any errors or missing information.

Crime Tracking:

- A feature that allows users to track the status of their crime report, such as whether it has been received, assigned to an investigator, and resolved.

Search Functionality:

- A search function that allows users to search for crime reports based on different criteria, such as location, type of crime, and date.

Help and Support:

- An easily accessible help and support section that provides users with guidance on how to use the system, how to report a crime, and who to contact for assistance

Feedback Mechanism:

- A mechanism for users to provide feedback on their experience using the crime reporting system, such as a feedback survey.

Security:

- The user interface should have appropriate security features in place to protect the privacy of users and their information. This may include secure logins, data encryption, and access controls.

Hardware Interfaces

- This project does not require support of any external hardware device except your phone or laptop.

Software Interface

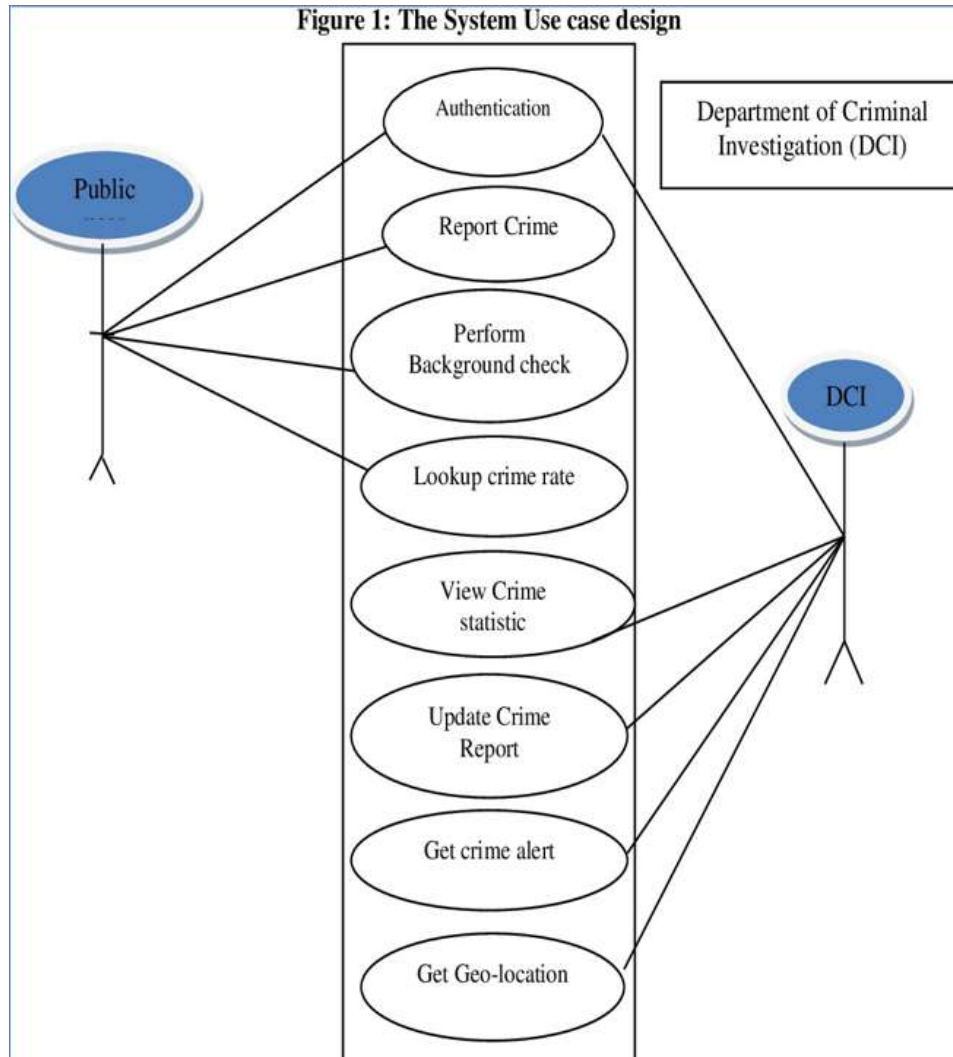
- This product shall have connection with the following software components.
- Ui/Ux is done by wordpress which is linked backend by java
- For the Implementation of Code, we shall use Android Studio and programming language is Java.
- This system shall run on iOS and Android.

Communication Interfaces

- Users can sign in to this application through their g-mail account or phone number.
- Users can either create their new account on this application or simply sign in by using their g-mail account.
- The communication is through email or text. Also phone number will be required
- Further updates will also have the option to live chat with the help desk at any given time and register any complain.

USE CASE DIAGRAM

Figure 1: The System Use case design



SYSTEM FEATURES:

Performance Requirement

- Performance requirement is essential which is why, we will have to mention it in the software requirement specification document so that the application performs well and required results are generated. This application will be able to handle traffic load and will respond and display the next interface in less than 3 seconds.

Safety Requirement

- Safety requirements are important for any sort of application in order to keep the data secured and prevent the application from crashing or displaying errors.
- All the coding level errors and debugs will not be shown, instead error code will be displayed.

Security Requirement

- Security is very important for any application. That's why our project "crime reporting application" is secured. It has a login/logout option. Everyone will have their own personal account and details which are authenticated every time a new user joins or existing user signs in.
- This application provides two factor authentications as well.
- Confidential data is encrypted user to user and the access is not given to anyone

Software Quality Attributes:

- **Availability:**
Our project is available 24/7. As it is a vital and crucial application, it is available all the time. This application is reliable and easy to download for free.
- **Reusability:**
This application is reusable. There will be no changes in the application.
And users can easily use this application again and again.
- **Portability:**
Our application is portable and can be in any phone and always ready.
People can easily use this application at anytime and anywhere.

Business Rules

Users will be able to get security details. All of those recommendations will be based on the previous records and will be according to the verified and already existing ones in the field of crimes

Purpose

- To make the existing system more efficient.
- The main purpose of the system is to manage criminal details in a centralized database and provide solution for public to give complaint through online.
- To Digitize the upcoming cases and also the past cases.
- Ease the procedural time and focus on each individual in a better way
- To build a helping community of active citizens who might prevent mobs and severe crimes through this app

Drawbacks:

Some of the problems being faced in the manual system are asfollow:

- Fast report generation is not possible.
- This application does not allow users to recover their passwords.
- It is not going to allow users to ignore or remove their crime reports.
- It would also not allow changing in their profile twice.
- It is not fully secured as anyone can visit anyone's profile

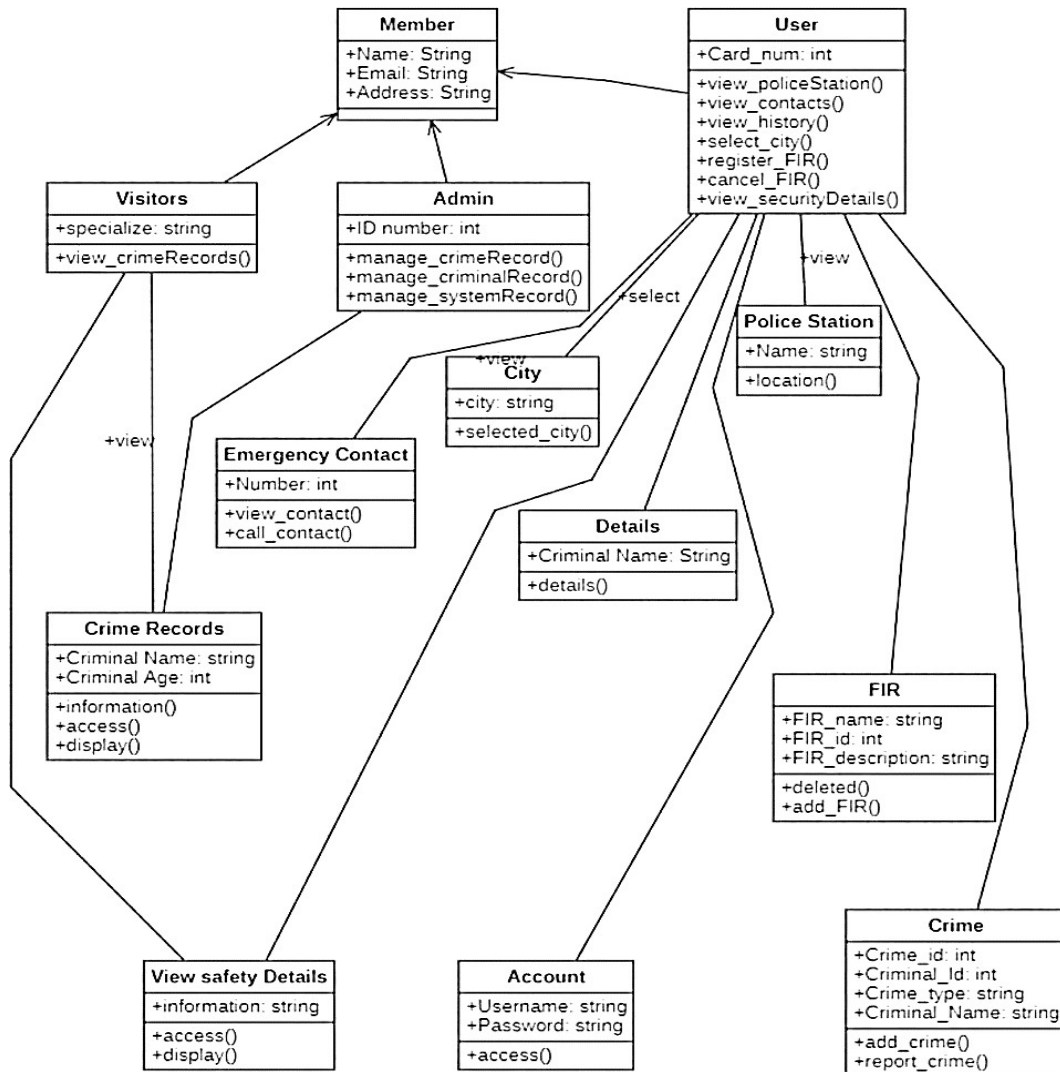
Project Aim:

- To eliminate the paper work at reporting.
- To record every transaction in computerized system.
- To storing the records related to the criminals, cases, complaint record, case history and so on.
- To save constant time.
- To make the whole crime reporting procedure easy and accessible to everyone such as every Indian can report a crime and get justice as soon as possible
- To help the law enforcers and policemen who work day and night to keep us safe.
- To keep an virtual track of every case such as to reduce human clerical error as much as possible

Other Requirements

Activity Diagram:

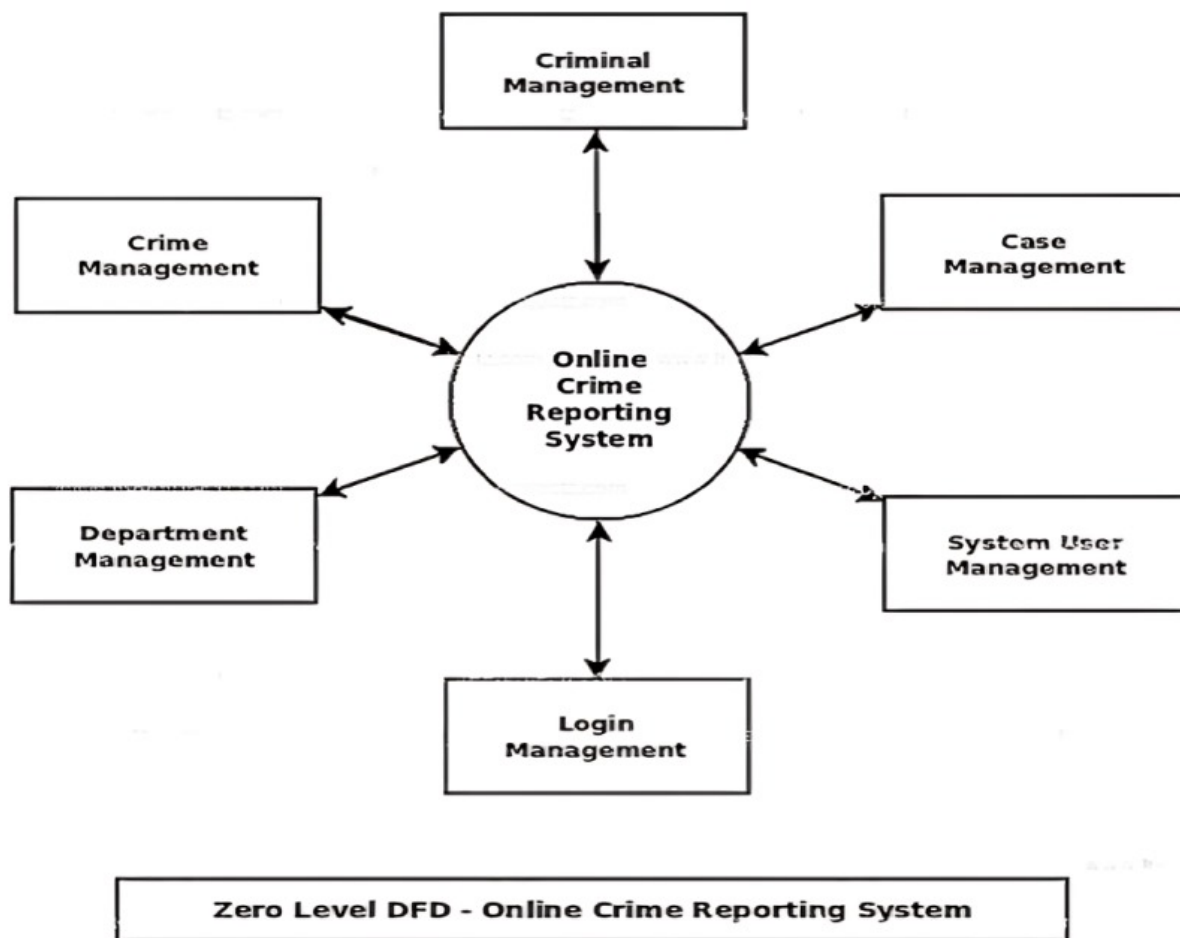
Activity diagram is similar to the flowchart. It is used to explain the flow of the processes or a feature from one activity to another.



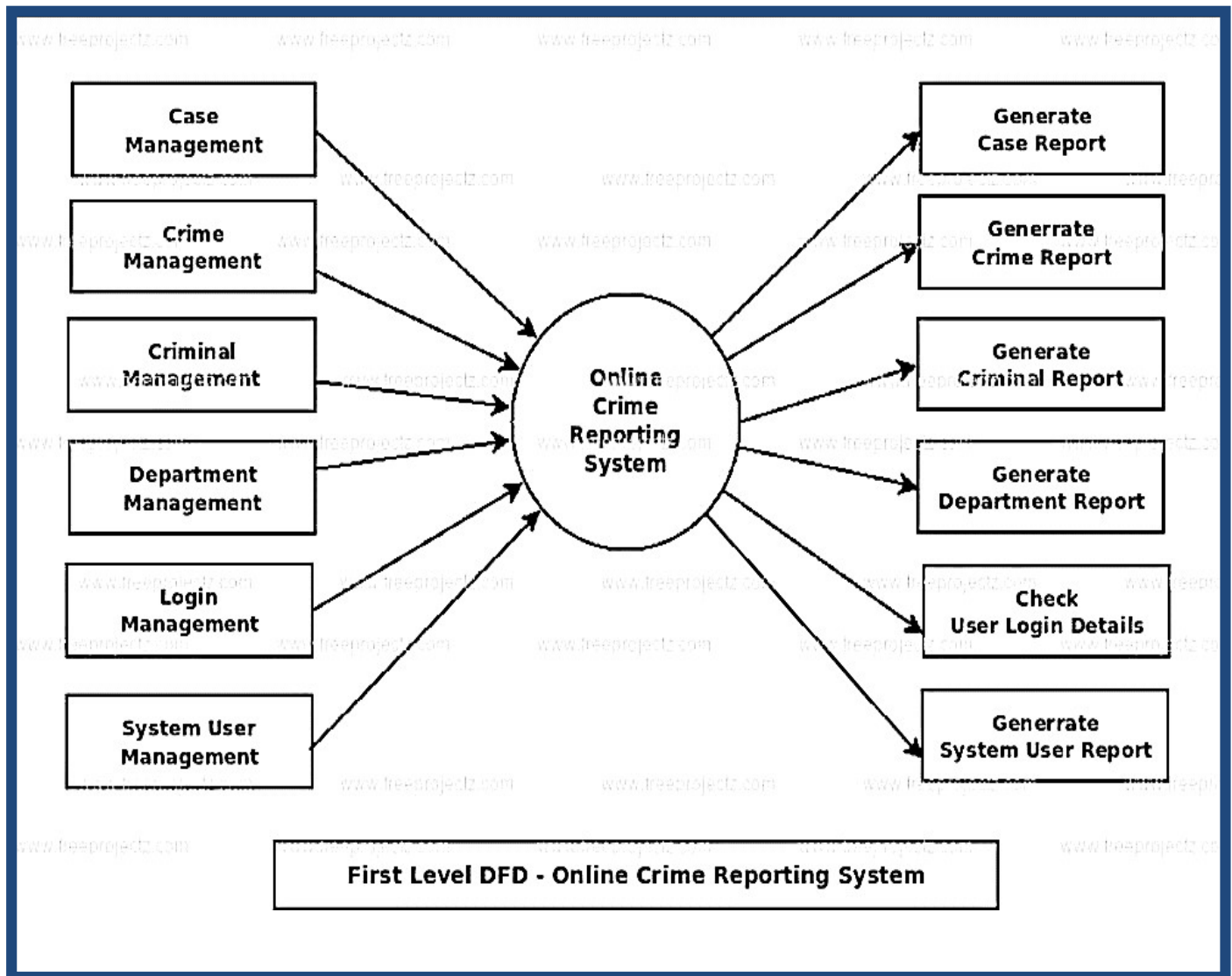
Data Flow Diagram:

Data flow diagram processes and entities which defines the flow of data in the project.

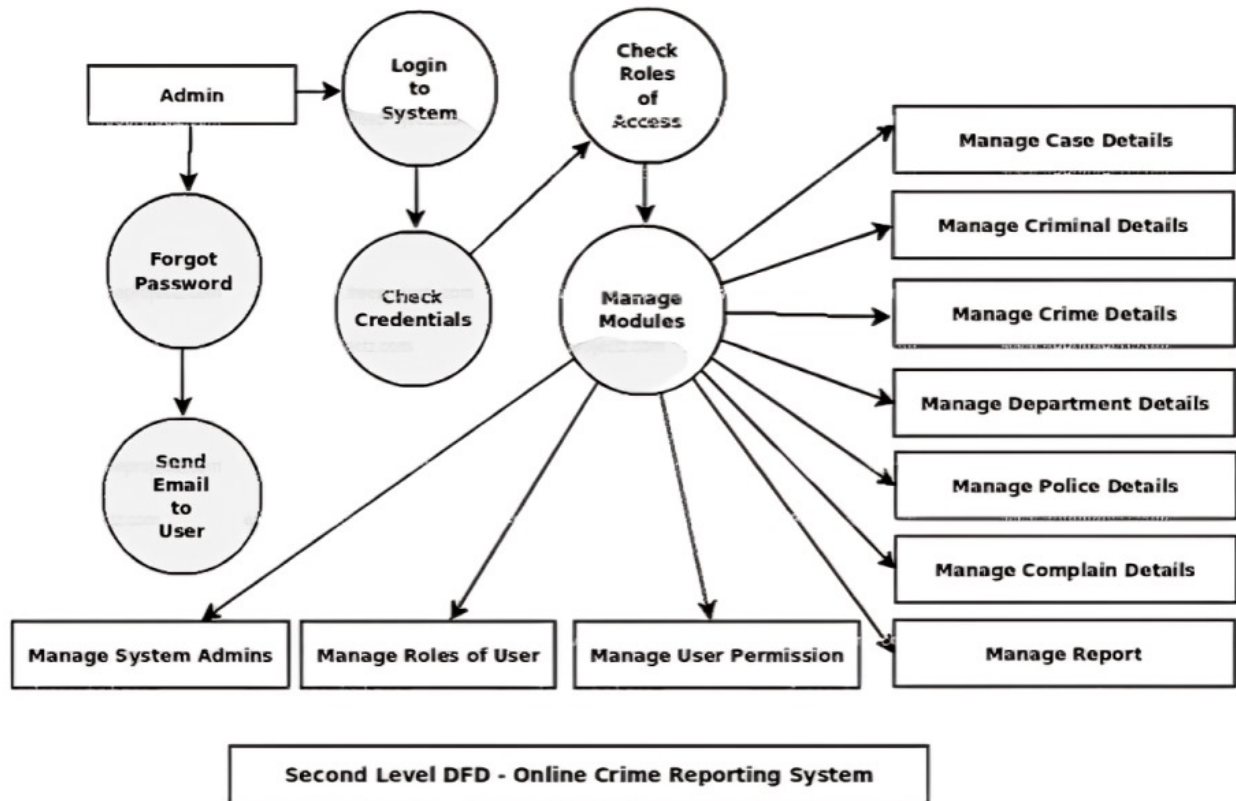
ZERO LEVEL DFD:-



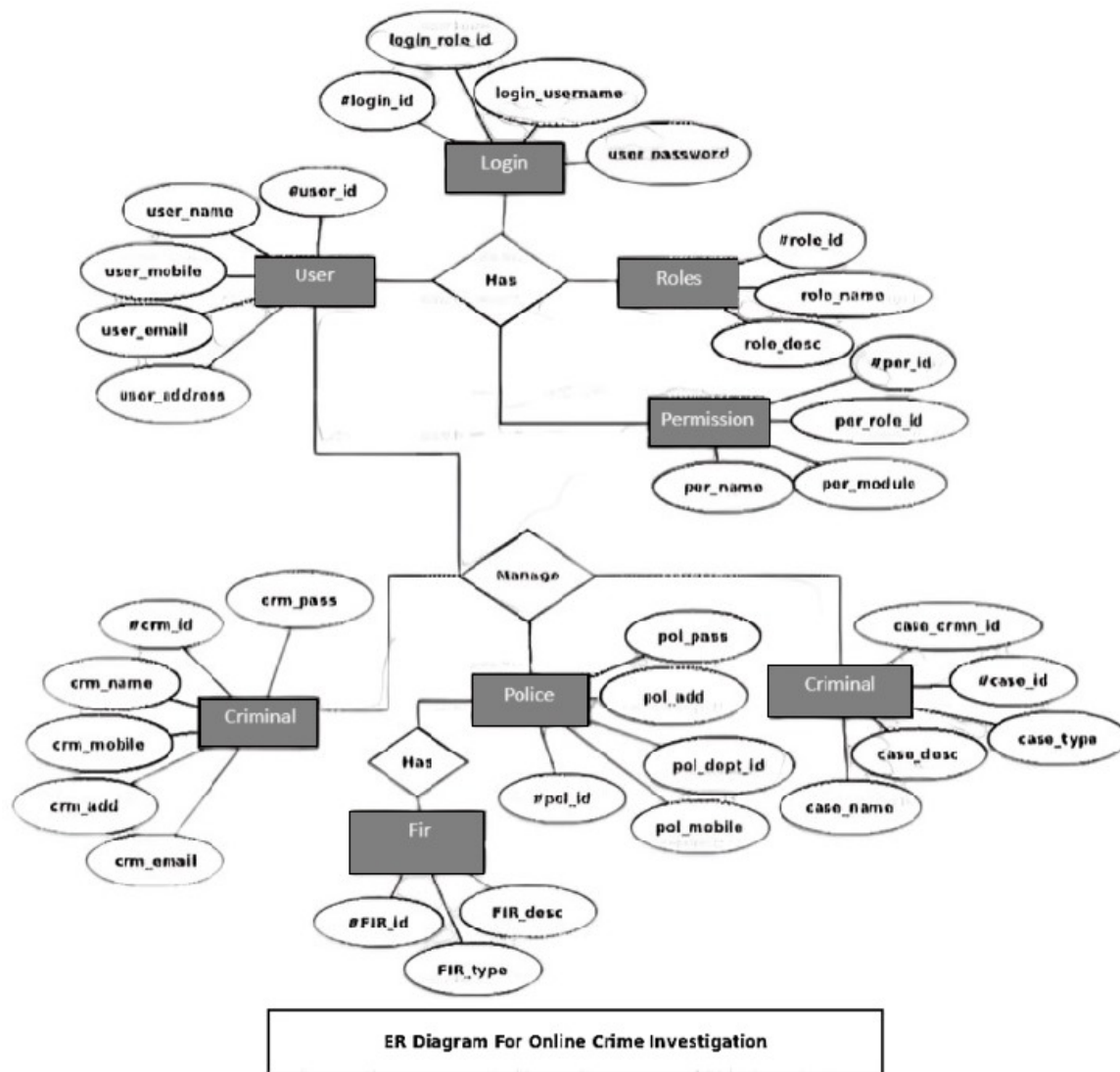
FIRST LEVEL DFD:



SECOND LEVEL DFD:-



Entity relationship diagram (ER diagram)



Future Scope:

- To make the software platform independent
- To make the software general accessibility to all users in small districts and even rural areas
- Enhancing the statistical data with more archives and case studies and paper form of data.
- To increase the computation speed of the software so as the user does not have to wait more to connect with the police in the time of emergency.
- To add chat bot and a live 24/7 help desk to answer all the FAQ's of the user regarding the use of the app.

Limitations:

- Majority of police stations are dependent on paper-work which turns out to be very inefficient and data backup is very difficult and tedious.
- It cannot reach to rural areas where even getting cell reception is an issue.
- In our Applications live chat app functionality is not available yet which can be very helpful for the people who are not yet familiar with mobile phones or the internet.
- High traffic can cause the system to function improperly or lag which should be addressed and improved.

Application



CONCLUSION

To finally conclude everything our security management system offers:

- **Empowering Communities:** The Security Management System presented in this report aims to empower communities by providing a user-friendly platform for prompt and secure crime reporting, fostering a sense of collective security and responsibility.
- **Enhanced Law Enforcement Collaboration:** Through seamless integration with local law enforcement, this system streamlines communication and response, fostering a more effective collaboration between citizens and authorities to ensure public safety.
- **Continuous Improvement:** The dynamic nature of this app allows for continuous enhancements, future integrations with emerging technologies, and ongoing collaboration with relevant stakeholders, ensuring adaptability and resilience in the ever-evolving landscape of security management.
- **Commitment to Privacy and Security:** With a focus on user authentication, secure data handling, and privacy safeguards, this Security Management System underscores a commitment to protecting user information, maintaining trust, and upholding ethical standards in crime reporting.
- **A Step Towards Safer Societies:** In conclusion, the implementation of this Crime Reporting System represents a significant step towards building safer societies, fostering a proactive approach to security, and leveraging technology for the betterment of communities.

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- Entity relationship diagram https://www.researchgate.net/figure/AN-EXAMPLE-OF-AN-SRS-DATABASE-ENTITY-RELATIONSHIP-DIAGRAM_fig2_265337398
- Michigan State University SRS <https://cse.msu.edu/~colucci6/SRS.pdf>



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