

THE CHOSEN ARCHITECTURAL DESIGN

The architectural design used for the Crime Management System is the Client-server. In this style, the system is designed as a set of services that are provided by a server and consumed by client applications. Client-server architecture is a type of software architecture in which a client application requests services or resources from a server application, which provides those services or resources in response. In this architecture, the client and server applications are designed to work together in a coordinated manner to provide functionality to end-users.

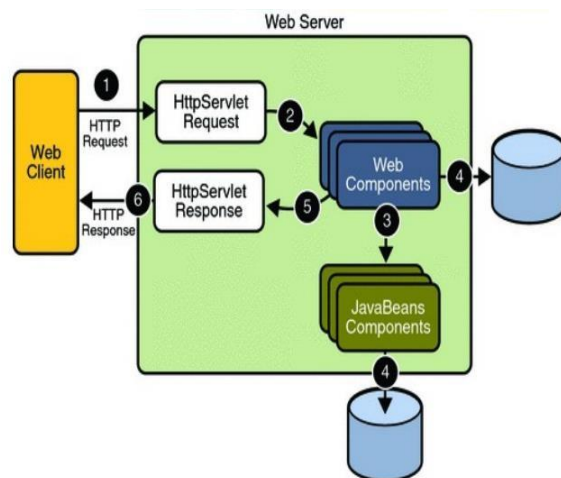
There are two main components in this architectural design. These are the **Client** and the **Server** Component.

- **THE CLIENT COMPONENT**

The client component is responsible for displaying the user interface and for accepting user inputs. It communicates with the server component to request data and submit new records. This is the interface through which users interact with the system. This can take the form of a web application or a mobile application.

- **THE SERVER COMPONENT**

This component is responsible for managing the data and business logic of the system. It communicates with the client component to receive user requests and respond with appropriate data. It also communicates with other systems, such as law enforcement databases, to retrieve or submit data as necessary.



JUSTIFICATIONS FOR CHOOSING A CLIENT-SERVER

ARCHITECTURE

1. Scalability: A client-server architecture allows for easy scaling of the system. As the number of users or the volume of data increases, additional server resources can be added to handle the load.
2. Security: A client-server architecture can help to ensure the security of sensitive data. By centralizing data management on the server, access can be more easily controlled and monitored.
3. Reliability: A client-server architecture can improve system reliability. By separating the user interface from the data management logic, issues with the client component (such as crashes or network connectivity problems) are less likely to affect the overall system.
4. Accessibility: A client-server architecture allows for remote access to the system. This can be particularly useful for law enforcement agencies that need to access records from multiple locations.

In conclusion, a client-server architecture is a suitable choice for crime records management. It provides scalability, security, reliability, and accessibility, all of which are important considerations for a system that deals with sensitive data.

DESIGN DECISION

Design decisions for crime records management systems are typically informed by a variety of factors, including legal and regulatory requirements, user needs and feedback, security concerns, and technological capabilities. Some specific design decisions that may be made in the development of a crime records management system could include:

1. Data collection: One design decision that must be made is what data to collect and how to collect it. This may include decisions around the types of crimes to track, the data fields to include for each crime, and the methods for entering and validating data.
2. User interface: A user-friendly interface is important for effective use of the system. Design decisions may include layout, color scheme, and ease of navigation.
3. Security: Crime records management systems may contain sensitive data, so security is a critical design consideration. Design decisions may include encryption, access controls, and audit logging.

4. Integration: The system may need to integrate with other systems, such as law enforcement databases or court records systems. Design decisions may include data exchange protocols and data mapping.

5. Reporting: Crime records management systems may be used for generating reports on crime statistics or trends. Design decisions may include report templates, data visualization, and export formats.

Overall, the design decisions made for a crime records management system will depend on the specific needs of the organization or agency using it, as well as the available technological resources and security concerns.

LOGICAL AND PROCESS VIEWS OF THE DESIGN

- **LOGICAL VIEW**

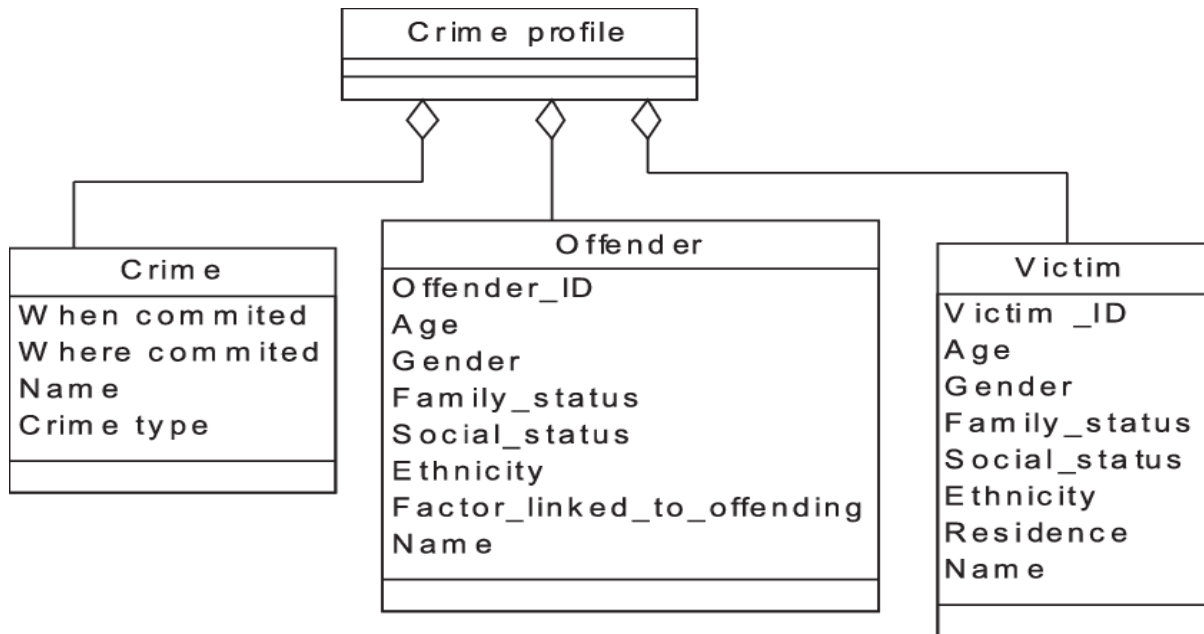
The logical view is concerned with the classes and objects in the system. It also talks about the functionality of the system. Thus, The Crime Records Management System (CRMS) is a software system that is going to be used to manage and store information about crimes and criminal activities which is the basic functionality of the system.

- **PROCESS VIEW**

A process view is a way of looking at a system or organizing from the perspective of the processes that makes it up. It focuses on the sequence of activities and interactions that take place within a system or organization to achieve its goals.

CLASS DIAGRAM

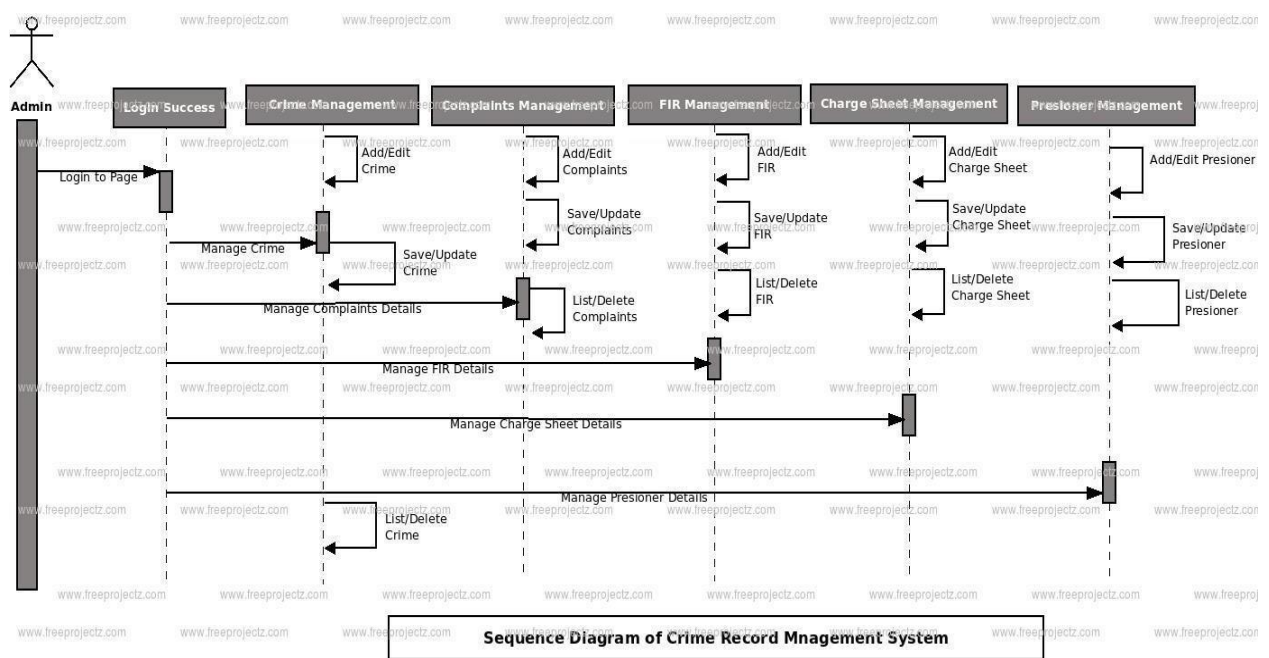
A class diagram is a graphical representation of the classes, interfaces, and relationships in a system. It is used to describe the objects in the system and how they relate to each other. The class diagram for the CRMS system would include the following classes:



- **Crime:** This class represent each crime that is recorded in the system. It has attributes such as crime ID, crime type, date and time, location, and description.
- **Suspect:** This class represent each suspect associated with a crime. It has attributes such as suspect ID, name, age, gender, and contact information.
- **Victim:** This class represent each victim associated with a crime. It has attributes such as victim ID, name, age, gender, and contact information.
- **Officer:** This class represent each officer who records the crime. It has attributes such as officer ID, name, contact information, and rank.
- **Department:** This class represent the department that the officer belongs to. It has attributes such as department ID, name, and location.
- **Evidence:** This class represent the evidence that is collected in relation to a crime. It has attributes such as evidence ID, type, description, and location. The class diagram for the CRMS system is shown below:

SEQUENCE DIAGRAM

A sequence diagram is used to show how objects in a system interact with each other. It shows the order of messages that are sent and received between objects. The sequence diagram for the CRMS system would illustrate how the various classes interact with each other during the recording and management of a crime. The following sequence diagram shows the basic flow of the CRMS system.



As shown in the diagram, an officer records a crime by creating a crime object and associating it with the relevant suspect, victim, and evidence objects. The officer then saves the crime record in the system.

The system can then be used to search for and retrieve information about specific crimes, suspects, victims, and evidence. The diagram also shows how the officer can update the information associated with a crime or add new information as necessary.

USER INTERFACE (UI)

The user interface (UI) of a crime record management system should be designed in such a way that it is easy to use, efficient, and user-friendly. It can contain;

1. Home screen: The home screen is designed in a way that is simple and straightforward. It should include a navigation menu with options such as "add new record", "search for records", "view records", "settings", and "logout".
2. Add new record screen: The screen for adding new records is designed with input fields for relevant information such as the name of the offender, the type of crime committed, date and time of the crime, and any other relevant details. The user will be able to submit the new record by clicking a button.
3. Search screen: The search screen will allow users to search for records based on relevant criteria such as the name of the offender, the type of crime committed, the date and time of the crime, and any other relevant details. The user will be able to view a list of matching records and select one for further details.
4. View record screen: The view record screen will display all the details of a specific record, including the name of the offender, the type of crime committed, date and time of the crime and any other relevant details. The user will be able to edit or delete the record if necessary.
5. Settings screen: The settings screen will allow users to customize the system to their needs. This include options such as changing the theme or language of the system, or adjusting notification settings.
6. Navigation: Navigation throughout the system will be clear and easy to understand. Users will be able to move between screens easily and access all the functions of the system without difficulty.

Overall, the UI design of the Crime Record Management System prioritizes ease of use and efficiency, while also ensuring that all relevant information is displayed in a clear and concise manner.

For data design, we need to identify the necessary data fields and how they relate to each other. Some of the key data fields may include:

- Case ID
- Case description
- Date of occurrence
- Location of occurrence
- Status (pending, resolved, closed)
- Suspect information (if applicable)
- Victim information (if applicable)
- Officer in charge

We used a relational database to store and manage this data. The database can be designed with tables for each of the data fields and linked together through primary and foreign keys we can also include data validation rules to ensure data accuracy and consistency.



CRIME RECORDS MANAGEMENT SYSTEM

Police ID

Password

[Forget Password](#)

LOG IN

BACK



CRIME RECORDS MANAGEMENT SYSTEM

SIGN UP

LOG IN

BACK

CRIME RECORDS MANAGEMENT SYSTEM

MENU

SEARCH

NEW CRIME RECORD INSERTION

UPDATE RECORD

BACK

CRIME RECORDS MANAGEMENT SYSTEM

NEW RECORD INSERTION

NAME_ID:	<input type="text"/>
NAME:	<input type="text"/>
AGE:	<input type="text"/>
DOB:	<input type="text"/>
GENDER:	<input type="text"/>
RESIDENTIAL ADD:	<input type="text"/>
CRIME:	<input type="text"/>
COURT:	<input type="text"/>
FATHER'S NAME:	<input type="text"/>
MOTHER'S NAME:	<input type="text"/>
PHONE NO:	<input type="text"/>
OCCUPATION:	<input type="text"/>
WEIGHT:	<input type="text"/>
HEIGHT:	<input type="text"/>
SKIN TONE:	<input type="text"/>
EYE COLOUR:	<input type="text"/>
JAIL_ID:	<input type="text"/>
ACCUSED_ID:	<input type="text"/>
CELL_NO:	<input type="text"/>

ADD

SHOW DATABASE

BACK

CRIME RECORDS MANAGEMENT SYSTEM

NEW RECORD INSERTION

POLICE NO:	<input type="text"/>
NAME:	<input type="text"/>
DESIGNATION:	<input type="text"/>
GENDER:	<input type="text"/>
DATE OF BIRTH:	<input type="text"/>
DATE OF JOINING:	<input type="text"/>
PHONE NO:	<input type="text"/>
EMAIL:	<input type="text"/>
STREET:	<input type="text"/>
CITY:	<input type="text"/>
REGION:	<input type="text"/>
COUNTRY:	<input type="text"/>
PIN CODE:	<input type="text"/>
FLAT NO:	<input type="text"/>

SIGN UP

BACK

CONCLUSION

The Crime Management System uses a Client-server architectural design, where a server provides services and resources in response to requests from a client application. The client component is responsible for the user interface and communicates with the server component to request and submit data. The server component manages the data and business logic of the system and communicates with other systems as necessary.

The user interface (UI) of a crime record management system should be easy to use, efficient, and user-friendly. It includes a home screen with a navigation menu, screens for adding new records, searching for records, viewing records, and accessing settings. Navigation throughout the system is clear and easy to understand, and the design prioritizes displaying all relevant information in a clear and concise manner.