CS301 - Databases

Project Report

Criminal Records Management System

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Table of Contents

Contents	Page Number
Introduction	3
Tables in the Database	4
Entity-Relationship Diagram	5
Respective Contributions	6

Introduction

Modern world is full of crimes, menaces and murders. Crime is on the rise and is becoming a threat for the society at large. Although technology drives many fields in the performance of their operations, it is still not used by law enforcement agencies to a great extent.

In the realm of law enforcement and judicial systems, the efficient management of criminal records is paramount for ensuring public safety, maintaining order, and upholding justice.

Criminal Record Management System or CRMS is a comprehensive and meticulously designed database that serves as the backbone for recording, organizing, and tracking critical information related to criminal activities, investigations, and legal proceedings.

This system encompasses various entities crucial to the criminal justice ecosystem, providing a seamless platform for law enforcement agencies, courts, and correctional facilities to collaborate and streamline their operations. The database is structured to capture essential details about:

- Districts
- Police Stations
- Officers
- Cases
- FIRs (First Information Reports)
- Suspects
- Criminals
- Court hearings
- Jail and Jail-logs
- User Roles

This Criminal Record Management System aims to enhance the efficiency of law enforcement agencies, promote transparency in legal proceedings, and contribute to the overall safety of communities. By facilitating seamless information exchange and maintaining a comprehensive repository of criminal records, the system empowers authorities to make informed decisions, track the progress of cases, and ensure that justice is served in a timely and effective manner.

Tables in the Database

- **District Table** stores information about law enforcement districts where police stations are present. Fields: district (Primary key), officer_in_charge.

- **Station Table** represents police stations, linked to a specific district. Fields: station_id (Primary key), stationAddress, district (Foreign key referencing District)

- **Officer Table** contains information about police officers. Fields: officer_id (Primary key), firstname, lastName, dateofJoining, officer_address, station_id (Foreign key referencing Station)

- **Cases Table** stores details of criminal cases issued till date. Fields: case_id (Primary key), case_name, case_status, verdict, crime_description, OfficerID (Foreign key referencing Officer), courtName

- **FIR Table** records information about FIRs filled by the police. Fields: fir_id (Primary key), incident_Type, incident_Time, time_lodged, date_lodged, description_of_case, station_id (Foreign key referencing Station)

- **Suspect Table** holds data about suspects related to FIRs. Fields: suspect_id (Primary key), fir_id (Foreign key referencing FIR), suspect_name, suspect_address, contact, gender, age

- **Criminal Table** contains details about criminals, including their gender and address. Fields: criminal_id (Primary key), first_name, last_name, gender, age, criminal_address, district

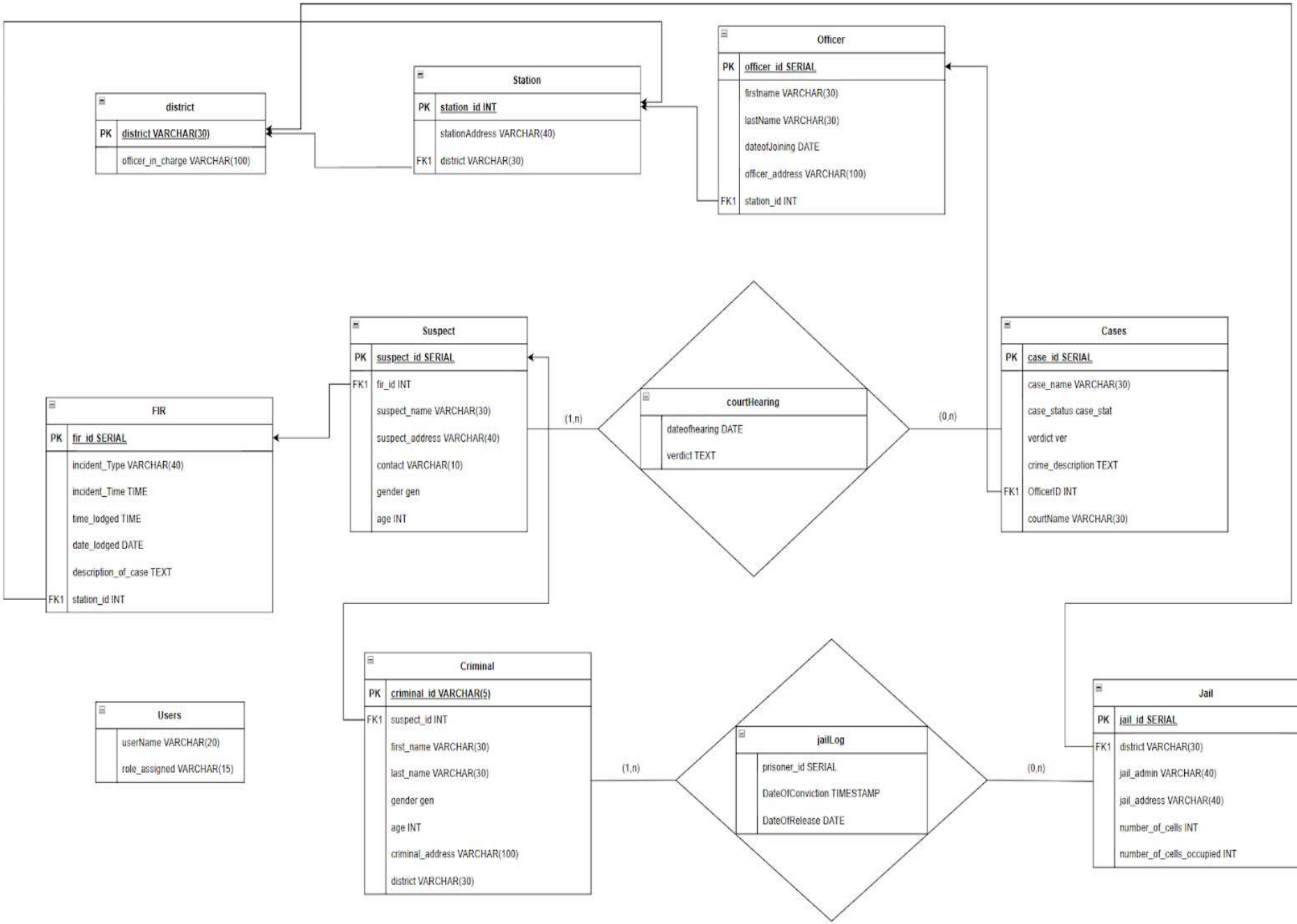
- **Court Hearing Table** stores information about the court hearings for respective criminals. Fields: case_id (Foreign key referencing Cases), suspect_id (Foreign key referencing Suspect), dateofhearing, verdict

- **Jail Table** stores jail information. Fields: jail_id (Primary key), district (Foreign key referencing District), jail_admin, jail_address, number_of_cells, number_of_cells_occupied

- **Jail Log Table** logs information about prisoners in jail. Fields: jail_id (Foreign key referencing Jail), prisoner_id, criminal_id (Foreign key referencing Criminal), DateOfConviction, DateOfRelease

- **User Table** stores the various users and their assigned roles. Fields: userName, role_assigned

Entity-Relationship Diagram


district
PK district VARCHAR(30)
officer_in_charge VARCHAR(100)
Station
PK station_id INT
stationAddress VARCHAR(40)
FK1 district VARCHAR(30)
Officer
PK officer_id SERIAL
firstname VARCHAR(30)
lastName VARCHAR(30)
dateofJoining DATE
officer_address VARCHAR(100)
FK1 station_id INT
Suspect
PK suspect_id SERIAL
FK1 fir_id INT
suspect_name VARCHAR(30)
suspect_address VARCHAR(40)
contact VARCHAR(10)
gender gen
age INT
courtHearing
dateofhearing DATE
verdict TEXT
(1,n)
(0,n)
Cases
PK case_id SERIAL
case_name VARCHAR(30)
case_status case_stat
verdict ver
crime_description TEXT
FK1 OfficerID INT
courtName VARCHAR(30)
FIR
PK fir_id SERIAL
incident_Type VARCHAR(40)
incident_Time TIME
time_lodged TIME
date_lodged DATE
description_of_case TEXT
FK1 station_id INT
Users
userName VARCHAR(20)
role_assigned VARCHAR(15)
Criminal
PK criminal_id VARCHAR(5)
FK1 suspect_id INT
first_name VARCHAR(30)
last_name VARCHAR(30)
gender gen
age INT
criminal_address VARCHAR(100)
district VARCHAR(30)
jailLog
prisoner_id SERIAL
DateOfConviction TIMESTAMP
DateOfRelease DATE
(1,n)
(0,n)
Jail
PK jail_id SERIAL
FK1 district VARCHAR(30)
jail_admin VARCHAR(40)
jail_address VARCHAR(40)
number_of_cells INT
number_of_cells_occupied INT

Respective Contributions

Aditya Goel made the functions pertaining to adding and fetching criminal records, added data to the tables

Harpreet Singh made SQL queries to create the database tables and added the functionality for stored procedures and triggers.

Rohan Kumar made the functions pertaining to case specific queries and made the ER diagram.

Yashasweni Mathur helped in making the report, helped in making the ER diagram and created roles for authorization..