Project Report

Crime Record & Investigation Database

Abstract

The **Crime Record & Investigation Database** is designed to store, manage, and analyze criminal and investigation records. This system helps law enforcement agencies track cases, suspects, officers, and evidence. Queries and reports allow analysis of solved/unsolved cases and officer workload, improving investigation efficiency.

Introduction

Crime investigation generates vast amounts of data, including cases, suspects, evidence, and officer assignments. A well-structured relational database simplifies management and reporting. This project uses MySQL Workbench to implement a database with tables, indexes, views, and triggers to automate routine updates.

Tools Used

- **Database:** MySQL Workbench
- **Query Language:** SQL

Steps Involved

1. **Database Creation**

   o Created a dedicated database to store all tables related to cases, suspects, officers, assignments, and evidence.

2. **Schema Design**

   o Designed tables for Cases, Suspects, Officers, Case Assignments, and Evidence.

   o Defined primary keys, foreign keys, and constraints to maintain data integrity.

3. **Indexing**

   o Added indexes on key columns such as case ID and suspect name to improve query performance.

4. **Populating Sample Data**

- Inserted sample cases, officers, suspects, and evidence to test the database and demonstrate functionality.

5. **Query Design**

   - Developed queries to retrieve open and closed cases, count solved vs unsolved cases, and analyze officer workloads.

6. **Views**

   - Created views to summarize officer assignments and workloads, enabling quick reporting without repeatedly writing complex queries.

7. **Triggers**

   - Implemented triggers to automatically update timestamps whenever evidence records are modified, ensuring accurate tracking.

8. **Reports**

   - Designed comprehensive reports combining case details, suspects, officers, and evidence to provide a complete overview of investigations.

9. **Testing and Verification**

   - Verified relationships, constraints, and sample query results to ensure data consistency and accuracy.

Conclusion

The Crime Record & Investigation Database provides a structured and efficient system to manage investigation data. By using relational tables, indexes, views, and triggers, the system supports easy tracking, analysis, and reporting of cases, suspects, officers, and evidence. It can be extended for advanced features like notifications, case prioritization, or analytics.