

“CRIMINAL RECORD MANAGEMENT SYSTEM”



JAIN UNIVERSITY

Declared as Deemed-to-be University u/s 3 of the UGC Act 1956

Project Report

On

“Criminal Record Management System”

Carried out at

SET, Jain University

Submitted in partial fulfillment of the requirements for the subject DATABASE
MANAGEMENT SYSTEM implementation lab for the degree of

Bachelor of Engineering

In

Computer Science And Engineering

By

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CERTIFICATE

This is to certify that **Khushi (USN: 11BE6CS021) & Pankaj Kumar (USN: 11BE6CS034)** has submitted the Project Report on “**CRIMINAL RECORD MANAGEMENT SYSTEM**” for the 5rd semester for the Partial fulfillment for the Bachelor of Engineering in Computer Science And Engineering at Jain University.

(Signature of the Staff Incharge)
Mr. Madhu BR
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Requirement of Project

Description:

It gives detailed description about Petitioner details, FIR details, Investigation Officer Details, Accused details, Victim details for various cases.

Critically:

It allows Insertion, modification, deletion of case related details by specifying fir id, case details, victim name, accused name, Investigation officer name by the authorized user only.

Flexibility:

The system can operate on all kind of systems.

Introduction

Criminal Record Management System is an integrated record management system that record, monitors and maintain all the information related to criminal activities that is maintained by police authorities. This system would access all the information of the police system. This system would maintain a record of the all pending criminal activities. It would be a boon to the police system.

Literature Survey:

Earlier police system use hand written record for the criminal activities which use to get unused after some period of time. The main problem with this system is that it is not accessible from everywhere. There is a problem of loss of data which used to be recorded in papers, which can't be preserved for a long time. As a police has to keep record of the criminal for a very long time. And also the process was very slow.

Since Police System is a big size organisation, that's why to clear things and avoid the earlier problem we have chosen police system as a organisation for whom We are developing this record management system with the help of database software like MySql and for the designing part we are using java software like Netbeans.

Abstract

Police provides safety to citizens. It always remains steady for arresting any criminal who is a threat for the safety of society. After registering the FIR from any citizen, police starts its work and on that basis it arrests the criminals if proofs are found against them. Once the criminals are arrested, police starts investigation from them. After getting all the proofs against the criminal, it is the duty of the police to present all the proofs honestly to the court so that the right man can get right punishment. The true and right information provided by the people to police helps a lot in arresting the criminals who try to spoil the peaceful environment of society. Along with low salary scale, facilities of modern technology such as computerized system of keeping records are not provided to police department which causes low efficiency. As it is the age of computers and all the organizations today use computers to maintain their records, so this facility should also be given to police department in order to increase their efficiency and to save their time.

In our Project we are going to implement CRMS (Criminal Record Management System). This is a database system in which police will keep the record of Criminals who have been arrested, to be arrested or escaped. This will help the Police department to manage their records easily. In police system when an incident occurs, a Petitioner reports an FIR (First Information Report). Police starts investigation according to law on this FIR. An investigation Officer supervises the investigation process. The main concerning people in the whole process are Petitioner (The person who files an FIR), Victim, Accused/Criminal, investigation officer. CRMS will keep the record of following entities:

ENTITIES

These are the entities of CRMS

- (i) Petitioner
- (ii) Victim
- (iii) FIR
- (iv) Accused
- (v) Case
- (vi) Investigation officer

Petitioner:

A person who is seeking legal help from police station or he has some problem or complaints regarding the matters under the jurisdiction of police. Petitioner may or may not be the victim of offense.

Victim:

"Victim" means an individual who suffers, in relation to an offence.

FIR:

First Information Report (FIR) is a written document prepared by the police when they receive information from the Petitioner about the commission of a cognizable offence.

Accused:

"Accused" means a person who is charged with an offence or crime.

Case:

Case is the issue to be investigated by the police and resolved by the court.

Investigation officer:

"Investigation officer" is the police officer who investigates the case. There may be more than one investigation officers in one police station.

ATTRIBUTES OF ENTITIES

Petitioner:

Definition:

A person who is seeking legal help from police station or he has some problem or complaints regarding the matters under the jurisdiction of police. Anyone who knows about the commission of a cognizable offence can file an FIR. It is not necessary that only the victim of the crime should file an FIR. A police officer who comes to know about a cognizable offence can file an FIR Himself/herself.

You can file an FIR if:

- (i) You are the person against whom the offence has been committed.
- (ii) You know yourself about an offence which has been committed.
- (iii) You have seen the offence being committed.

Attributes:

The Petitioner has the following attributes:

Name:

The full name of Petitioner.

Father_name:

The father name of Petitioner.

Address:

Address of Petitioner.

Contact:

Contact number of Petitioner.

NIC:

National identity card number of Petitioner.

Identifier:

NIC+NAME:

Since NIC number is the only attribute of a Petitioner which is unique and no Petitioner can file FIR without NIC due to which it can never be an unknown value (null value) but it can be duplicate in fraudulent cases so we take NIC and NAME as an identifier.

Investigation officer:

Definition:

Every criminal case has an investigation officer who finds and examines the nature of the case, witnesses and evidences to find the criminal.

Attributes:

The investigation officer has the following attributes

Name:

The full name of the investigation officer.

Officer ID:

Every police officer has got some ID so the code or ID of investigation officer is another attribute.

Rank:

The rank of an investigation officer.

Identifier:

Officer ID:

As every police officer has a unique ID so we can take officer ID as an identifier.

Case:

Definition:

A file in which daily detail of a case are written down by the investigating officer.

The police may not investigate a complaint even if you file a FIR, when:

- (i) The case is not serious in nature;
- (ii) The police feel that there is not enough ground to investigate. However, the police must record the reasons for not conducting an investigation and in the latter case must also inform you.

Attributes:

Case ID:

Each case is assigned an ID.

Section_of law :

Through section of law we can find a lot about nature of the case.

Example-The criminal act and its sentence accordingly.

Case_Status:

It's another attribute of entity case, through which we can find whether the case is closed or open.

Case_detail:

The detail of the case is written here.

Identifier:

Case ID:

Since each case has its own unique identifier which is its ID so we take case ID as an identifier, which can never be an unknown value.

Accused:

Definition:

Accused is the person who commits a crime. It is the most important entity in our DB because our whole project is based upon this entity. So that's why it is also related to most of the entities. And also we are concerned with most of its attributes to watch an accused as easily as possible.

Attributes:

Accused ID:

It is assigned by the police department whenever a person either guilty or not suffers from police investigation or in any sort of procedures remains unique for the whole life

Name:

In this attribute the name against an accused id is entered.

Father_Name:

In this attribute the Father's name against an accused id is entered.

Address:

In this attribute the expected or permanent address of accused is saved. It is also multivalued because one may have many addresses.

NIC:

If the NIC of accused is known then it is saved in this attribute.

Gender:

Gender of accused.

Age:

The age of accused is entered in this attribute.

Status:

The status of accused is entered like either he is Arrested, Escaped, Bailed or Released.

Contact:

It is composite attribute. In this attribute we list the mobile number or land line number and email address of the accused. It is composed of following attributes

Phone:

The phone number of the accused. It is multivalued attribute because an accused can have more than one contact numbers.

Email:

The email id of the accused.

Identifier:**Accused ID:**

Accused ID is the sole identifier for accused because all other attributed becomes multivalued in case of dangerous criminals whose identity is not confirmed. Once accused id is assigned to a criminal then we start filing other available attributes.

FIR:**Definition:**

First Information Report (FIR) is a written document prepared by the police when they receive information about the commission of a cognizable offence. It is a report of information that reaches the police first in point of time and that is why it is called the First Information Report.

It is generally a complaint lodged with the police by the victim of a cognizable offence or by someone on his/her behalf. Anyone can report the commission of a cognizable offence either orally or in writing to the police. Even a telephonic message can be treated as an FIR.

Importance of FIR

An FIR is a very important document as it sets the process of criminal justice in motion. It is only after the FIR is registered in the police station that the police take up investigation of the case.

Attributes:**FIR ID:**

Once FIR is lodged against any sort of complaint an ID is assigned to it.

Date_lodged:

The date on which FIR is lodged.

Time_lodged:

The time of FIR being lodged.

Details:

The detail of an FIR consists of following attributes.

Incident_Place:

The place on which complained incident took place.

Incident_Date:

The date on which complained incident took place.

Incident_Time:

The time on which complained incident took place.

Identifier:

FIR ID:

FIR ID is identifier of an FIR because it is kept in record of police department filing that specific FIR against a complaint. So a specific ID will always point toward the unique incident.

Victim:

Definition:

Victim is a person who is affected by any sort of activity by the accused. He might be dead or alive due to the crime committed.

Attributes:

Name:

The name of the victim is entered in this attribute.

Father_Name:

Father name of accused person.

Address:

The address of the victim is entered in this attribute.

Contact:

The contact information of the accused is entered in this attribute like phone number etc.

Identifier:

Name +Address :

One name can exist on more than one address, but it is not possible that two persons with same name have same address.

RELATIONSHIPS BETWEEN ENTITIES

Petitioner and FIR

- Petitioner files an FIR
- There is one-to-many relationship between Petitioner and FIR because
- One Petitioner can file more than one FIRs.
- But one FIR is filed by one and only one Petitioner.
- It is not possible that an FIR is lodged by unknown Petitioner.
- Hence we conclude that **cardinality of Petitioner is mandatory one.**
- According to the definition of Petitioner it is necessary for a person to be a Petitioner that he/she must file at least one FIR.
- Hence **the cardinality of FIR is mandatory-many.**

Accused and FIR

- FIR is lodged or filed against accused.
- One FIR can be lodged against more than one accused.
- One FIR can be lodged against unknown accused or criminal.
- Similarly there may be more than one FIRs against one accused but one accused will have at least one FIR against him.
- In this relationship **cardinality of FIR is mandatory-one**
- and **cardinality of accused is optional-many.**

FIR and Victim

- FIR is filed by Petitioner for a victim who is suffered from offence.
- There can be one or many victims for one FIR.
- There is one and only one FIR for a victim.
- **Cardinality of FIR is mandatory one.**
- **Cardinality of victim is one-many.**

FIR and Case

- FIR initiates a Case.
- Case is dependent on FIR.
- When a Petitioner files an FIR, the Police analyse the report whether it is a valid report and needs a case to be initiated or the issue would be solved without filing a case.
- The police may not investigate a complaint even if you file a FIR, when:
 - The case is not serious in nature;
 - The police feel that there is not enough ground to investigate.
 - The police must record the reasons for not conducting an investigation and in the latter case must also inform you.
- If the complaint is a crime according to Law, then a case is initiated.
- Either one or no case can be initiated (filed) on one FIR.
- **Cardinality of FIR is mandatory one.**
- **Cardinality of case is optional one.**

Investigation Officer and Case

- Investigation officer investigates the case.
- Investigation officer must investigate at least one case.
- Investigation officer may investigate more than one case at the same time.
- A case is investigated by one and only officer.
- Hence the **cardinality of investigation officer is mandatory-one**.
- And **cardinality of case is mandatory many**.

ER-Model

(Entities and their relationships)

RELATIONAL MODEL

Investigation officer:

- Name and rank are attributes of entity investigation officer.
- Officer_ id is primary key.

<u>Officer_ ID</u>	Name	Rank
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Case:

- Case status, section of law, case detail are the attributes and Case_ ID is primary key of entity case
- Since it has one-to many relationship with FIR and Investigation officer that is why FIR_ ID and Officer_ id are added as foreign key attributes in this relation.

<u>Case_ ID</u>	Case_ status	Section_ of_ law	Case_ Det ail	<u>FIR_ ID</u> .	<u>Officer_ ID</u> _
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Petitioner:

- Father_ name , Address and Contact are attributes and the NIC and Name is primary key of Petitioner.

<u>NIC</u>	<u>Name</u>	Father_ name	Address	Contact
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FIR:

- Date_ logged, Time_ Lodged, Incident_ time, Incident_ place, Incident_ date is attributes and FIR_ ID is primary key of FIR.
- P_ NIC and P_ Name is foreign key since FIR has one to many relationship with petitioner.

•Victim _Name and Victim _address is foreign key since FIR has one to many relationship with Victim

Petitioner_NIC	Petitioner_Name	Date_lodged	Time_lodged	Incident_time	Incident_Place	Incident_date	FIR_ID	Victim_Name	Victim_address
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Accused:

Name, Father_ Name, Status, Photo, Age, Email, Gender, and NIC is attributes and Accused_ ID is primary key of accused, whereas accused Address, and accused Phone is multi valued attributes of accused. FIR_ID is the foreign key since accused has a one-to-many relationship with FIR.

Accused_ID	Addresses	Accused_ID	Phone
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Accused Address

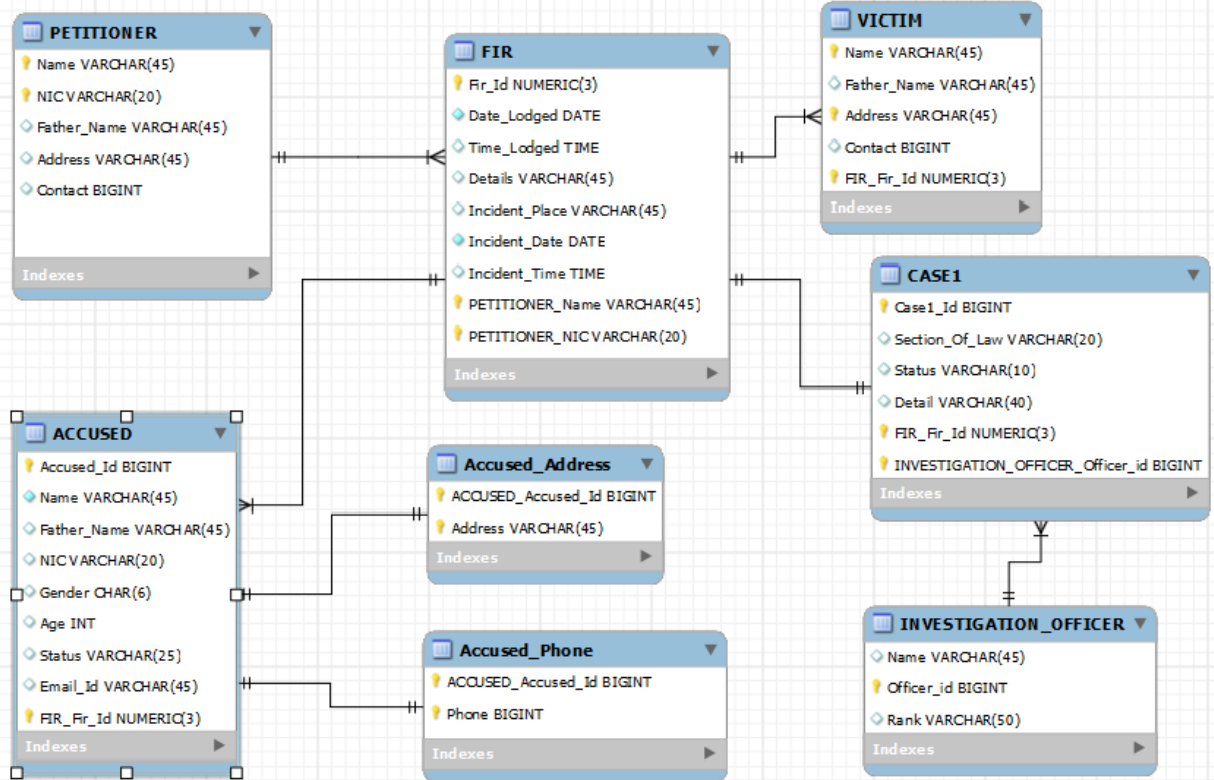
Accused Phone

Name	Father_name	Status	Photo	Age	Gender	Email	Finger_print	NIC	Accused_ID	FIR_ID
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Victim:

•Father_ Name , contact is attributes of Victim and Name , Address is the primary key.

Name	Address	Father_Name	Contact
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NORMALIZATION

First Normal Form

All the tables in relational model are in 1NF because they fulfill the definition of Relation i.e. there are no multi-valued attributes.

Second Normal Form

Investigation Officer:

- Name and Rank can be determined by officer_id (primary key)
- Officer_ID ->Name, Rank.
- This implies that there is no partial functional dependency in this relation. Hence
- The relation “Investigation_officer” is in 2nd Normal Form.

Case:

- Case_ID -> Case_status , Case_Description, Section_of_law.
- No partial functional dependency.
- “Case” is in 2nd Normal Form.

Petitioner:

- NIC +Name -> Name,Father_name,Address,Contact.
- Only NIC cannot be determinant because fraud cases can cause duplicate NIC values.
- No Partial functional dependency.
- Relation “Petitioner” is in 2nd Normal Form.

Victim:

- Father_name and contact can be determined exactly if name and address both are known because name is not unique similarly address is also not unique but name+address collectively is unique.

- Hence there is no partial functional dependency.

FIR:

- FIR_ID ->Date_lodged , Time_lodged ,Incident_place, incident_date.
- No Partial functional dependency.
- Relation “FIR” is in 2nd Normal Form.

Accused:

- Accused_ID -> Name,father_name,status,gender,age,nic,email.
- No Partial functional dependency.
- Relation “Accused” is in 2nd Normal Form.

Third Normal Form

In the relation “Accused” NIC seems to be the possible determinant for the Name , Address , Fathers_name , Gender and Age of the accused but the problem is that it is an optional attribute that its value can be null(unknown) because mostly accused NIC# is not known for several reasons. So there is no transitive dependency here and our relation is in 3NF.

All the other relations are in 3NF because there are no transitive dependencies.

IMPLEMENTATION

PETITIONER

Create table petitioner(Name varchar(50) not null, NIC varchar(20) not null, Father_name varchar(50), Address varchar(100), contact number(10,0),CONSTRAINT petitionerpk PRIMARY KEY(NIC,Name));

VICTIM

create table victim(name varchar(50) not null, address varchar(100) not null, father_name varchar(50), contact number(12,0), constraint victimpk primary key(name,address));

INVESTIGATION_OFFICER

create table inverstigation_officer(officer_id varchar(15) not null, name varchar(50), rank varchar(5), constraint inverstigation_officerpk primary key(officer_id));

CASE

create table case(case_id number(10,0) primary key not null, case_status char(1) CHECK(case_status IN('close', 'open')), case_detail long, section_of_law varchar(6), FIR_Id number(5,0), officer_id varchar(15), constraint casefk1 foreign key(officer_id) references inverstigation_officer(officer_id));

FIR

Create table FIR(FIR_Id number(10,0) not null, Incident_date date not null, incident_time timestamp, Incident_place varchar(30), time_lodged timestamp default sysdate, date_lodged date not null, petitioner_id varchar(15), victim_name varchar(50), victim_address varchar(100), case_id number(10,0), petitioner_name varchar(50),

CONSTRAINT FIRPK PRIMARY KEY(FIR_Id),

constraint firfk foreign key(victim_name, victim_address) references victim(name, address), constraint firfk1 foreign key(petitioner_id, petitioner_name) references petitioner(NIC,name), constraint firfk2 foreign key(case_id) references case(case_id));

ACCUSED

create table accused(accused_id number(10,0) not null, name varchar(50), father_name varchar(50), status varchar(8) CHECK(status IN ('ARRESTED', 'ESCAPED', 'BAILED', 'RELEASED')), age number(3,0) CHECK (age>150),

Gender char(1) check(Gender IN('m','f')), NIC varchar(15), email varchar(50) unique, fir_id number(5,0),

constraint accusedpk primary key(accused_id), constraint accusedfk foreign key(FIR_Id) references fir(FIR_Id));

ACCUSED_ADDRESSS

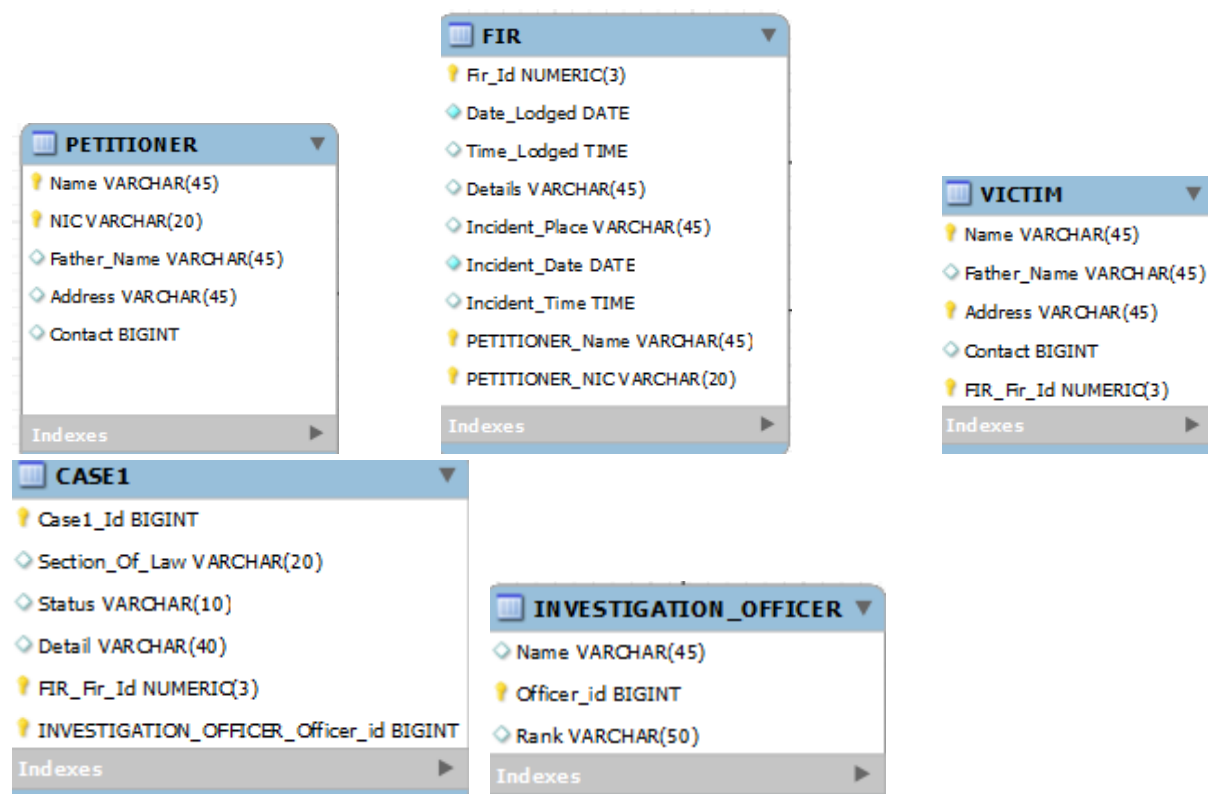
create table accused_address(accused_id number(10,0) not null, address varchar(50) not null, constraint accused_addresspk primary key(accused_id,address),

constraint accused_addressfk foreign key(accused_id)
references accused(accused_id));

ACCUSED_PHONE

create table accused_contact(accused_id number(10,0) not null,
phone_no number(12,0) not null, constraint accused_contactpk
primary key(accused_id, phone_no), constraint accused_contactfk
foreign key(accused_id) references accused(accused_id));

Alter table case add foreign key (FIR_Id) references fir(FIR_Id);



ACCUSED	
⚡	Accused_Id BIGINT
💎	Name VARCHAR(45)
💎	Father_Name VARCHAR(45)
💎	NIC VARCHAR(20)
💎	Gender CHAR(6)
💎	Age INT
💎	Status VARCHAR(25)
💎	Email_Id VARCHAR(45)
⚡	FIR_Fir_Id NUMERIC(3)
Indexes ▶	

Accused_Address	
⚡	ACCUSED_Accused_Id BIGINT
⚡	Address VARCHAR(45)
Indexes ▶	

Accused_Phone	
⚡	ACCUSED_Accused_Id BIGINT
⚡	Phone BIGINT
Indexes ▶	

TESTING

Testing is the process of analysing a software item to detect the differences between existing and required conditions and to evaluate the features of the software item.

Testing is to insure that all data elements and historical data is converted from old system format to the new system format.

Testing done to ensure that the application performs to custom expectations.



The screenshot shows a web application window titled "Criminal Record Management System". The main heading is "Petitioner Record". The form contains the following fields and values:

Field	Value
Name	Mohan
NIC	1576
Father's Name	Rajesh
Contact	9654785967
Address	Delhi

A "Back" button is located to the right of the "Father's Name" field. In the top right corner, there is an image of the Indian national emblem (Lion Capital of Ashoka) with the motto "सत्यमेव जयते" (Satyameva Jayate) below it.

The form is filled

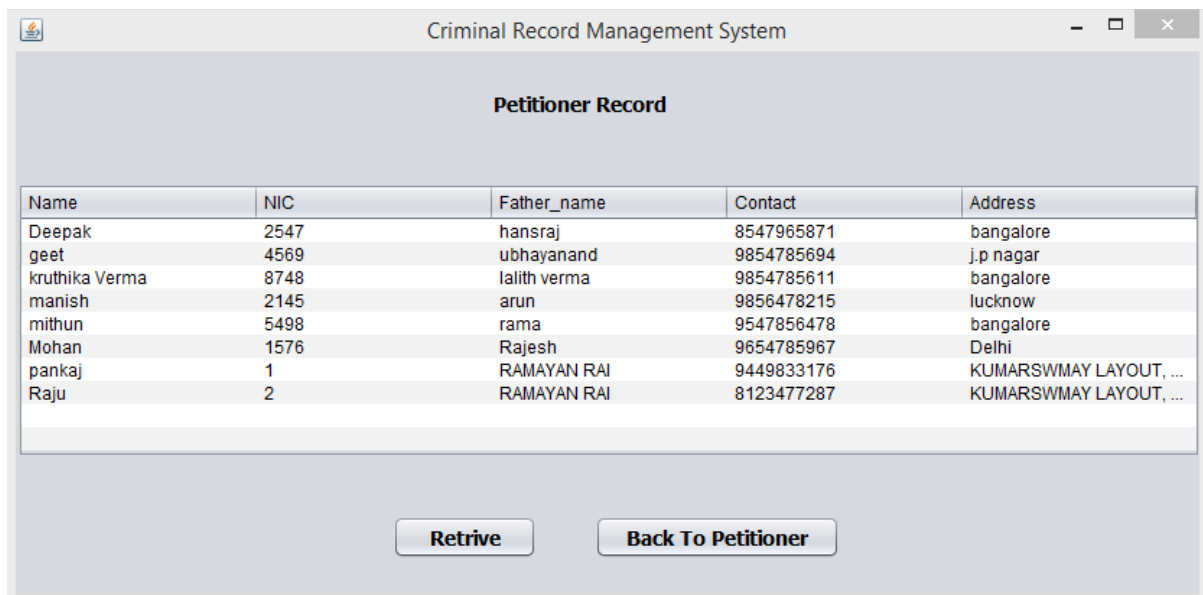
RESULT



The screenshot shows a web application window titled "Criminal Record Management System". The main heading is "Petitioner Record". On the right, there is a red emblem of the Government of India with the motto "सत्यमेव जयते" below it. The form contains the following fields: "Name" (empty), "NIC" (1576), "Father's Name" (empty), "Contact" (empty), and "Address" (empty). A "Back" button is located to the right of the form. A modal dialog box titled "Success" is overlaid on the form, displaying the message "Database Saved!!" and an "OK" button.

Data is saved

The output is show here in Petitioner Record




The screenshot shows the same web application window, but now displaying a table of petitioner records. The table has five columns: Name, NIC, Father_name, Contact, and Address. Below the table are two buttons: "Retrive" and "Back To Petitioner".

Name	NIC	Father_name	Contact	Address
Deepak	2547	hansraj	8547965871	bangalore
geet	4569	ubhayanand	9854785694	j.p nagar
kruthika Verma	8748	laliith verma	9854785611	bangalore
manish	2145	arun	9856478215	lucknow
mithun	5498	rama	9547856478	bangalore
Mohan	1576	Rajesh	9654785967	Delhi
pankaj	1	RAMAYAN RAI	9449833176	KUMARSWMAY LAYOUT, ...
Raju	2	RAMAYAN RAI	8123477287	KUMARSWMAY LAYOUT, ...

SNAPSHOT

Criminal Record Management System

Petitioner Record


सत्यमेव जयते

Name

NIC

Father's Name

Contact

Address

Back

Criminal Record Management System

FIR Records


सत्यमेव जयते

FIR ID

Name

NIC

Date Lodged

Time Lodged

Incident Place

Incident Date


Incident Time

Details

Back

Criminal Record Management System

Case Record


सत्यमेव जयते

Case Id

FIR Id

Officer Id

Section Of Law

Case Status

Case Detail

Back

Add

Criminal Record Management System

Victim Record


सत्यमेव जयते

Name

FIR ID


Father's Name

Contact

Address


Back

Accused Record


 सत्यमेव जयते

Accused Id
 Name
 Father's Name
 NIC Back
 Gender ☐ Male ☐ Female
 Age
 Status
 Email Id
 FIR ID
Phone Address
Add

Investigation Officer Record


 सत्यमेव जयते

Name
 Officer Id Back
 Rank
Add Update

Accused Address Record


 सत्यमेव जयते

Accused Id
 Address
Add Back To Accused

Accused Contact Record


 सत्यमेव जयते

Accused Id
 Phone
Add Back To Accused

CONCLUSION

Thus an effective code is developed for the Criminal Record Management System by using the sql tables of database. The efficiency in tracking the details of a criminal whether it is based on fir and case had been a big end during the development phase. It was overcome by using fir for the criminal details. Still the program could be developed by placing a court order. Much more development can be made as photo of the accused, finger print of the accused as well as the eye scanner of the accused can be done. The development in managing the criminal can be improved in the existing system. On the whole this provide a basic structure like insert , delete, search, modify for the criminal record activities which it is designed for.