NATIONAL CRIMINAL DATABASE SYSTEM

A Project Report

Submitted by

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CERTIFICATE

This is to certify that the project entitled “National Criminal Database System” is the bonafide work carried out by Sarvesh Agrawal, Naman Bhansali, Raj Bora, Siddhant Burse of B.Tech. Computer Engineering , MPSTME (NMIMS), Mumbai, during the IV semester of the academic year 2019-2020 in partial fulfillment of the requirements for the Course Database Management System.

_____

Prof. Ishani Saha

Internal Mentor

_____ _____

Examiner 1 Examiner 2

ABSTRACT

The present world is technology driven as it is employed by almost all domains in performing their operations efficiently. In the case of police department, the need for good record-keeping and information sharing practice is very significance in modern times. Not only do good records provide crucial internal information, police now need to communicate within department or department-to-department across the country, in order to protect the citizens. The proposed system applies to all Police stations across the country and looks into the subject of Centralized Crime Records Management. It is well understood that crime prevention, detection and conviction of criminals depend on a highly responsive backbone of information management. The efficiency of the police and the effectiveness with which it tackles crime depend on what quality of information it can derive from its existing records and how fast it can have access to it. It will be implemented by digitalising the present records, which accesses information across all records in the state thus helping speedy and successful completion to cases. This project has distributed architecture, with centralized storage of the database.

The application for the storage of the data uses the constructs of SQL server and all the user interfaces have been designed using Python GUI. SQL Queries are used to provide data relating criminals' bio, crimes, and other data like case details, policemen investigating, etc. Different types of users will have different level of view and access to the database. System Administrator will use it to add police users to the system. Various types of police will have different level of access to the System. Civilian will have access to the Data Analytic part and complaint registration option.

The project will have deep impact on the police working and aid in their investigation and record keeping.

LIST OF FIGURES

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INTRODUCTION

For the academic project of the course Database Management System, we chose domain of Police Department and the problem pertaining to records management. Our project aims to improve the record access and updation system by the police and at the same time provide analyzed data from the crime and criminal records. The proposed system will help ensure quick action by the force unlike the current situation where they have to wait for confirmation of data from other police departments. Now they will have to simply login into the system and check info.

PROBLEM STATEMENT

There are inconsistencies in records management by the Police Department, which along with mis - communication causes lapses in their working. The current offline record management causes delay in the updating of criminal records and paperwork. This project tries to reduce a obstacle faced by the department in their performance. We will find a solution to this using Database Management System.

FUNCTIONAL REQUIREMENTS OF THE SYSTEM

Following functional requirements are expected from the system:

1. To create records of criminals, crime and cases by the authorized personnel.

2. To Alter the records as and when need arises by the police personnel.

3. To provide limited access to civilians to share data with them.

USERS OF THE SYSTEM

1. System Administrator : Person managing the database and Police users in the Police Department.

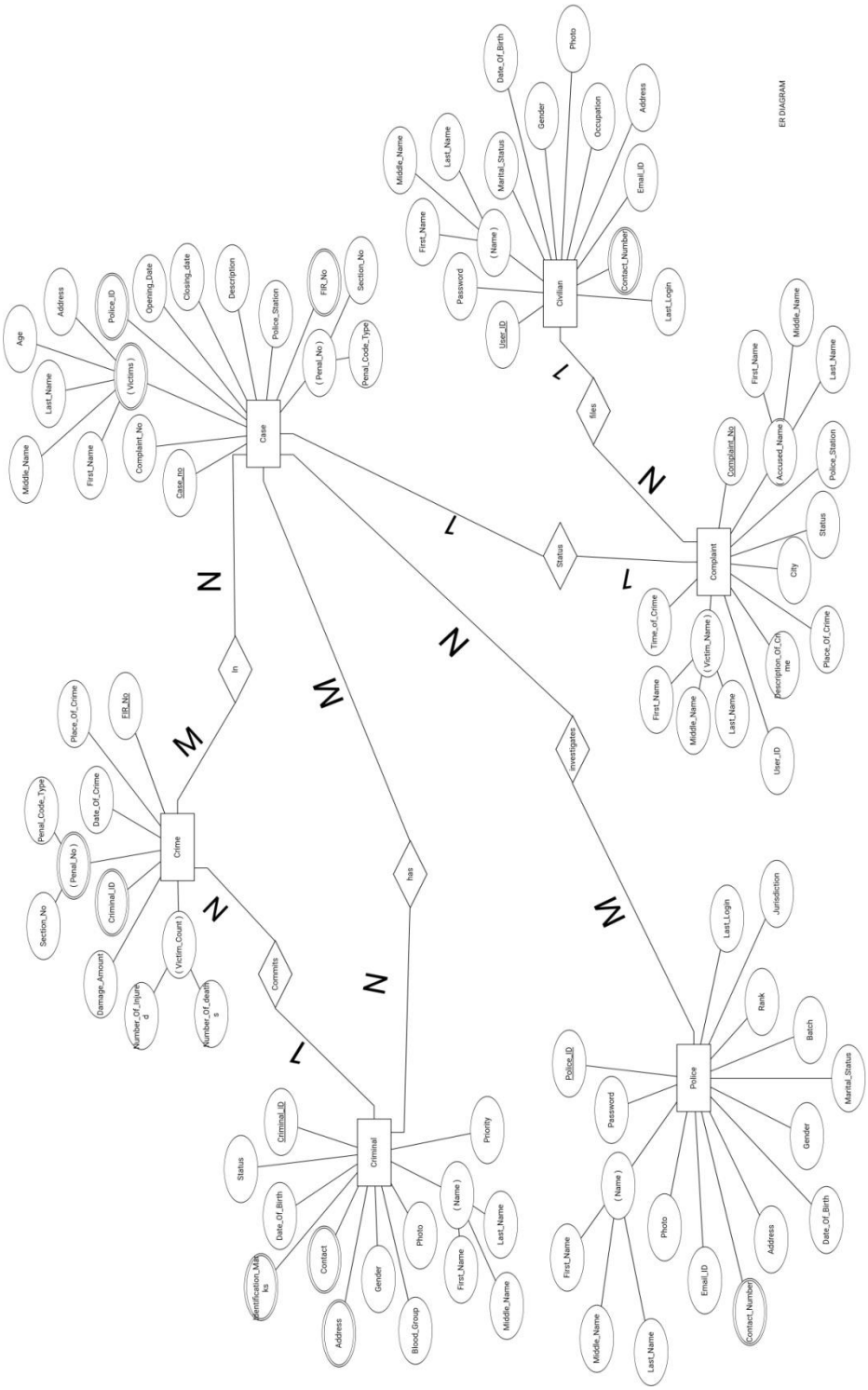
2. High Ranked Officer (A.C.P.) : These users have access and privilege to alter the records.

3. Low Ranked Officer (Constable) : These users only have access to the records.

4. Civilian : These users have option to file complaints as well as view analyzed crime data.

SYSTEM DESIGN & CONSTRAINTS

ER MODEL



RELATIONAL MODEL

CIVILIAN(USERID, PASSWORD, FNAME, MNAME, LNAME, DOB, GENDER, MARITALSTATUS, EMAILID, OCCUPATION, ADDRESS, LASTLOGIN, PHOTO, CONTACT NUMBER)

POLICE (POLICEID, PASSWORD, FNAME, MNAME, LNAME, LASTLOGIN, EMAILID, JURISDICTION, ADDRESS, GENDER, DOB, BATCH, RANK, MARITALSTATUS, PHOTO, CONTACT)

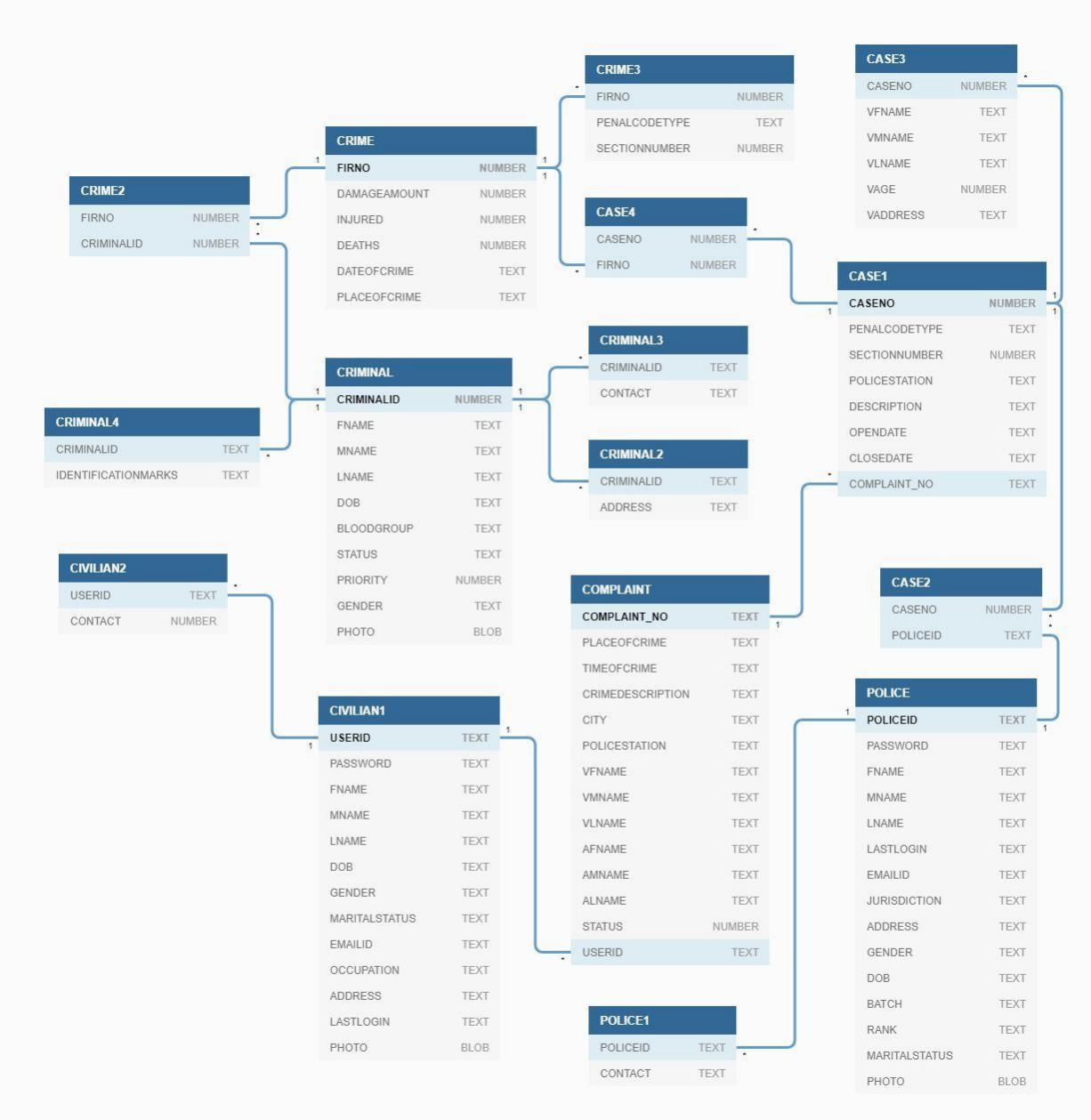
COMPLAINT(COMPLAINT_NO, PLACEOFCRIME,TIMEOFCRIME, CRIMEDESCRIPTION, CITY, POLICESTATION, VFNAME, VMNAME, VLNAME, AFNAME, AMNAME, ALNAME, STATUS, USERID)

CRIMINAL(CRIMINALID, FNAME, MNAME, LNAME, DOB, BLOODGROUP, STATUS, PRIORITY, GENDER, PHOTO, CONTACT ADDRESS, IDENTIFICATIONMARKS)

CASE (CASENO, PENALCODETYPE, SECTIONNUMBER, POLICESTATION, DESCRIPTION, OPENDATE, CLOSEDATE, COMPLAINT_NO, POLICEID, VFNAME, VMNAME, VLNAME, VAGE, VADDRESS, FIRNO)

CRIME (FIRNO, DAMAGEAMOUNT, INJURED, DEATHS, DATEOFCRIME, PLACEOFCRIME, CRIMINALID, PENALCODETYPE, SECTIONNUMBER)

SCHEMA DIAGRAM



CONSTRAINTS

Constraints are the rules enforced on the data columns of a table. These are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the database.

Constraints used on the Database :

1. Domain Constraint - Domain constraint defines the domain or set of values for an attribute. It specifies that the value taken by the attribute must be the atomic value from its domain.
For Example, Contact Number will take integer/number value and not any text.

2. Tuple Uniqueness Constraint - Tuple Uniqueness constraint specifies that all the tuples must be necessarily unique in any relation.

For Example, there cant be two records for same criminal_id in criminal table.

3. Key Constraint - Key constraint specifies that in any relation-

All the values of primary key must be unique. The value of primary key must not be NULL.

For Example, PoliceId, primary key in Police Entity, will be unique to each user.

4. Entity Integrity Constraint - Entity integrity constraint specifies that no attribute of primary key must contain a null value in any relation. This is because the presence of null value in the primary key violates the uniqueness property.

For Example, UserID cant be NULL in Civilian table or it will be tedious to fetch the data efficiently.

5. Referential Integrity Constraint - This constraint is enforced when a foreign key references the primary key of a relation. It specifies that all the

values taken by the foreign key must either be available in the relation of the primary key or be null.

For Example, we can file a case only if complaint is registered as complaint_no is foreign key in Case table.

SQL Constraints :

1. NOT NULL Constraint − Ensures that a column cannot have NULL value. For example, POLICEID can't be NULL in Police entity.

2. UNIQUE Constraint − Ensures that all values in a column are different. For example, email id should be unique in Civilian entities.

3. PRIMARY Key − Uniquely identifies each row/record in a database table.

4. FOREIGN Key − Uniquely identifies a row/record in any of the given database table.

5. CHECK Constraint − The CHECK constraint ensures that all the values in a column satisfies certain conditions.

6. DEFAULT Constraint − Provides a default value for a column when none is specified.

Mapping Cardinalities used in the ER Diagram:

> Many to One : When entities in one entity set can take part only once in the relationship set and entities in other entity set can take part more than once in the relationship set**,** cardinality is many to one. For Example : Criminal - Crime Relationship: One criminal does many crimes.

> Many to Many : When entities in all entity sets can take part more than once in the relationship cardinality is many to many. For Example : Police - Case Relationship : Many Police investigates many cases.

> One to One : When each entity in each entity set can take part only once in the relationship, the cardinality is one to one.

Participation Constraints are :

> Total Participation − Each entity is involved in the relationship. Total participation is represented by double lines.

> Partial participation − Not all entities are involved in the relationship. Partial participation is represented by single lines.

NORMALISATION TECHNIQUES

1NF

1. Case (CASENO,PENALCODETYPE, SECTION,POLICESTATION, DESCRIPTION,
OPENDATE ,CLOSEDATE,COMPLAINT_NO ,POLICEID ,VFNAME ,V MNAME, VLNAME,VAGE ,VADDRESS,FIRNO)

Above relation is not in 1NF because it has-

FIRNO as multivalued attribute.

VICTIMS as multivalued and composite attribute.

POLICEID as multivalued attribute

So we decompose the relation as below-

A. CASE1(CASENO,PENALCODETYPE, SECTION,POLICESTATION, DESCRIPTION, OPENDATE ,CLOSEDATE,COMPLAINT_NO)

B. CASE2(CASENO,POLICEID)

C. CASE3(CASENO,VFNAME ,VMNAME, VLNAME,VAGE ,VADDRESS)

D. CASE4(CASENO,FIRNO)

as the decomposition is lossless and dependency is preserved i.e.

attr(CASE1) attr(CASE2)= CASENO

attr(CASE1) attr(CASE3)= CASENO

attr(CASE1) attr(CASE4)= CASENO

CASENO is key of Case1()

==>attr(CASE1)Uattr(CASE2)Uattr(CASE3)Uattr(CASE4)=attr(CASE)

2.Crime(FIRNO ,DAMAGEAMOUNT,INJURED,DEATHS,DATEOFCRIME,PLACEOFCRIME,CRIMINALID,PENALCODETYPE,SECTIONNUMBER)

Above relation is not in 1NF because it has-

CRIMINALID as multivalued attribute

PENALNO as multivalued and composite attribute

So we decompose the relation as below-

A. CRIME(FIRNO,DAMAGEAMOUNT,INJURED,DEATHS,DATEOFCRIME,PLACEOFCRIME)

B. CRIME2(FIRNO,CRIMINALID)

C. CRIME3(FIRNO,PENALCODETYPE,SECIONNUMBER)

as the decomposition is lossless and dependency is preserved i.e.

attr(CRIME) attr(CRIME2)= FIRNO

attr(CRIME) attr(CRIME3)= FIRNO

FIRNO is key of CRIME()

==>attr(CRIME)Uattr(CRIME2)Uattr(CRIME3)=attr(Crime)

3.Criminal(CRIMINALID ,FNAME ,MNAME ,LNAME,DOB ,BLOODGROUP ,STATUS,PRIORITY ,GENDER ,PHOTO ,CONTACT,ADDRESS ,IDENTIFICATIONMARKS)

Above relation is not in 1NF because it has-

Address as multivalued attribute

Contact as multivalued attribute

Identification_Marks as multivalued attribute

Name as Composite attribute

So we decompose the relation as below-

A.CRIMINAL(CRIMINALID,FNAME ,MNAME ,LNAME,DOB ,BLOOD GROUP ,STATUS,PRIORITY ,GENDER ,PHOTO)

B. CRIMINAL2(CRIMINALID,CONTACT)

C. CRIMINAL3(CRIMINALID,ADDRESS)

D. CRIMINAL4(CRIMINALID,IDENTIFICATIONMARKS)

as the decomposition is lossless and dependency is preserved i.e.

attr(CRIMINAL) attr(CRIMINAL2)= CRIMINALID

attr(CRIMINAL) attr(CRIMINAL3)= CRIMINALID

attr(CRIMINAL) attr(CRIMINAL4)= CRIMINALID

CRIMINALID is key of CRIMINAL ()

==>attr(CRIMINAL)Uattr(CRIMINAL2)Uattr(CRIMINAL)Uattr(CRIMINAL4)=attr(Criminal)

4.Police(POLICEID ,PASSWORD ,FNAME ,MNAME ,LNAME,LASTLOGIN ,EMAILID,JURISDICTION, CONTACT ADDRESS ,GENDER, DOB ,BATCH ,RANK, MARITALSTATUS,PHOTO, CONTACT)

Above relation is not in 1NF because it has-

Contact_Number as multivalued attribute

So we decompose the relation as below-

A.POLICE(POLICEID,PASSWORD ,FNAME ,MNAME ,LNAME,LASTLOGIN ,EMAILID,JURISDICTION, CONTACT ADDRESS ,GENDER, DOB ,BATCH ,RANK, MARITALSTATUS,PHOTO)

B. POLICE1(POLICEID,CONTACT)

as the decomposition is lossless and dependency is preserved i.e.

attr(POLICE) attr(POLICE1)= POLICEID

POLICEID is key of POLICE ()

==> attr(POLICE)Uattr(POLICE1)=attr(Police)

5. Civilian(USERID,PASSWORD,FNAME,MNAME,LNAME,DOB, GENDER, MARITALSTATUS, EMAILID,OCCUPATION, ADDRESS, LASTLOGIN, PHOTO , CONTACT)

Above relation is not in 1NF because it has-

Contact_Number as multivalued attribute

Name as composite attribute

So we decompose the relation as below-

A. CIVILIAN1(USERID,PASSWORD,FNAME,MNAME,LNAME,DOB, GENDER, MARITALSTATUS, EMAILID,OCCUPATION, ADDRESS, LASTLOGIN, PHOTO)

B. CIVILIAN2(USERID,CONTACT)

as the decomposition is lossless and dependency is preserved i.e.

attr(CIVILIAN) attr(CIVILIAN1)= USERID

USERID is key of CIVILIAN ()

And

attr(CIVILIAN)Uattr(CIVILIAN 1)=attr(Civilian)

2NF

All relations are in 2NF

3NF

All relations are in 3NF

BCNF

All relations are in BCNF

IMPLEMENTATION

HARDWARE & SOFTWARE REQUIREMENTS

1. Minimum 1500x800 Display size
2. Python 3.x
3. SQLite3

TOOLS & LIBRARIES

Front end developed with Python GUI Module and back end developed with SQLite Database.

Following Python modules were implemented in the project:

> tkinter - for GUI development

> sqlite3 - for database connectivity

> matplotlib - for data visualization

> pillow - for image handling in python

> datetime - for capturing login session details

> uuid - unique id generation for complaints

> os - for handling application pages

Following Database & related software were used for Database:

> SQLite3 Database

> DB Browser

> SQLite Studio

APPLICATION - AT A GLANCE

Database:

Table CASE1

Table: CASE1

	CASENO	ENALCODETYPI	ECTIONNUMBEI	OLICESTATION	DESCRIPTION	OPENDATE	CLOSEDATE	COMPLAINT_NC
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	101	PC	154	Mumbai	Murder	1999-11-19	2004-7-2	NULL
2	102	IPC	154	Mumbai	Robbery	1998-1-18	NULL	1
3	103	PC	112	Delhi	Robbery	2000-7-2	NULL	NULL
4	104	IPC	112	Jhansi	Robbery	1998-1-18	2010-7-2	NULL
5	105	PC	112	Jhansi	Violence agai...	1998-1-18	NULL	NULL
6	106	IPC	154	Delhi	Robbery	2000-7-2	NULL	NULL
7	107	PPC	87	Jhansi	Murder	1998-1-18	NULL	NULL
8	108	IPC	87	Delhi	Robbery	2000-7-2	2000-9-2	NULL
9	109	PPC	154	Firozabad	Violence agai...	1999-11-19	2001-7-2	NULL
10	110	IPC	89	Badagar	Robbery	2000-7-2	2008-3-6	NULL
11	111	PC	89	Pune	Murder	1999-11-19	2000-7-2	NULL
12	112	PPC	87	Mumbai	Robbery	2019-5-56		NULL

Table CASE2 and CASE4

	CASENO	POLICEID
	Filter	Filter
1	101	6
2	102	6
3	103	20
4	104	20
5	105	15
6	106	References POLICE Hold Ctrl+Shift an
7	107	15
8	108	15
9	109	6
10	110	19
11	111	15
12	112	16

Table: CASE4

	CASENO	FIRNO
	Filter	Filter
1	101	503
2	102	506
3	103	509
4	104	512
5	105	502
6	106	505
7	107	508
8	108	511
9	109	501
10	110	504
11	111	510
12	112	507

Table CASE3

Table: CASE3

	CASENO	VFNAME	VMNAME	VLNAME	VAGE	VADDRESS
	Filter	Filter	Filter	Filter	Filter	Filter
1	110	Vishal	Shekhar	Dadlani	45	MPSTME, Mu...
2	103	Taimur	Ali	Khan	21	Mangal Colon...
3	111	Simba	Singham	Sooryawanshi	32	DJSanghvi, Jh...
4	102	Saif	Ali	Khan	20	Shah Road, D...
5	106	Priyanka	Madhu	Chopra	22	4 Seasons, M...
6	112	Parvati	Noelle	Kapoor	44	Parvesh, Delhi
7	108	Pallavi	Dhiter	Jajoo	18	Rabindranath...
8	104	Malaika	Arora	Khan	22	Cakes and Co...
9	101	Kareena	Kapoor	Khan	19	Vijay Nagar, ...
10	109	Karan	Ram	Kapoor	23	NS Road, Jha...
11	107	Deepika	Prakash	Padukone	19	Taj, Mumbai
12	105	Alia	Mahesh	Bhatt	23	Bakers Loung...

Table CRIME

Table: CRIME

	FIRNO	AMAGEAMOUN	INJURED	DEATHS	DATEOFCRIME	PLACEOFCRIME
	Filter	Filter	Filter	Filter	Filter	Filter
1	501	23000	2	0	1993-3-4	Dehradhun
2	502	43566	2	0	1994-3-4	Ahmdabad
3	503	543345	0	0	2000-7-2	Mumbai
4	504	445665	1	0	2000-7-2	Badnagar
5	505	444553	3	0	1994-3-4	Jhansi
6	506	5444	3	0	2016-7-2	Jhansi
7	507	345554	4	0	1995-3-4	Delhi
8	508	4455554	5	1	1996-3-4	Delhi
9	509	2222	6	0	2000-7-2	Firozabad
10	510	59876	1	1	2015-3-4	Mumbai
11	511	987758	0	0	2013-7-2	Delhi
12	512	87689	0	0	1997-8-9	Jhansi

Table CRIME2 & CRIME3

Table: CRIME2

	FIRNO	CRIMINALID
	Filter	Filter
1	501	212
2	502	210
3	503	208
4	504	206
5	505	204
6	506	202
7	507	211
8	508	209
9	509	207
10	510	205
11	511	203
12	512	201

Table: CRIME3

	FIRNO	ENALCODETYP	ECTIONNUMBE
	Filter	Filter	Filter
1	503	PC	122
2	502	IPC	89
3	501	PPC	122
4	504	PC	84
5	505	IPC	89
6	506	PPC	84
7	507	PPC	122
8	508	IPC	84
9	509	IPC	89
10	510	IPC	94
11	511	PC	122
12	512	IPC	89

Table CRIMINAL

Table: CRIMINAL

	CRIMINALID	FNAME	MNAME	LNAME	DOB	BLOODGROUP	STATUS	PRIORITY	GENDER
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	201	Prateek	S	Mulethi	2000-11-8	O+	Dead	0	Male
2	202	Shamad	B	Parekh	2000-11-8	A-	Jail	2	Male
3	203	Osama	Bin	Laden	2000-11-8	B+	Ran	2	Male
4	204	Isa	A	Kkan	2000-11-8	A-	Bail	1	Male
5	205	Amjad	Ukhbar	Ahmed	2000-11-8	B-	Ran	1	Male
6	206	Rahul	R.	Dhavan	2000-11-8	A+	Ran	2	Male
7	207	Siddharth	T	Mehta	2000-11-8	B-	Bail	6	Male
8	208	Sonakshi	R	Shukla	2000-11-8	O-	Bail	3	Male
9	209	Simran	H	Bhadoria	2000-11-8	O-	Dead	3	Female
10	210	Sadika	G	Mohana	2000-11-8	O+	Jail	7	Female
11	211	Preeti	N	Jain	2000-11-8	A-	Jail	7	Female
12	212	Jyoti	B	Maki	2000-11-8	A+	Ran	8	Female

Table CRIMINAL1

Table: CRIMINAL1

	CRIMINALID	ITIFICATIONMA
	Filter	Filter
1	202	Scar on Eye
2	207	Tatoo On Wrist
3	211	Patch on elbow
4	203	Burn on face

Table CRIMINAL2 and CRIMINAL3

Table: CRIMINAL2

	CRIMINALID	ADDRESS
	Filter	Filter
1	201	Powai, Mumbai
2	203	Malabar Hills,...
3	205	Colaba, Mumbai
4	208	Chowk, Delhi
5	206	Pawapura, Jh...
6	212	Jama Masjid, ...
7	211	Vikas Colony, ...
8	209	Nehru Rod, D...

Table: CRIMINAL3

	CRIMINALID	CONTACT
	Filter	Filter
1	204	1232123212
2	203	4565456456
3	205	7866744675
4	206	9546787545
5	207	4554678975
6	208	4433333398
7	209	3464758656

Table POLICE

Table: POLICE

New Record | Delete Record

	POLICEID	PASSWORD	FNAME	MNAME	LNAME	PHOTO	LASTLOGIN	EMAILID	JURISDICTION	ADDRESS	GENDER
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	6	6	Sarvesh	K.	Agrawal	demo	0 0	sarveshagarw...	Mumbai	Juhu	Male
2	15	15	Naman	B.	Burse	demo	0 0	namanbhansa...	Jodhpur	Rajwada	Female
3	19	19	Siddhant	SS.	Burse	Demo	0 0	bursemailme...	Dadar	Dadar	Other
4	16	16	Yatharth	B.	Bijolia	DemO	0 0	bijolia@bijligi...	Rawatbhat	Kota	Male
5	7	7	Paridhi	M.	Mehta	fd	0 0	paridhikpar@...	Jhansi	Jhansi	Female
6	20	20	Bhavesh	N.	Brahmecha	g	0 0	bhaveshB@re...	Delhi	Vijay Chowk	Male

Table POLICE1

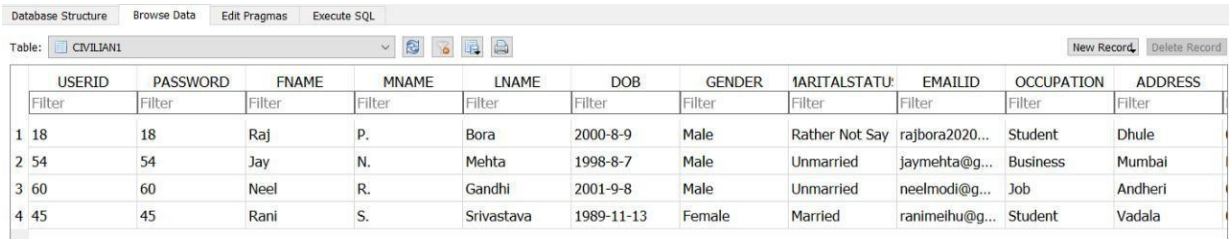
Table: POLICE1

	POLICEID	CONTACT
	Filter	Filter
1	6	1243253533
2	6	7667656778
3	7	3453245345
4	7	9865476543
5	15	7657898765
6	15	8643567898
7	16	8754754343
8	16	7563456654
9	19	6445774643
10	19	3455436656
11	20	8765543454
12	20	6546757768

Table COMPLAINT

	COMPLAINT_NC	PLACEOFCRIME	TIMEOFCRIME	IMEDESCRIPTI	CITY	OLICESTATION	STATUS	VFNAME	VMNAME	VLNAME	AFNAME
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	Mumbai	14:20	Robbery	Mumbai	Amboli	Pending	Kareena	Kapoor	Khan	Neel

Table CIVILIAN1



Database Structure | Browse Data | Edit Pragmas | Execute SQL

Table: CIVILIAN1 — New Record | Delete Record

	USERID	PASSWORD	FNAME	MNAME	LNAME	DOB	GENDER	ARITALSTATU	EMAILID	OCCUPATION	ADDRESS
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	18	18	Raj	P.	Bora	2000-8-9	Male	Rather Not Say	rajbora2020...	Student	Dhule
2	54	54	Jay	N.	Mehta	1998-8-7	Male	Unmarried	jaymehta@g...	Business	Mumbai
3	60	60	Neel	R.	Gandhi	2001-9-8	Male	Unmarried	neelmodi@g...	Job	Andheri
4	45	45	Rani	S.	Srivastava	1989-11-13	Female	Married	ranimeihu@g...	Student	Vadala

Table CIVILIAN2

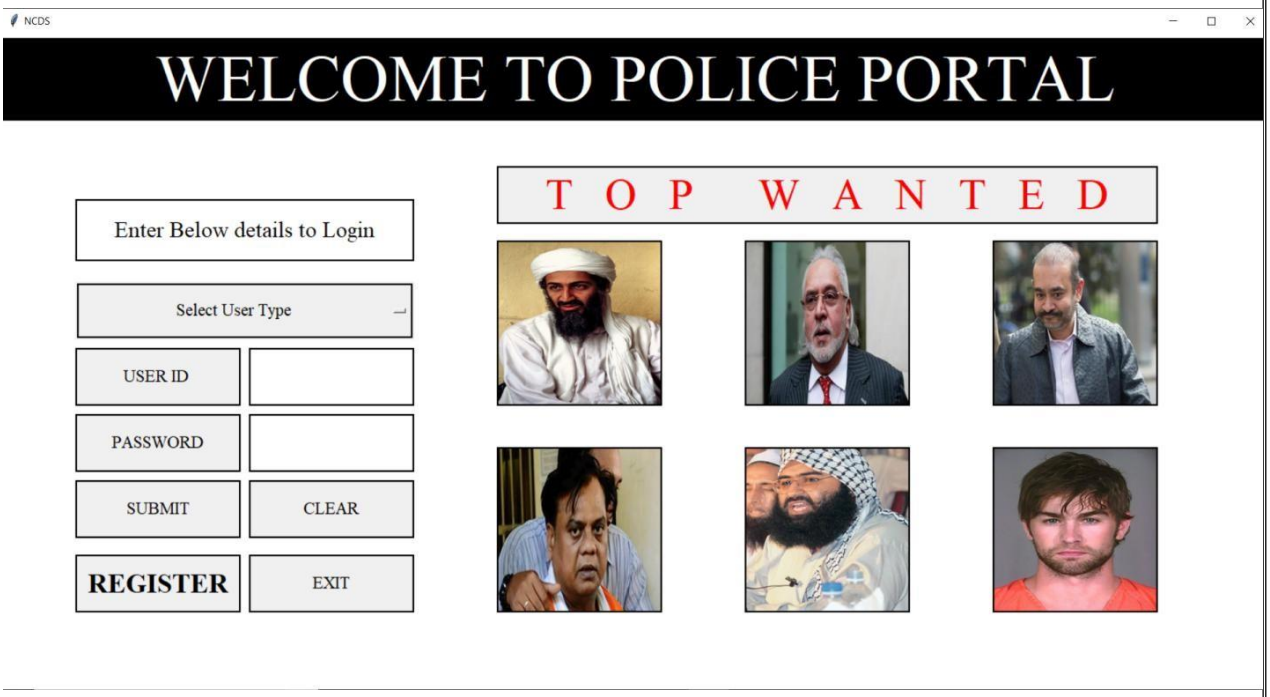
Database Structure | Browse Data | Edit Prag

Table: CIVILIAN2

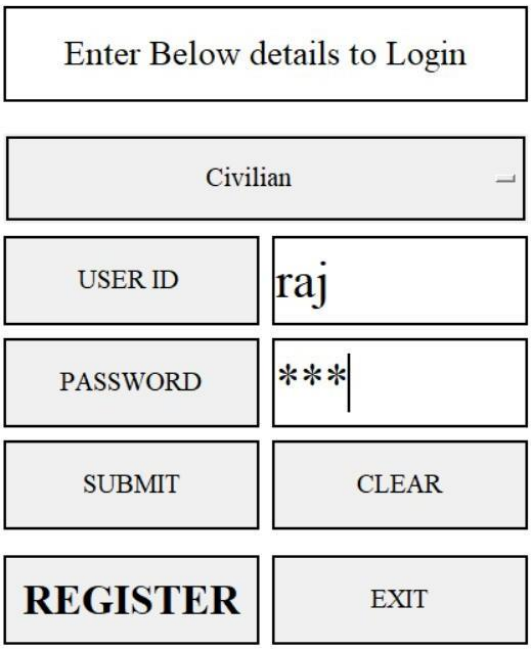
	USERID	CONTACT
	Filter	Filter
1	18	8743356778
2	54	3456424688
3	45	8654325678
4	60	8765345678

GUI

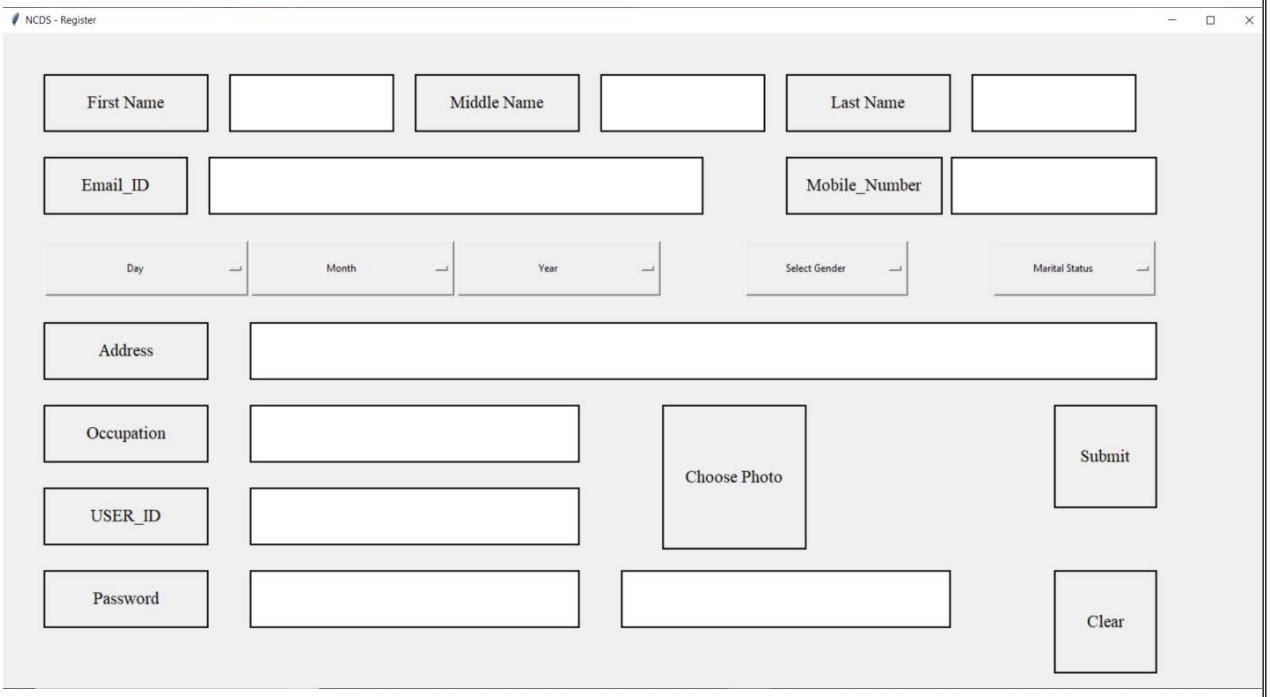
Login Screen:



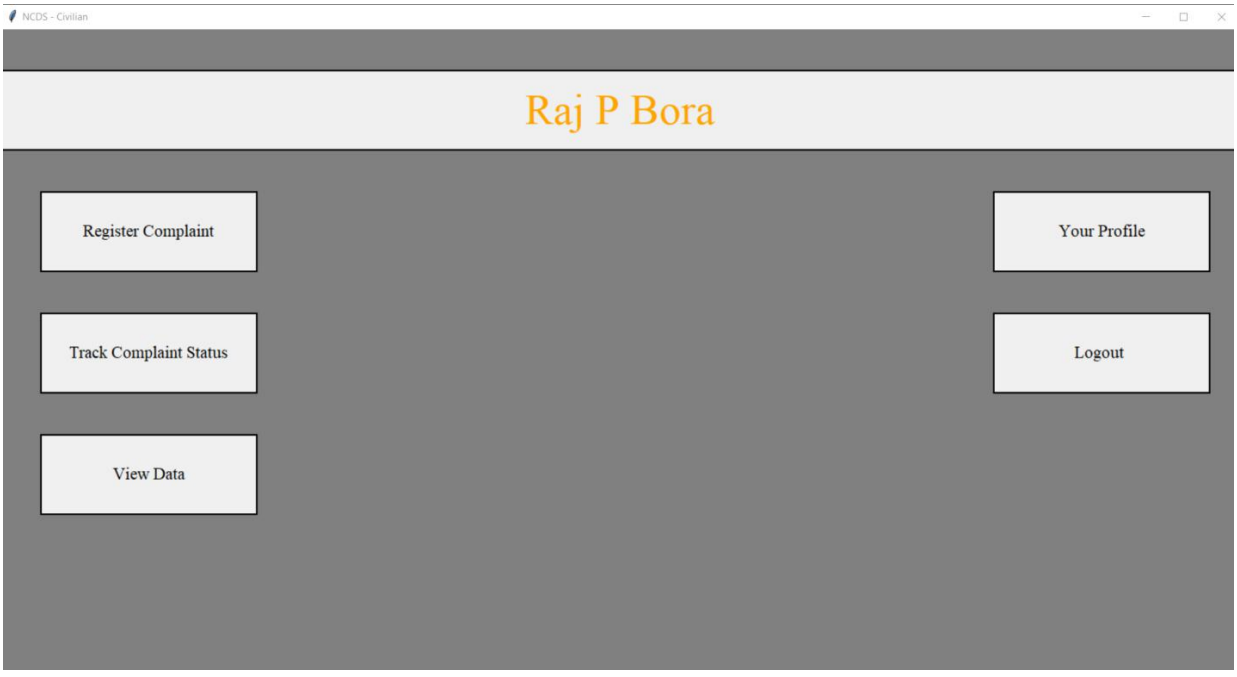
The fields to enter Login ID & password:



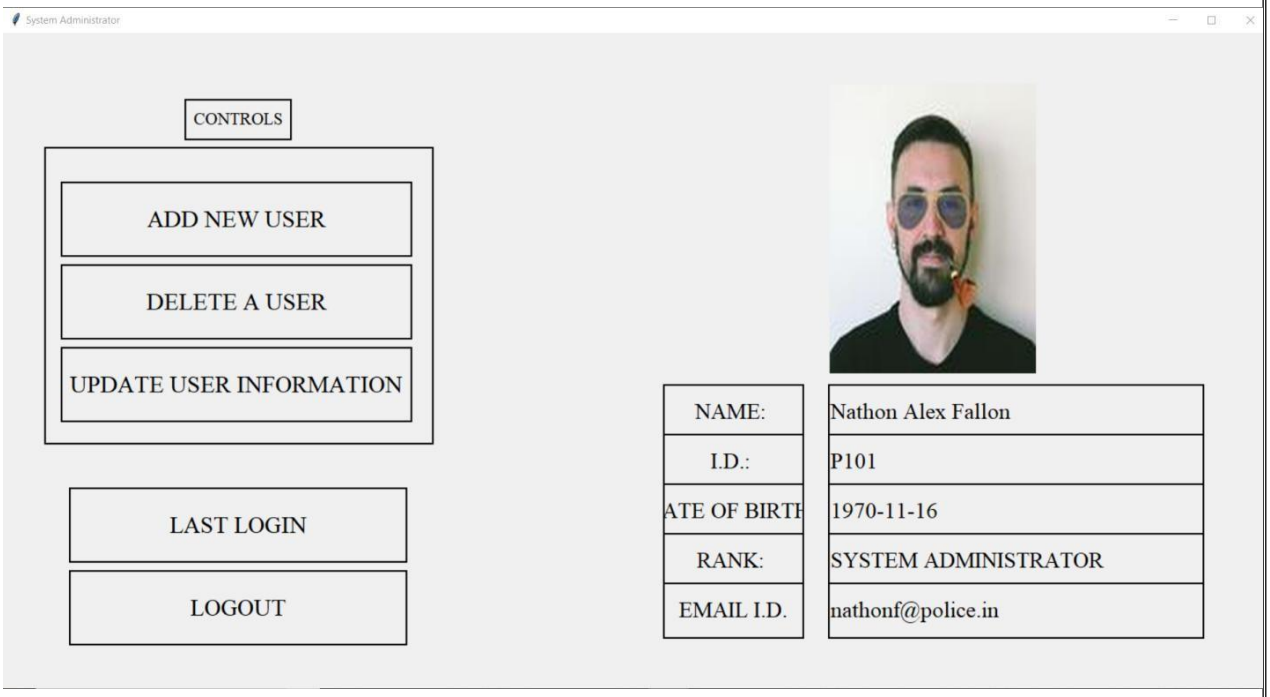
Registration Page for Civilians:



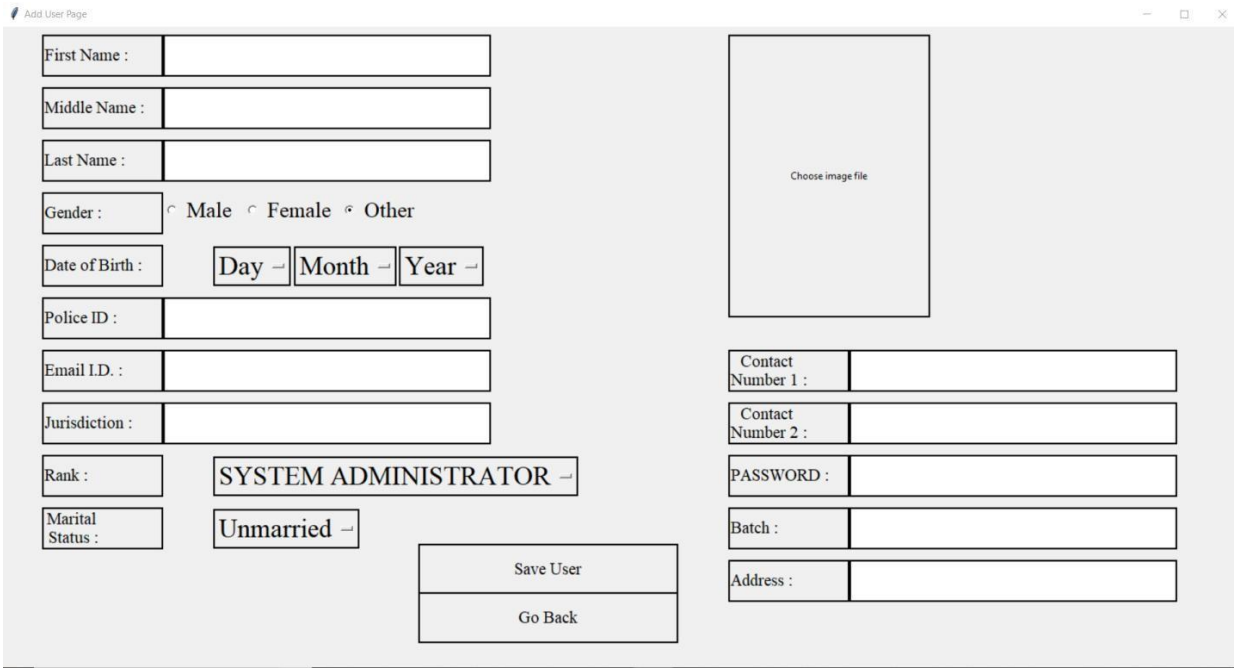
Civilian Dash Board:



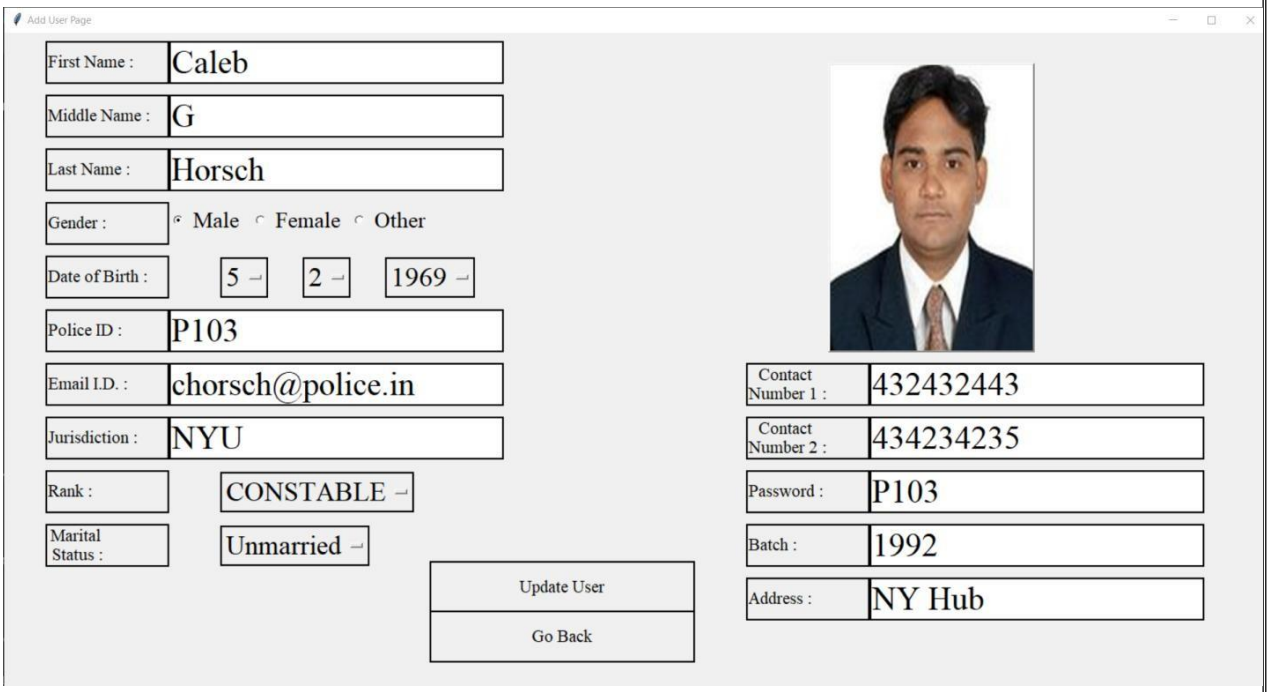
System Administrator Dashboard:

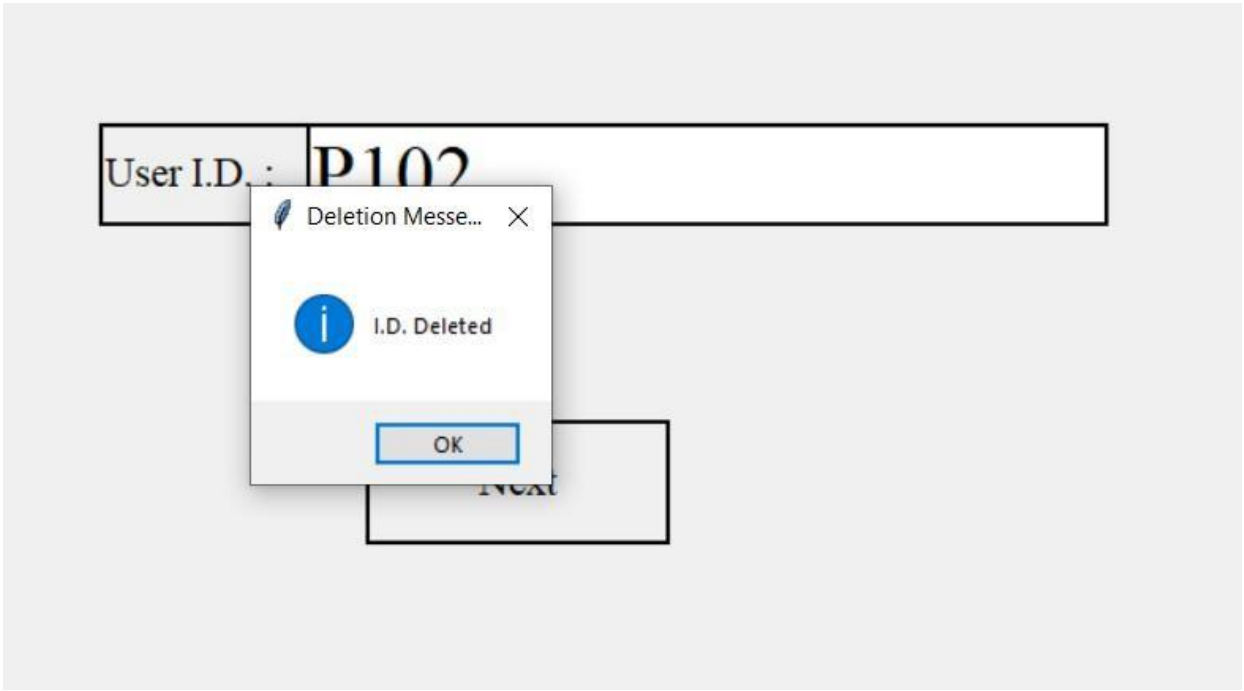


Adding User by system administrator.

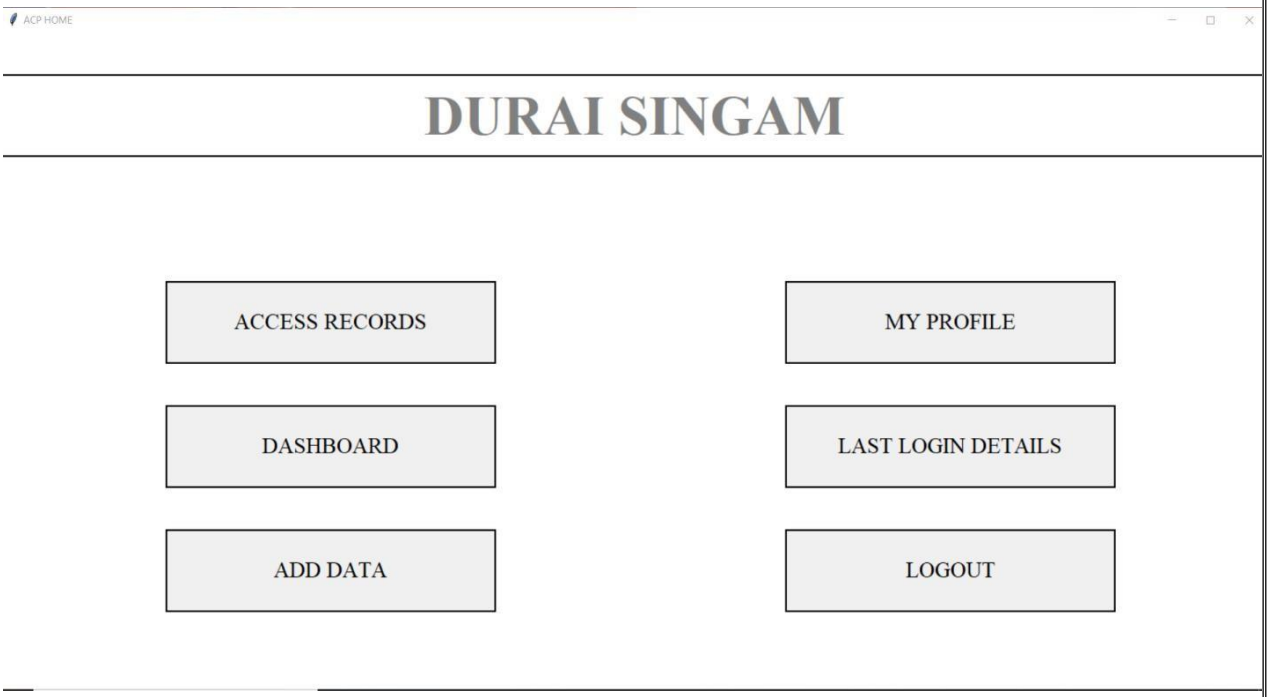


System Administrator can update and delete police user:

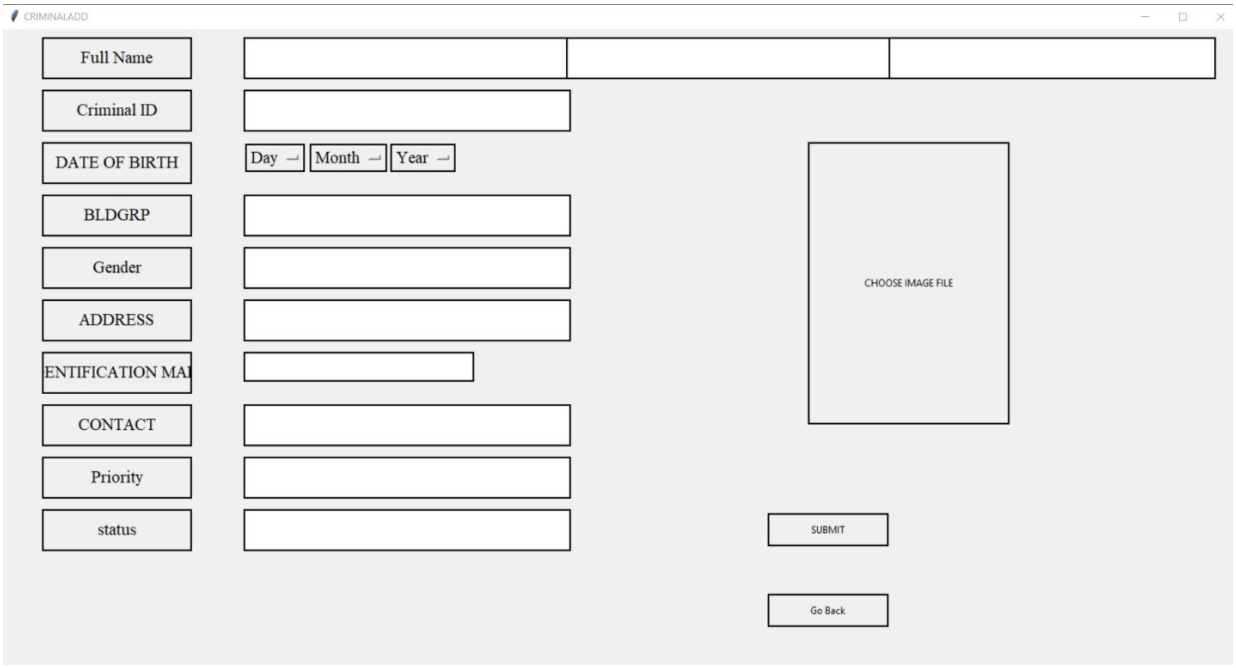




ACP home screen from where he/she can use various functionalities:



ACP can add/update and delete records of criminal, crime and cases.



ADD CASE

CASE ID			
DESCRIPTION		POLICE ID	
FIR NUMBER		POLICE STATION	
OPENING DATE		STATUS	
CLOSING DATE			
ADDRESS			
Name of victim			
AGE			
PENAL NUMBER			
SECTION NUMBER			

SUBMIT

GO BACK

CRIMINAL

Full Name	Laxman
Criminal ID	C704
DATE OF BIRTH	18-01-1990
BLDGRP	O-ve
Gender	Male

CONTACT

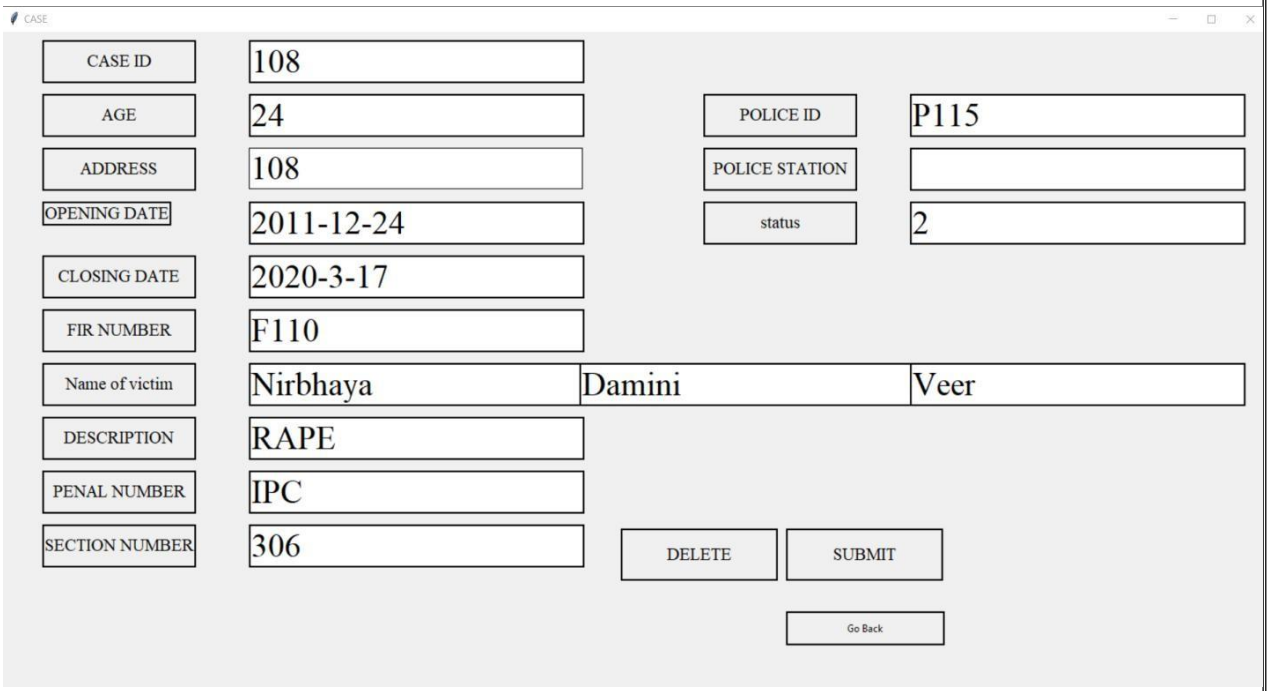
INDENTIFICATION MARKS

ADDRESS

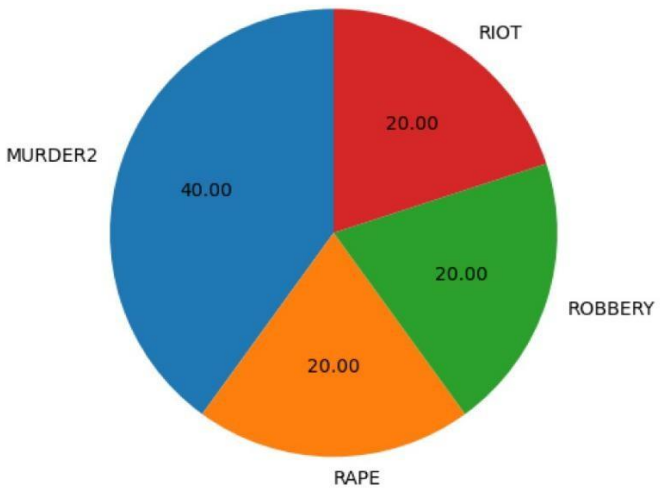
Priority	3
status	On Bail
AGE	2002

EDIT

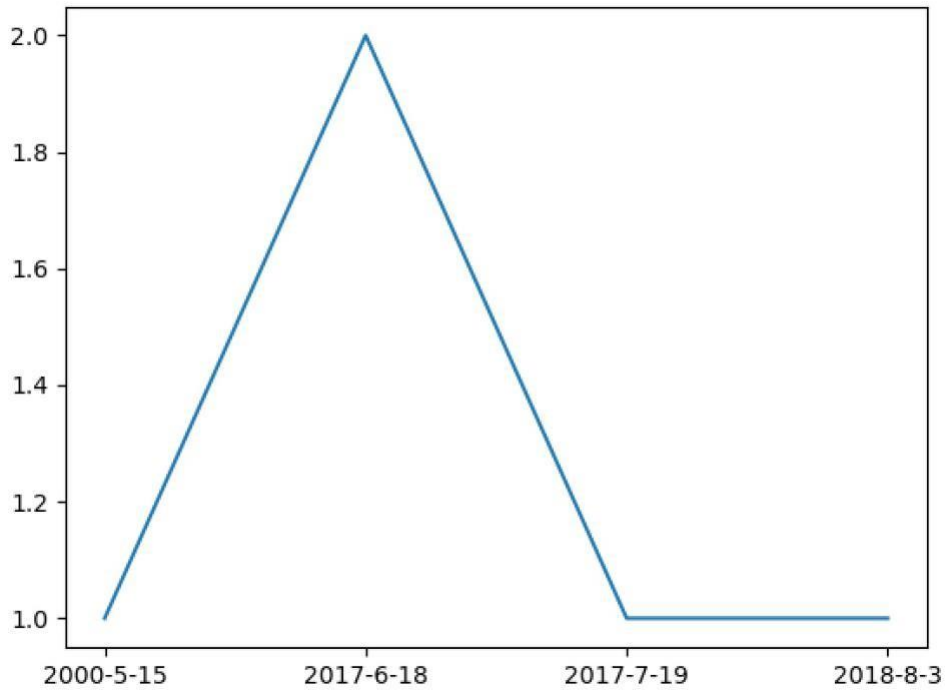
GO BACK



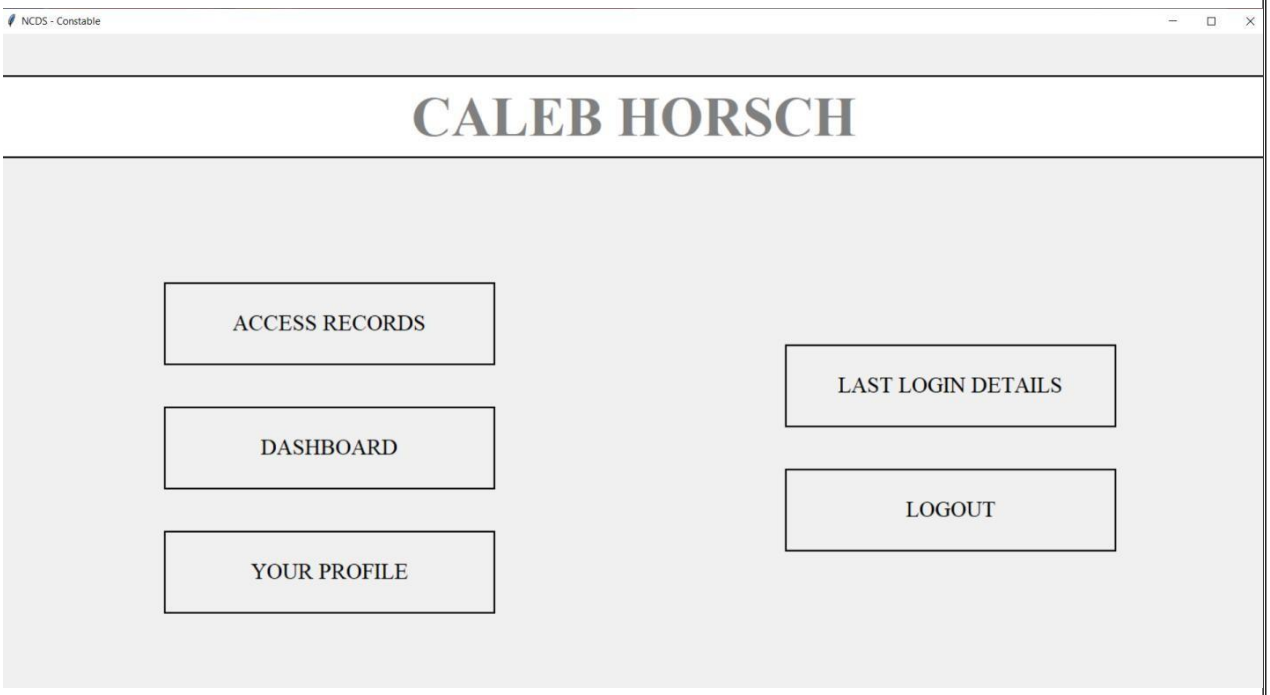
ACP and constable both can visualize data from the database.

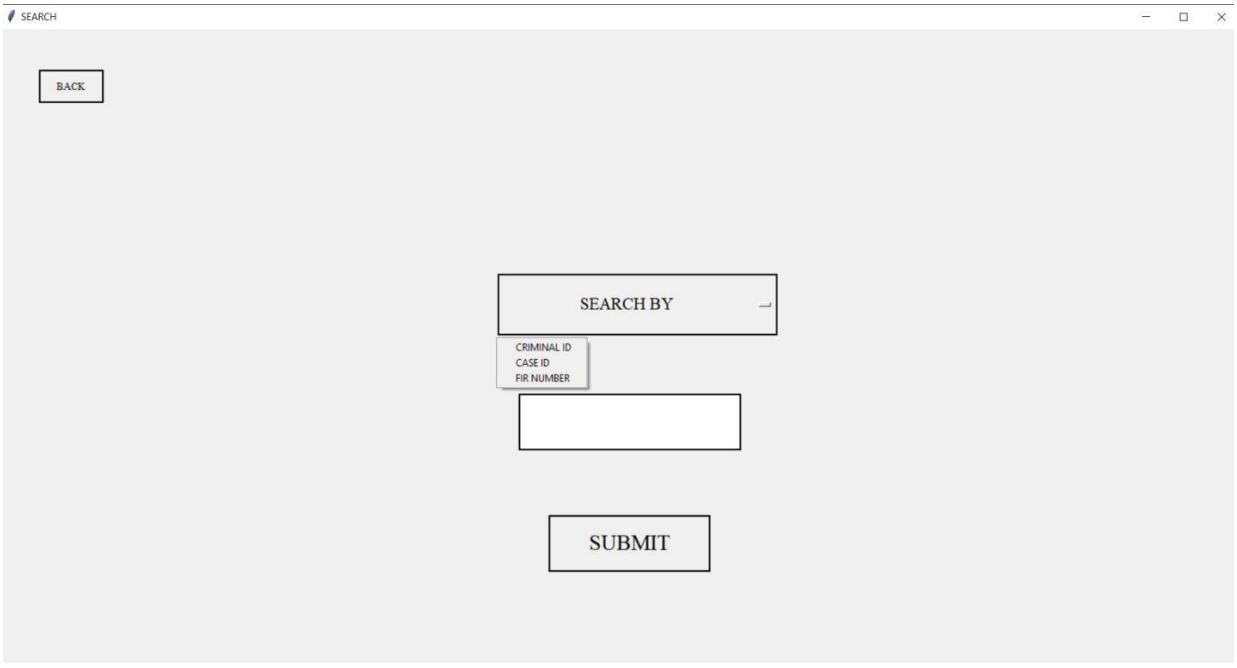


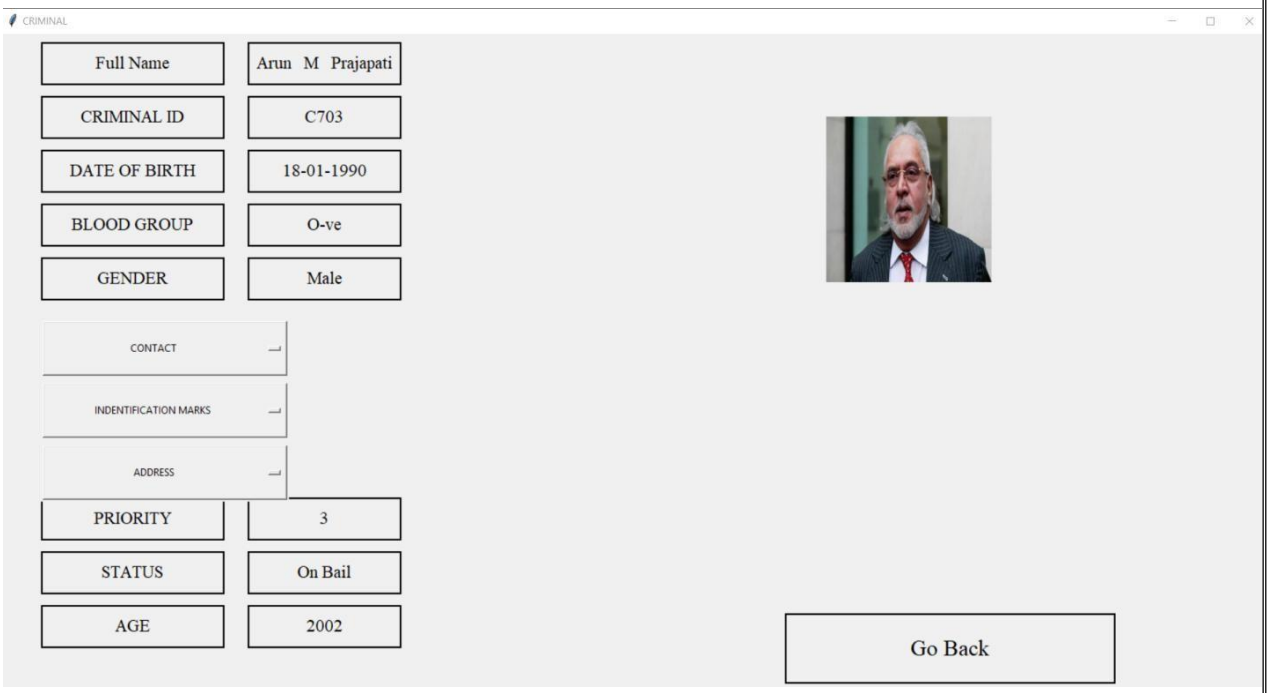

2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
CLOSED
OPEN


2.0
1.8
1.6
1.4
1.2
1.0
2000-5-15
2017-6-18
2017-7-19
2018-8-3

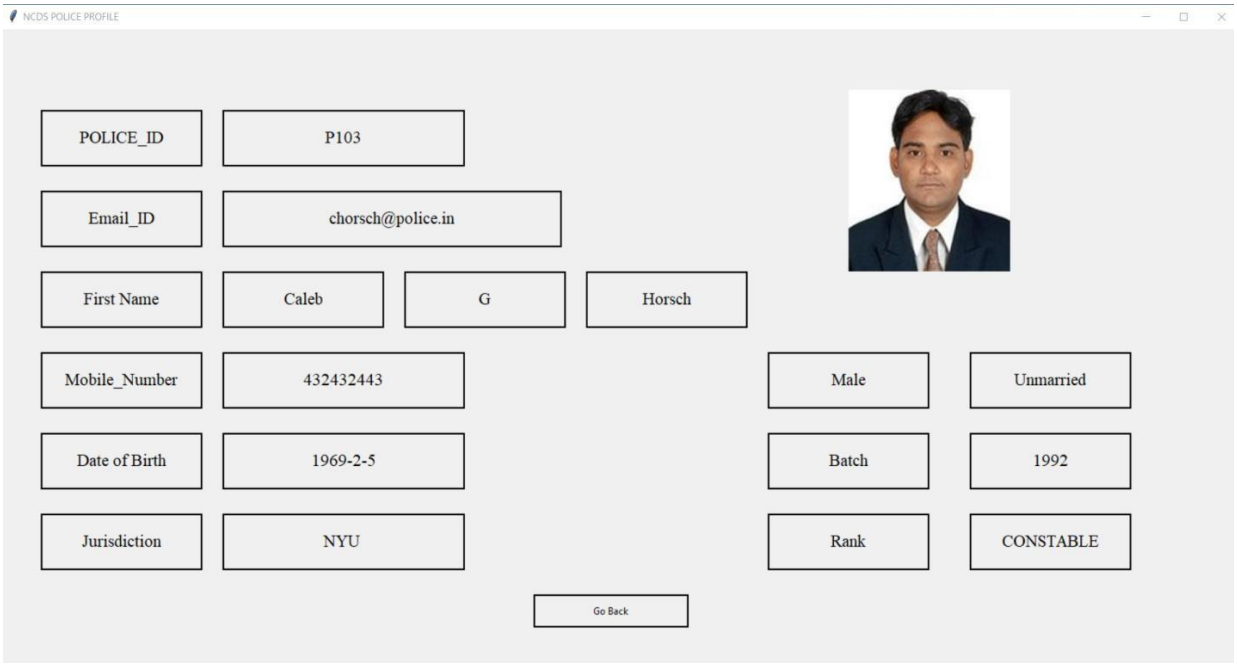
Constable end is similar to ACP, but with restricted access to database. Meaning they can only view and not alter records.







Police Profile Page :



DATABASE STRUCTURE

Tables (16)

Name	Type	Schema
CASE1		CREATE TABLE CASE1 (CASENO number PRIMARY KEY, PENALCODETYPE text, SECTIONNUMBER number, POLICESTATION text, DESCRIPTION text NOT NULL, OPENDATE text NOT NULL, CLOSEDATE text, COMPLAINT_NO TEXT, FOREIGN KEY (COMPLAINT_NO) REFERENCES COMPLAINT(COMPLAINT_NO))
CASENO	number	"CASENO" number
PENALCODETYPE	text	"PENALCODETYPE" text
SECTIONNUMBER	number	"SECTIONNUMBER" number
POLICESTATION	text	"POLICESTATION" text
DESCRIPTION	text	"DESCRIPTION" text NOT NULL
OPENDATE	text	"OPENDATE" text NOT NULL
CLOSEDATE	text	"CLOSEDATE" text
COMPLAINT_NO	TEXT	"COMPLAINT_NO" TEXT
CASE2		CREATE TABLE CASE2(CASENO number, POLICEID text, FOREIGN KEY (POLICEID) REFERENCES POLICE(POLICEID), FOREIGN KEY(CASENO) REFERENCES CASE1(CASENO))
CASENO	number	"CASENO" number
POLICEID	text	"POLICEID" text
CASE3		CREATE TABLE CASE3(CASENO number , VFNAME text, VMNAME text, VLNAME text, VAGE number, VADDRESS text, FOREIGN KEY (CASENO) REFERENCES CASE1(CASENO))
CASENO	number	"CASENO" number
VFNAME	text	"VFNAME" text
VMNAME	text	"VMNAME" text
VLNAME	text	"VLNAME" text
VAGE	number	"VAGE" number
VADDRESS	text	"VADDRESS" text
CASE4		CREATE TABLE CASE4(CASENO number, FIRNO number, FOREIGN KEY(CASENO) REFERENCES CASE1(CASENO), FOREIGN KEY(FIRNO) REFERENCES CRIME(FIRNO))
CASENO	number	"CASENO" number
FIRNO	number	"FIRNO" number
CIVILIAN1		CREATE TABLE CIVILIAN1 (USERID text PRIMARY KEY CHECK(USERID <> ''), PASSWORD text NOT NULL CHECK(PASSWORD <> ''), FNAME text, MNAME text, LNAME text, DOB text, GENDER text, MARITALSTATUS text, EMAILID text NOT NULL, OCCUPATION text, ADDRESS text, LASTLOGIN text, PHOTO blob)
USERID	text	"USERID" text CHECK(USERID<>")
PASSWORD	text	"PASSWORD" text NOT NULL CHECK(PASSWORD<>")
FNAME	text	"FNAME" text
MNAME	text	"MNAME" text
LNAME	text	"LNAME" text
DOB	text	"DOB" text
GENDER	text	"GENDER" text
MARITALSTATUS	text	"MARITALSTATUS" text
EMAILID	text	"EMAILID" text NOT NULL
OCCUPATION	text	"OCCUPATION" text
ADDRESS	text	"ADDRESS" text
LASTLOGIN	text	"LASTLOGIN" text
PHOTO	blob	"PHOTO" blob

CIVILIAN2		CREATE TABLE CIVILIAN2 (USERID text , CONTACT number,FOREIGN KEY (USERID) REFERENCES CIVILIAN1(USERID))
USERID	text	"USERID" text
CONTACT	number	"CONTACT" number
COMPLAINT		CREATE TABLE COMPLAINT (COMPLAINT_NO text PRIMARY KEY, PLACEOFCRIME text NOT NULL CHECK(PLACEOFCRIME <> ''), TIMEOFCRIME text, CRIMEDESCRIPTION text, CITY text, POLICESTATION text, STATUS text DEFAULT Registered, VFNAME text, VMNAME text, VLNAME text, AFNAME text, AMNAME text, ALNAME text, USERID text, FOREIGN KEY(USERID) REFERENCES CIVILIAN1(USERID))
Name	**Type**	**Schema**
COMPLAINT_NO	text	"COMPLAINT_NO" text
PLACEOFCRIME	text	"PLACEOFCRIME" text NOT NULL CHECK(PLACEOFCRIME<>'')
TIMEOFCRIME	text	"TIMEOFCRIME" text
CRIMEDESCRIPTION	text	"CRIMEDESCRIPTION" text
CITY	text	"CITY" text
POLICESTATION	text	"POLICESTATION" text
STATUS	text	"STATUS" text DEFAULT Registered
VFNAME	text	"VFNAME" text
VMNAME	text	"VMNAME" text
VLNAME	text	"VLNAME" text
AFNAME	text	"AFNAME" text
AMNAME	text	"AMNAME" text
ALNAME	text	"ALNAME" text
USERID	text	"USERID" text
CRIME		CREATE TABLE CRIME(FIRNO number PRIMARY KEY, DAMAGEAMOUNT number, INJURED number, DEATHS number, DATEOFCRIME text NOT NULL, PLACEOFCRIME text)
FIRNO	number	"FIRNO" number
DAMAGEAMOUNT	number	"DAMAGEAMOUNT" number
INJURED	number	"INJURED" number
DEATHS	number	"DEATHS" number
DATEOFCRIME	text	"DATEOFCRIME" text NOT NULL
PLACEOFCRIME	text	"PLACEOFCRIME" text
CRIME2		CREATE TABLE CRIME2 (FIRNO number, CRIMINALID number, FOREIGN KEY(FIRNO) REFERENCES CRIME(FIRNO), FOREIGN KEY(CRIMINALID) REFERENCES CRIMINAL(CRIMINALID))
FIRNO	number	"FIRNO" number
CRIMINALID	number	"CRIMINALID" number
CRIME3		CREATE TABLE CRIME3 (FIRNO number, PENALCODETYPE text, SECTIONNUMBER number, FOREIGN KEY (FIRNO) REFERENCES CRIME(FIRNO))
FIRNO	number	"FIRNO" number
PENALCODETYPE	text	"PENALCODETYPE" text
SECTIONNUMBER	number	"SECTIONNUMBER" number
CRIMINAL		CREATE TABLE CRIMINAL(CRIMINALID number PRIMARY KEY, FNAME text, MNAME text, LNAME text, DOB text, BLOODGROUP text, STATUS text, PRIORITY number, GENDER text, PHOTO BLOB NOT NULL)
CRIMINALID	number	"CRIMINALID" number
FNAME	text	"FNAME" text
MNAME	text	"MNAME" text
LNAME	text	"LNAME" text
DOB	text	"DOB" text
BLOODGROUP	text	"BLOODGROUP" text
STATUS	text	"STATUS" text

PRIORITY	number	"PRIORITY" number
GENDER	text	"GENDER" text
PHOTO	BLOB	"PHOTO" BLOB NOT NULL
CRIMINAL1		CREATE TABLE CRIMINAL1 (CRIMINALID text, IDENTIFICATIONMARKS text,FOREIGN KEY (CRIMINALID) REFERENCES CRIMINAL(CRIMINALID))
CRIMINALID	text	"CRIMINALID" text
IDENTIFICATIONMARKS	text	"IDENTIFICATIONMARKS" text
CRIMINAL2		CREATE TABLE CRIMINAL2(CRIMINALID text, ADDRESS text, FOREIGN KEY (CRIMINALID) REFERENCES CRIMINAL(CRIMINALID))
CRIMINALID	text	"CRIMINALID" text
ADDRESS	text	"ADDRESS" text
CRIMINAL3		CREATE TABLE CRIMINAL3 (CRIMINALID text, CONTACT text, FOREIGN KEY (CRIMINALID) REFERENCES CRIMINAL(CRIMINALID))
Name	**Type**	**Schema**
CRIMINALID	text	"CRIMINALID" text
CONTACT	text	"CONTACT" text
POLICE		CREATE TABLE POLICE (POLICEID TEXT PRIMARY KEY CHECK(POLICEID <> ''), PASSWORI TEXT NOT NULL CHECK(PASSWORD <> ''),FNAME TEXT NOT NULL CHECK(FNAME <> ''), MNAME TEXT, LNAME TEXT NOT NULL CHECK(LNAME <> ''), PHOTO BLOB NOT NULL, LASTLOGIN TEXT DEFAULT 1000, EMAILID TEXT NOT NULL CHECK(EMAILID <> ''), JURISDICTION TEXT NOT NULL CHECK(JURISDICTION <> ''),ADDRESS TEXT NOT NULI CHECK(ADDRESS <> ''), GENDER TEXT NOT NULL CHECK(GENDER <> ''), DOB TEXT NOT NULL CHECK(DOB <> ''), BATCH TEXT NOT NULL CHECK(BATCH <> ''), RANK TEXT NOT NULL CHECK(RANK <> ''), MARITALSTATUS TEXT NOT NULL CHECK(MARITALSTATUS <> ''))
POLICEID	TEXT	"POLICEID" TEXT CHECK(POLICEID<>'')
PASSWORD	TEXT	"PASSWORD" TEXT NOT NULL CHECK(PASSWORD<>'')
FNAME	TEXT	"FNAME" TEXT NOT NULL CHECK(FNAME<>'')
MNAME	TEXT	"MNAME" TEXT
LNAME	TEXT	"LNAME" TEXT NOT NULL CHECK(LNAME<>'')
PHOTO	BLOB	"PHOTO" BLOB NOT NULL
LASTLOGIN	TEXT	"LASTLOGIN" TEXT DEFAULT 1000
EMAILID	TEXT	"EMAILID" TEXT NOT NULL CHECK(EMAILID<>'')
JURISDICTION	TEXT	"JURISDICTION" TEXT NOT NULL CHECK(JURISDICTION<>'')
ADDRESS	TEXT	"ADDRESS" TEXT NOT NULL CHECK(ADDRESS<>'')
GENDER	TEXT	"GENDER" TEXT NOT NULL CHECK(GENDER<>'')
DOB	TEXT	"DOB" TEXT NOT NULL CHECK(DOB<>'')
BATCH	TEXT	"BATCH" TEXT NOT NULL CHECK(BATCH<>'')
RANK	TEXT	"RANK" TEXT NOT NULL CHECK(RANK<>'')
MARITALSTATUS	TEXT	"MARITALSTATUS" TEXT NOT NULL CHECK(MARITALSTATUS<>'')
POLICE1		CREATE TABLE POLICE1(POLICEID TEXT, CONTACT TEXT NOT NULL, FOREIGN KEY (POLICEID) REFERENCES POLICE(POLICEID))
POLICEID	TEXT	"POLICEID" TEXT
CONTACT	TEXT	"CONTACT" TEXT NOT NULL

CONCLUSION & FUTURE SCOPE

The above project aimed to remove discrepancies in the record management system of the police department via a centralized database system. Through this project, we successfully demonstrated the fulfillment of our aim and its positive impact it will have on the performance of the Police. Since, police department is spread from villages to metros, a large scale project will be suitable for actual working where multiple users could access the system. Currently, a similar project is implemented in India on pilot basis.

Future Scope of the project involves:

Adding AI based Facial Recognition tool to get instant results regarding identity of a criminal and his/her history.

More Transparency can be provided to the civilians regarding the working of the police department.

Audio samples can also be stored in the Database to match voice samples and same goes to the digital storing of DNA sequence.

More Data Analytic features can be added so as to help, reorganize data for direct use by Police and in case to civilians too.

These are just few of the numerous ways in which this project can be further built into something much bigger, magnificent and highly productive.