NYPD DATABASE

CMPT 308 Design Project

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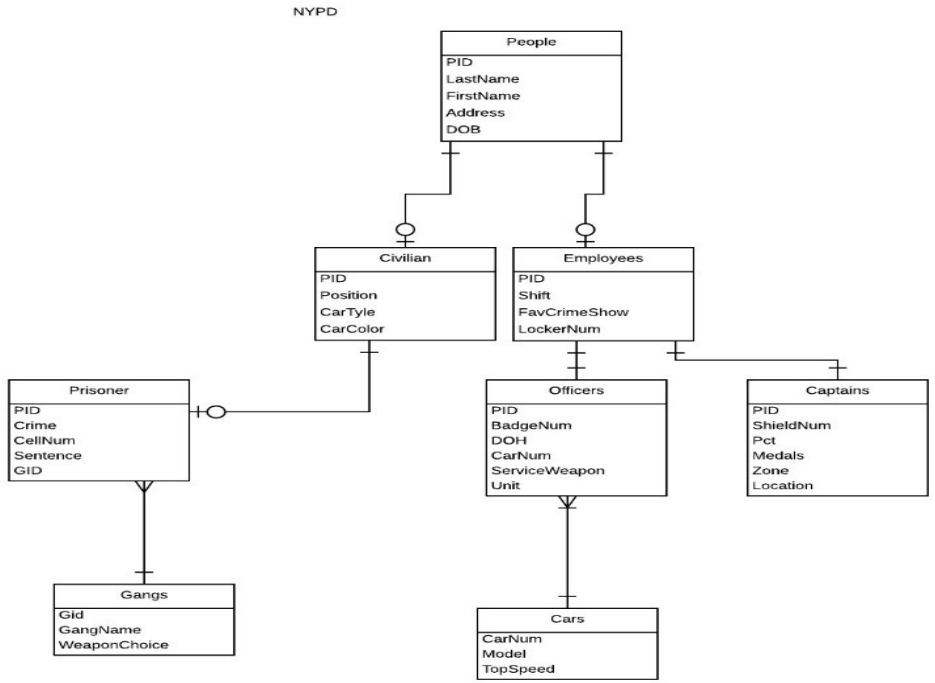
Executive Summary

The project outlines the structure and entities involved in the implantation of a Relational database of the New York City Police Dept. All numbers, names, units, etc. are fictional and have no correlation to the actual department.

The purpose of this database is to catalog the day to day functions of a simulated police department. Will manage zones, shifts, officers, supervisors and units. This database will give administration the power to add or delete officers or units as they see fit. The goal of this system is provide a functional database approved by Police Commissioner Labouseur.

ER Diagram


NYPD
People
PID
LastName
FirstName
Address
DOB
Civilian
PID
Position
CarTyle
CarColor
Employees
PID
Shift
FavCrimeShow
LockerNum
Prisoner
PID
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PID
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DOH
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ServiceWeapon
Unit
Captains
PID
ShieldNum
Pct
Medals
Zone
Location
Gangs
Gid
GangName
WeaponChoice
Cars
CarNum
Model
TopSpeed

Tables: People

PEOPLE– lists all people and basic attributes and dependencies

```
CREATE TABLE people (
  Pid         char(4) not null,
  LastName    text,
  FirstName   text,
  Address     text,
  DOB         text,
 primary key (Pid)
 );
```

Functional Dependencies: Pid -> LastName, FirstName, Address, DOB

Tables: Civilian

CIVILIAN – lists all civilians involved with their attributes and dependencies

```
CREATE TABLE civilian (
 pid        char(4) not null references people(pid),
 Position        text,
 CarType         text,
 CarColor        text,
primary key (Cid)
);
```

Functional Dependencies: Pid -> Position, CarType, CarColor

Tables: Employees

Employees - Lists all sworn in Employees, their attributes and dependencies

```
CREATE TABLE employees(
  pid          char(4) not null references people(pid),
  Shift                text,
  FavCrimeShow         text,
  LockerNum      text,
 primary key (Eid)
);
```

Functional Dependencies: Pid -> Shift, FavCrimeShow, LockerNum

Tables: Officers

Officers – Lists all officers of the NYPD, their attributes and dependencies

```
CREATE TABLE officers(
 BadgeNum       text not null,
Pid             text not null references people(pid),
DOH             date,
 CarNum             text,
 ServiceWeapon       text,
 Unit            text,
 primary key (pid)
 );
```

Functional Dependencies: PID -> BadgeNum, CarNum, ServiceWeapon, Unit, DOH

Tables: Captains

Captains – Lists all captains of the NYPD, their attributes and dependencies

```
CREATE TABLE captains(
 ShieldNum      text not null,
Pid             text not null references people(pid),
PCT             text,
 Medals         text,
 Zone           text,
 Loc            text,
primary key (ShieldNum)
);
```

Functional Dependencies: PID -> Pct, Medals, Zone, Location, ShieldNum

Tables: Cars

Cars – Lists the NYPD vehicles, their attributes and dependencies

```
CREATE TABLE cars (
  CarNum          text not null,
  model           text,
  TopSpeed        text,
primary key (CarNum)
);
```

Functional Dependencies: CarNum -> Model, TopSpeed

Tables: Prisoners

Prisoners- Lists all prisoners in custody, their attributes and dependencies

```
CREATE TABLE prisoner (
 Pid          text not null references people(pid),
 Crime        text,
 CellNum      text,
 Setence      text,
primary key (pid)
);
```

Functional Dependencies: Pid -> Crime, CellNum, Sentence, GID

Table: Gangs

```
CREATE TABLE Gangs (
  GID              text not null,
  GangName  text,
  WeaponChoice   text,
 primary key(Gid)
 );
```

Functional Dependencies: GID -> GangName, WeaponChoice

People Table

	pid character(4)	lastname text	firstname text	address text	dob text
1	1111	DiBisceglio	Scott	3 Julia Court	1993-12-18
2	1112	Modica	Dakota	244 Overlook Road	1993-06-22
3	1113	Regan	Daniel	22 Brooklyn Lane	1960-12-25
4	1114	Regan	Jamie	31 Mets Road	1965-2-25
5	1115	Jackson	Curtis	50 Cent Lane	1950-6-25
6	1116	Matthers	Marshall	8 Mile Road	1965-9-25
7	1117	Sean	Big	45 Finally Famous road	1985-8-15
8	1118	Kelly	Ray	1 Police Plaza	1970-7-25
9	1119	Radier	Dennis	131 BTK Ave	1985-3-2
10	1120	Dahmer	Jeffery	22 Serial Killer Road	1975-5-5
11	1121	Ripper	Jack	65 London	1940-11-24
12	1122	Radday	Kevin	32 West Main Street	1970-4-20
13	1123	Scofield	Micheal	43 Baltimore Ave	1970-3-22
14	1124	Lincoin	Travis	454 Test data Road	1985-12-5
15	1125	Cooper	Sheldon	78 Caltech lane	1975-7-21
16	1126	Wright	David	5 Third Base Road	1974-10-20
17	1127	Beam	Vinny	181 Middletown Road	1945-2-20
18	1128	Labouseur	Alan	2005 Hancock Building	1985-3-30
19	1129	Miele	Dom	7 Depot Street	1950-6-14
20	1130	Banks	Llyod	50 G Unit Lane	1970-1-1

Civilian Table

	pid character(4)	position text	cartype text	carcolor text
1	1112	dispatch	Scion	Grey
2	1117	Rapper	Rolls Royce	Black
3	1119	Serial Killer	Windowless Van	White
4	1123	Bank Robber	School Bus	Yellow
5	1124	Fighter	Porche	Red
6	1120	Rapist	MiniVan	Blue
7	1126	Player	Pickup Truck	Blue
8	1121	Swordsman	Bike	Pink
9	1130	Artist	Lambogini	Yellow
10	1115	Designer	Ferrari	Black

Employee Table

	pid character(4)	shift text	favcrimeshow text	lockernum text
1	1111	Midnight	Blue Bloods	22
2	1113	Midnight	CSI	5
3	1114	Days	Blue Bloods	7
4	1116	Nights	Criminal Minds	8
5	1118	Days	NYPD Blue	9
6	1122	Nights	NCIS	34
7	1125	Days	CSI	81
8	1127	Nights	NCIS	25
9	1129	Days	COPS	65
10	1130	Nights	Numbers	1

Officer Table

	badgenum text	pid text	doh date	carnum text	serviceweapon text	unit text
1	25960	1113	1993-12-18	51	glock	detectives
2	75309	1114	1995-10-05	50	glock	patrol
3	13375	1116	1997-06-22	91	m4	SWAT
4	90548	1118	1990-04-20	25	m19	ESU
5	06229	1125	1950-04-20	91	glock	Forensics
6	34764	1127	2015-04-30	51	Ruger	Patrol

Captain Table

	shieldnum text	pid text	pct text	medals text	zone text	loc text
1	1289	1111	25	Life Saver	Zone 5	Harlem
2	1337	1122	32	WTC	Zone 3	Central Park
3	1069	1128	40	Programmer of the Year	Zone 2	West Side

Cars Table

	carnum text	model text	topspeed integer
1	51	Ford Intrepeid	125
2	50	Dodge Challanger	150
3	91	Ford Edge	110
4	25	Ford Exploer	95
5	98	Crown Vic	100

Prisoner Table

	pid text	crime text	cellnum text	sentenceyrs integer	gid text
1	1119	murder	100	150	1
2	1120	cannibalism	101	89	2
3	1123	Armed Robbery	102	24	2
4	1124	Gang Assault	103	10	3

Gang Table

	gid text	gangname text	weaponchoice text
1	1	Aryan Brotherhood	Shank
2	2	La Nuestra Family	Screwdriver
3	3	Black Panters	Pen

Security Measures: Grants & Revokes

```
CREATE ROLE Commissioner;
GRANT ALL ON ALL TABLES
IN SCHEMA PUBLIC
TO Commissioner;
```

```
CREATE ROLE Chief;
GRANT SELECT ON people, civilian, employees, officers,
                gangs, prisoner, cars, captains

TO Chief;
GRANT INSERT ON prisoner, gangs, employees, people, cars
TO Chief;
GRANT UPDATE ON prisoner, gangs, employees, people,
cars
TO Chief;
```

```
CREATE ROLE Recruitment;
GRANT SELECT ON people, employees, officers, civilian
TO Recruitment;
GRANT INSERT ON people, officers, employees, civilian
TO Recruitment;
```

UNDER THIS SYSTEM THERE ARE THREE MAIN ROLES. COMMISSONER, CHIEF AND RECRUITMENT.

VIEWS: OfficerWeapon & Address

OfficerWeaponsandAddress – This table shows all the weapons of NYPD officers and their home address.

```
CREATE VIEW OfficerWeaponsandAddress

AS

SELECT serviceWeapon as Officer, Address as Home

FROM officers

INNER JOIN People

on people.pid = officers.pid


Select *

FROM OfficerWeaponsandAddress
```

	officerguntype text	home text
1	glock	22 Brooklyn Lane
2	glock	31 Mets Road
3	m4	8 Mile Road
4	m19	1 Police Plaza
5	glock	78 Caltech lane
6	Ruger	181 Middletown Road
7	Ruger	7 Depot Street

VIEWS: Prisoners and Their Vehicles

PrisonerCarLog- This table shows the crimes committed by prisoners and their personal vehicles.

```
CREATE VIEW PrisonerCarLog

AS

SELECT crime as CommittedOffence, CarType as Car

FROM Prisoner

INNER JOIN Civilian

on Prisoner.pid = Civilian.pid


SELECT *

FROM PrisonerCarLog
```

	committedoffence text	car text
1	murder	Windowless Van
2	Armed Robbery	School Bus
3	Gang Assault	Porche
4	cannibalism	MiniVan

VIEWS: Police Captains Favorite Shows

CaptainsFavShows- This table shows what shows will be on the TV in the PCTs with Active Captains.

```
CREATE VIEW CaptainsFavShows
 AS
 SELECT FavCrimeShow as FavoriteSho
 FROM Employees
 INNER JOIN Captains
 on captains.pid = employees.pid
```

	favoriteshow text	pctitswatched text
1	Blue Bloods	25
2	NCIS	32

Select *

REPORTS: Model Car, Top Speed & Unit Assigned

This Query shows the Car Model and its Top speed with the Unit assigned to that vehicle.

SELECT Model as CarType, TopSpeed as Speed, Unit as Unit

From Cars

INNER JOIN Officers

on Officers.carnum = cars.carnum

	cartype text	speed integer	unit text
1	Ford Intrepeid	125	detectives
2	Dodge Challange	150	patrol
3	Ford Edge	110	SWAT
4	Ford Exploer	95	ESU
5	Ford Edge	110	Forensics
6	Ford Intrepeid	125	Patrol
7	Crown Vic	100	detectives

REPORTS: Patrol Car Speed

This query shows the Top Speed of cars in the “Patrol” Unit of the NYPD

```
SELECT TopSpeed as Speed, Unit as Unit
FROM Cars
INNER JOIN Officers
on Officers.carnum = cars.carnum
WHERE Unit = 'patrol'
```

	speed integer	unit text
1	150	patrol

Known Problems

DISCLAMER!!

While using this Database system you might run into some issues:

Under this design it is assumed that an officer, employee or captain can not also be a prisoner, when this could actually happen.

If a civilian later becomes an officer etc. the whole entry would need to be redone, can not just change fields easily.

As of now this database has a rather small amount of test data, if this was to be used for the actual police department of thirty thousand plus officers, we would run into some major issues.

Hopeful Future Advancements

Be able to hold the amount of a real police department.

Run more interesting queries with averages, age and release date of prisoners.

Expand the scope of the database and add more tables to make it even more interesting and complex and even more impressive.