**Taxi Department Fleet Database using SQL**

Calling for a taxi can be one of the easiest things you can do in your phone. The taxi companies have evolved since they started in the 17th century in London. As there are different and more popular ways than others to access a taxi like for example by phone, via mobile applications or on the internet. We can agree in one thing. In order to have these departments or companies running efficiently. They should have in hand a taxi database model in order to be successful and keep profits up. A database for a taxi Department can help from creating driver schedules to calculating driver’s working hours and earnings. In this essay, our group is going to present the functionality of a Taxi Department Fleet Database using SQL that could be used for different companies or self-owned business. You will become a believer in the data model ideal and your feedback would be appreciated.

In order to start getting organized, first you would need to start taking simple steps building your database. In class we learned how to create tables and how to input the correct information. The most important SQL Commands are: SELECT, CREATE TABLE, DROP TABLE just to name a few. In this presentation, the reader is going to become the person in charge to design, develop and analyze the database for the taxi company. The table of Employees is going to be the first one to be built. Let’s think of different reasons why it’s important to start with this table? Keep in mind to add a PRIMARY KEY to all your tables that require a combination of a NOT NULL and is UNIQUE. In our opinion, the moment you hire employees one of the main things they are concern about it’s their benefits and pay. You could also use this information to send birthday card notes or in case of accidents notify their family.

The vehicle table makes perfect sense to have added to your database. Keeping track of the last person that used that taxi can make the difference when it comes to damages not covered by the insurance. Learning when maintenance is due for that specific taxi can help save big bucks in the long run. People won’t take upon themselves to care and maintain equipment that is not theirs or that they don’t use unless its part of their duties in the company. The same thing can be done with expiration dates for the drivers’ license and registrations by simply putting a reminder on.

The list goes on when it comes attributes that can be added to your data model. You can display and select different tables according to the information you specifically require. Our tables contain CONSTRAINTS AND FOREIGN KEYS. They change the way you display your table according to your specifications. The amount of time and workload that is saved is critical for a business to make profits. One person proficient in SQL can save a company a lot of money. You can save yourself and your company money using SQL to stay organized and open keep making changes for improvement. In the near future with the upbringing of self-driving cars, the only thing that can be taking out from our taxi database is the drivers’ table, but the other information can remain. Basic coding in SQL for large or small databases is the key for success in this modern era.

**Table Creations**

**Table 1**

CREATE TABLE Employees

(employee\_id NUMBER(9) Not NULL primary key,

fname VARCHAR2(20),

lname VARCHAR2(30),

birthdate DATE,

gender VARCHAR2(1),

title VARCHAR2(20));

**Table2**

CREATE TABLE drivers

(driver\_id NUMBER(9) Not NULL primary key,

Driver\_fName VARCHAR2(20),

       Driver\_lName VARCHAR2(20),

Driver\_Birthdate DATE);

**Table3**

CREATE table "DISPATCHERS\_POSITION"

("DISPATCHER\_ID" NUMBER(9) NOT NULL primary key,

"DISPATCHER\_FNAME" VARCHAR2(20),

"DISPATCHER\_LNAME" VARCHAR2(20),

"DISPATCHER\_BIRTHDATE" DATE,

"DISPATCHER\_SALARY" NUMBER(20),

CONSTRAINT "DISPATCHERS\_FK" FOREIGN KEY ("DISPATCHER\_ID") REFERENCES "EMPLOYEES" ("EMPLOYEE\_ID"));

**Table4**

CREATE TABLE vehicles

(vehicle\_id NUMBER(9) Not NULL primary key,

VEHICLE\_BRAIN\_NAME VARCHAR2(20),

           vehicle\_Model\_Name VARCHAR2(20),

vehicle\_made\_date DATE);

**Table5**

CREATE TABLE Technicians

(technician\_id NUMBER(9) Not NULL primary key,

technician\_FName VARCHAR2(20),

       technician\_LName VARCHAR2(20),

technician\_Birthdate DATE,

       technician\_salary number(20));

**Table6**

CREATE table "DISPATCHE"

("DATE\_DISPATCHED" DATE,

"DISPATCHER\_ID" NUMBER(9) NOT NULL,

"VEHICLE\_ID" NUMBER(9) NOT NULL,

Primary key(Dispatcher\_ID,Vehicle\_ID),

CONSTRAINT "DISPATCHE\_FK" FOREIGN KEY ("DISPATCHER\_ID") REFERENCES "DISPATCHERS\_POSITION" ("DISPATCHER\_ID"),

CONSTRAINT "DISPATCHE\_FK2" FOREIGN KEY ("VEHICLE\_ID") REFERENCES "VEHICLES" ("VEHICLE\_ID"));

**Table7**

CREATE table "REPAIRE"

("VEHICLE\_ID" NUMBER(9) NOT NULL,

"TECHNICIAN\_ID" NUMBER(9) NOT NULL,

"DATE\_REPAIRED" DATE,

Primary key(Vehicle\_ID,Technician\_ID),

CONSTRAINT "REPAIR\_FK" FOREIGN KEY ("VEHICLE\_ID") REFERENCES "VEHICLES" ("VEHICLE\_ID"),

CONSTRAINT "REPAIR\_FK2" FOREIGN KEY ("TECHNICIAN\_ID") REFERENCES "TECHNICIANS" ("TECHNICIAN\_ID"));

**Table8**

CREATE table "WORK\_ON"

("EMPLOYEE\_ID" NUMBER(9),

"DISPATCHER\_ID" NUMBER(9),

"HIRED\_DATE" DATE,

Primary key(Employee\_ID,Dispatcher\_ID),

CONSTRAINT "WORK\_ON\_FK" FOREIGN KEY ("EMPLOYEE\_ID") REFERENCES "EMPLOYEES" ("EMPLOYEE\_ID"),

CONSTRAINT "WORK\_ON\_FK2" FOREIGN KEY ("DISPATCHER\_ID") REFERENCES "DISPATCHERS\_POSITION" ("DISPATCHER\_ID"));

**Table9**

CREATE table "DRIVE" (

"DRIVER\_ID" NUMBER(9) NOT NULL,

"VEHICLE\_ID" NUMBER(9) NOT NULL,

"DATE\_DRIVED" DATE,

Primary key(Driver\_ID, Vehicle\_ID),

CONSTRAINT "DRIVE\_FK" FOREIGN KEY ("DRIVER\_ID") REFERENCES "DRIVERS" ("DRIVER\_ID"),

CONSTRAINT "DRIVE\_FK2" FOREIGN KEY ("VEHICLE\_ID") REFERENCES "VEHICLES" ("VEHICLE\_ID"));

**Value Insertion in Employees Table**       

INSERT INTO Employees VALUES (158456777,'Charlie','Dose', '02/25/1985','F','Dispatcher');

INSERT INTO Employees VALUES (123456777,'Abdou','Thioye', '02/25/1940','M','Dispatcher');

INSERT INTO Employees VALUES (123456789,'Charles','Dickens', '02/25/1970','M','Driver');

INSERT INTO Employees VALUES (123266777,'Brian','Foes', '07/25/1925','M','Technician');

INSERT INTO Employees VALUES (853266777,'Aslie','Schefil', '09/23/1948','F','Technician')

INSERT INTO Employees VALUES (128526977,'Dried','Marley', '03/15/1985','M','Driver');

INSERT INTO Employees VALUES (123582458,'Moussa','Fall', '07/04/1985','M','Driver');

INSERT INTO Employees VALUES (12545887,'Fallou','Sarr', '07/09/1975','M','Driver');

INSERT INTO Employees VALUES (125965855,'Demba','Beye', '08/25/1966','M','Driver');

INSERT INTO Employees VALUES (125485678,'Ayo','bo', '8/12/1952','M','Dispatcher');

INSERT INTO Employees VALUES (127854698,'Quero','Skin', '8/09/1952','F','Dispatcher');

INSERT INTO Employees VALUES (127842598,'Pape','Keddy', '05/25/1984','M','Dispatcher');

INSERT INTO Employees VALUES (127847854,'Kerry','Grope', '05/25/1984','M','Technician');

INSERT INTO Employees VALUES (127845214,'Kremen','Guadkj', '01/17/1993','M','Technician');

INSERT INTO Employees VALUES (127845458,'Adnan','Guirra', '02/16/1990','M','Technician');

**Value Insertion in Vehicles Table**

INSERT INTO Vehicles VALUES (444444444,'Ford','C-Max', '02/20/2014');

INSERT INTO Vehicles VALUES (333333333,'Ford','Crown Victoria', '02/20/2013');

INSERT INTO Vehicles VALUES (222222222,'Ford','Crown Victoria', '02/20/2013');

INSERT INTO Vehicles VALUES (123456789,'Nissan','Altima', '02/25/1985');

INSERT INTO Vehicles VALUES (555555555,'Toyota','Prius', '02/25/2018');

INSERT INTO Vehicles VALUES (666666666,'Chevrolet','Malibu', '02/25/2018');

**Value Insertion in Technicians Table**

INSERT INTO Technicians VALUES (127847854,'Kerry','Grope', '05/25/1984','2554');

INSERT INTO Technicians VALUES (127845214,'Kremen','Guadkj', '01/17/1993','4585');

INSERT INTO Technicians VALUES (127845458,'Adnan','Guirra', '02/16/1990','9000');

INSERT INTO Technicians VALUES (123266777,'Brian','Foes', '07/25/1925','7000');

INSERT INTO Technicians VALUES (853266777,'Aslie','Schefil', '09/23/1948','6000');

**Value Insertion in Dispatchers Table**

INSERT INTO DISPATCHERS\_POSITION VALUES (125485678,'Ayo','bo', '8/12/1952','2000');

INSERT INTO DISPATCHERS\_POSITION VALUES (127854698,'Quero','Skin', '8/09/1952','6000');

INSERT INTO DISPATCHERS\_POSITION VALUES (127842598,'Pape','Keddy', '05/25/1984',4000);

INSERT INTO DISPATCHERS\_POSITION VALUES (158456777,'Charlie','Dose', '02/25/1985',5000);

INSERT INTO DISPATCHERS\_POSITION VALUES (123456777,'Abdou','Thioye', '02/25/1940','6000');

**Value Insertion in Drivers Table**

INSERT INTO Drivers VALUES (123456789,'Charles','Dickens', '02/25/1970');

INSERT INTO Drivers VALUES (128526977,'Dried','Marley', '03/15/1985');

INSERT INTO Drivers VALUES (123582458,'Moussa','Fall', '07/04/1985');

INSERT INTO Drivers VALUES (12545887,'Fallou','Sarr', '07/09/1975');

INSERT INTO Drivers VALUES (125965855,'Demba','Beye', '08/25/1966');

**Value Insertion in Work\_On Table**

INSERT INTO Work\_ON VALUES (125485678,125485678,'08/25/2010');

INSERT INTO Work\_ON VALUES (127854698,127854698,'08/25/2011');

INSERT INTO Work\_ON VALUES (127842598,127842598,'08/25/2004');

INSERT INTO Work\_ON VALUES (158456777,158456777,'08/25/2007');

INSERT INTO Work\_ON VALUES (123456777,123456777,'07/25/1985');

**Value Insertion in Drive Table**

INSERT INTO Drive VALUES (125965855,444444444,’08/25/2017’);

INSERT INTO Drive VALUES (128526977,333333333,’01/25/2018');

INSERT INTO Drive VALUES (123582458,222222222,’01/25/2014');

INSERT INTO Drive VALUES (12545887,555555555,’01/25/2018');

INSERT INTO Drive VALUES (123456789,666666666,’01/25/2018');

**Value Insertion in Dispatche Table**

INSERT INTO Dispatche VALUES ('01/25/2018',125485678,444444444);

INSERT INTO Dispatche VALUES ('01/25/2018',127854698,333333333);

INSERT INTO Dispatche VALUES ('01/25/2018',127842598,222222222);

INSERT INTO Dispatche VALUES ('01/25/2018',158456777,555555555);

INSERT INTO Dispatche VALUES ('01/25/2018',123456777,666666666);

**Value Insertion in Repaire Table**

INSERT INTO Repaire VALUES (666666666,853266777,'01/25/2018');

INSERT INTO Repaire VALUES (555555555,123266777,'03/25/2018');

INSERT INTO Repaire VALUES (222222222,127845458,'03/25/2018');

INSERT INTO Repaire VALUES (333333333,127845214,'03/25/2018');

INSERT INTO Repaire VALUES (222222222,127847854,'03/25/2018');

**ER Mapping**

**EMPLOYEES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employee\_id | FName | Lname | Birthdate | Gender | Title |

**Dispatchers\_Position**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Disparcher\_id | Dispatcher\_fName | Dispatcher\_lName | Dispatcher\_Birthdate | Dispatcher\_Salary | Employee\_ID |

**Dispatche**

|  |  |  |
| --- | --- | --- |
| Dispatcher\_ID | VEHICLE\_ID | Date |

**Vehicles**

|  |  |  |  |
| --- | --- | --- | --- |
| Vehicle\_id | Vehicle\_BName | Vehicle\_Model\_Name | Vehicle\_Made\_Date |

**Repair**

|  |  |  |
| --- | --- | --- |
| Vehicle\_ID | Technician\_ID | Date |

**Technicians**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Technician\_id | Technician\_FName | Technician\_LName | Technician\_Birthdate | Technician\_Salary |

**Work\_On**

|  |  |  |
| --- | --- | --- |
| Employee\_ID | Dispatcher\_ID | Date |

**Drive**

|  |  |  |
| --- | --- | --- |
| Driver\_ID | Vehicle\_ID | Date |

**Drivers**

|  |  |  |  |
| --- | --- | --- | --- |
| Driver\_id | Driver\_fName | Driver\_lName | Driver\_Birthdate |

**ER Diagram**

F\_NAME

EM\_ID

DISP\_B\_DATE

DISP\_FNAME

DISP\_ID

HIRED\_DATE

B-Date

M

N

Drivers

Employees

DISP\_SALARY

Dispatchers\_  
Position

Work-On

L\_NAME

Title

Gender

DISP\_LNAME

VE\_BRAIN\_NAME

N

DATE\_DRIVED

VE\_ID

N

Dispatche

M

Vehicles

Drive

DATE\_DISPATCHED

VE\_MADE\_DATE

VE\_MODEL\_NAME

DRIVER\_ID

TC\_SALARY

TC\_B\_DATE

TC\_LNAME

TC\_FNAME

TECH\_ID

DATE\_REPAIRED

DR\_B\_DATE

DR\_LNAME

DR\_FNAME

M

N

M

Technicians

Repair