MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Skill Based Mini Project Report

on

Taxi Management System Database Project

Submitted By:

Saurabh Tripathi

0901CS201113

Faculty Mentor:

Ms. Jaimala Jha

Assistant Professor

Submitted to:

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

CERTIFICATE

This is certified that **Saurabh Tripathi** (0901CS201113) has submitted the project report titled Taxi Management System Database Project under the mentorship of Ms. Jaimala Jha, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.

Ms. Jaimala Jha Faculty
Assistant Professor
Computer Science and
Engineering

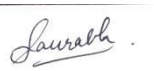
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of Prof. Jaimala Jha, Assistant Professor, Computer Science & Engineering.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



Saurabh Tripathi
0901CS201113
2nd Year,
Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

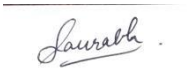
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering, for allowing** me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of **Prof. Jaimala Jha**, Assistant Professor, Computer Science & Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



Saurabh Tripathi
0901CS201113
2nd Year,
Computer Science and Engineering

ABSTRACT

This paper mainly analyses the main components of the system, including the demand situation, the design goal of the system, the data structure, the data flow and the main features of the system.
The growing economy and the information age have arrived. The life of a variety of information tends to be digital and clear. Taxi management system is born in such an environment, the increasingly developed traffic, taxi information is complicated.

The detailed ideas and implementation methods of the system function module are introduced, part of thesource code for a detailed description. So we will play a huge computer storage space, high-performance processing power, highly reliable data security, clear visual data and other advantages to assist the management of the taxi management, to achieve a reasonable use of computerresources, and truly the purpose of reducing the labour force to improve the quality of labour.

TABLE OF CONTENTS

LIST OF FIGURES

Chapter 1: INTRODUCTION

1.1 Introduction :

The detailed ideas and implementation methods of the system function module are introduced, part of thesource code for a detailed description. So we will play a huge computer storage space, high-performance processing power, highly reliable data security, clear visual data and other advantages to assist the management of the taxi management, to achieve a reasonable use of computerresources, and truly the purpose of reducing the labour force to improve the quality of labour.

The taxi industry has a central function in any public transport system, it is often given less prominence by city planners and policymakers compared to other modes of public transport. Measurement of public opinion with reliable statistical methods can provide useful insights to the decision-makers. Safety issues related to the taxi driver, road, and vehicle are major challenges of the taxi industry. In the context of taxi driver's safety, many studies focused on driving behaviour, working conditions, and also risky driver's characteristics and subsequent consequences. Despite many studies conducted in the past to identify various risk factors contributing to taxi crashes, there is a lack of study of safety problems of taxis from the perspective of managers.

1.2 Objectives of the Study :

There is a dearth of research on how managers and transport specialists of taxi organization, who are the decision-makers in the adoption of management strategies and new technologies for improving taxi driver's safety, perceive the taxi driver's safety issues. Past studies on bus and truck safety management have shown that by investigating the current practices used by the transport management or agencies to reduce injuries, appropriate recommendations can be developed to enhance the safety of the driver's, vehicles, and road users. However, there is a lack of study of safety problems of taxis from the perspective of managers. This study will highlight major taxi-related safety problems which are unanimous among managers and experts and also provide practical recommendations to achieve higher safety standards.

Chapter 2: DEVELOPMENT TOOLS

2.1 Hardware Essentials :

- Processor: Minimum 1 GHz; Recommended 2GHz or more.
- Ethernet connection (LAN) OR a wireless adapter (Wi-Fi).
- Hard Drive: Minimum 30 GB; Recommended 60 GB or more.
- Memory (RAM): Minimum 2 GB; Recommended 4 GB or above.

2.2 Software Essentials :

- Web Browser .
- Operating system: Windows or MacOs or Linux.
- Language: SQL Language.
- Database: Access 2000.

2.3 Introduction to Development Tools :

2.3.1 SQL language :

SQL is the abbreviation of Structured Query Language, the earliest developed by IBM in 1970, after the International Organization for Standardization ISO Association adopted as an international standard, which combines data manipulation, definition, control and management functions in one, easy to learn and use.

- Advantages of SQL language:
  Non-procedural language for set manipulation.
  Integration.
  The common language of all relational databases.

2.3.2 ACCESS 2000 Database

Access is Microsoft Corporation began in 1994 published computer database management system. As a powerful MIS system development tool, it has a friendly interface, easy to learn and use, simple development, flexible interface and other characteristics, is a typical new generation of data management and information systems development tools.

Chapter 3: DATABASE

3.1 DataBase :

```
-------------------------------------------------
-- Table Creation
-------------------------------------------------

CREATE TABLE TAXI (
   Taxi_id integer NOT NULL,
   Registration_no VARCHAR(20),
   Taxi_Model VARCHAR(20),
   Taxi_Year DATE,
   Taxi_type VARCHAR(20),
   Status VARCHAR(20),
   Driver_id integer,
   PRIMARY KEY (Taxi_id),
   UNIQUE (Registration_no)
);

CREATE TABLE  USER_TBL (
   Usr_id integer NOT NULL,
   F_name VARCHAR(20),
   L_name VARCHAR(20),
   Contat_no integer,
   Gender VARCHAR(10),
   Address VARCHAR(50),
   Taxi_id integer,
   PRIMARY KEY (Usr_id)
);

CREATE TABLE  DRIVER (
   Driver_id integer NOT NULL,
   F_name VARCHAR(10),
   L_name VARCHAR(20),
   Gender VARCHAR(10),
   Conatct_no VARCHAR(20),
   Rating integer,
   Age integer,
   PRIMARY KEY (Driver_id)
);

CREATE TABLE  TRIP_DETAILS (
   Trip_id integer NOT NULL,
   Trip_date DATE,
   Trip_amt decimal(10,2),
   Driver_id integer,
   Usr_id integer,
   Taxi_id integer,
```

```
  Strt_time TIMESTAMP,
  End_time TIMESTAMP,
  PRIMARY KEY (Trip_id)
);

CREATE TABLE BILL_DETAILS (
  Bill_no integer NOT NULL,
  Bill_date DATE,
  Advance_amt decimal(10,2),
  Discount_amt decimal(10,2),
  Total_amt decimal(10,2),
  Usr_id integer,
  Trip_id  integer,
  PRIMARY KEY (Bill_no),
  UNIQUE (Trip_id)
);

CREATE TABLE  CUSTOMER_SERVICE (
  Emp_id integer NOT NULL,
  F_name VARCHAR(20),
  L_name VARCHAR(20),
  PRIMARY KEY (Emp_id)
);

CREATE TABLE  FEEDBACK (
  Fbk_id integer NOT NULL,
  Message  VARCHAR(140),
  Email VARCHAR(50),
  Emp_id integer,
  Usr_id integer,
  Trip_id integer,
  PRIMARY KEY (Fbk_id),
  UNIQUE (Emp_id)
);

CREATE TABLE  OWNS (
  Owner_id integer NOT NULL,
  No_Cars  integer,
  PRIMARY KEY (Owner_id)
);

CREATE TABLE  OWNER_TAXI (
  Owner_id integer NOT NULL,
  Taxi_id integer,
  PRIMARY KEY (Owner_id, Taxi_id)
);

CREATE TABLE INDIVIDUAL (
  Ssn integer NOT NULL,
  Name VARCHAR(20),
  Owner_id integer,
```

```
  PRIMARY KEY (Ssn)
);

CREATE TABLE  TAXI_SERVICE_COMPANY (
  Tsc_id integer NOT NULL,
  Tsc_name VARCHAR(20),
  Owner_id integer,
  PRIMARY KEY (Tsc_id)
);


-------------------------------------------------
-- Foreign key creation
-------------------------------------------------

ALTER TABLE TAXI ADD CONSTRAINT fketadr FOREIGN KEY (Driver_id) REFERENCES
DRIVER(Driver_id) ON DELETE CASCADE;
ALTER TABLE USER_TBL ADD CONSTRAINT fkusta FOREIGN KEY (Taxi_id) REFERENCES
TAXI(Taxi_id) ON DELETE CASCADE;
ALTER TABLE TRIP_DETAILS ADD CONSTRAINT fktddr FOREIGN KEY (Driver_id)
REFERENCES DRIVER(Driver_id) ON DELETE CASCADE;
ALTER TABLE TRIP_DETAILS ADD CONSTRAINT fktdusr FOREIGN KEY (Usr_id)
REFERENCES USER_TBL(Usr_id) ON DELETE CASCADE;
ALTER TABLE TRIP_DETAILS ADD CONSTRAINT fktdtax FOREIGN KEY (Taxi_id)
REFERENCES TAXI(Taxi_id) ON DELETE CASCADE;
ALTER TABLE BILL_DETAILS ADD CONSTRAINT fkbdtd FOREIGN KEY (Trip_id)
REFERENCES TRIP_DETAILS(Trip_id) ON DELETE CASCADE;
ALTER TABLE BILL_DETAILS ADD CONSTRAINT fkbdusr FOREIGN KEY (Usr_id)
REFERENCES USER_TBL(Usr_id) ON DELETE CASCADE;
ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbemp FOREIGN KEY (Emp_id)
REFERENCES CUSTOMER_SERVICE(Emp_id) ON DELETE CASCADE;
ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbtd FOREIGN KEY (Trip_id)
REFERENCES TRIP_DETAILS(Trip_id) ON DELETE CASCADE;
ALTER TABLE FEEDBACK ADD CONSTRAINT fkfbusr FOREIGN KEY (Usr_id)
REFERENCES USER_TBL(Usr_id) ON DELETE CASCADE;
ALTER TABLE OWNER_TAXI ADD CONSTRAINT fkeowtax FOREIGN KEY (Taxi_id)
REFERENCES TAXI(Taxi_id) ON DELETE CASCADE;
ALTER TABLE OWNER_TAXI ADD CONSTRAINT fkeowowns FOREIGN KEY (Owner_id)
REFERENCES OWNS(Owner_id) ON DELETE CASCADE;
ALTER TABLE INDIVIDUAL ADD CONSTRAINT fkeinowns FOREIGN KEY (Owner_id)
REFERENCES OWNS(Owner_id) ON DELETE CASCADE;
ALTER TABLE TAXI_SERVICE_COMPANY ADD CONSTRAINT fketscowns FOREIGN KEY
(Owner_id) REFERENCES OWNS(Owner_id) ON DELETE CASCADE;


-------------------------------------------------
-- Insert Commands
-------------------------------------------------

INSERT INTO TAXI VALUES(1,'KA-15R-3367','BENZE
300',to_date('01/01/2017','mm/dd/yyyy'),'SUV','Available',1)
```

```
INSERT INTO DRIVER VALUES(1,'Abhi','Gowda','Male','4693805870',5,25);
INSERT INTO USER_TBL VALUES(1,'USER1','LNAME','123456','Male','MCCAllum','1');
INSERT INTO TRIP_DETAILS
VALUES(1,to_date('01/01/2017','mm/dd/yyyy'),123,1,1,1,TO_TIMESTAMP('2017-01-01 06:14:00',
'YYYY-MM-DD HH24:MI:SS'),TO_TIMESTAMP('2017-01-01 08:14:00', 'YYYY-MM-DD
HH24:MI:SS'));
INSERT INTO BILL_DETAILS
VALUES(1,to_date('01/01/2017','mm/dd/yyyy'),1000.10,20.11,null,1,1);
INSERT INTO CUSTOMER_SERVICE VALUES(1,'prashuk','ajmera');
INSERT INTO CUSTOMER_SERVICE VALUES(1,'abhi','gowda');
INSERT INTO FEEDBACK VALUES(1,'good','prashuk.ajmera@gmail.com',1,1,1);
INSERT INTO FEEDBACK VALUES(1,'not so good','abhi@gmail.com',1,1,1);
INSERT INTO OWNS VALUES(1,1);
INSERT INTO OWNS VALUES(2,1);
INSERT INTO OWNER_TAXI (1,1);
INSERT INTO INDIVIDUAL VALUES(123,'abhi owner ind',1);
INSERT INTO TAXI_SERVICE_COMPANY VALUES (1,'abhi taxi comp',2);


-----------------------------------------------------
-- Procedure  Creation 1
-----------------------------------------------------

CREATE OR REPLACE PROCEDURE BOOK_TAXI
( Name IN VARCHAR2
, v_Address IN VARCHAR2
, v_Contact IN VARCHAR2
, Taxi_Model IN VARCHAR2
, v_Gender IN VARCHAR2
, Advance IN decimal
)
AS
BEGIN
DECLARE
v_usr_id INT :=-1;
v_Trip_id INT :=-1;
v_Bill_no INT :=-1;
v_Taxi_id INT :=-1;
v_Driver_id INT :=1;
BEGIN
select MAX(Usr_id)+1 into v_usr_id from USER_TBL ;
select MAX(Trip_id)+1 into v_Trip_id from TRIP_DETAILS ;
select MAX(Bill_no)+1 into v_Bill_no from BILL_DETAILS ;
select taxi_id, Driver_id  into v_Taxi_id,v_Driver_id from TAXI  where Status = 'Available' and
Taxi_Model = Taxi_Model;

INSERT INTO USER_TBL values(v_usr_id, SUBSTR (Name, 1, INSTR(Name,' ',1)),SUBSTR
(Name, INSTR(Name,' ',1)+1,LENGTH(Name)),v_Contact,v_Gender,v_Address,v_Taxi_id);
INSERT INTO TRIP_DETAILS values(v_Trip_id,sysdate,
50,v_Driver_id,v_usr_id,v_Taxi_id,sysdate,null);
INSERT INTO BILL_DETAILS values(v_Bill_no,null,Advance,null,null,v_usr_id,v_Trip_id);
```

```
END ;
END;
/


-----------------------------------------------------
-- Procedure  Creation 2
-----------------------------------------------------

CREATE OR REPLACE PROCEDURE TRIP_END(v_trip IN INT , v_discount IN Decimal )
AS
BEGIN
DECLARE
v_total_time INT := -1;
v_bill_no INT :=-1;
BEGIN
select extract(day from (sysdate - Strt_time))*24 + extract(hour from (sysdate - Strt_time)) into
v_total_time from TRIP_DETAILS where Trip_id = v_trip;

update TRIP_DETAILS set End_time = sysdate where Trip_id = Trip_id ;
update BILL_DETAILS set Bill_date = sysdate , Discount_amt = v_discount ,Total_amt =
(v_total_time * 15) - v_discount where Trip_id = v_trip  ;
END ;
END ;
/


-----------------------------------------------------
-- Trigger  Creation 1
-----------------------------------------------------

CREATE OR REPLACE TRIGGER UPDATE_DRIVER_RATING
AFTER INSERT ON FEEDBACK
FOR EACH ROW
WHEN (NEW.Message like '%Bad Driver%' )
DECLARE
  v_driver_id INT;
BEGIN
  select driver_id into v_driver_id from TRIP_DETAILS where trip_id = :NEW.Trip_id;

  update DRIVER set Rating = Rating -1 where driver_id = v_driver_id;
END;
/

-----------------------------------------------------
-- Trigger  Creation 2
-----------------------------------------------------
CREATE OR REPLACE TRIGGER ADD_NO_OF_CARS
BEFORE INSERT OR UPDATE ON OWNS
FOR EACH ROW
```

```
DECLARE
  v_no_of_cars INT;
BEGIN
  select count(Taxi_id) into v_no_of_cars from OWNER_TAXI where Owner_id = :NEW.Owner_id
group by Owner_id;
  :NEW.No_Cars := v_no_of_cars;
END;
/
```

Chapter 4: RESULT & CONCLUSION

4.1 Conclusion :

Through the design of this system, I learned how to create an application, how to design a software, independent thinking. From the beginning of the design of the system structure, analysis of how to start, how to design, so I mastered how to distribute the development of application software. Its function basically meet the demand, to achieve the management of the site and the line and the driver and vehicle file operation, followed by the vehicle operation must also be carried out, maintenance, illegal, accident and other major aspects of the management function.

The learning made me understand the development environmentof VB, and object-oriented language from the initial understanding, to achieve a simple development and application. Due to the limited time & capacity, in the system there are many deficiencies, the function is not complete, there are still many other shortcomings in the system.

Of course, it is essential to insert, modify, delete and query the above data. In addition, the design can use the above data sheet to achieve the daily balance of payments and operation statistics. Although the Visual Basicstructure is very complex, there are many difficulties to learn, but once mastered its characteristics canbe very good use of its function.

4.2 Future Scope :

- The use of technologies such as GPS to improve the safety of taxis can be very effective. Monitoring and evaluating drivers by intelligent control systems such as GPS can provide a basis for identifying drivers' problems and weaknesses. Based on this information, suitable specific training programs can be targeted to the driver to improve their driving performance.
- It is suggested to cooperate with the police authority to receive crash reports. Also, managers should submit a monthly safety report to evaluate the actions that are implemented.
- Completing the financial management and pricing management module in this system. To be effective on daily based programs.

More research is needed on taxi driver training and policy decisions in the taxi industry. It would be good to develop programs to evaluate taxi drivers' work concerns to foster positive changes. Failureto assess suitable safety strategies by taxi organization managers could lead to a significant waste of resources and continued loss of life and property.

- It is necessary to conduct periodic assessments of drivers' health. These programs can include periodic check-ups, addiction tests, drivers' psychological assessment, and counseling programs to improve their lifestyle and avoid bad habits.

REFERENCES

- https://www.w3schools.com/sql/default.asp
- www.geeksforgeeks.org/sql-tutorial/?ref=ghm
- www.tutorialspoint.com/articulate-storyline-360-tutorials/index.asp
- https://www.w3schools.com/sql/sql_intro.asp
- https://en.wikipedia.org/wiki/Database

APPENDICES

ER Diagram :

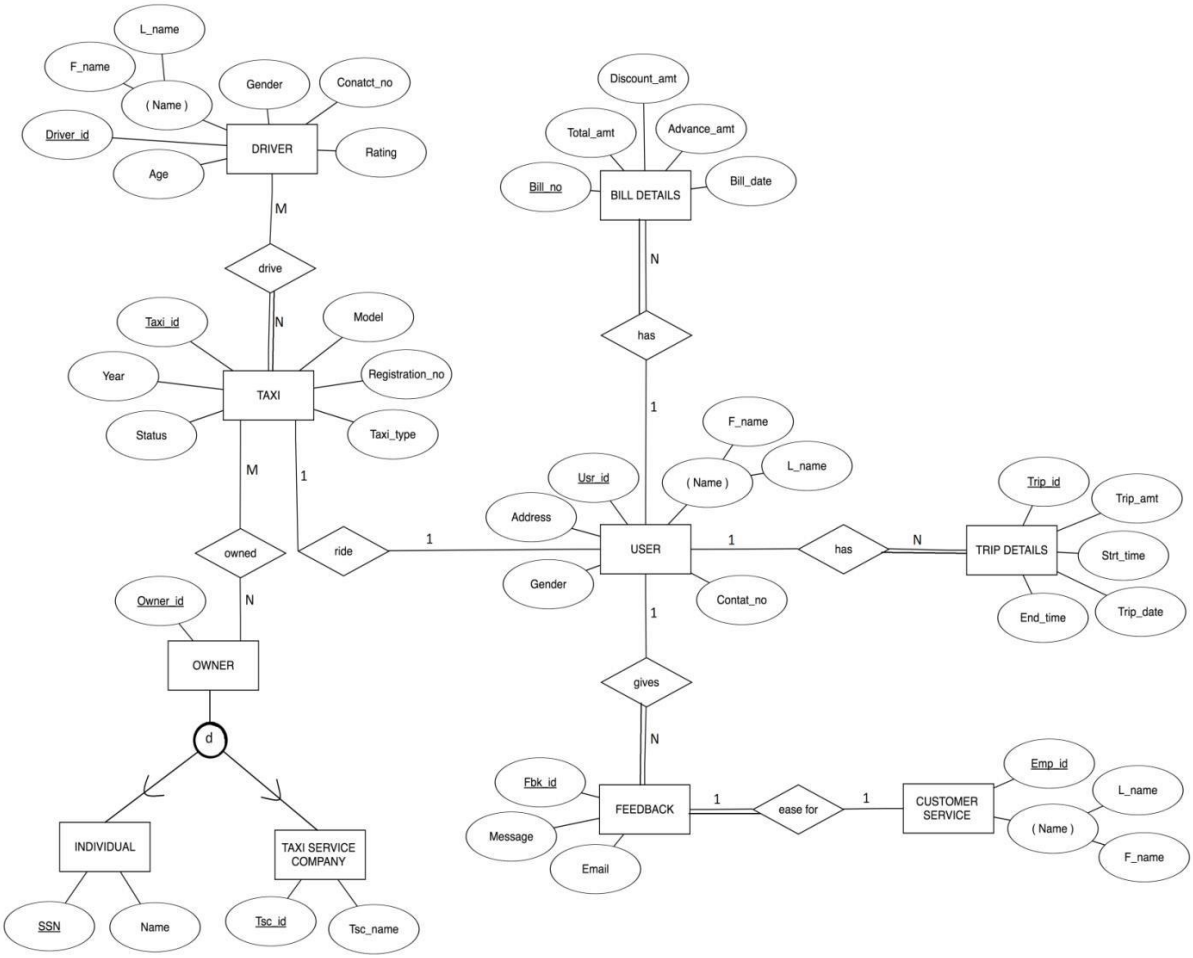


figure. 1