VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI-590018

A PROJECT REPORT
ON
PET SHOP MANAGEMENT SYSTEM
BY

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In the partial fulfillment of the requirement for V Sem. B. E. (CSE)

DBMS LABORATORY WITH MINI PROJECT

Under the guidance of

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2022-23

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CERTIFICATE

This is to certify that the project entitled "**PET SHOP MANAGEMENT SYSTEM"** is submitted in partial fulfillment for the requirement of V sem. B. E. (Computer Science & Engineering), "DBMS LABORATORY WITH MINI PROJECT" during the year 2022 – 23 is a result of bonafide work carried out by

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1. ……..

2. …….

ABSTRACT

Database: Database is a collection of inter-related data which helps in efficient retrieval, insertion and deletion of data from database and organizes the data in the form of tables, views, schema, reports etc. The DBMS software additionally comprises the core facilities to administer the database. The main aim of DBMS is to supply a way to store up and retrieve database information that is both convenient and efficient.

Pet Shop Management System is to provide application-based interface to a pet shop owner to manages pet shop activities. It provides an option for storing and managing the basic information about pets and pet products in the shop and to provide an option for storing and managing the sales details of the shop.

ACKNOWLEDGEMENT

It is with great satisfaction and euphoria that we are submitting the Mini Project Report on "**Pet Shop Management System**" We have completed it as a part of the V semester DBMS Laboratory with Mini Project (18CSL58) of Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi.

We are profoundly indebted to our guides, **Ms. Vanishree B S**, Assistant Professor, Department of Computer Science & Engineering for innumerable acts of timely advice, encouragement and We sincerely express our gratitude.

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CHAPTER 1

1. INTRODUCTION

1.1. INTRODUCTION TO DBMS:

DBMS Stands for "Database Management System." In short, a DBMS is a database program. Technically speaking, it is a software system that uses a standard method of cataloging, retrieving, and running queries on data. The DBMS manages incoming data, organizes it, and provides ways for the data to be modified or extracted by users or other programs.
A DBMS makes it possible for end users to create, read, update and delete data in a database. The DBMS essentially serves as an interface between the database and end users or application programs, ensuring that data is consistently organized and remains easily accessible.

1.2. BACKGROUND OF THE PROJECT:

Pet Shop Management System is used to provide application based interface to a pet shop owner to manage pet shop activities. It is used to provide an option for storing and managing the basic information about the pet and pet products in the shop and to provide an option for storing and managing the sales details of the shop. It also provides an option for storing and managing the basic information about customers as well as to track the information about sold pets to a customer.

1.3. NECESSITY OF PROJECT:

This project provides an efficient and reliable way to manage the pet shop activities. It avoids managing the pet shop activities by avoiding data redundancy and inconsistency.

1.4. APPLICATIONS AND ADVANTAGES:

The development of pet shop management system is a great improvement over the manual system which uses lots of manual work and paper for storing the data. Hence, the computerization of the system speeds up the process.

1.5. IMPLEMENTATION:

The pet shop management system is implemented using homepage module, login module with insert, update, and delete operations. MySQL which holds the database and python for the front-end which displays the provided modules.

1.6. MY SQL:

MYSQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web applications, including Drupal, Joomla, php BB and WordPress.

1.7 JAVA:

Java is a popular programming language, created in 1995.It is owned by Oracle,

It is used for:

- Mobile applications (specially Android apps)
- Desktop applications
- Web applications
- Web servers and application servers
- Games
- Database connection

CHAPTER 2

2. DESIGN:

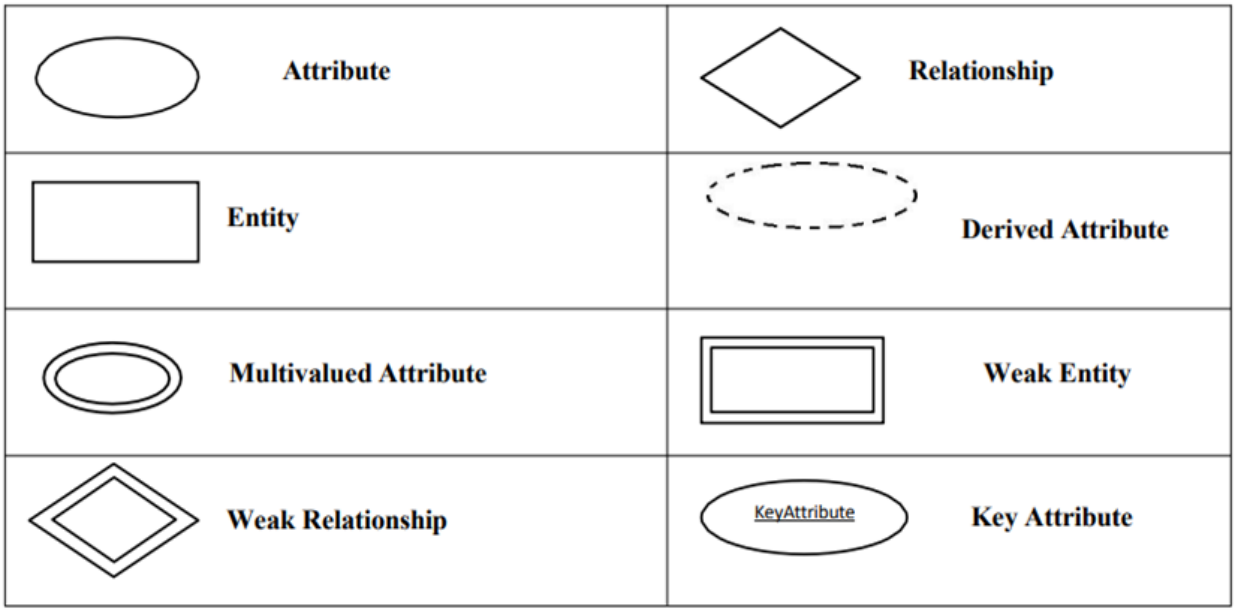


Figure 2.1.1: E-R Notation

2.1.ER-DIAGRAM:

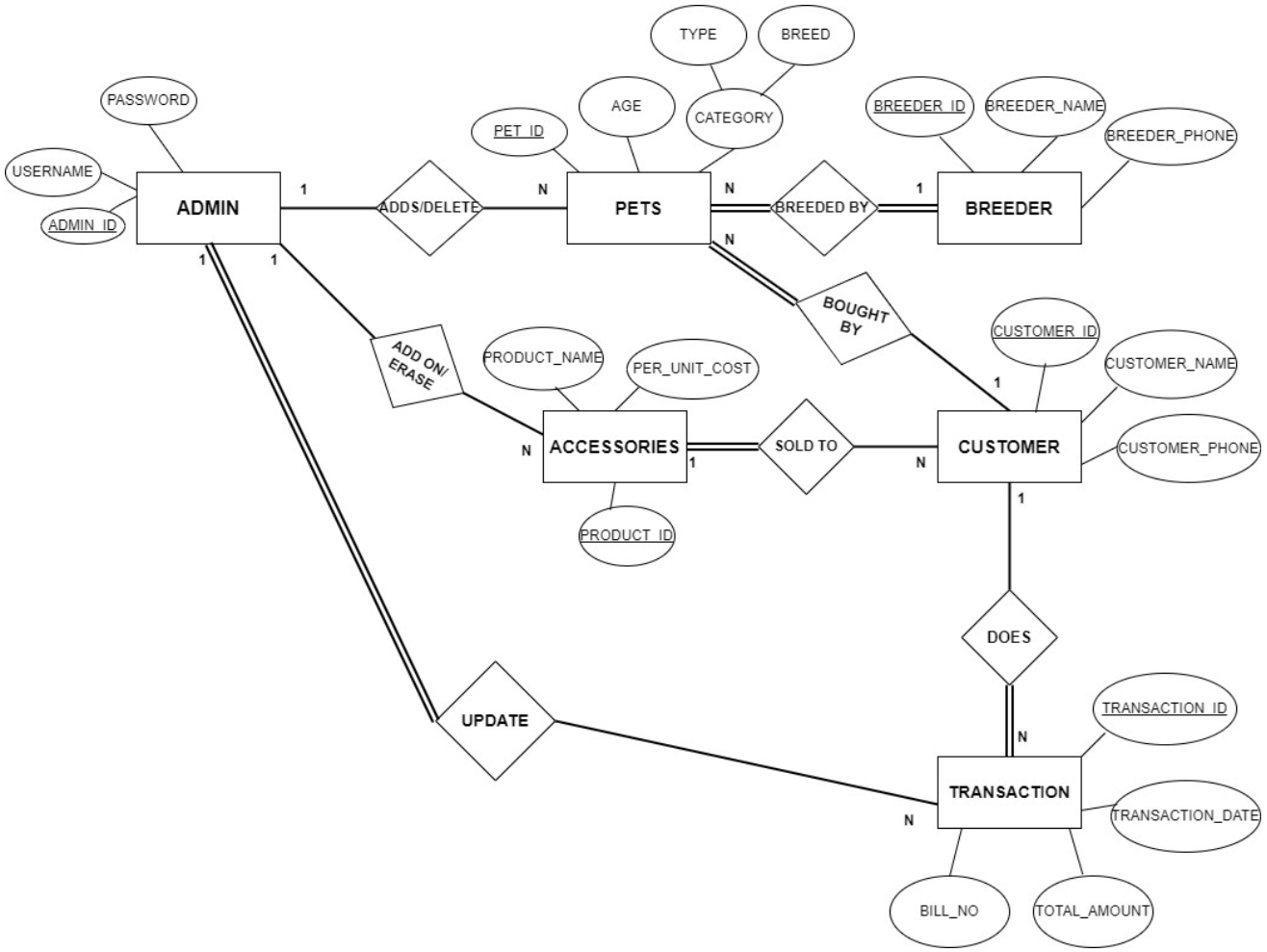


Figure 2.1.2: E-R Diagram

2.2.RELATIONAL SCHEMA:-

2.2.1 Mapping from ER Diagram to Schema Diagram

1. Mapping of regular entities :-This step involves mapping all the regular entity types to tabular format by identifying their primary keys.

2. Mapping of 1:1 Relation :-In this step foreign keys are assigned using foreign key approach. The primary key of the participating relation R or S is added as primary key to second entity types by looking at the participating constraints.

3. Mapping of 1:N Relation:-Foreign key approach is used to add one sided primary key to the n sided entity at foreign key.

4. Mapping of M:N Relation :-Here we use the cross reference approach where the relationship is converted to a new relation within attributes on primary keys of both participating relation.

5. Mapping of Weak Entity :-When mapping weak entity types along with other attributes the partial key and primary key of parent entity together will form their primary key of the new relation.

6. Mapping of N-ary Relation:-For mapping N array relationship we create a new relation with a relationship name in its attribute and primary keys of all participating entity types.

7. Mapping of Multivalued Relation :-For multivalued attributes a separate relation has to be created along with primary key of parent relation. A relational schema for a database is an outline of how data is organized.

STEP 1: Mapping of Regular Entity Types

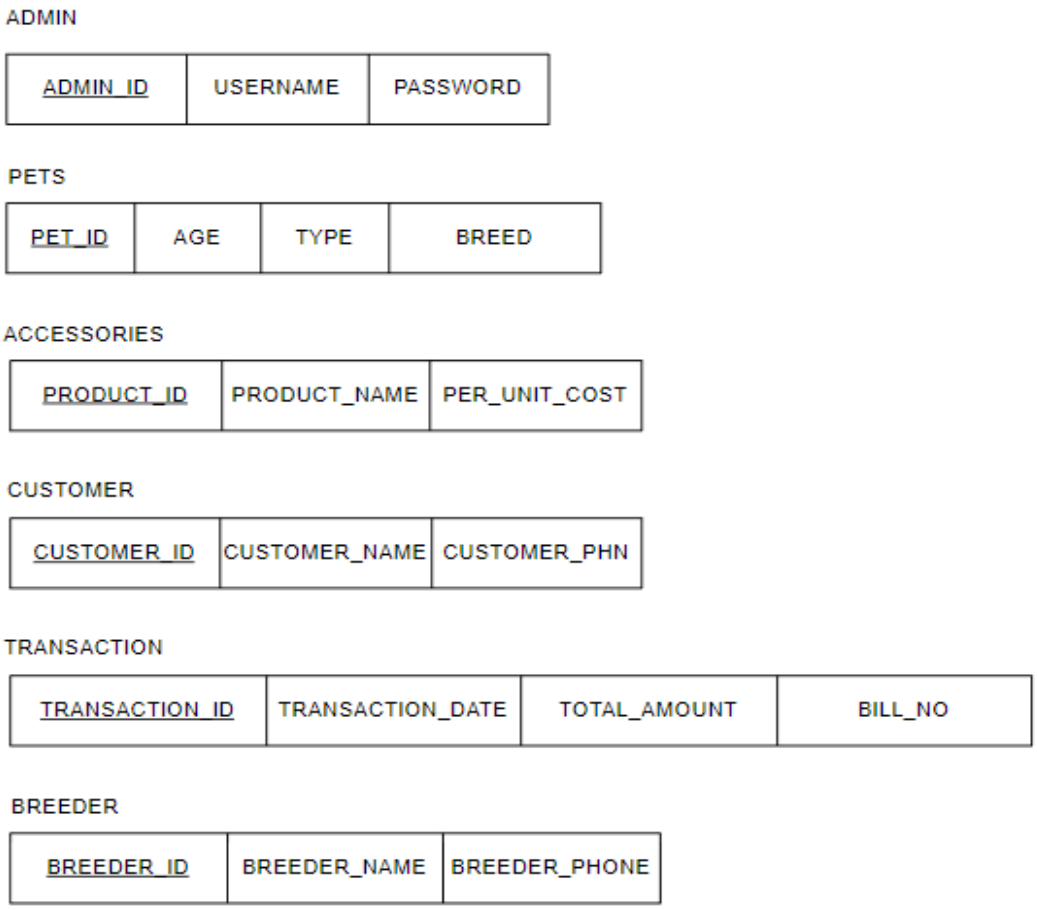


Figure 2.2.1: Mapping of Regular Entity Type

STEP 2: Mapping of Weak Entity Types

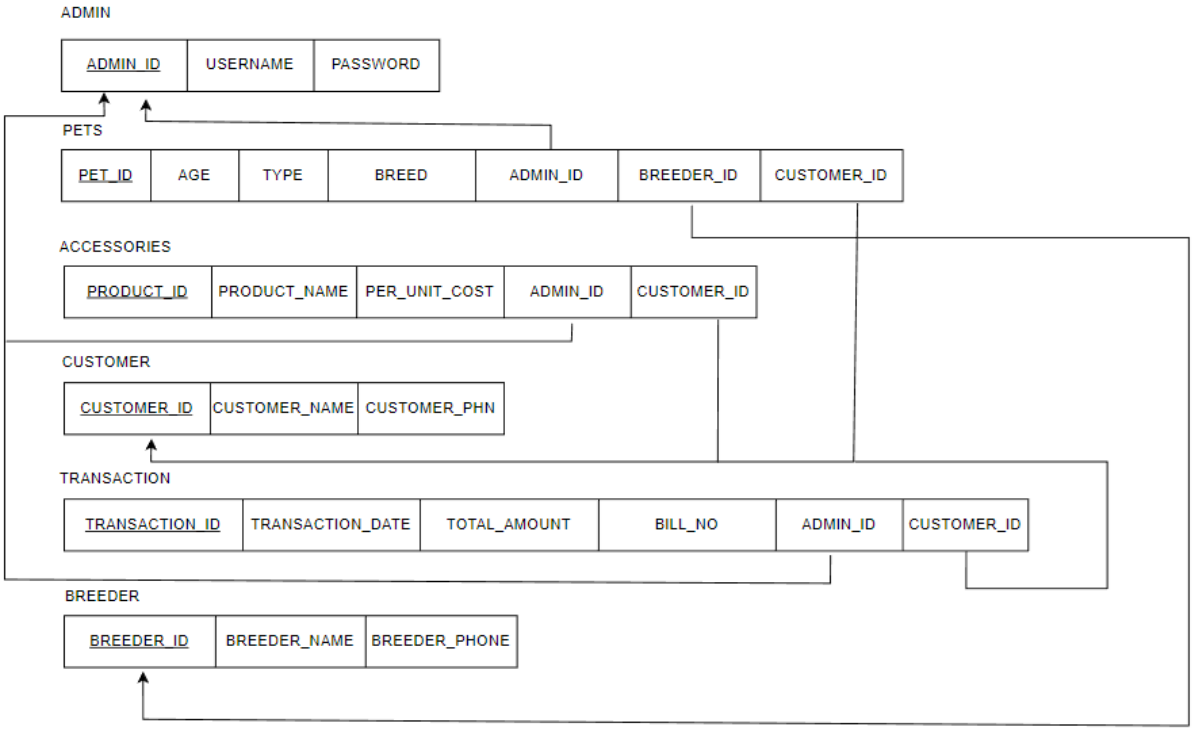
The ERD of our project does not contain weak entity types.

STEP 3: Mapping of Binary 1:1 Relation Types

The ERD of our project does not contain any 1:1 relation type

STEP 4: Mapping of 1:N Relation Types

Figure 2.2.1: Mapping of 1:N Relation Type



STEP 5: Mapping of M:N Relation Types

The ERD of our project does not contain any m:n relation type

STEP 6: Mapping of Multivalued Attributes

The ERD of our project does not contain any multivalued attributes.

STEP 7: Mapping of N-ary Relation Types

The ERD of our project does not include any N-ary relationship type.

2.3 Schema Diagram

The schema diagram of Pet Shop Management System is shown below

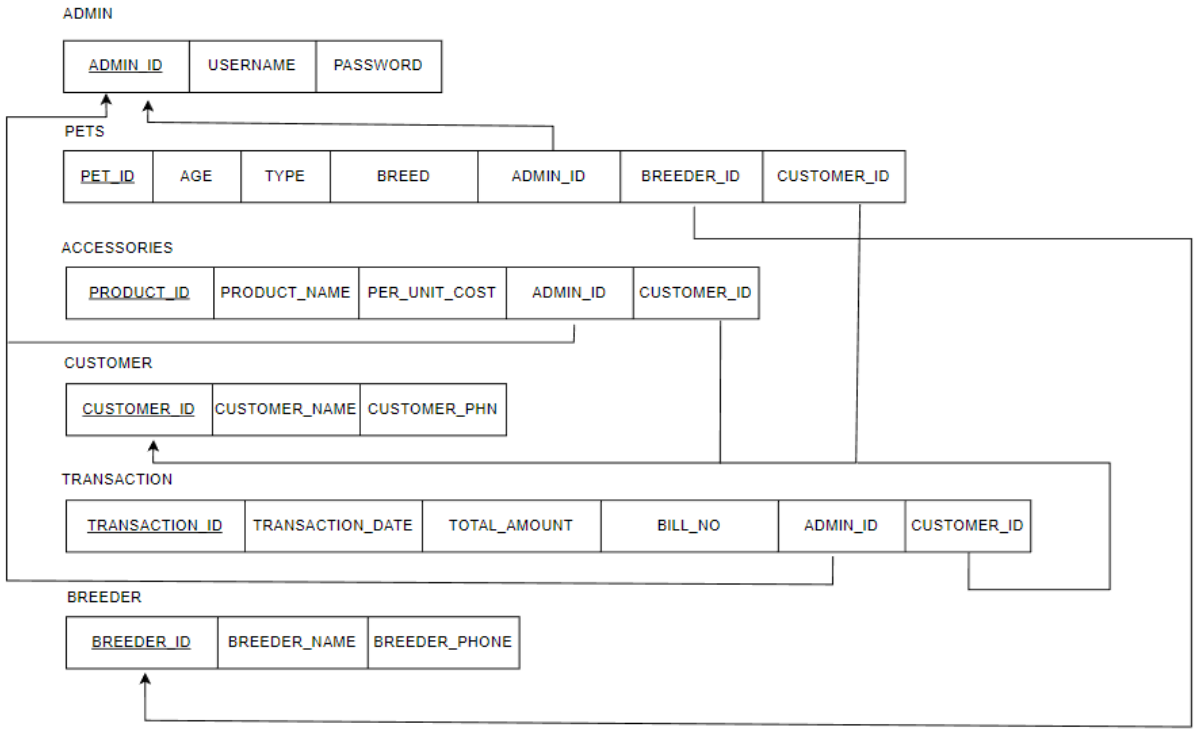
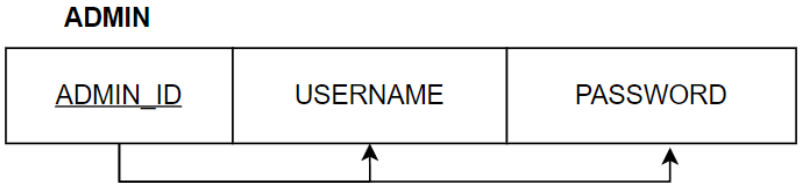


Figure 2.3.1: Schema Diagram

CHAPTER 3

3. NORMALIZATION:

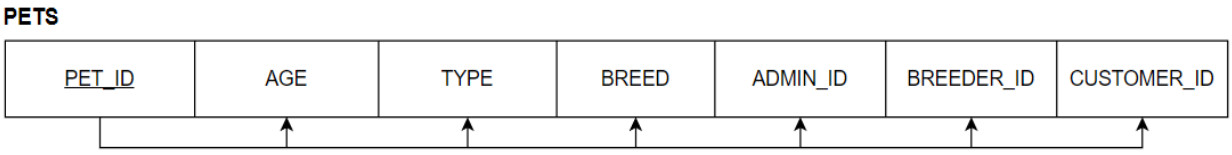


FD1: ADMIN_ID -> {USERNAME,PASSWORD}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.

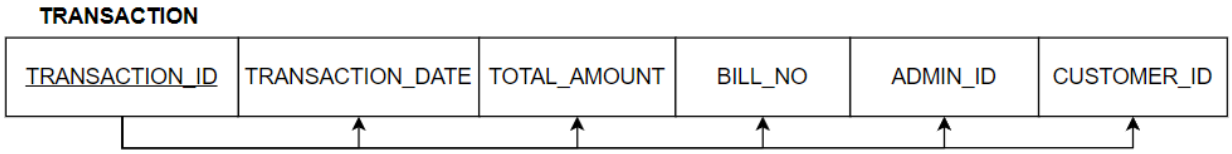


FD2: PET_ID -> {AGE,TYPE,BREED,ADMIN_ID,BREEDER_ID,CUSTOMER_ID}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.

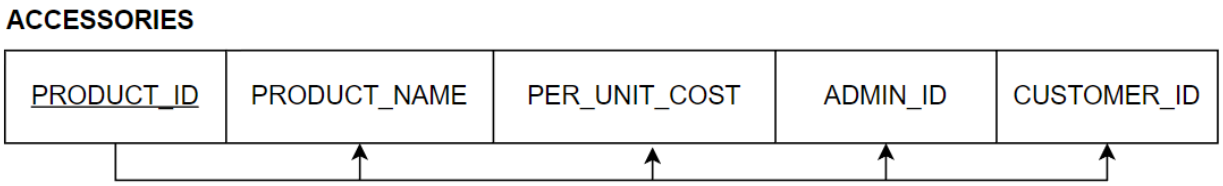


FD3: TRANSACTION_ID -> {TRANSACTION_DATE, TOTAL_AMOUNT, BILL_NO,ADMIN_ID,CUSTOMER_ID}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.

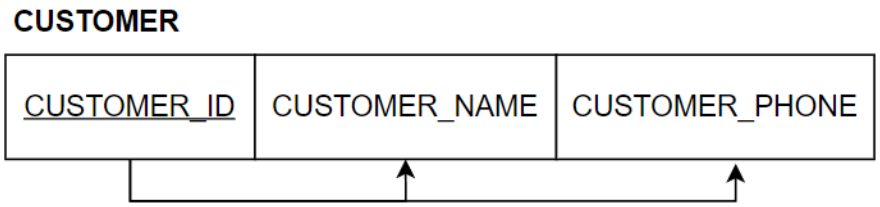


FD4:PRODUCT_ID->{PRODUCT_NAME, PER_UNIT_COST,ADMIN_ID,CUSTOMER_ID}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.

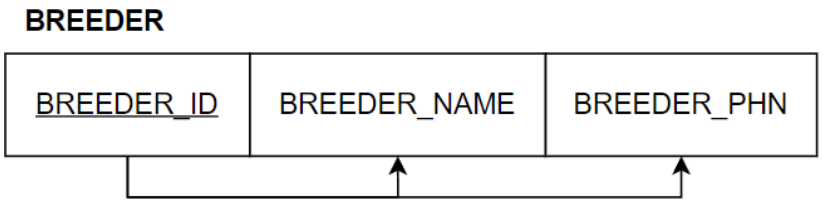


FD5:CUSTOMER_ID->{CUSTOMER_NAME, CUSTOMER_PHONE}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.



FD6:BREEDER_ID->{BREEDER_NAME, BREEDER_PHN}

1NF: It is1NF because there is no multivalued attributes in the relational schema.

2NF: The relations are in 2NF since no non-key attributes are functionally dependent on part of primary key.

3NF: The relations are in 3NF since no non-key attributes are functionally determined by another non-key attribute. The relation is in 1st, 2nd and 3rd Normal Form.

CHAPTER 4

4. IMPLEMENTATION

4.1. TABLE STRUCTURES :

4.1.1. ADMIN

CREATE TABLE admin(a_id varchar(20) PRIMARY KEY,

username varchar(20),

password varchar(20));

Field	Type	Null	Key	Default	Extra
a_id	varchar(20)	NO	PRI	NULL	
username	varchar(20)	YES		NULL	
password	varchar(20)	YES		NULL	

4.1.2. BREEDER

CREATE TABLE breeder(breeder_id varchar(20) PRIMARY KEY,

breeder_name varchar(20),

breeder_phone varchar(20),

a_id varchar(20),

FOREIGN KEY(a_id) references admin(a_id));

Field	Type	Null	Key	Default	Extra
breeder_id	varchar(20)	NO	PRI	NULL	
breeder_name	varchar(20)	YES		NULL	
breeder_phone	varchar(20)	YES		NULL	
a_id	varchar(20)	YES	MUL	NULL	

4.1.3. CUSTOMER

CREATE TABLE customer(customer_id PRIMARY KEY,

cust_name varchar(20),

cust_phone varchar(20),

a_id varchar(20),

FOREIGN KEY(a_id) references admin(a_id));

Field	Type	Null	Key	Default	Extra
customer_id	varchar(20)	NO	PRI	NULL	
cust_name	varchar(20)	YES		NULL	
cust_phone	varchar(20)	YES		NULL	
a_id	varchar(20)	YES	MUL	NULL	

4.1.4. ACCESSORIES

CREATE TABLE accessories(product_id PRIMARY KEY,

product_name varchar(20),

per_unit_cost varchar(20),

a_id varchar(20),

cust_id varchar(20),

FOREIGN KEY(a_id) references admin(a_id),

FOREIGN KEY(cust_id) references customer(cust_id));

Field	Type	Null	Key	Default	Extra
product_id	varchar(20)	NO	PRI	NULL	
product_name	varchar(20)	YES		NULL	
per_unit_cost	varchar(20)	YES		NULL	
a_id	varchar(20)	YES	MUL	NULL	
cust_id	varchar(20)	YES	MUL	NULL	

4.1.5.PET

CREATE TABLE PET(p_id PRIMARY KEY,

age varchar(20),

type varchar(20),

breed varchar(20),

a_id varchar(20),

breeder_id varchar(20),

cust_id varchar(20),

FOREIGN KEY(a_id) references admin(a_id),

FOREIGN KEY(cust_id) references customer(cust_id)

FOREIGN KEY(breeder_id) references breeder(breeder_id));

Field	Type	Null	Key	Default	Extra
p_id	varchar(20)	NO	PRI	NULL	
age	varchar(10)	YES		NULL	
type	varchar(20)	YES		NULL	
breed	varchar(20)	YES		NULL	
a_id	varchar(20)	YES	MUL	NULL	
breeder_id	varchar(20)	YES	MUL	NULL	
cust_id	varchar(20)	YES	MUL	NULL	

4.1.6.TRANSACTION

CREATE TABLE transaction(t_id PRIMARY KEY,

t_date varchar(20),

total_amt varchar(20),

bill_no varchar(20),

a_id varchar(20),

cust_id varchar(20),

FOREIGN KEY(a_id) references admin(a_id),

FOREIGN KEY(cust_id) references customer(cust_id));

4.2.

Field	Type	Null	Key	Default	Extra
t_id	varchar(20)	NO	PRI	NULL	
t_date	varchar(20)	YES		NULL	
bill_no	varchar(20)	YES		NULL	
total_amt	varchar(20)	YES		NULL	
cust_id	varchar(20)	YES	MUL	NULL	
a_id	varchar(20)	YES	MUL	NULL	

JDBC DRIVER IS USED TO CONNECT TO MYSQL

```
package petshop;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import javax.swing.JOptionPane;
public class Connector {

    public static void main(String[] args) {
        ConnectDb();
    }

    public static Connection ConnectDb() {
        Connection connection = null;
        try {

            Class.forName( className: "com.mysql.cj.jdbc.Driver");
            connection = DriverManager.getConnection( url: "jdbc:mysql://localhost:3306/pet",  user: "root",  password: "8856");

            return connection;
        } catch (ClassNotFoundException | SQLException ex) {
            JOptionPane.showMessageDialog( parentComponent: null,  message: ex);
        }
        return connection;
    }
}
```

4.3. INSERT AND DELETE OPERATIONS

INSERT:

String sql = "insert into breeder(breeder_id,breeder_name,breeder_phone,a_id)

values(?,?,?,?)";

JOptionPane.showMessageDialog(null, "Successfully added");

DELETE:

```
String sql = "delete from breeder where breeder_id = “ + uid+””;
try {
        ps = connection.prepareStatement(sql);
        ps.execute();

        JOptionPane.showMessageDialog(null, "breeder id " + uid + " has been deleted");
        defaultTableModel.getDataVector().removeAllElements();
        defaultTableModel.fireTableDataChanged();
      loadData();
       }
      catch (SQLException e) {
        JOptionPane.showMessageDialog(null, "breeder not found "+e);
     }
  }
```

4.4.TRIGGERS

4.4.1. TRIGGERS IMPLEMENTATION

1. delimeter $$

create trigger cust_phone before INSERT ON customer for each row begin if length(new.cust_phone)!=10 then signal SQLSTATE '45000' set MESSAGE_TEXT = 'Invalid phone number'; end if; end;$$

2. delimeter $$

create trigger breeder_phone before INSERT ON breeder for each row begin if length(new.breeder_phone)!=10 then signal SQLSTATE '45000' set MESSAGE_TEXT = ‘Invalid phone number’; end if; end;$$

CHAPTER 5

5. RESULTS

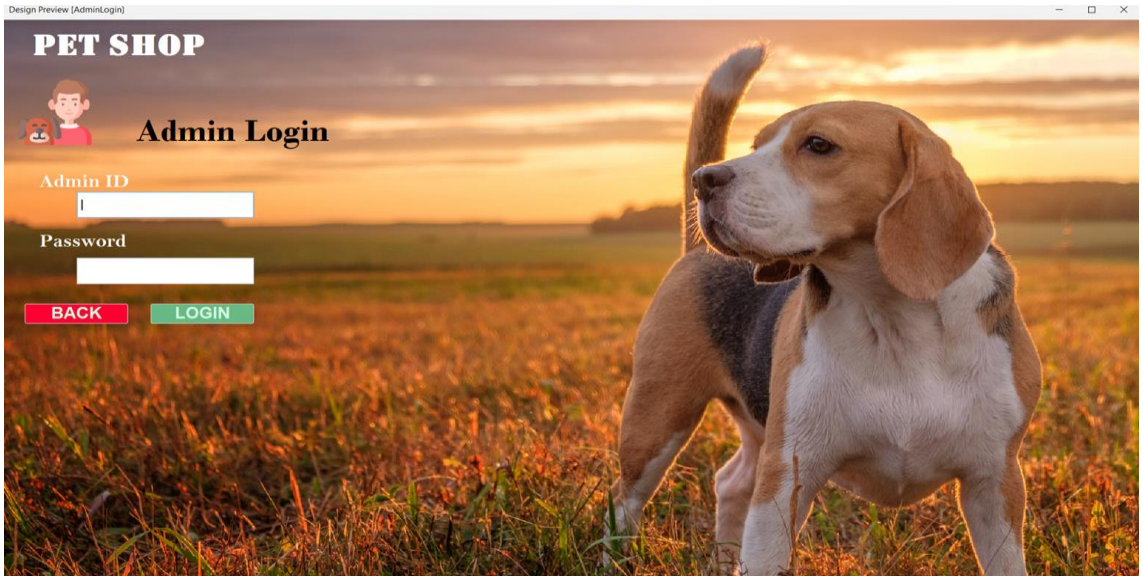


Figure 6.1:Login Page

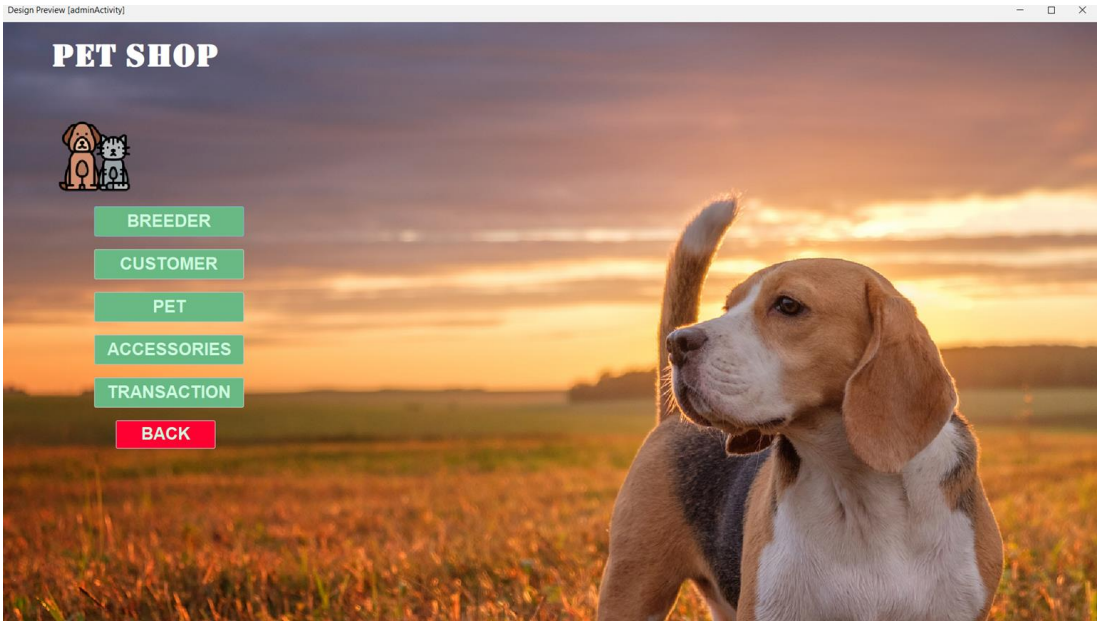


Figure 6.2:Admin Activity

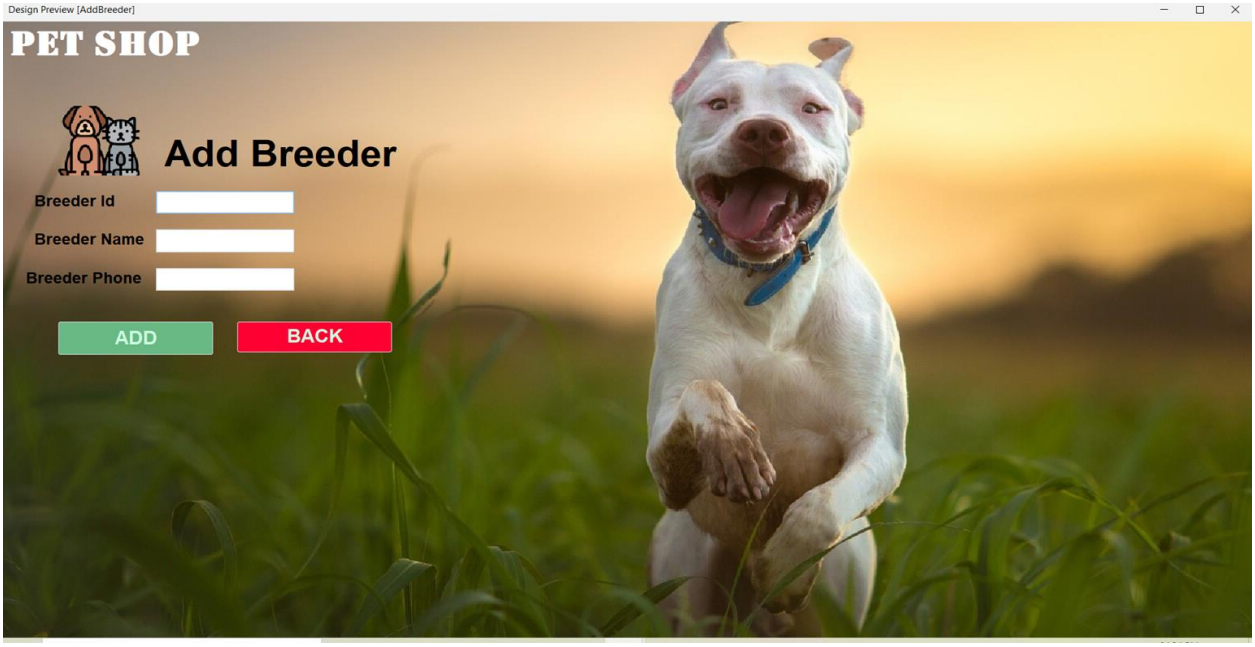


Figure 6.3:Add Breeder

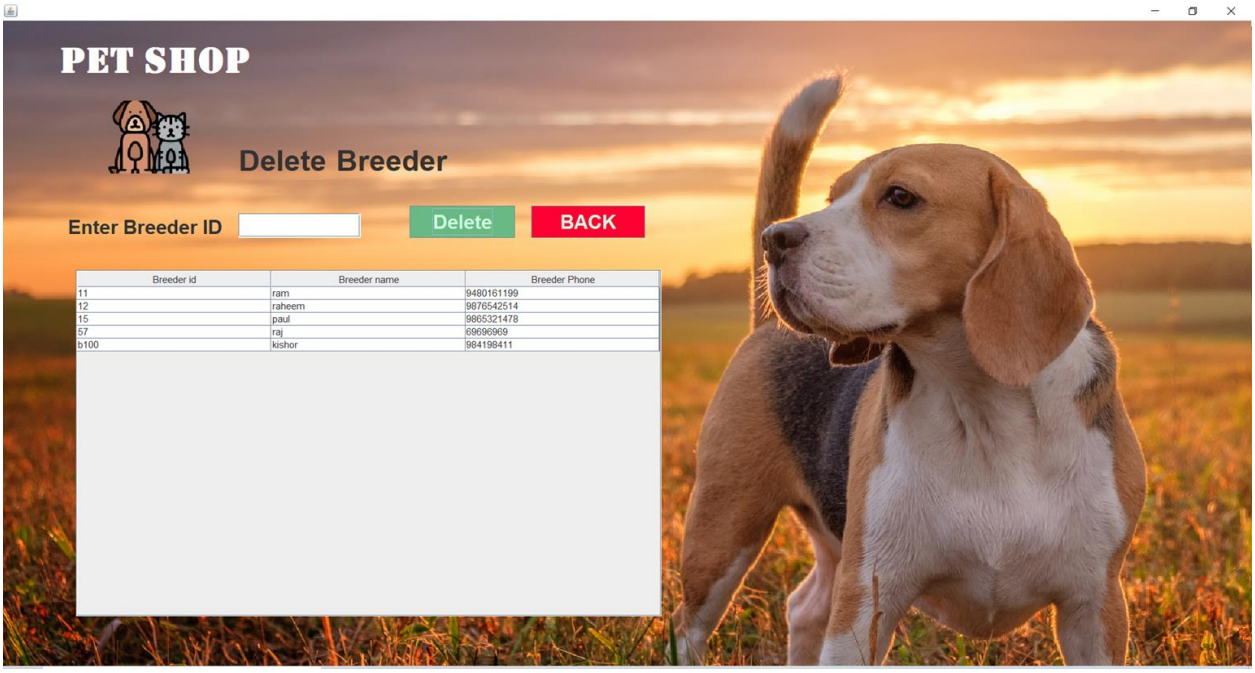


Figure 6.4:Delete Breeder

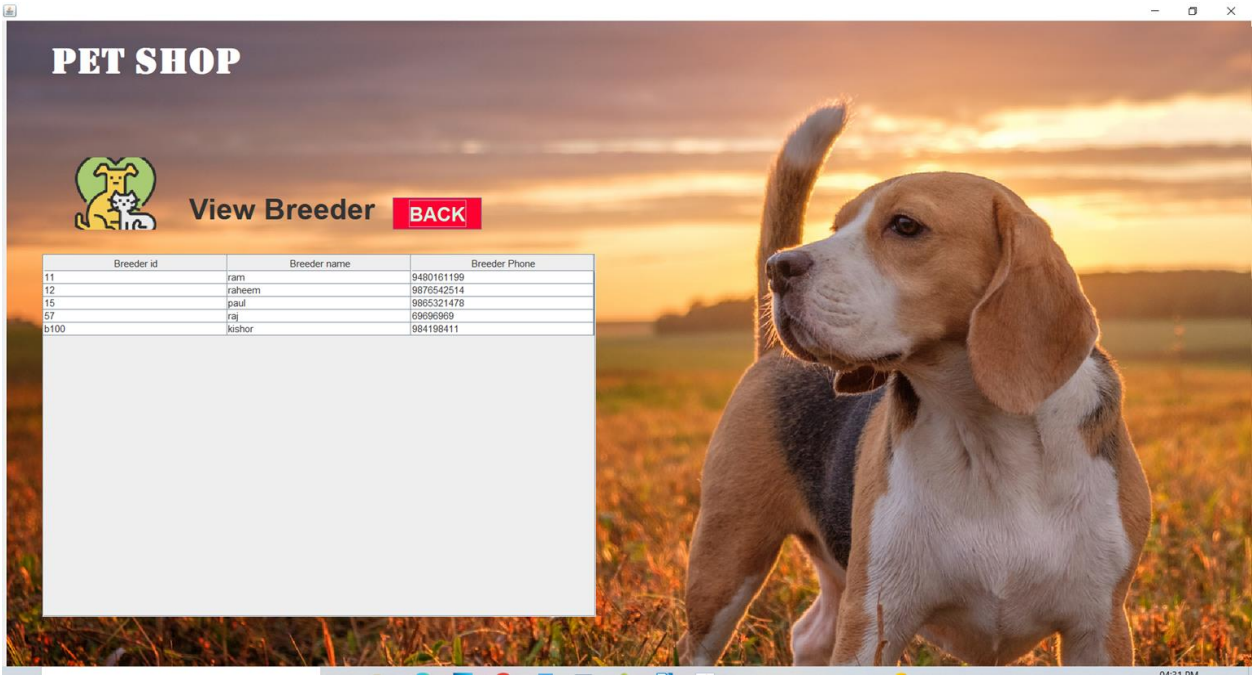


Figure 6.5: View Breeder

CONCLUSION

Simplicity is never simple. As we have seen in this project, the process of creating application based interface to a pet shop owner to manages pet shop activities is one filled with complexity. From understanding user requirements to system design and finally system prototype and finalization, every step requires in-depth understanding and commitment towards achieving the objectives of the project. Although the file structural module is not fully integrated to the system and used in real time, the system prototype demonstrates easy navigation and data is stored in a systematic way. Overall, efficiency has improved and work processes simplified. Although all the objectives have been met, the system still has room for improvement. The system is robust and flexible enough for future upgrade using advanced technology and devices.

REFERENCES

[1]. MYSQL: https://en.wikipedia.org/wiki/MySQL

[2]. YOUTUBE: https://youtu.be/L3YXhH8qNqw