VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Machhe, Belagavi, Karnataka 590018

DBMS LABORATORY WITH MINI-PROJECT REPORT

On

E-COMMERCE WEBSITE MANAGEMENT SYSTEM

Submitted in partial fulfillment of the requirement
for the award of the degree of

Bachelor of Engineering
in
Information Science & Engineering
by

AMITH J (1BG19IS005)
MOHAMMED ZAID M S (1BG19IS024)
YOGESHWAR H K (1BG19IS062)

Vidyayāmruthamashnuthe

B.N.M. Institute of Technology

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B.N.M. Institute of Technology

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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Vidyayāmruthamashnuthe

CERTIFICATE

Certified that the Mini-project entitled **Ecommerce Website Management System** is carried out by **Mr. AMITH J** USN: **1BG19IS005, Mr. MOHAMMED ZAID M S** USN: **1BG19IS024, Mr. YOGESHWAR H K** USN: **1BG19IS062** the bonafide students of **B.N.M Institute of Technology** in partial fulfillment for the award of **Bachelor of Engineering** in **Information Science & Engineering** of the **Visvesvaraya Technological University**, Belagavi during the year 2021-2022. It is certified that all corrections / suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The mini-project report has been approved as it satisfies the academic requirements in respect of mini-project prescribed for the said Degree.

Mr. Vijay Kumar S
Asst. Professor,
Dept. of ISE
BNMIT

Dr. Shashikala
Prof & Head,
Dept. of ISE
BNMIT

Name & Signature of the Examiners with date:

1.

2.

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CHAPTER 1

INTRODUCTION

Online shopping is the activity or action of buying products or services over the Internet. The buyer either pays online for the desired good or service with a credit or debit card or with cash, upon delivery. Consumers find a product of interest by visiting the website directly using a shopping search engine, which displays its availability and pricing. In an online shopping environment, interactive decision may have an influence on the customers decision making.

Today, most stores provide online shopping facilities where the customers are allowed to purchase on the web. Most retailers have a search facility. This means that the customers can write the name of the item they seek to determine whether the portal has it and can scroll through the items offered. Once a product has been they can be added to a virtual shopping cart. A "checkout" process follows in which payment and delivery information is collected. Some stores allow consumers to sign up for a permanent online account so that this information only needs to be entered once. The consumer often receives an e-mail confirmation once the transaction is complete.

E-Commerce database: This Ecommerce Web Application project provides an overview about the aim, objectives, background and operation environment of the e-commerce which is an online shopping portal. It is a software that is built from both administrator and customers' point of view. Here the administrator is given the privileges to manage and maintain the stock of the products. The administrator can also view a summary of the products' and the users' information. The objective of this Ecommerce web application is to record the various activities of the administrator and the customer. It helps to simplify the procedures and reduce paperwork.

The products are also classified based on categories which make it easier for the administrators to add/remove new products. It also helps customers find the required product easily.

1.1 Requirements Analysis

The following are the user requirements:

1. The user must have access to a computer and the internet.
2. The user must give login credentials.
3. If not registered, the user can sign up to create an account.

In the given E-Commerce Web Application:

1. The administrator can view and print data such as the products and users information.
2. All Admins are assigned an account through which they can modify the stock such as add/remove products.
3. Each product is classified broadly into categories. This narrows the search, each customer must make in order to obtain the required product. The customers can register and subsequently login to view the different products
4. available under each category.
5. At the end of each transaction, an acknowledgement is displayed on the screen thus making it easier for the customer to verify the purchase.

CHAPTER 2

DESIGN

Once all the requirements have been collected and analyzed, the next step is to create a conceptual schema, using a high-level conceptual data model. This phase is called the conceptual design.

Conceptual Design is an early phase of the design process, in which the broad outlines of function and form of something are articulated. Conceptual design includes the design of interactions, experiences, processes and strategies. It serves to provide a description of the proposed product, in terms of a set of integrated ideas and concepts about what it should do, behave and look like in a way that is understandable for users.

This Ecommerce Website allows users to discover wide range of products. Database design is carried out using MYSQL database as it allows more advanced Common artefacts of queries to be executed. conceptual design are phase concept sketches and models. The result of this is an Entity-Relationship (ER) Diagram. Designing, often necessitates functional, economic and considering the socio-political dimensions of both the design object and process. Thus design the design may be a substantive referring to a created thing or a verb for categorical abstraction of a the process of creation.

Entity-Relationship Diagram

An entity-relationship model (ER model) describes inter-related things of interest in a specific domain of knowledge. An ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between instances of those entity types. An ERD for this Ecommerce Web Application that shows the relationships of entity sets stored in a database is as shown in the figure 2.1. An entity in this context, is an object, a component of data. An entity set is a collection of similar entities. These entities can have attributes that define its properties.

ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research.ER Diagrams are related to data structure diagrams (DSDs), which focus on the relationships of elements within the entities instead of relationships between entities themselves.

An ER diagram consists of the following features:

Entities

Relations

Attributes

Cardinality

Ratios

ER Diagram for this project consists of 8 regular entities.

1. ADMIN
2. CART
3. CLIENT
4. COMPANY
5. ORDERTABLE
6. PAYMENT
7. REGISTER
8. PRODUCT

Description of Entities

1. ADMIN: Admin table is used to hold the necessary information of the administrators.
2. CATEGORY: Category table contains different categories of products in stock
3. PRODUCT: Product table holds the information about the products in stock.
4. BRAND: Brands table holds the information about the brands of products
5. USER: User table is used to hold the information about the customers.
6. CART: Cart table for information of their cart.
7. ORDER: Orders table holds the history of orders of the customers.
8. PAYMENT: Payment table gives information about the transactions made by customers.

Their Attributes are:

ADMIN (id, name, email, password)

CATEGORIES (cat_id, cat_title)

PRODUCT (product_id, product_name, product_cat, product_brand, product_price)

BRAND (brand_id, brand_title)

USER (user_id, f_name, l_name, email, password, address, mobile)

CART (id, user_id, product_id, qty)

ORDERS (order_id, user_id, product_id, qty, status)

PAYMENT (payment_id, user_id, payment_date, status)

The relations between various entities are

MANAGES

This is a fully participating binary relationship between ADMIN and PRODUCT table. All the Admins can add any number of products to the website. The cardinality ratio is M:N.

VIEWS

This is a fully participating binary relationship between USER and PRODUCT table. All the customers can view any number of products. The cardinality ratio is M:N.

HAS

This is a fully binary relationship between PRODUCT and CATEGORIES table as well as PRODUCT and BRANDS table. Any number of products can belong to one category and a product may be of many brands.

The cardinality ratio is M:N and 1:N respectively..

MAKES

This is a fully binary relationship between USER and ORDER table. One user can place many orders. The cardinality ratio is 1:N.

ADDS_IN

This is a fully binary relationship between USER and CART table. One user can add products to only one cart. The cardinality ratio is 1:1.

2.1 E-R Diagram

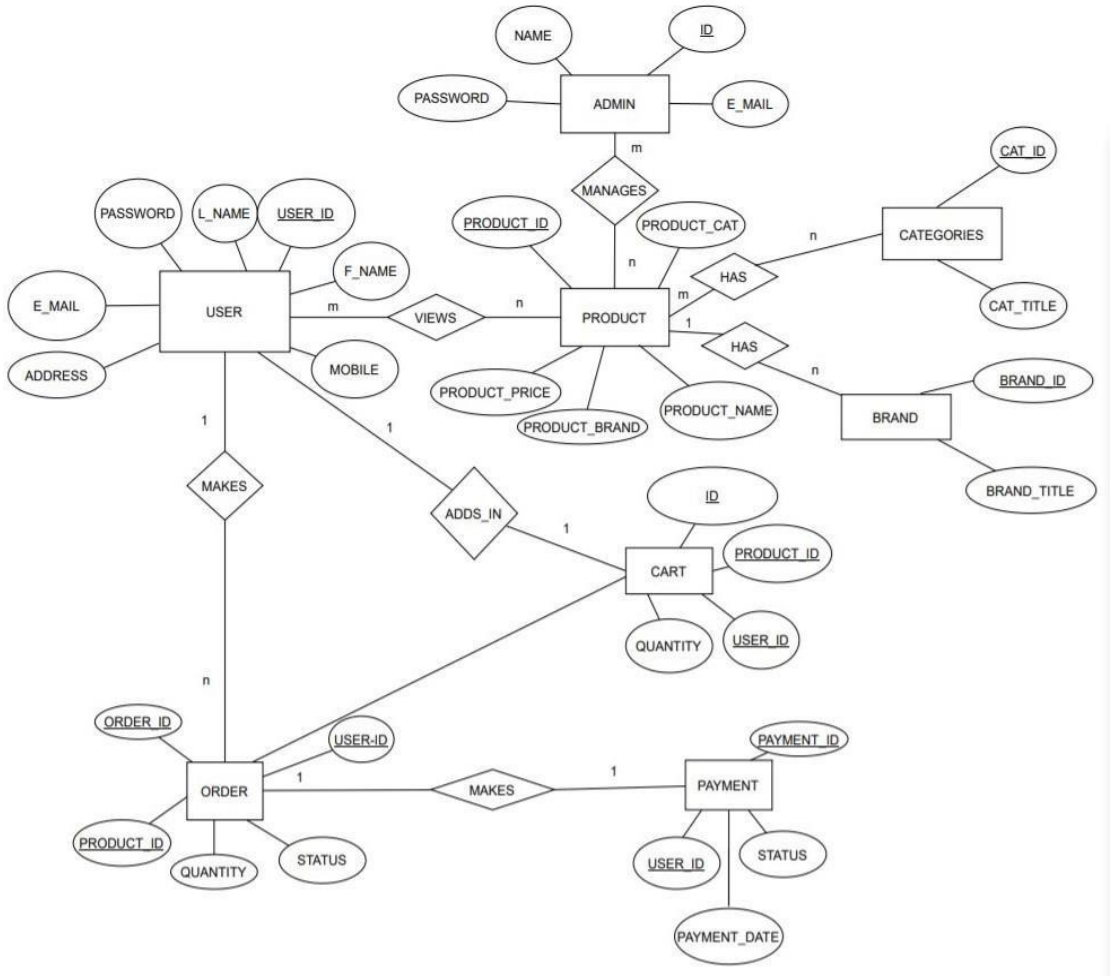


Fig 2.1: E-R Diagram for Ecommerce Web Application

Fig 2.1 represents the Entity-Relationship for the Ecommerce Web Application.

2.2 ER to Relational Mapping

ER-to-Relational Mapping Algorithm

Step 1: Mapping of Regular Entity Types

Step 2: Mapping of Weak Entity Types

Step 3: Mapping of Binary 1:1 Relation Types

Step 4: Mapping of Binary 1:N Relation Types

Step 5: Mapping of Binary M:N Relation Types

Step 6: Mapping of Multi-valued attributes

Step 7: Mapping of N-ary Relationship Types

Step 1:

Mapping of Regular Entity Types

1.1 : For each regular (strong) entity type E in the ER schema, create a relation R that includes all the simple attributes of E.

1.2 : Choose one of the key attributes of E as the primary key for R.

1.3 : If the chosen key of E is composite, the set of simple attributes that form it will together form the primary key of R.

Step 2:

Mapping of Weak Entity Types

2.1 : For each weak entity type W in the ER schema with owner entity type E, create a relation R and include all simple attributes (or simple components of composite attribute) of W as attributes of R.

2.2 : Also, include a foreign key attributes of R the primary key attribute(s) of the relation(s) that corresponds to the owner entity type(s).

2.3 : The primary key of R is a combination of the primary key(s) of the ownerts) and the partial key of weak entity type W, if any.

Step 3:

Mapping of Binary 1:1 relation type

For each binary 1:1 relation type R in the ER schema, identify the relations S and Tthat corresponds to the entity types participating in R.

There are 3 possible approaches:

3.1 : Foreign key approach: Chose one of the relations-say S-and include a foreign key in S the primary key of T. It is better to choose any entity type with total participation in R in the role of S.

3.2 : Merge relation option: An alternate mapping of a 1:1 relationship type is possible by merging the two entity types and relationships into a single relation. This may be appropriate when both participations are total.

3.3 : Cross-reference or relationship relation option: The third alternative is to set up a third relation R for the purpose of cross-referencing the primary keys of the two relations S and T representing the entity type.

Step 4:

Mapping of Binary 1: N relationship types

4.1 : For each regular binary 1: N relationship type R, identify the relation S that represent the participating entity type at the N-side of the relationship type.

4.2 Include as foreign key in the primary side of relation that represents the other entity type participating in R.

4.3 Include any simple attributes of the 1:N relationship types as attributes of S.

Step 5:

Mapping of binary M:N relationship types

5.1 For each regular binary M: N relationship type R, create a new relation S to represent R.

5.2 Include as foreign key attributes in S the primary keys of the relations that represent the participating entity types; their combinations will form the primary keys of S.

5.3 Also include any simple attributes of the M: N relationship types (or simple component of composite attribute) as attributes of S.

Step 6:

Mapping of Multivalued attributes

6.1 For each multivalued attributes A create a new relation R.

6.2 This relation R will include an attribute corresponding to A, plus the primary key attribute K-as the foreign key in R-of the relation a that represent the entity type of relationship type that has A as an attribute.

6.3 The primary key of R is the combination of A and K. If the multivalued attribute is composite, we include its simple components.

Step 7:

Mapping of N-ary relationship types,

7.1 For each N-ary relationship type R, create a new relationship S to represent R

7.2 Include as foreign key attribute in S the primary keys of relations that represent the participating entity types.

7.3 Also include any simple attribute of the N-ary relationship type (or simple component of composite attribute) as attributes of S.

2.3 Schema Diagram

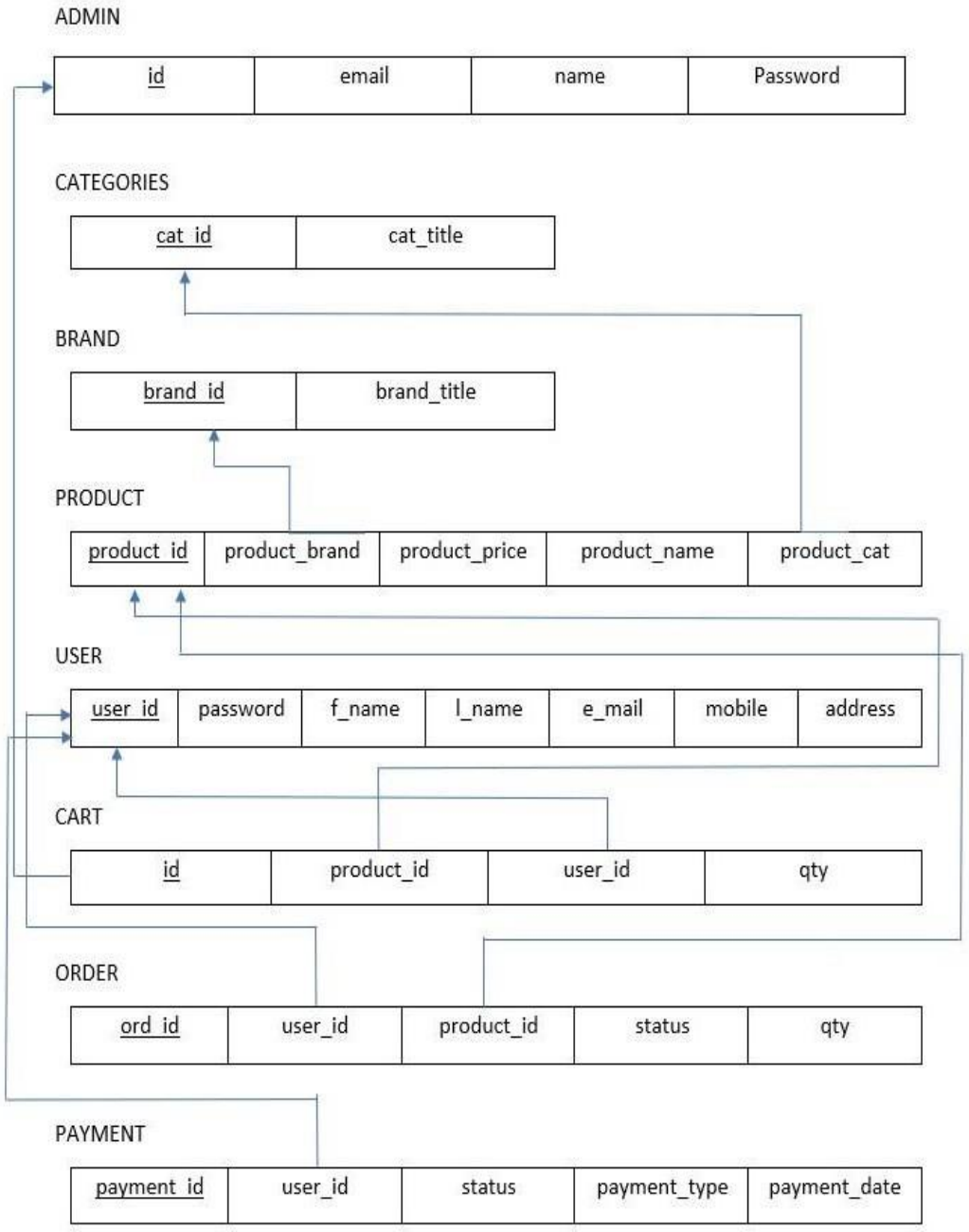


Fig 2.2 Schema representation for Ecommerce Web Application

Figure 2.2 shows the different entities used in the Ecommerce Web Application.

2.4 Relational Model

A relational database schema is the tables, columns and relationships that make up the relational database. This helps in organizing and understanding the structure of a database. This is particularly useful when designing a new database, modifying an existing database to support more functionality, or building integration between databases.

The Relational model contains all entities and their relations with other entities. It also contains all relations having (M:N) cardinality. The important terminologies in a relational model are:

1. Attribute: Attributes are the properties that define a relation.
2. Relation Schema: A relation schema represents name of the relation with its attributes.
3. Tuple: Each row in the relation is known as tuple.
4. Relation Instance: The set of tuples of a relation at an instance of time is called as relation instance.
5. Degree: The number of attributes in the relation is known as degree of the relation.
6. Cardinality: The number of tuples in a relation is known as cardinality.
7. Column: Column represents the set of values for an attribute.

2.5 Functional Dependencies

Functional Dependency is a relationship that exists when one attribute uniquely determines another attribute. If R is a relation with attributes X and Y, a functional dependency between the attributes is represented as X -> Y, which specifies Y is functionally dependent on X.

Here X is a determinant set and Y is a dependent attribute. Each value of X is associated with precisely one Y value.

Functional dependency in a database serves as a constraint between two sets of attributes. Defining functional dependency is an important part of relational database design and contributes to aspect normalization.

ADMIN {<u>id</u>, name, email, password}
Id – {name, email, password}

CATEGORIES {<u>cat_id</u>, cat_title}
cat_id – {cat_title}

PRODUCT {<u>product_id</u>, product_name, product_cat, product_brand, product_price}
product_id – {product_name, product_price}

BRAND {brand_id, brand_title}
brand_id – {brand_title}

USER {user_id, f_name, l_name, email, password, address, mobile}
user_id – {f_name, l_name, email, password, address, mobile}

CART {id, user_id, product_id, qty}
id – {qty}

ORDERS {order_id, user_id, product_id, qty, status}
order_id – {qty, status}

PAYMENT {payment_id, user_id, payment_date, status}
payment_id – {payment_date, status}

2.6 Normalized relational schema

Normalization is the process of minimizing the redundancy from a single relation or set of relations. Redundancy in relation may cause insertion, deletion and updating anomalies. Normalization reorganizes the data in database so that it meets two basic requirements:
There is no redundancy of data (all data is stored in only one place)
Data dependencies are logical (all related data items are stored together).
Normalization is important for many reasons, but chiefly because it allows databases to take up as little disk space as possible, resulting in increased performance.

First Normal Form (1NF)

First normal form (INF) is a property of a relation in a relational database. A relation is in first normal form if and only if the domain of each attribute contains only atomic (indivisible) values, and the value of each attribute contains only a single value from that domain.
First normal form is an essential property of a relation in a relational database. Database normalization is the process of representing a database in terms of relations in standard normal forms, where first normal is a minimal requirement.

First normal form enforces these criteria:

- Eliminate repeating groups in individual tables.
- Create a separate table for each set of related data.
- Identify each set of related data with a primary key

ADMIN –

- id, name, email, password are all atomic values. Hence it is in 1NF.

CATEGORIES –

- cat_id, cat_title are atomic values. Hence it is in 1NF.

PRODUCT –

- product_id, product_name, product_cat, product_brand, product_price are all atomic values. Hence it is in 1NF.

BRAND –

- brand_id, brand_title are atomic values. Hence it is in 1NF.

USER –

- user_id, f_name, l_name, email, password, address, mobile are all atomic values. Hence it is in 1NF.

CART –

- id, user_id, product_id, qty are atomic values. Hence it is in 1NF.

ORDERS –

- order_id, user_id, product_id, qty, status are all atomic values. Hence it is in 1NF.

PAYMENT –

- payment_id, user_id, payment_date, status are atomic values. Hence it is in1NF.

Second Normal Form (2NF)

- Second normal form (2NF) is a normal form used in database normalization. A relation that is in first normal form (INF) must meet additional criteria if it is to qualify for second normal form.
- Specifically: a relation is in 2NF if it is in INF and no non-prime attribute is dependent on any proper subset of any candidate key of the relation. A non-prime attribute of a relation is an attribute that is not a part of any candidate key of the relation.

ADMIN –

id, name, email, password are all atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

CATEGORIES –

cat_id, cat_title are atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

PRODUCT –

product_id, product_name, product_cat, product_brand, product_price are all atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

BRAND –

brand_id, brand_title are atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

USER –

user_id, f_name, l_name, email, password, address, mobile are all atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

CART –

id, user_id, product_id, qty are atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

ORDERS –

order_id, user_id, product_id, qty, status are all atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

PAYMENT –

payment_id, user_id, payment_date, status are atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

Third Normal Form (3NF)

The conditions to be satisfied for the relation to be in third normal form are:

- The table must be in second normal form.
- Transitive function dependency of non-prime attribute on any super key should be removed
- X is a super key of the table
- Y is the prime attribute of the table.

ADMIN –

id, name, email, password are all atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

CATEGORIES –

cat_id, cat_title are atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

PRODUCT –

product_id, product_name, product_cat, product_brand, product_price are all atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

BRAND –

brand_id, brand_title are atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

USER –

user_id, f_name, l_name, email, password, address, mobile are all atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

CART –

id, user_id, product_id, qty are atomic values and no non-prime attributes are dependent on super key. Hence it is in 3NF.

ORDERS –

order_id, user_id, product_id, qty, status are all atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

PAYMENT –

payment_id, user_id, payment_date, status are atomic values and no non-prime attributes are dependent on candidate key. Hence it is in 2NF.

2.7 Key Attributes

The Key Attributes of a relation are attributes that uniquely describes or identifies the relation from the other relations. The Key Attributes of the relations under this Ecommerce Web Application are shown in the table 2. 1

Table 2.1: Key attributes used in online shopping system

ENTITY	PRIMARY KEY	FOREIGN KEY
ADMIN	id	-
CATEGORIES	cat_id	-
PRODUCT	product_id	cat_id brand_id
BRAND	brand_id	-
USER	user_id	-
ORDER	order_id	user_id product_id
CART	-	id product_id user_id
PAYMENT	payment_id	user_id

Primary Key

Primary key is a set of one or more fields/columns of a table that uniquely identify a record in database table. It cannot accept null, duplicate values. Only one Candidate Key can be Primary Key. Primary key used in the application is:

1. id
2. cat_id
3. product_id
4. brand_id
5. user_id
6. order_id
7. payment_id

Foreign Key

Foreign Key is a field in database table that is Primary key in another table. It can accept multiple null, duplicate values. A foreign key is a column that references a column (most often the primary key) of another table. The purpose of the foreign key is to ensure referential integrity of the data. In other words, only values that are supposed to appear in the database are permitted.

Foreign keys used in the application are:

1. cat_id
2. brand_id

Unique Key

Unique key is a set of one or more fields/columns of a table that uniquely identify a record in database table. It can accept only one null value and it cannot have duplicate values.

Unique keys used in the application are:

1. id
2. cat_id
3. product_id
4. brand_id
5. user_id
6. order_id

Not Null

The NOT NULL constraint enforces a column to NOT accept NULL values. This enforces a field to always contain a value, which means that you cannot insert a new record. Updation is also possible without adding a value to this field.

NOT NULL values in the application are as follows:

1. id
2. cat_id
3. product_id
4. brand_id
5. user_id
6. order_id

CHAPTER 3

SYSTEM REQUIREMENTS

To be used efficiently, all computer software needs certain hardware components or other software resources to be present on a computer. These prerequisites are known as system requirements and are often used as a guideline as opposed to an absolute rule. Most software defines two sets of system requirements: minimum and recommended. With increasing demand for higher processing power and resources in newer versions of software, system requirements tend to increase over time.

This application uses XAMPP server and MYSQL database. The whole application is built using HTML, CSS, PHP and run them in XAMPP server, database is stored in MYSQL.

3.1 System requirements

Hardware Requirements:

1. Processor: Intel Core i5 6500 CPU @3.20GHz or above
2. RAM: 2GB or above
3. Hard Disk: 1GB or more
4. CD Drive

Software Requirements:

1. Operating System: Windows OS 7 or higher
2. Visual Studio
3. Xampp Server

User Interface:

1. HTMLS
2. CSS
3. JavaScript
4. Bootstrap

Back-end:

MySQL

Tools

XAMPP Server

XAMPP is an open-source software developed by Apache friends. XAMPP software package contains Apache distributions for Apache server, MariaDB, PHP, and Perl. It is a local host or a local server. The use of XAMPP is to test the clients or website before uploading it to the remote web server. This XAMPP server software gives you the suitable environment for testing MYSQL, PHP, Apache and Perl projects on the local computer.

The full form of XAMPP is: X stands for Cross-platform, A stands for Apache server, M stands for MariaDB, P stands for PHP and P stands for Perl. The Cross-platform usually means that it can run on any computer with any operating system.

PHP

Hypertext Pre-processor is a general-purpose programming language originally designed for web development. PHP now stands for: Hypertext Pre-processor. PHP development began in 1994 when Rasmus Lerdorf wrote several Common Gateway Interface (CGI) programs in C. He extended them to work with web forms and to communicate with databases, and called this implementation as "Personal Home Page/Forms Interpreter" or PHP/FLPHP/FI could be used to build simple, dynamic web applications.

MySQL Database

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. It is developed and marketed by MySQL AB, which is a Swedish company. MySQL is becoming so popular because of many good reasons-

- MySQL is released under an open-source license. So, you have nothing to pay to use it.
- MySQL is a very powerful program. It handles a large subset of the functionality of the most expensive and powerful database packages.
- MySQL supports large databases, up to 50 million rows or more in a table.
- The default file size limit for a table is 4GB, but you can increase this (if the operating system can handle it) to a theoretical limit of 8 million terabytes (TB)

CHAPTER 4

IMPLEMENTATION

BACK END:

Back End is used to create the table and insert the values in the entities created in the back end for respective tables. The various tables of Ecommerce Web Application are as follows:

TABLE CREATION:

```
CREATE TABLE admin(
  id int(11) PRIMARY KEY,
  name varchar(50),
  email varchar(100),
  password varchar(255) );
```

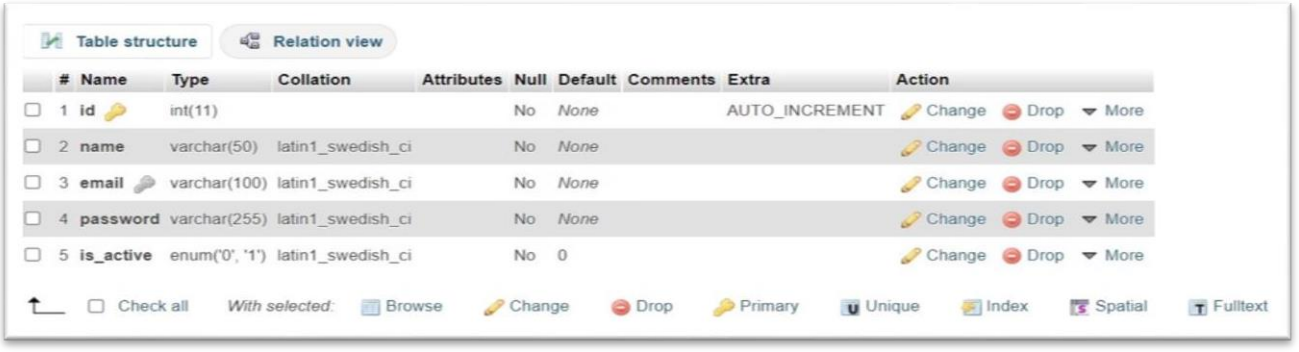


Fig 4.1: Description of admin table

Figure 4.1 shows the description of the attributes in the company table. The attribute id is declared as Primary key.

ig 4.2: Admin table

Figure 4.2 shows the company data stored in the admin table. The database contents are names of admin, Email and password.

```
CREATE TABLE categories(
  cat_id int(100) PRIMARY KEY,
  cat_title varchar(100) );
```

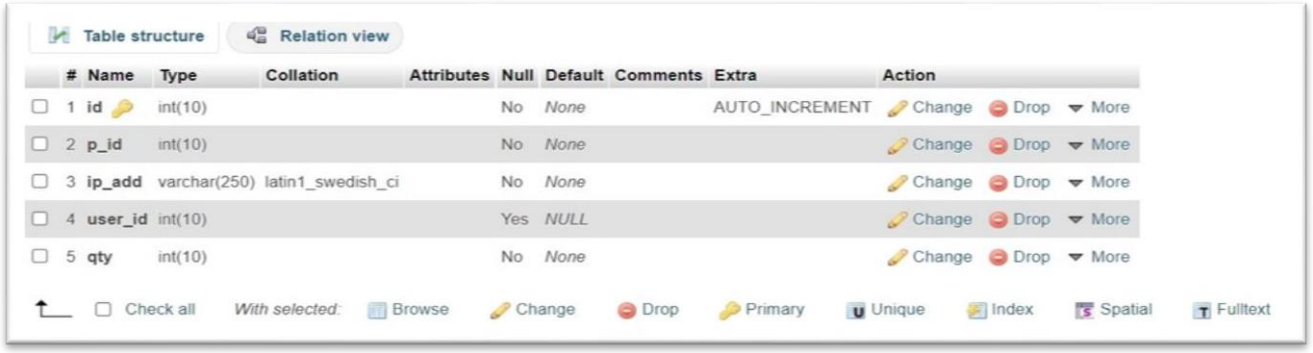


Fig 4.3: Description of categories table

Figure 4.3 shows the description of the different attributes in the categories table. The attribute cat_id has been declared as primary key.

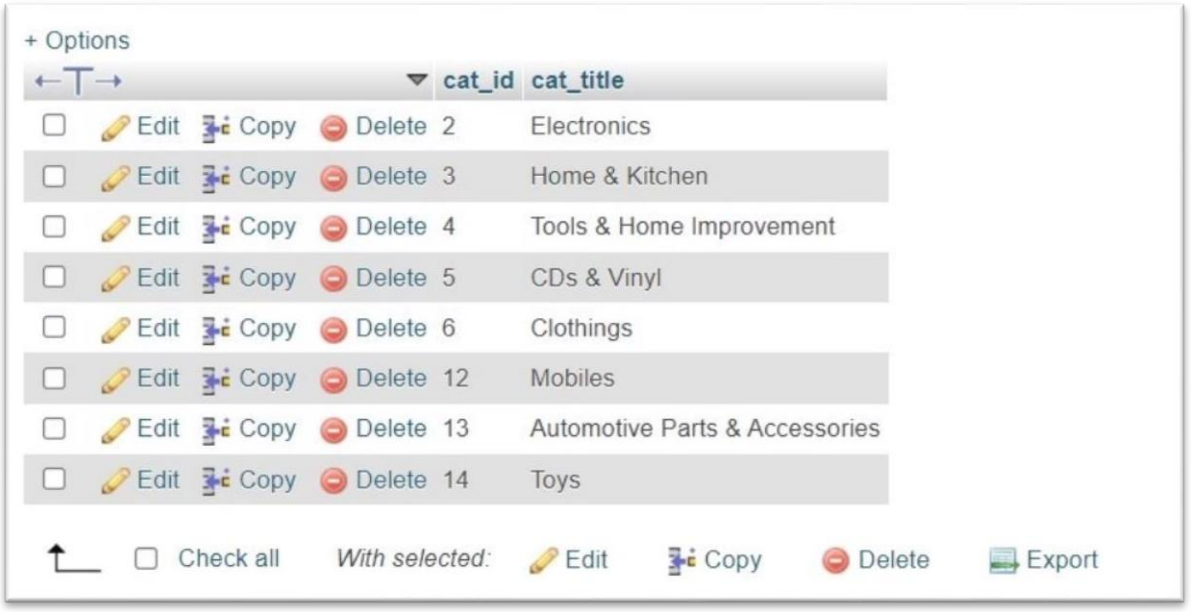


Fig 4.4: Categories table

Figure 4.4 shows the different categories data that is stored in the categories table in the database. It contains information about different categories of products available.

```
CREATE TABLE brands (
  brand_id int(100) PRIMARY KEY,
  brand_title varchar(100) );
```

Fig 4.5: Description of brands table

Figure 4.5 shows the description of the different brands attributes in the brands table. The attribute brand_id has been declared as primary key.

Fig 4.6: Brands table

Figure 4.6 shows the different brands data that is stored in the brands table in the database. It contains information about different brands of products available.

```
CREATE TABLE products (
  product_id int(100) PRIMARY KEY,
  product_cat int(11),
  product_brand int(100),
  product_title varchar(255),
  product_price int(100),
  product_qty int(11),
  product_desc varchar(255),
  product_image text ,
  product_keywords varchar(100) );
```

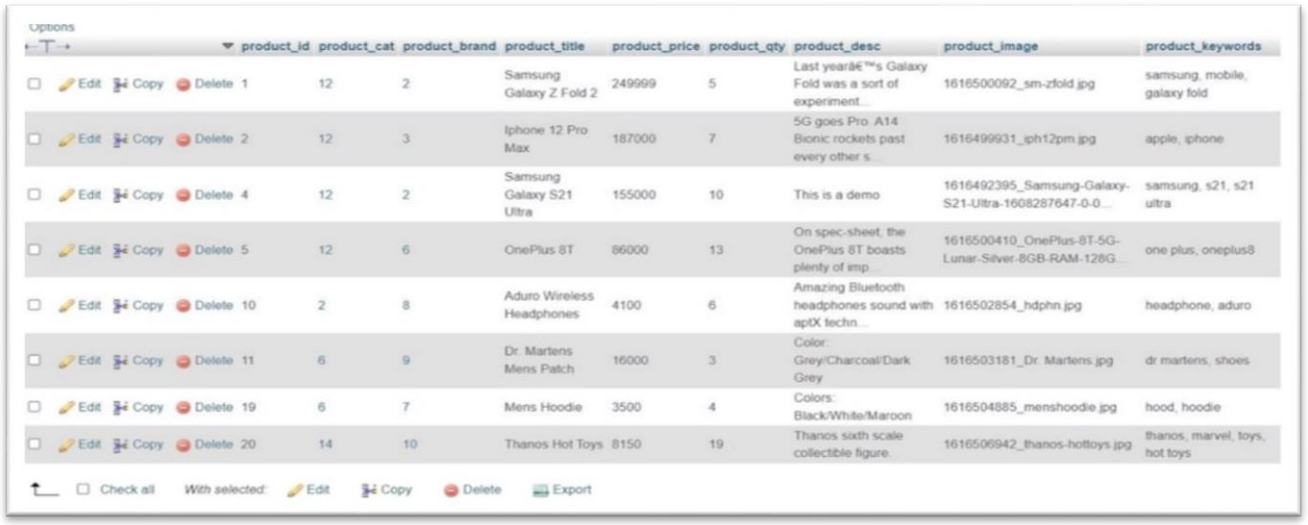
Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	product_id	int(100)			No	None		AUTO_INCREMENT	Change Drop More
2	product_cat	int(11)			No	None			Change Drop More
3	product_brand	int(100)			No	None			Change Drop More
4	product_title	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
5	product_price	int(100)			No	None			Change Drop More
6	product_qty	int(11)			No	None			Change Drop More
7	product_desc	text	latin1_swedish_ci		No	None			Change Drop More
8	product_image	text	latin1_swedish_ci		No	None			Change Drop More
9	product_keywords	text	latin1_swedish_ci		No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

Fig 4.7: Description of Products table

Figure 4.7 shows the description of the different product attributes in the products table. The attribute product_id has been declared as primary key.



Options

	product_id	product_cat	product_brand	product_title	product_price	product_qty	product_desc	product_image	product_keywords
Edit Copy Delete	1	12	2	Samsung Galaxy Z Fold 2	249999	5	Last year's Galaxy Fold was a sort of experiment...	1616500092_sm-zfold.jpg	samsung, mobile, galaxy fold
Edit Copy Delete	2	12	3	Iphone 12 Pro Max	187000	7	5G goes Pro. A14 Bionic rockets past every other s...	1616499931_iph12pm.jpg	apple, iphone
Edit Copy Delete	4	12	2	Samsung Galaxy S21 Ultra	155000	10	This is a demo	1616492395_Samsung-Galaxy-S21-Ultra-1608287647-0-0...	samsung, s21, s21 ultra
Edit Copy Delete	5	12	6	OnePlus 8T	86000	13	On spec-sheet, the OnePlus 8T boasts plenty of imp...	1616500410_OnePlus-8T-5G-Lunar-Silver-8GB-RAM-128G...	one plus, oneplus8
Edit Copy Delete	10	2	8	Aduro Wireless Headphones	4100	6	Amazing Bluetooth headphones sound with aptX techn...	1616502854_hdphn.jpg	headphone, aduro
Edit Copy Delete	11	6	9	Dr. Martens Mens Patch	16000	3	Color: Grey/Charcoal/Dark Grey	1616503181_Dr. Martens.jpg	dr martens, shoes
Edit Copy Delete	19	6	7	Mens Hoodie	3500	4	Colors: Black/White/Maroon	1616504885_menshoodie.jpg	hood, hoodie
Edit Copy Delete	20	14	10	Thanos Hot Toys	8150	19	Thanos sixth scale collectible figure.	1616506942_thanos-hottoys.jpg	thanos, marvel, toys, hot toys

Check all With selected: Edit Copy Delete Export

Fig 4.8: Products table

Figure 4.8 shows the different products data that is stored in the products table in the database. It contains information about different products available.

```
CREATE TABLE user_info (
  user_id int(10) PRIMARY KEY,
  first_name varchar(100),
  last_name varchar(100),
  email varchar(300),
  password varchar(300),
  mobile varchar(10),
  address1 varchar(300),
  address2 varchar(11) );
```

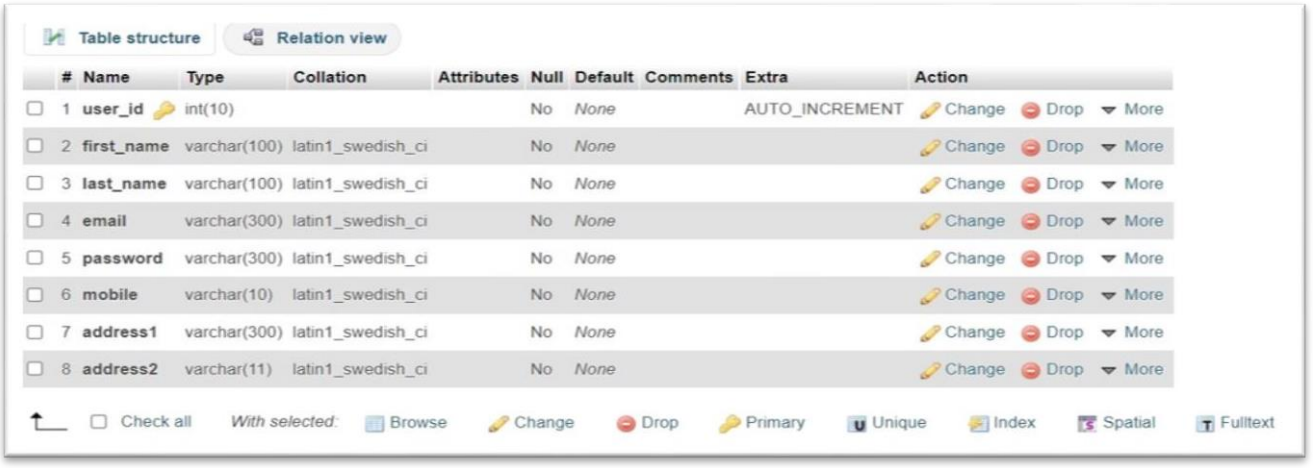


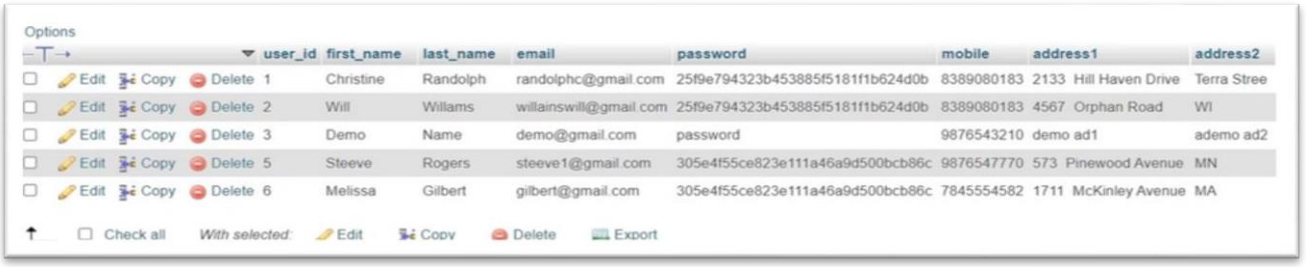
Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	user_id	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	first_name	varchar(100)	latin1_swedish_ci		No	None			Change Drop More
3	last_name	varchar(100)	latin1_swedish_ci		No	None			Change Drop More
4	email	varchar(300)	latin1_swedish_ci		No	None			Change Drop More
5	password	varchar(300)	latin1_swedish_ci		No	None			Change Drop More
6	mobile	varchar(10)	latin1_swedish_ci		No	None			Change Drop More
7	address1	varchar(300)	latin1_swedish_ci		No	None			Change Drop More
8	address2	varchar(11)	latin1_swedish_ci		No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

Fig 4.9 Description of user_info table

Figure 4.9 shows the description of the different user attributes in the user_info table. The attribute user_id has been declared as primary key.



Options

	user_id	first_name	last_name	email	password	mobile	address1	address2
Edit Copy Delete	1	Christine	Randolph	randolphc@gmail.com	25f9e794323b453885f5181f1b624d0b	8389080183	2133 Hill Haven Drive	Terra Stree
Edit Copy Delete	2	Will	Willams	willainswill@gmail.com	25f9e794323b453885f5181f1b624d0b	8389080183	4567 Orphan Road	WI
Edit Copy Delete	3	Demo	Name	demo@gmail.com	password	9876543210	demo ad1	ademo ad2
Edit Copy Delete	5	Steeve	Rogers	steeve1@gmail.com	305e4f55ce823e111a46a9d500bcb86c	9876547770	573 Pinewood Avenue	MN
Edit Copy Delete	6	Melissa	Gilbert	gilbert@gmail.com	305e4f55ce823e111a46a9d500bcb86c	7845554582	1711 McKinley Avenue	MA

Check all With selected: Edit Copy Delete Export

Fig 4.10 User_info table

Figure 4.10 shows the different user data that is stored in the user_info table in the database. It contains information about all the users of the application.

```
CREATE TABLE cart (
  id int(10),
  p_id int(10),
  ip_add varchar(250),
  user_id int(10),
  qty int(10) );
```

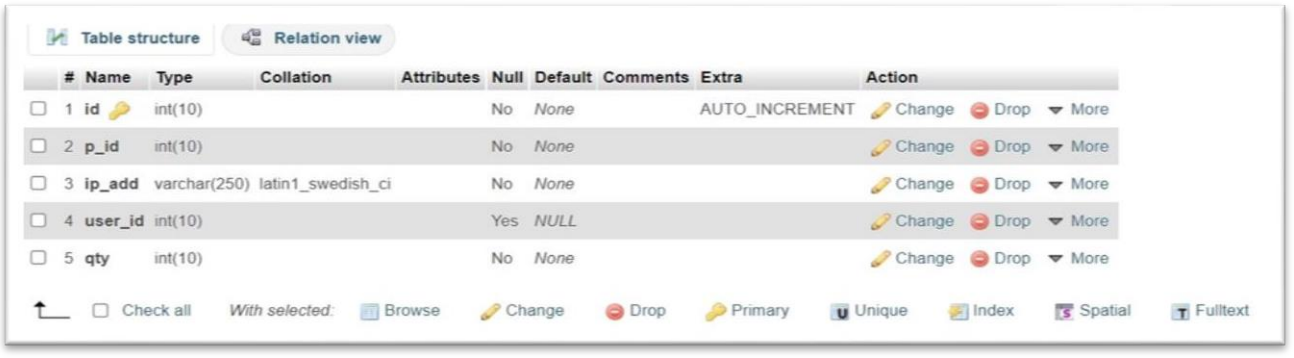


Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(10)			No	None		AUTO_INCREMENT	Change Drop More
2	p_id	int(10)			No	None			Change Drop More
3	ip_add	varchar(250)	latin1_swedish_ci		No	None			Change Drop More
4	user_id	int(10)			Yes	NULL			Change Drop More
5	qty	int(10)			No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

Fig 4.11 Description of cart table

Figure 4.11 shows the description of the different user attributes in the cart table.

Fig 4.12 Cart table

Figure 4.12 shows the different cart data that is stored in the cart table in the database. It contains information about the cart of users of the application.

```
CREATE TABLE orders (
  order_id int(11) PRIMARY KEY,
  user_id int(11),
  product_id int(11),
  qty int(11),
  trx_id varchar(255),
  p_status varchar(20) );
```

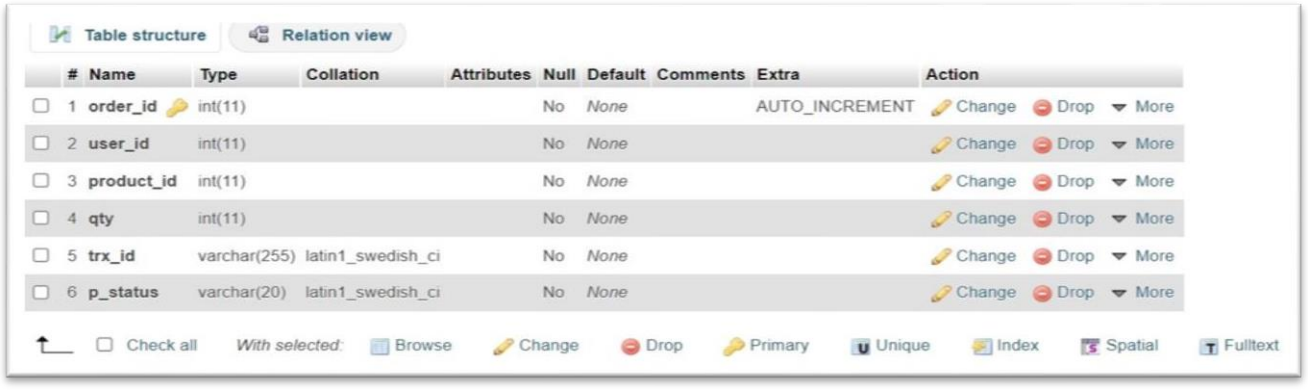


Fig 4.13 Description of orders table

Figure 4.13shows the description of the different order attributes in the orders table. The attribute order_id has been declared as primary key.

Options

	order_id	user_id	product_id	qty	trx_id	p_status
Edit Copy Delete	1	1	1	1	9L434522M7706801A	Completed
Edit Copy Delete	2	1	2	1	9L434522M7706801A	Completed
Edit Copy Delete	3	1	3	1	9L434522M7706801A	Completed
Edit Copy Delete	4	1	1	1	8AT7125245323433N	Completed

Check all *With selected:* Edit Copy Delete Export

Fig 4.14 Orders table

Figure 4.14 shows the different orders data that is stored in the orders table in the database. It contains information about the orders made by the users of the application.

FRONT END:

The front end for the Ecommerce Web application has been implemented using HTML.

The styling has been done using CSS. The connection to the backend is done using PHP.

In this web application, the administrator or user can login with their email and password, where they can access all products, user details and cart information.

The admin can insert new records and delete any existing record.

Connectivity

Establishing the connection with the MySQL database:

1. Determine what PHP bit version (32-bit or 64-bit) you are running. If PHP INT_SIZE is value of 4, then version is 32-bit. If PHP_INT_SIZE is value of 8. Then version is 64-bit. Download XAMPP for Windows10, set the path to C:/xampp by creating an empty folder called XAMPP.

Establishing connectivity through PHP:

The PHP code id embedded in the html body. Here the host address, database name and the password are given during the installation of the database is specified. The connection to the database is thus established to the sql variable that specifies all the 3 parameters.

Scon mysqli_connect (Shost, Suser, Spassword, $database);

Closing the connection

mysqli_close(Scon);

The above mentioned statement is used to close the connection.

CHAPTER 5

RESULTS

This chapter includes the results of the E-Commerce project and also is a way to be interactive to convey the working project.

Home page

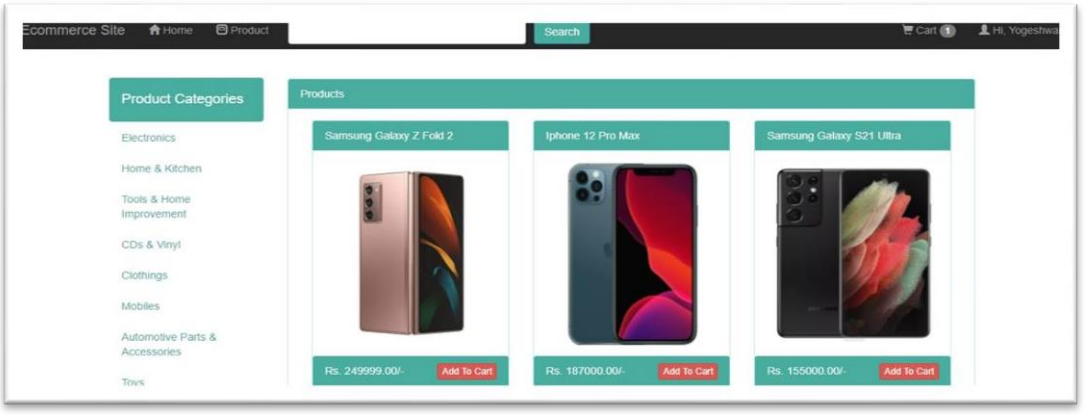


Figure 5. 1 The landing page

Figure 5. 1 shows the landing page that the user would see when the user enters the URL. The user can either login if the user already has an account else the user can sign up where the user can register and open an account.

If the user is an admin, the 'Admin button' can be pressed for further interaction.

Figure 5.2 user login page

Figure 5.2 shows a user login page where users should login here to discover products. Users can add, delete and update products to or from cart, order them. One needs to register to login.

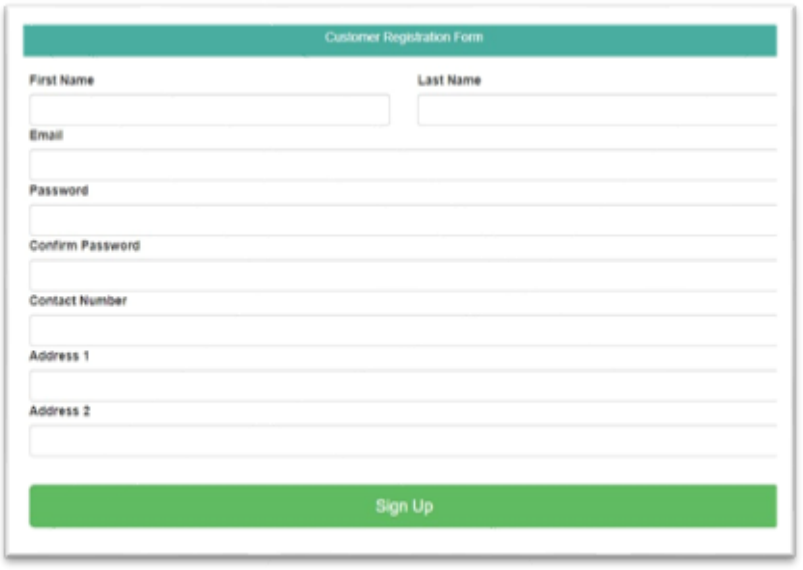


Figure 5.3 The user register page

Figure 5.3 shows the user register page where users should register here to login. Here password and confirm password should match in order to register successfully.

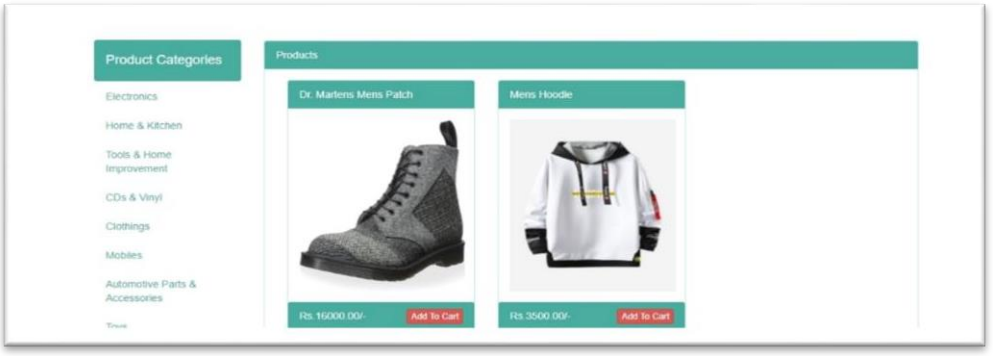


Figure 5.4 The user-menu Page

Figure 5.4 shows the user-menu where the users can discover products and add them to cart or log out.

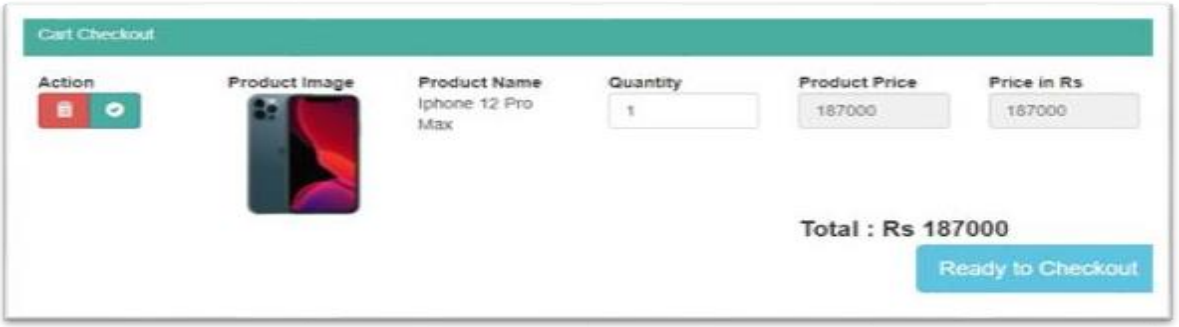


Figure.5.5 Cart Option Page

Figure.5.5 shows the page that opens when the user clicks on my cart option. Once user adds the products desired to purchase, user can proceed to billing.

Figure.5.6 Products Page

Figure.5.6 shows the page that contains the list of products available for the user. The various categories with the product name, its cost and quantity.

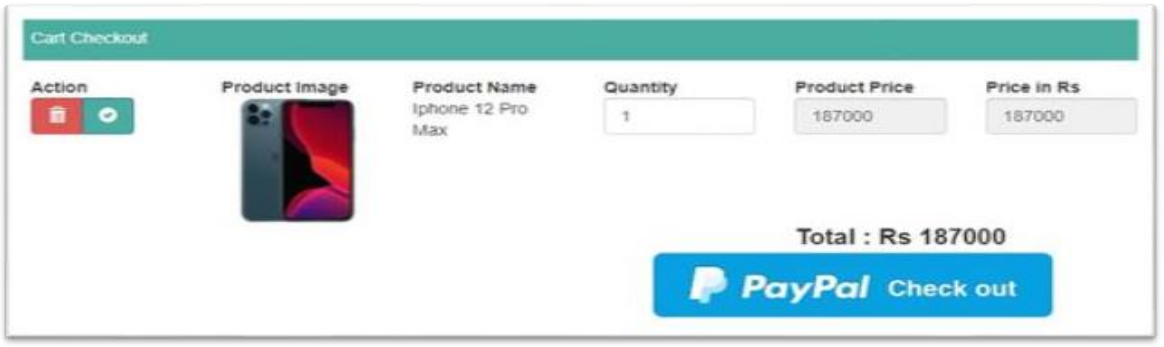


Figure 5.7 Billing page

Figure 5.7 shows the billing page. Once the user wants to place the order and clicks on buy now, it navigates to the billing page where the user inputs all credentials and proceeds to pay.

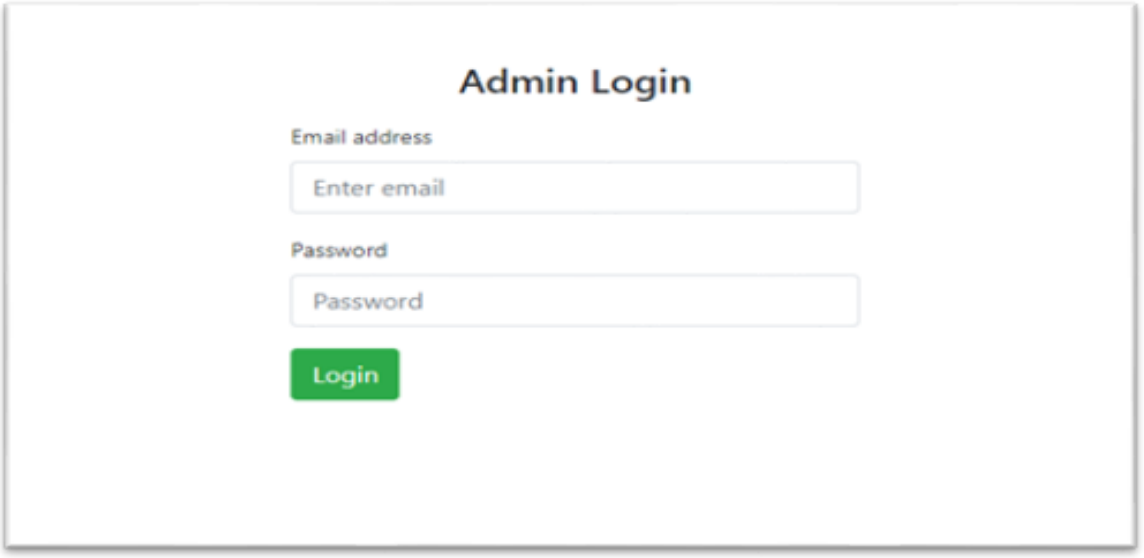


Fig 5.8 Login form for Admin

Figure 5.8 shows the login page for admin to login. Admin logs in with the unique username given and corresponding password.

Fig 5.9 Category page for Admin

Figure 5.9 shows the list of categories that are available in E-Commerce site. Admin can add or delete categories

Fig 5.10 Summary of Products

Figure 5.10 shows the list of products that are currently available and can be viewed by the users in the front end. Admin can delete or add products.

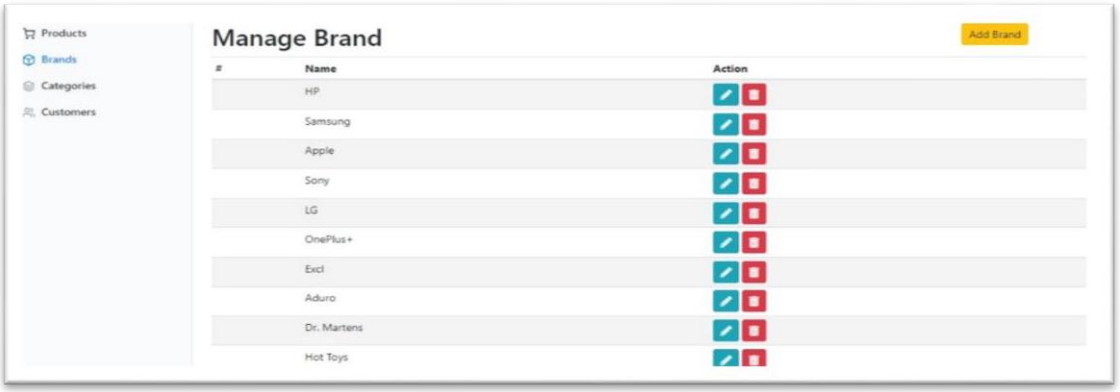
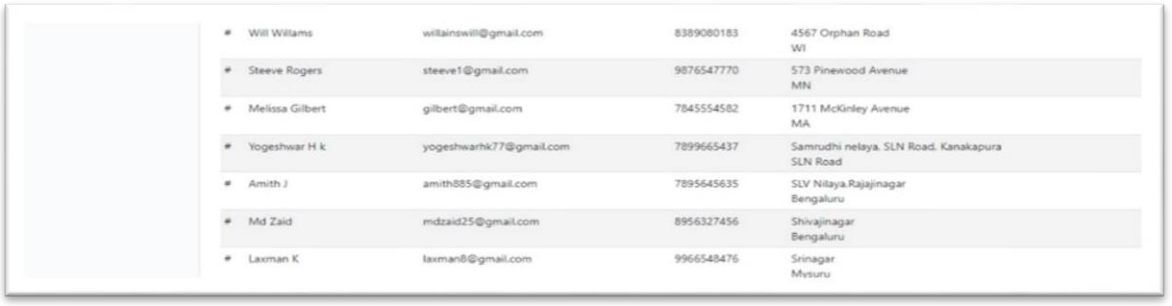


Fig 5.11 Summary of Brands

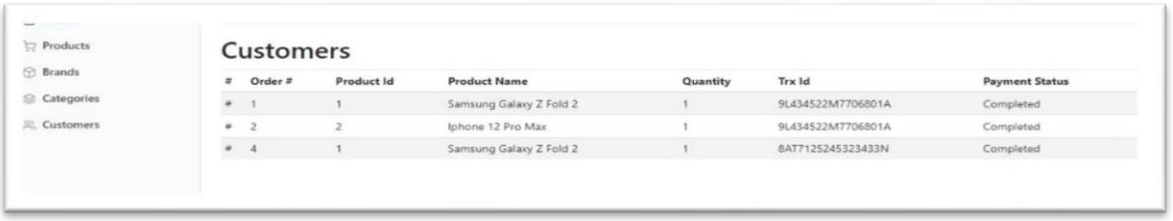
Figure 5.11 shows the list of products that are currently available and can be viewed by the users in the front end. Admin can delete or add products.



#	Will Willams	willainswill@gmail.com	8389080183	4567 Orphan Road WI
#	Steeve Rogers	steeve1@gmail.com	9876547770	573 Pinewood Avenue MN
#	Melissa Gilbert	gilbert@gmail.com	7845554582	1711 McKinley Avenue MA
#	Yogeshwar H k	yogeshwarhk77@gmail.com	7899665437	Samrudhi nelaya, SLN Road, Kanakapura SLN Road
#	Amith J	amith885@gmail.com	7895645635	SLV Nilaya,Rajajinagar Bengaluru
#	Md Zaid	mdzaid25@gmail.com	8956327456	Shivajinagar Bengaluru
#	Laxman K	laxman8@gmail.com	9966548476	Srinagar Mysuru

Fig 5.12 Summary of registered User

Figure 5.12 shows the list of users who have registered to admin.



Products
Brands
Categories
Customers

Customers

#	Order #	Product Id	Product Name	Quantity	Trx Id	Payment Status
#	1	1	Samsung Galaxy Z Fold 2	1	9L434522M7706801A	Completed
#	2	2	Iphone 12 Pro Max	1	9L434522M7706801A	Completed
#	4	1	Samsung Galaxy Z Fold 2	1	8AT7125245323433N	Completed

Fig 5.13 Order information

Figure 5.13 shows the information about all the orders of all the users. Admin can also view the payment information.

CHAPTER 6

CONCLUSION

E-Commerce Online Shopping system helps the user to search and purchase all products at one particular site. It makes the system paperless and more efficient. It supports easy payment, hence making it user- friendly and simple. It helps the administrator of the system to add and delete products, making it easy to keep a track of all the stock. This makes easier for the users to check the availability and shop accordingly. It is small contribution from our side in order to serve the existing system.

Scope and Limitations:

The project has a very vast scope in future. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. In Manual Filing, there are chances for the following

- Data duplication: The same data gets repeated over and over since the workers find it hard to keep track of the documents, information and transactions.
- Lack of security: Since data is stored in filing cabinets it is freely available to anyone. If information falls into the wrong hands, it can be used against the users. Common errors: When entering data, customers might have accidentally switched details and data since it is hand written.
- Inconsistency of data: There will be unavailability for future use, since data might get misplaced during manual filing.

E-Commerce Online Shopping project has helped in understanding the connectivity between a User Interface and the database and the various queries that can be used to modify data in the database. Various other DBMS functions such as stored procedures and triggers were also implemented and used to create or modify the output in the front end. The development of E-Commerce Online Shopping database has helped in learning and understanding a lot of different technologies, the various tools available, programming languages and how to solve problems that were encountered during the development process.

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2. Database Management Systems, Ramakrishnan, and Gehrke, 3rd Edition, 2014, McGraw Hill.

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