Pune Institute of Computer Technology

DEPARTMENT OF COMPUTER ENGINEERING
Academic Year 2021-22

DBSL Mini Project

Batch - L1

Group Members
Avdhoot Hapse - 31130
Pushkar Jain - 31134
Nirmayi Kelkar - 31141

Guided by -
Prof. Hemlata Channe

Contents

1 Problem Statement

Develop a responsive website to place orders in the college Mess without role based login for users and admins. The menu will be displayed on the website, users will be able to add items to their cart and place order. The users can be able to see all their past orders. The placed orders will be visible on the admin side. Further more admin will have the feature to update the menu

2 Related Theory

DDL (Data Definition Language):

DDL or Data Definition Language actually consists of the SQL commands that can be used to define the database schema. It simply deals with descriptions of the database schema and is used to create and modify the structure of database objects in the database.DDL is a set of SQL commands used to create, modify, and delete database structures but not data. These commands are normally not used by a general user, who should be accessing the database via an application.

List of DDL commands:
- CREATE: This command is used to create the database or its objects (like table, index, function, views, store procedure, and triggers).
- DROP: This command is used to delete objects from the database.
- ALTER: This is used to alter the structure of the database.
- TRUNCATE: This is used to remove all records from a table, including all spaces allocated for the records are removed.
- COMMENT: This is used to add comments to the data dictionary.
- RENAME: This is used to rename an object existing in the database.

CREATE -
CREATE DATABASE database_name;
CREATE TABLE table_name
(
column1 data_type(size),
column2 data_type(size),
column3 data_type(size),
....
);

DROP -
DROP TABLE table_name;
DROP DATABASE database_name;

TRUNCATE -
TRUNCATE TABLE table_name;

ALTER -
ALTER TABLE table_name
      ADD (Columnname_1 datatype,
      Columnname_2 datatype,
      ...
      Columnname_n datatype);

RENAME -
ALTER TABLE table_name
RENAME TO new_table_name;

DML(Data Manipulation Language):

The SQL commands that deals with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements. It is the component of the SQL statement that controls access to data and to the database. Basically, DCL statements are grouped with DML statements.

List of DML commands:
- INSERT : It is used to insert data into a table.
- UPDATE: It is used to update existing data within a table.
- DELETE : It is used to delete records from a database table.
- LOCK: Table control concurrency.

INSERT -
INSERT INTO table_name (column1, column2, column3,..) VALUES (value1, value2, value3,..);

UPDATE -
UPDATE table_name SET column1 = value1, column2 = value2,...
WHERE condition;

DELETE -
DELETE FROM table_name WHERE some_condition;

Types of Joins:

A SQL Join statement is used to combine data or rows from two or more tables based on a common field between them. Different types of Joins are:

INNER JOIN
LEFT JOIN
RIGHT JOIN
FULL JOIN

INNER JOIN: The INNER JOIN keyword selects all rows from both the tables as long as the condition satisfies. This keyword will create the result-set by combining all rows from both the tables where the condition satisfies i.e value of the common field will be same.

SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
INNER JOIN table2
ON table1.matching_column = table2.matching_column;

LEFT JOIN: This join returns all the rows of the table on the left side of the join and matching rows for the table on the right side of join. The rows for which there is no matching row on right side, the result-set will contain null. LEFT JOIN is also known as LEFT OUTER JOIN.

SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
LEFT JOIN table2
ON table1.matching_column = table2.matching_column;

RIGHT JOIN: RIGHT JOIN is similar to LEFT JOIN. This join returns all the rows of the table on the right side of the join and matching rows for the table on the left side of join. The rows for which there is no matching row on left side, the result-set will contain null. RIGHT JOIN is also known as RIGHT OUTER JOIN.

SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
RIGHT JOIN table2
ON table1.matching_column = table2.matching_column;

FULL JOIN: FULL JOIN creates the result-set by combining result of both LEFT JOIN and RIGHT JOIN. The result-set will contain all the rows from both the tables. The rows for which there is no matching, the result-set will contain NULL values.

SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
FULL JOIN table2
ON table1.matching_column = table2.matching_column;

PL/SQL code block:

PL/SQL is a block-structured language whose code is organized into blocks. A PL/SQL block consists of three sections: declaration, executable, and exception-handling sections. In a block, the executable section is mandatory while the declaration and exception-handling sections are optional.

A PL/SQL block has a name. Functions or Procedures is an example of a named block. A named block is stored into the Oracle Database server and can be reused later.

A block without a name is an anonymous block. An anonymous block is not saved in the Oracle Database server, so it is just for one-time use. However, PL/SQL anonymous blocks can be useful for testing purposes.

1) Declaration section -
A PL/SQL block has a declaration section where you declare variables, allocate memory for cursors, and define data types.

2) Executable section -
A PL/SQL block has an executable section. An executable section starts with the keyword BEGIN and ends with the keyword END. The executable section must have a least one executable statement, even if it is the NULL statement which does nothing.

3) Exception-handling section -
A PL/SQL block has an exception-handling section that starts with the keyword EXCEPTION. The exception-handling section is where you catch and handle exceptions raised by the code in the execution section.

Database Triggers:

Trigger is invoked by Oracle engine automatically whenever a specified event occurs.Trigger is stored into database and invoked repeatedly, when specific condition match.

Triggers are stored programs, which are automatically executed or fired when some event occurs.

Triggers are written to be executed in response to any of the following events.
   ◦   A database manipulation (DML) statement (DELETE, INSERT, or UPDATE).
   ◦   A database definition (DDL) statement (CREATE, ALTER, or DROP).
   ◦   A database operation (SERVERERROR, LOGON, LOGOFF, STARTUP, or SHUTDOWN).

Triggers could be defined on the table, view, schema, or database with which the event is associated.

```
CREATE [OR REPLACE ] TRIGGER trigger_name
{BEFORE | AFTER | INSTEAD OF }
{INSERT [OR] | UPDATE [OR] | DELETE}
[OF col_name]
ON table_name
[REFERENCING OLD AS o NEW AS n]
[FOR EACH ROW]
WHEN (condition)
DECLARE
   Declaration-statements
BEGIN
   Executable-statements
EXCEPTION
   Exception-handling-statements
END;
```

Database Connectivity :

A database connection is a facility in computer science that allows client software to talk to database server software, whether on the same machine or not. A connection is required to send commands and receive answers, usually in the form of a result set.

Connections are a key concept in data-centric programming. Since some DBMS engines require considerable time to connect, connection pooling was invented to improve performance. No command can be performed against a database without an "open and available" connection to it.

Connections are built by supplying an underlying driver or provider with a connection string, which is a way of addressing a specific database or server and instance as well as user authentication credentials (for example, *Server=sql_box; Database=Common; User ID=uid; Pwd=password;*). Once a connection has been built it can be opened and closed at will, and properties (such as the command time-out length, or transaction, if one exists) can be set. The Connection String is composed of a set of key/value pairs as dictated by the data access interface and data provider being used.

Python MySQL connectivity -

```
import mysql.connector
#Create the connection object
myconn = mysql.connector.connect(host = "localhost", user = "root,
passwd = "google", database = "mydb")

#printing the connection object
print(myconn)

#creating the cursor object
cur = myconn.cursor()

print(cur)
```
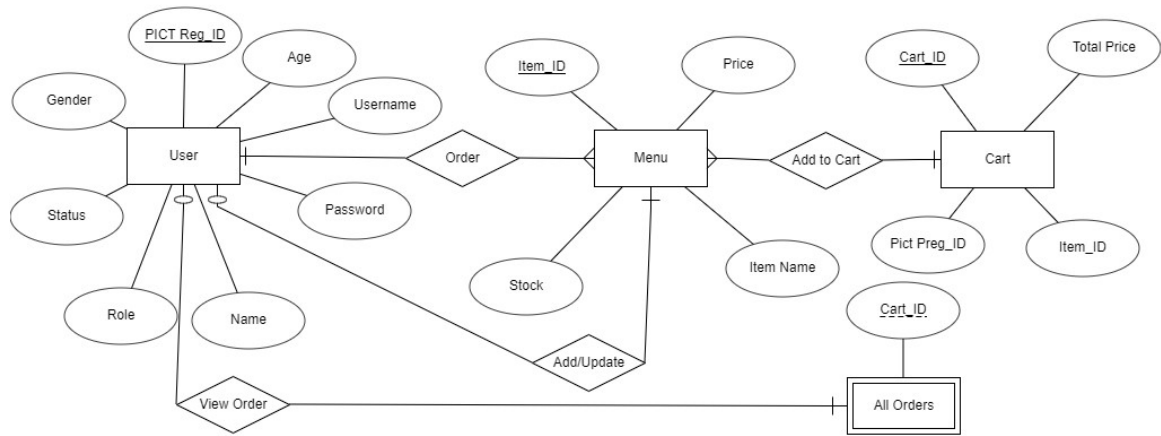
3 Motivation

• When we had attended college in our FE we always faced the issue of long queues

• It was especially frustrating when we were already tired due to lectures and then again, we had to wait in long queues to get food and because of it we had to then hurry to have our meal so that we could reach next class on time

• So, we came with the idea to design a website through which students and teachers can place their orders in advance so as to cut the long queues and also reduce the work of Mess staff
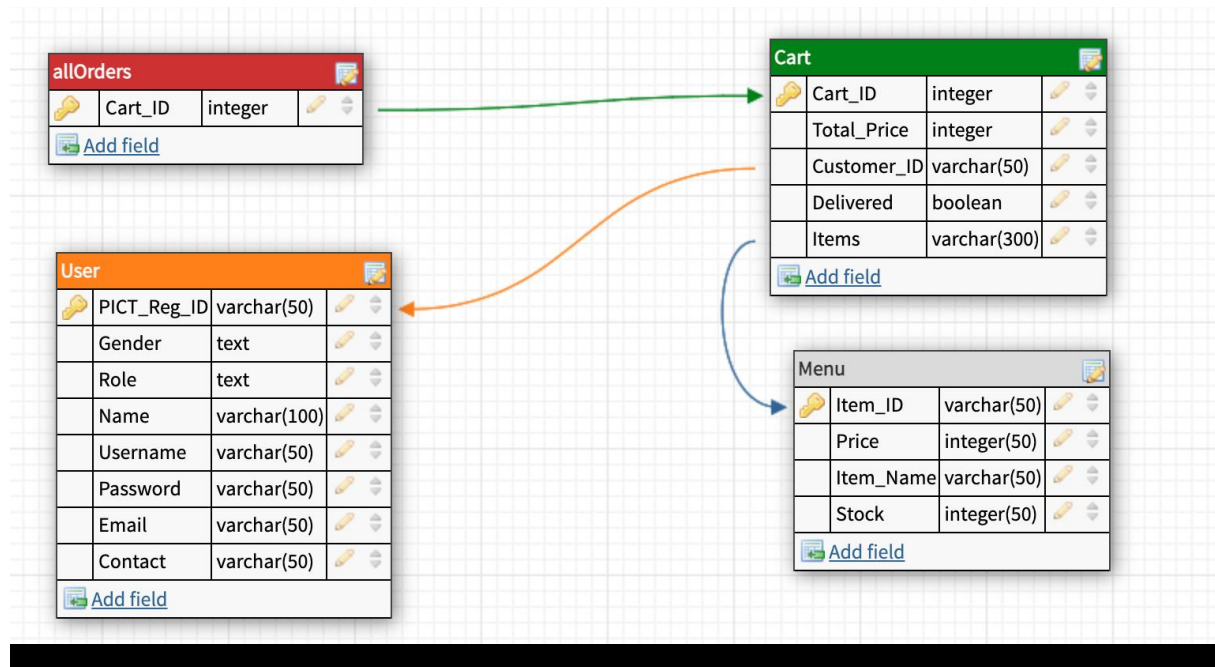
4 Scope

- A solution will be web based and responsive so it will be accessible to everyone on the internet despite the type of device.

- To start with as a prototype, we are just focusing on creating the solution for PICT College Mess, later we can expand for other such college mess.

- Users can only place orders and not get delivery because giving a delivery option for a college mess seems unrealistic.

5 ER diagram

6 Schema

allOrders		
🔑 Cart_ID	integer	
Add field		

Cart		
🔑 Cart_ID	integer	
Total_Price	integer	
Customer_ID	varchar(50)	
Delivered	boolean	
Items	varchar(300)	
Add field		

User		
🔑 PICT_Reg_ID	varchar(50)	
Gender	text	
Role	text	
Name	varchar(100)	
Username	varchar(50)	
Password	varchar(50)	
Email	varchar(50)	
Contact	varchar(50)	
Add field		

Menu		
🔑 Item_ID	varchar(50)	
Price	integer(50)	
Item_Name	varchar(50)	
Stock	integer(50)	
Add field		

TECHSTACK

Frontend	Backend	Database

8 Test Cases

Registration

This is the registeration form

Please fill with your details

Name	Email
PICT_Reg_ID	Username
password	Gender
Mobile No.	Choose a Role
	User

☐ By clicking Submit, you agree to our Terms & Conditions, Visitor Agreement and Privacy Policy.

Submit

Login

User Name

Enter username

Password

Enter Password

By signing up you accept our Terms Of Use

LOGIN

PICT Canteen Portal

Order Online

↓

Admin Page

Pict Admin Dashboard

Update Menu>

All Orders

List Of Orders
Here you can view all orders

Current order

Lorem nes stuf

All order

Lorem nes stuf

News

Lorem nes stuf

THE MENU

STARTERS

Pohe	₹20
+	
-	
Wadapav	₹10
+	
-	
Tea	₹10
+	
-	

Orders

Pohe 3

Wadapav 4

Tea 4

₹140

9 Conclusion

Thus, we have studied how to use opensource database and implemented Canteen Management System using various concepts of MySQL.