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Three Tier Architecture

1) Presentation Layer:

At the presentation layer, the Data Base Management Application System sends HTTP request where it accepts the returned HTML (Containing js, css, image files etc.) and is displayed. The user inputs are accepted after a variety of controls or validations on a form. The data received is displayed after a series of user inputs taken and is displayed in the desired form.

2) Application Layer:

- **Sever : Apache**
- **Server Script : PHP**
- Also used the MYSQL + PHP embedded statements to interact with the database and dynamically retrieve the data as per the user inputs from the presentation layer.

3) Persistence Layer:

The database is created through simple MYSQL statements. And for the date and time functions Triggers are created using MYSQL commands. The list of Data Definition language (DDL) statements are as follows

- **Employees:** create table Employees(Name varchar(100) NOT NULL, Designation varchar(100) NOT NULL, Employee_id varchar(10) NOT NULL UNIQUE PRIMARY KEY, Address varchar(500) NOT NULL, Mobile varchar(10) NOT NULL, Alternate_Mobile varchar(10) DEFAULT NULL, Email varchar(100) DEFAULT NULL)
- **OpenShift:** create table OpenShift(Date date, Employee_id varchar(10) NOT NULL, OpeningTime time, FOREIGN KEY(Employee_id) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
  create trigger DateTime before insert on OpenShift for each row set NEW.Date = NOW(), NEW.OpeningTime = NOW();
- **Close Shift:** create table CloseShift(Date date, Employee_id varchar(10) NOT NULL, ClosingTime time, FOREIGN KEY(Employee_id) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
  create trigger DateTime1 before insert on CloseShift for each row set NEW.Date = NOW(), NEW.ClosingTime = NOW();

- **OpenBillingOutlet:** create table OpenBillingOutlet (AccountingDate date, Employee_id varchar(10) NOT NULL, SessionStartTime time, OpeningAmount float(20,4) NOT NULL, FOREIGN KEY(Employee_id) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
  create trigger DateTime3 before insert on OpenBillingOutlet for each row set New.AccountingDate = NOW(), New.SessionStartTime = NOW();
- **CloseBillingOutlet:** create table CloseBillingOutlet (AccountingDate date, Employee_id varchar(10) NOT NULL, SessionEndingTime time, ClosingAmount float(20,4) NOT NULL, FOREIGN KEY(Employee_id) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
  create trigger DateTime4 before insert on CloseBillingOutlet for each row set New.AccountingDate = NOW(), New.SessionEndingTime = NOW();
- **Items:** create table Items(ItemCode varchar(10) NOT NULL PRIMARY KEY, ItemName varchar(100) NOT NULL, Type ENUM("VEG TANDOORI","VEGETARIAN SALAD","NON VEG SALAD","VELETABLE SOUPS","NON VEG SOUPS","CHINESE VEG STARTERS","CHINESE NON VEG STARTERS","SOUTH INDIAN NON VEG STARTERS","SOUTH INDIAN NON VEG STARTERS","INDIAN CURRIES FROM SEA & RIVE","CHOICE OF INDIAN CHICKEN","CHOICE OF INDIAN MUTTON","CHOICE OF INDIAN VEGETARIAN","CHINESE NON VEG MAIN COURSE","CHINESE VEG MAIN COURSE","LENTILS","TRADITIONAL NON VEG BIRYAANIS","INDIAN VEG BIRYANI, PULAO, RICE","NON VEG CHINESE RICE & NOODLES","VEG CHINESE RICE & NOODLES","INDIAN BREADS","DESSERT","OTHERS","SOFT DRINK"), Rate float(10,2) NOT NULL, Tax float(4,2), Discount float(4,2), NC float(4,2),CONSTRAINT Tax_Ck CHECK (Tax BETWEEN 1 AND 100),CONSTRAINT Discount_Ck CHECK (Discount BETWEEN 1 AND 100),CONSTRAINT NC_Ck CHECK (NC BETWEEN 1 AND 50));
- **PurchaseOrder:** create table PurchaseOrder (PurchaseOrder_id int(10) UNIQUE AUTO_INCREMENT, PODate date, Vendor varchar(100) NOT NULL, POValue float(5,2) NOT NULL, DeliveryDate varchar(10) NOT NULL, PaymentTerms varchar(200), Authorization

varchar(100), Employee_id varchar(10), status ENUM('TO BE DELIVERED','PENDING','DELIVERED'), FOREIGN KEY(Employee_id) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
create trigger DateTime5 before insert on PurchaseOrder for each row set New.PODate = NOW();

- **PurchaseRequisition:** create table PurchaseRequisition (RequisitonDate date, Department ENUM('KITCHEN','MANGEMENT'), Requisition_Reference varchar(100), CreatedBy varchar(100), Authorization varchar(100), FOREIGN KEY(Authorization) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
create trigger DateTime6 before insert on PurchaseRequisition for each row set New.RequisitonDate = NOW();
- **PhysicalStockEntry:** create table PurchaseRequisition (RequisitonDate date, Department ENUM('KITCHEN','MANGEMENT'), Requisition_Reference varchar(100), CreatedBy varchar(100), Authorization varchar(100), FOREIGN KEY(Authorization) REFERENCES Employees(Employee_id) ON UPDATE CASCADE ON DELETE CASCADE);
create trigger DateTime6 before insert on PurchaseRequisition for each row set New.RequisitonDate = NOW();
- **Transactions:** create table Transactions(ItemCode varchar(10), Transaction_id varchar(100) NOT NULL, STORE ENUM('KITCHEN','MANAGEMENT'), Item_Name varchar(100) NOT NULL, Quantity int(10) NOT NULL, PricePerUnit float(10,2) NOT NULL, TotalPrice float(20,2) NOT NULL, FOREIGN KEY(ItemCode) REFERENCES PhysicalStockEntry(ItemCode) ON UPDATE CASCADE ON DELETE CASCADE);
- **CustomerDetails:** create table CustomerDetails(Customer_id int(11) UNIQUE AUTO_INCREMENT PRIMARY KEY, Name varchar(100) NOT NULL, TableNo ENUM('1','2','3','4','5','6','7','8','9','10','11','12','13','14','15','16','17','18','19','20'), NoofCovers ENUM('1','2','3','4','5','6','7','8','9','10'), NoofPeople int(10) NOT NULL, NC ENUM("YES", "NO"), DateTime datetime);
create trigger DateTime7 before insert on CustomerDetails for each row set New.DateTime = NOW();

- **OrderEntry:** create table OrderEntry(Customer_id int(11), ItemCode varchar(10), Qunatity int(11) NOT NULL, PricePerUnit float(5,2) NOT NULL, ModificationsInDish varchar(1000) , ModificationsPrice float(5,2), FinalItemPrice float(10,2) NOT NULL, Discount float(5,2), NetPrice float(10,3) NOT NULL,Status ENUM(‘ORDERED’,’COOKING’,’SERVED’) DEFAULT ‘ORDERED’, FOREIGN KEY(Customer_id) REFERENCES CustomerDetails(Customer_id) ON UPDATE CASCADE ON DELETE CASCADE, FOREIGN KEY(ItemCode) REFERENCES Items(ItemCode) ON UPDATE CASCADE ON DELETE CASCADE);
- **Payment:** create table Payment(BillNo int(11) NOT NULL UNIQUE AUTO_INCREMENT PRIMARY KEY, Customer_id int(11), TotalAmount float(20,4) NOT NULL, ServiceTax float(5,2) NOT NULL, ModeOfpayment ENUM("CASH","CARD"), CONSTRAINT ServiceTax_Ck CHECK (ServiceTax BETWEEN 1 AND 100), FOREIGN KEY(Customer_id) REFERENCES CustomerDetails(Customer_id) ON UPDATE CASCADE ON DELETE CASCADE);