بسم الله الرحمن الرحيم

Capstone Project

- Define Scope: Restaurant System.

- Define Mandatory Objects: SuperAdmin, Admin, Client, Driver

- Software Type: Customized.

SuperAdmin:

- Super Admin Login

- Super Admin Access Token Generation

- Super Admin Reset Password

- Super Admin Create Other Admin

- Super Admin Manage Admin Activation

- Super Admin Reset Other Admin Account Password

- Super Admin Update Other Admin Account

- Super Admin Remove Other Admin Account

- Super Admin Explore Other Admins

- Super Admin Logout

Admin:

- Admin Login

- Admin Access Token

- Admin Create Role

- Admin Explore Existing Role

- Admin Disable / Enable Role

- Admin Update Role

- Admin Create Employee

- Admin Explore Employee and Their Role

- Admin Update Employee Information

- Admin Enable / Disable Employee Account

- Admin Reset Employee Account

- Admin Explore Client

- Admin Disable / Enable Client

- Admin Explore Client Order History

- Admin Explore Client Details

- Admin Explore Client Reported Issue

- Admin Explore Client Delivery Locations

- Admin Create New Category

- Admin Explore Category

- Admin Disable / Enable Category

- Admin Update Category Information

- Admin Create Discount / Offers

- Admin Explore Discount / Offers

- Admin Disable / Enable Discounts and Offers

- Admin Update Offers Information

- Admin Create Item

- Admin Explore Item

- Admin Disable / Enable Item

- Admin Update Item

- Admin Update Problem Ticket

- Explore Notifications

- Admin Change Order Status

- Admin Can Logout

Client:

- Client Install Application

- Client Explore Guidance Screen for the First Time usage

- Client Access Application After First Run

- Client Signup

- Client Google Sign in

- Client Facebook Sign in

- Client Apple Sign in (on apple phone only)

- Client Sign In

- Client Password Reset with Verification Code

- Client Explore Categories

- Client Explore Special offer

- Client Explore Top Rated Items

- Client Explore Recommended Item

- Client Explore Item Under Categories

- Client Explore Item Details

- Client Add Remove Item from Favorite List

- Client Manage Item Cart Quantity

- Client Submit (Checkout) Order

- Client Explore the Latest Notification

- Client Track Order

- Client Communicate with Driver

- Client Rate Order and Delivery Man

- Client Track Order

- Client Logout from Application

Delivery:

- Captain Sign In

- Captain Explore the Assigned Order

- Captain Start Shipment for Order

- Captain Complete Shipment

- Captain Logout

- Summarize System Objects:

- Shared Attribute: id, createdby, updatedby, isActive, updatedate, creationdate.

- SuperAdmins: Name, Email, Password, **LastLogin**

- Admins: FirstName, LastName, Email, UserName, PhoneNumber, Password (Auto Generated),   
 Profile Image, UserType, Status, LastLogin, RoleID & Permissions, JoinDate, EndDate

- Clients: FirstName, LastName, Email, UserName, PhoneNumber, Password (Auto Generated),   
 Profile Image, UserType, Status, Birthdate, SavedAddress, FavoriteItems, OrderHistory,   
 PaymentMethods, AccountStatus.

- Deliveries: FirstName, LastName, Email, UserName, PhoneNumber, Password (Auto   
 Generated), UserType, CurrentOrders, GPSLocation, Ratings,   
 NumOfCompletedDeliveries, VehiacleType

- Employees: FirstName, LastName, Email, UserName, PhoneNumber, Password (Auto   
 Generated), Profile Image, JoinDate, EndDate, RoleID

- Orders: ClientID, ListOfItems, TotalPrice, DiscountID, DelieveryFee, OrderStatus,   
 AssignedCaptainID, PaymentMethod

- Items: CategoryID, EnglishName, ArabicName, DescriptionEN, DescriptionAR, ImagePath, Price,   
 DiscountID, StockQuantity, IsActive

- Categories: EnglishName, ArabicName, ImagePath.

- Discounts: TitleEN, TitleAR, DescriptionEN, DescriptionAR, StartDate, EndDate,   
 DiscountPercentage, Code, AppliesTo, LimitUsage.

- Addresses: ClientID, Title, Region, AdressDetails, GPSLocation

- PaymentMethods: ClientID, CardType, Last4Digits, ExpiryDate, IsDefault.

- OrdersTracking: OrderID, CaptainID, CurrentStatus, LastUpdatedLocation,   
 EstimatedArrivalTime

- Notifications: AdminID, ClientID, CaptainID, title, message, NotificationType, IsRead

- Rating & Reviews: ClientID, OrderID, CaptainID, ItemID, RatingValue, ReviewText.

- ReportedIssues: ClientID, OrderID, IssueType, Description, Status, AdminResponse.

- Role: RoleNameEN, RoleNameAR, ListOfUsersIDs,

- Permissions: PermissionName, PermissionDescription

- Generalization/ Specialization:

- Generalization:

Admins, Clients, Deliveries, Employees => User

User: UserID, FN, LN, Email, Password, PhoneNumber, ProfileImage, UserType, Status

- Specialization: These Are Inherited from Users Table

Admin: AdminID, RoleID, Permissions, JoinDate, EndDate, LastLogin

Clients: ClientID, Birthdate, SavedAddresses, FavouriteItems, OrderHistory,   
 PaymentMethod, AccountStatus

Deliveries: CaptainID, CurrentOrders, GPSLocation, Ratings, NumOfCompletedDeliveries,   
 VehicleType

Employees: EmployeeID, RoleID, JoinDate, EndDate

- Define Relationships:

- Inheritance:

Relation between Shared Properties as Parent and the parent entities as children.

(Id, CreationBy, CreationDate, UpdatedBy, UpdatedDate, isActive)

SuperAdmins

Users (Admin, Client, Deliveries, Employees)

Orders

Items

Categories

Discounts

Addresses

OrdersTracking

Notifications

Rating & Reviews

ReportedIssues

Role

Permissions

- Composition:

- Strong Dependency:

Orders & OrdersTracking ---> (1: 1)

Clients & Addresses ---> (1:M)

Clients & PaymentMethods ---> (1:M)

- Weak Dependency:

Clients & Orders ---> (1:M)

Orders & Items ---> (M:M)

Orders & Discount ---> (0 or 1: M)

- One-to-many:

SuperAdmin & Admins ---> (1:M)  
Admin & Employees ---> (1:M)  
Admin & Clients ---> (1:M)  
Admin & Categories ---> (1:M)  
Admin & Discounts ---> (1:M)  
Admin & Items ---> (1:M)  
Admin & Notifications ---> (1:M)  
Admin & ReportedIssues ---> (1:M)  
Admin & Roles ---> (1:M)  
Employees & Role ---> (M:1)  
Role & Permissions ---> (M:M)  
Clients & ReportedIssues ---> (1:M)  
Clients & Notifications ---> (1:M)  
Clients & Ratings & Reviews ---> (1:M)  
Clients & Orders ---> (1:M)  
Clients & PaymentMethods ---> (1:M)  
Clients & Addresses ---> (1:M)  
Deliveries & Orders ---> (1:M)  
Deliveries & OrdersTracking ---> (1:M)  
Orders & Notifications ---> (1:M)  
Orders & Ratings & Reviews ---> (1:M)  
Categories & Items ---> (1:M)  
Employees & Role ---> (M:1)

-Many-To-Many:

Clients & FavoriteItems ---> (M:M)  
Orders & Items ---> (M:M)  
Roles & Permissions ---> (M:M)

- LOOKUPS:

Role, Permissions, Categories, DiscountTypes, IssueType, OrderStatus, NotificationTypes, PaymentMethods, AccountStatus, Regions, Provinces, VehicleType, ItemOptionTypes.

- Normalization:

Users (Generalized)

UserID (PK)

FirstName

LastName

Email (Unique)

PhoneNumber

Password

ProfileImage

UserType

Status

Admin

AdminID (PK, FK -> Users)

RoleID (FK)

JoinDate

EndDate

LastLogin

Client

ClientID (PK, FK -> Users)

BirthDate

AccountStatusID (FK)

Delivery (Captain)

CaptainID (PK, FK -> Users)

VehicleTypeID (FK)

NumOfCompletedDeliveries

Employee

EmployeeID (PK, FK -> Users)

RoleID (FK)

JoinDate

EndDate

Entities Related to Operations

Role

RoleID (PK)

RoleNameEN

RoleNameAR

Permission

PermissionID (PK)

PermissionName

PermissionDescription

RolePermissions (Linking)

RoleID (FK)

PermissionID (FK) (Composite PK = RoleID + PermissionID)

Order

OrderID (PK)

ClientID (FK)

DeliveryFee

DiscountID (FK, Nullable)

OrderStatusID (FK)

AssignedCaptainID (FK)

PaymentMethodID (FK)

Item

ItemID (PK)

CategoryID (FK)

EnglishName

ArabicName

DescriptionEN

DescriptionAR

ImagePath

Price

StockQuantity

IsActive

OrderItems (Linking)

OrderID (FK)

ItemID (FK)

Quantity  
(Composite PK = OrderID + ItemID)

FavoriteItems (Linking)

ClientID (FK)

ItemID (FK)  
(Composite PK = ClientID + ItemID)

Supporting Entities

Category

CategoryID (PK)

NameEN

NameAR

ImagePath

IsActive

Discount

DiscountID (PK)

TitleEN

TitleAR

DescriptionEN

DescriptionAR

StartDate

EndDate

DiscountPercentage

Code

LimitUsage

Address

AddressID (PK)

ClientID (FK)

RegionID (FK)

ProvinceID (FK)

AddressDetails

GPSLocation

Title

PaymentMethod

PaymentMethodID (PK)

ClientID (FK)

CardTypeID (FK)

Last4Digits

ExpiryDate

IsDefault

Behavioral / Process Entities

OrderTracking

TrackingID (PK)

OrderID (FK)

CaptainID (FK)

CurrentStatus

LastUpdatedLocation

EstimatedArrivalTime

Notification

NotificationID (PK)

ReceiverID (FK -> Users)

Title

Message

NotificationTypeID (FK)

IsRead

Rating & Review

ReviewID (PK)

ClientID (FK)

OrderID (FK)

ItemID (FK, Nullable)

CaptainID (FK, Nullable)

RatingValue

ReviewText

ReportedIssue

IssueID (PK)

ClientID (FK)

OrderID (FK)

IssueTypeID (FK)

Description

Status

AdminResponse

Lookup Tables

AccountStatus (StatusID, NameEN, NameAR)

CardType (CardTypeID, Name)

NotificationType (NotificationTypeID, NameEN, NameAR)

IssueType (IssueTypeID, NameEN, NameAR)

VehicleType (VehicleTypeID, NameEN, NameAR)

OrderStatus (StatusID, NameEN, NameAR)

Region (RegionID, NameEN, NameAR)

Province (ProvinceID, NameEN, NameAR)

ItemOptionType (OptionTypeID, NameEN, NameAR)

-ERD:

