

CO226 - Database Systems

Project Description

Group 03

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eMart

The Online Marketplace

Introduction

eMart is an e-commerce site that provides services and supplies to their customer. It's often known as an electronic marketplace and all transactions are managed by the website owner. Employees use eMart to reach customers who want to purchase their products and services.

eMart has its own inventory. So, customers can buy products in wide range.

When we considering history of online marketplaces,

Since 1995, when eBay and Craigslist were launched, online marketplaces have existed. When eBay first debuted, it was a location where sellers and buyers could meet in an auction setting. There are numerous online marketplaces today, including Amazon, eBay, Alibaba, bol.com and, Walmart.

The biggest advantages of the eMart are,

- It saves customer's time and money.
- It's an additional money stream.
- It lowers the cost of marketing.
- It ensures that availability, stock levels, and prices are all transparent.
- Customers can easily compare prices using this method.
- It creates a seamless shopping experience to the customer, 24 hours a day, seven days a week.
- It establishes a bond of trust between eMart and its customers.
- Customers are more inclined to buy from the eMart that offers a diverse selection of products.

To complete a purchase, the shopper does not need to go to another website; instead, the transaction is completed on the marketplace's website. Customers can also place orders for many items in one transaction. Fulfillment is instantaneous upon checkout for many digital products and services, and delivery can begin right away.

The eMart still working on ways to get things onto stores even faster. eMart is putting forth a lot of effort to improve our systems.

eMart is based on three major areas. They are customers, employees and services & supplies. In here customers and employees are users who are cooperated with services and supplies.

Key objectives of the system

- To save customers time and to make their life easier with one click online shopping experience instead of wasting their valuable time and money in road traffics and supermarkets.
- To keep people healthier in this covid-19 pandemic situation and to make social distancing at public places.
- To let Employees, find clients and opportunities easily and make easiness of their occupation.
- To give Customer more than usual shopping experience while they can get their day-to-day services in their life.
- To track all the information of products.
- To manage the delivery details, online payment details, customer details, details of employees and details of shopping.
- To update, delete and add records and resources.
- To keep users' data safe.

Users of the system

There are three types of users mainly.

- Customers that get services and supplies
- Employees that give services
- Administrators of the system (to manage the system)

Functionalities that the system should support for each user

- ❖ *Customer*
 - Register on the system to do further shopping
 - Surf on the eMart for various categories of shopping items
 - Can get e-health solutions
 - Can get taxi service with multiple choices and tow service
 - Choose suitable payment options (Cash on delivery and card payments)
- ❖ *Employee*
 - Register on the system to provide further services
 - Can easily identify a customer who wants a specific service
 - Receive real time earnings to their bank accounts
- ❖ *Administrators*
 - Authority to add or remove users of the system
 - Permission to add or remove items
 - Permission to change the prices
 - Manage details of users
 - Manage details of services and products

Features of the system and users

eMart database can be described under three major categories

1. Users
2. Services
3. Products

Users can be described as

- Employees
- Customers

Services can be described as

- E-health solutions
- Ride
- Delivery

Products can be described as

- Food & beverages
- Grocery items
- Pharmaceutical products
- Home appliances
- Clothing and shoes

From the Users,

Employees can be described as

- Employee ID
- First Name
- Last Name
- National ID card number
- Occupation
- Permanent address
- Telephone Number (Employee can have two telephone numbers but should not be empty)
- Email address
- Payment details
- Password (To log into the system)

Customer can be described as

- Customer ID
- First name
- Last name
- National ID Card number
- Address (Customer can have two addresses but should not be empty)
- Telephone Number (Customer can have two telephone numbers but should not be empty)
- Postal Code
- Email address

- Payment details
- Password (To log into the system)

From the services,

E-health solutions can be described as,

- Receipt number
- Patient ID
- Doctor ID
- Reserved date
- Payment

Ride service can be described as,

- Receipt number
- Customer ID
- Driver ID
- Type of ride (taxi or tow)
- Type of vehicle (Car, Van, and Tow truck)
- Date
- Payment

Delivery service can be described as,

- Receipt number
- Customer ID
- Driver ID
- Item ID(s)
- Type of vehicle (Motorcycle, Van, and Truck)
- Date
- Payment

From the products,

Food and beverages can be described as,

- Food

This can be described as

- Food ID
- Food type (Bakery items, Snacks, Dairy products etc.)
- Food name
- Price

- Beverage

This can be described as

- Beverage ID
- Beverage type (Hot and Cold)
- Beverage name
- Price

Grocery items can be described as,

- Item ID
- Item type (Fruit & vegetables, cereals, fish & meat, stationaries etc.)
- Item name
- Unit price

Pharmaceutical items can be described as,

- Item ID
- Item type (first aid, skin & hair care, Pain relief, lifestyle & wellbeing, cough & cold relief)
- Item name
- Unit price

Home appliances can be described as,

- Electronics
This can be described as
 - Item ID
 - Item type (kitchen or home)
 - Item name
 - Item price
- Furnitures
This can be described as
 - Item ID
 - Item name
 - Item price

Clothing and Shoes can be described as,

- Clothing
This can be described as
 - Item ID
 - Item type (Gents, Ladies, Kids)
 - Item Size (Small, Medium, Large)
 - Item name
 - Price
- Shoes
This can be described as
 - Item ID
 - Item type (Gents, Ladies, Kids)
 - Item Size (Small, Medium, Large)
 - Item name
 - Price

Payment details can be described as,

- Card details

This can be described as

- User ID
- Card number
- Name on the card
- Expire date
- CVV

- Bank details

This can be described as

- User ID
- Account number
- Bank name
- Branch name

First user must register on the system by providing required details. Then user should log in to system as a customer or an employee.

Among above-described categories,

- Neither employee nor customer can add or delete any item of the database because, item list is given by the system.
- Employee should register only one service. Service can have several employees.
- In e-health solutions, customer can channel a doctor who is an employee in the system. Every doctor is an employee, but every employee is not a doctor.
- In ride service, one customer can choose only one category at once. Customer can select only one taxi type. One taxi type can have one or more customers or none. Every driver should be employee.
- In delivery service, one customer should have one delivery type according to the order.
- In supplies, customer can pick multiple categories at once. One item can be picked by multiple customers.
- In home appliances, customer can choose either electronic items or Furnitures.