

DBMS ASSIGNMENT- 1

Online Shopping Management System

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Problem Statement:

To design and implement a database for an online shopping management system.

Nowadays most of the purchasing of the items that are needed for the daily basis, can be done through online mode. There are many shopping websites like Amazon, Flipkart and many more. People without wasting much energy in going to the shops to buy the items that are required can purchase it online. This will help in saving the energy, fuel, time needed to do the shopping in-store. This project will focus on the backend used in an online shopping website. The application would enable selling of products brand and category wise along with displaying the reviews. The website consists of saved user details, cart to which items can be added and list of previous orders placed.

Scope of development: The system could extend to permit users to make multiple accounts with different privileges. Could feature a wish list. Users could be allowed to subscribe for price drop alerts on products of their choice, and also receive a notification when a product of their liking comes back to stock. Users can have multiple shipping and billing information saved. During checkout they can use the drag and drop feature to select shipping and billing information.

Detailed description about entities:

User

This entity describes the details of the user. Attributes of the entity are- Name, User id, Password, Phone no, Email address, DOB. This helps in keeping track of important information of the user for verification and easy usage of the website so that some details need not be entered every time an order is placed. The primary key is User Id.

Cart

Cart displays the list of products along with their product ids which will be bought by the user. Also consists of billing address and shipping address. Cart will be used every time a new order needs to be placed and it only consists of the items that were added on that particular order. This is a weak entity and the primary key of User i.e User Id will be the foreign key for Cart.

Transaction

Transaction details mention the selected procedure for payment whether it is cash, card, net banking or UPI payment. It also tells the total amount to be paid by the user. The attributes are- Transaction id, Transaction mode, Amount. Primary Key is Transaction Id

Order

Orders keep track of the orders which are bought by the user as it ensures guaranteed delivery and to improve the customer experience by providing users the necessary details which they might need for the future references. The attributes in the entity includes Order id, Delivery date, Order placed date and Total amount. Primary Key is Order Id.

Product

Products are the items that are sold across the online platform which includes a wide range and variety of commodities according to the users choice. It provides the users with the convenience to choose among the top brands at its best price. The attributes present in this entity includes - Product id, Product name, Product description, Product price and Quantity left. Primary Key is Product Id

Brands

Collection of various brands offered. Brand id- helps uniquely identify the brand and consists of brand name too. Also consists of the brand website. Products are related to brands, as one product may be sold by various brands. Primary Key is Brand Id.

Supplier

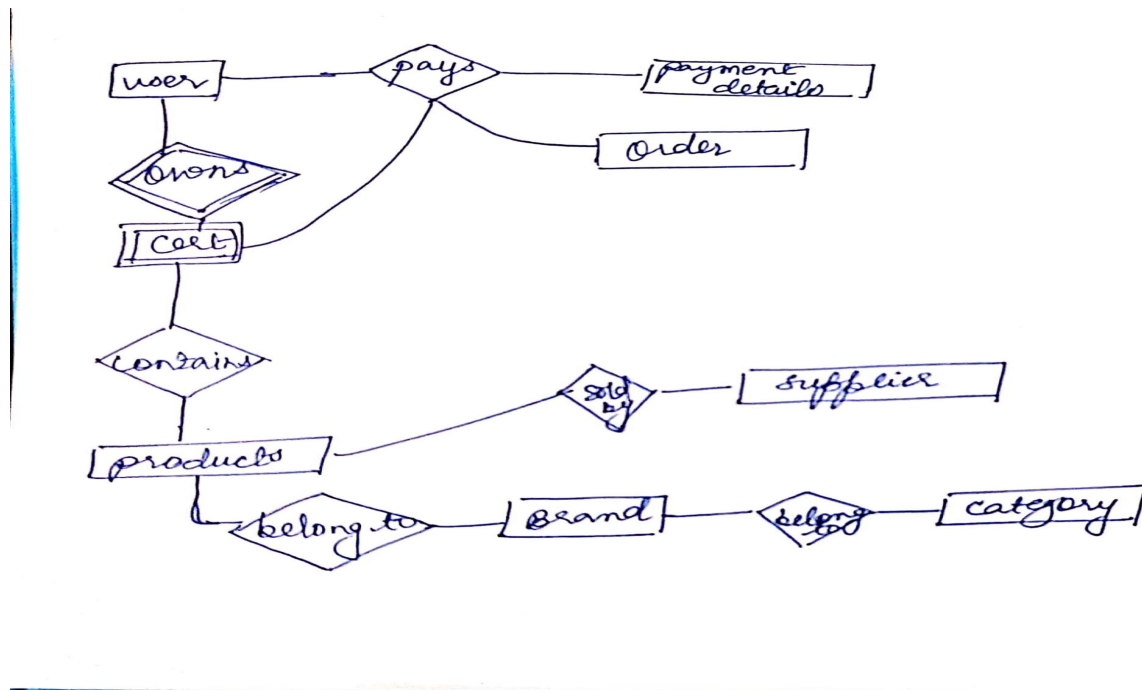
This entity provides the details regarding the manufacturer and the staff associated with the manufacturing of the related products so that the user in case of dissatisfaction or any inconvenience caused with respect to the desired product, can contact them with their queries. The attributes include- supplier id, supplier name, phone number, email address, website. Supplier is related to a brand, as a single brand could be sold by multiple suppliers. Primary Key is Supplier Id.

Reviews

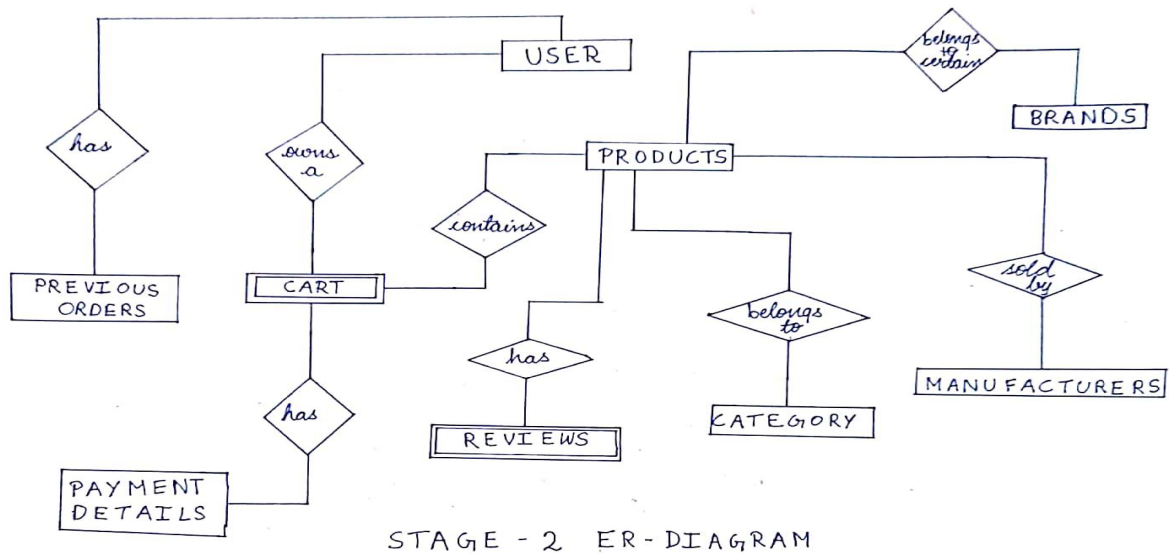
This helps keep track of customer reviews about products and helps then make a better choice about their buyings. Lets the customer rank a product out of 5 stars (Rating), the review content

is in review description. Also stores the date of review submitted, and the user by which the review is submitted. So a user can drop reviews and also look up reviews about a particular brand. The attributes include - Reviewed Date, Reviewed By, Rating and Review Description. This a weak entity and the primary key of Product i.e Product Id will be foreign key for Reviews

Stage 1 ER diagram



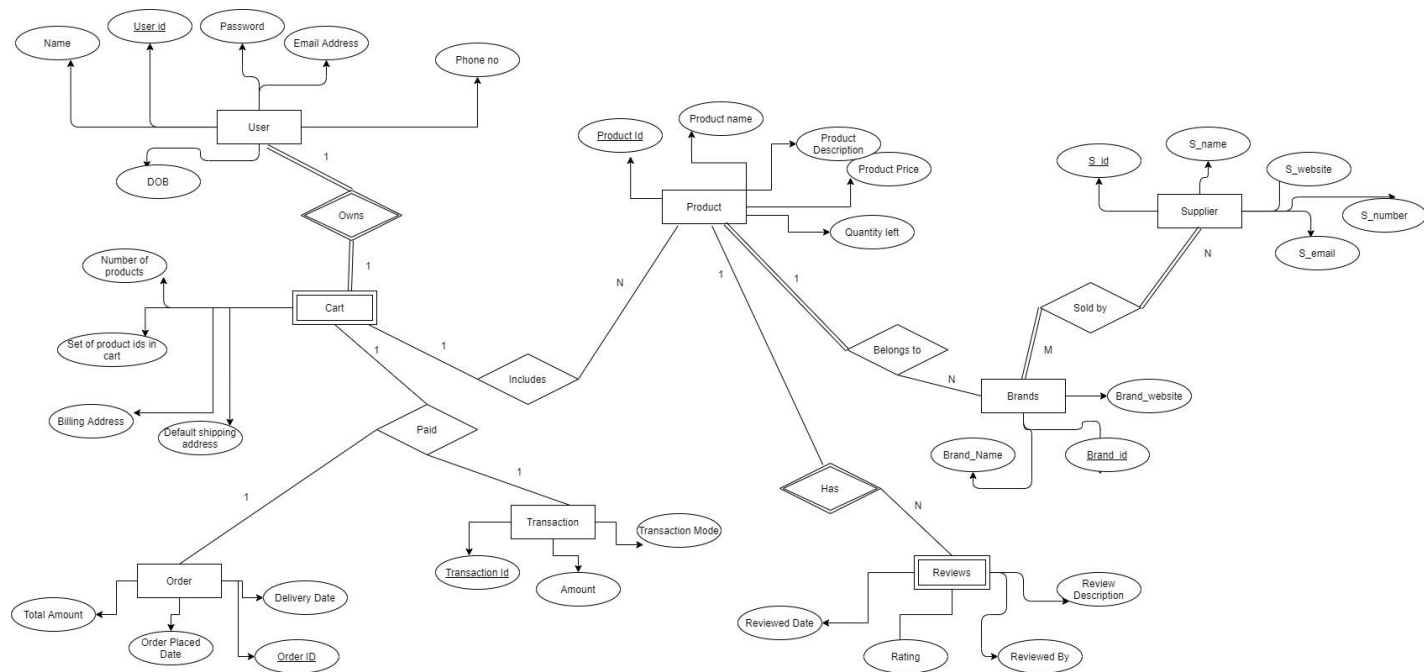
Stage 2 ER diagram



Tool Used:

Draw.io is the tool which we used for our final ER - Diagram as it is a flowchart solution designed to help developers, network admins, IT analysts, and designers. It uses drag-and-drop functionality to create and publish diagrams. The system enables professionals to toggle layers with customizable URLs and align texts within the shapes.

FINAL ER DIAGRAM



Contributions:

The problem statement and description of User and Cart entities by Yashaswini.

The description of Transaction, Products and Order entities by Vandana B.

The scope of the project, and description of brands, reviews and supplier entities by Yashi Chawla.

The stages of the ER Diagram(including final soft copy) was done together over a google meet call and we used draw.io as it allows collaboration.