Databases and Web Services 2024 Homework 1

CASE Bicycles

Intended Functionality

Our project is an online store and database management system called "CASE Bicycles", designed for buying and selling bicycles and bicycle parts. Our target audience includes both buyers and sellers of bicycles and accessories, with our store acting as the logistical bridge between them. The platform will use MySQL to store and manage the stock that sellers input, allowing buyers to browse through this selection and make purchases. Customers and sellers will have separate account types, allowing them to access different functionalities within the application.

From the buyers' perspective, the store will offer the ability to browse, sort, and search for bicycle products using various categories as specified in the ER diagram, making it easier to find the right product. Buyers will be able to choose products through an intuitive stock system, add the items they want to their cart, confirm their credentials and shipping address, and complete their purchase using cash on delivery. Additionally, we will implement a picking list system, where every order will be assigned a unique order ID. This allows buyers to select any item they want in the desired quantity, provided the stock is available, and place all of these items under a single order. This process makes it simpler for sellers to ship the products and for customers to receive them efficiently.
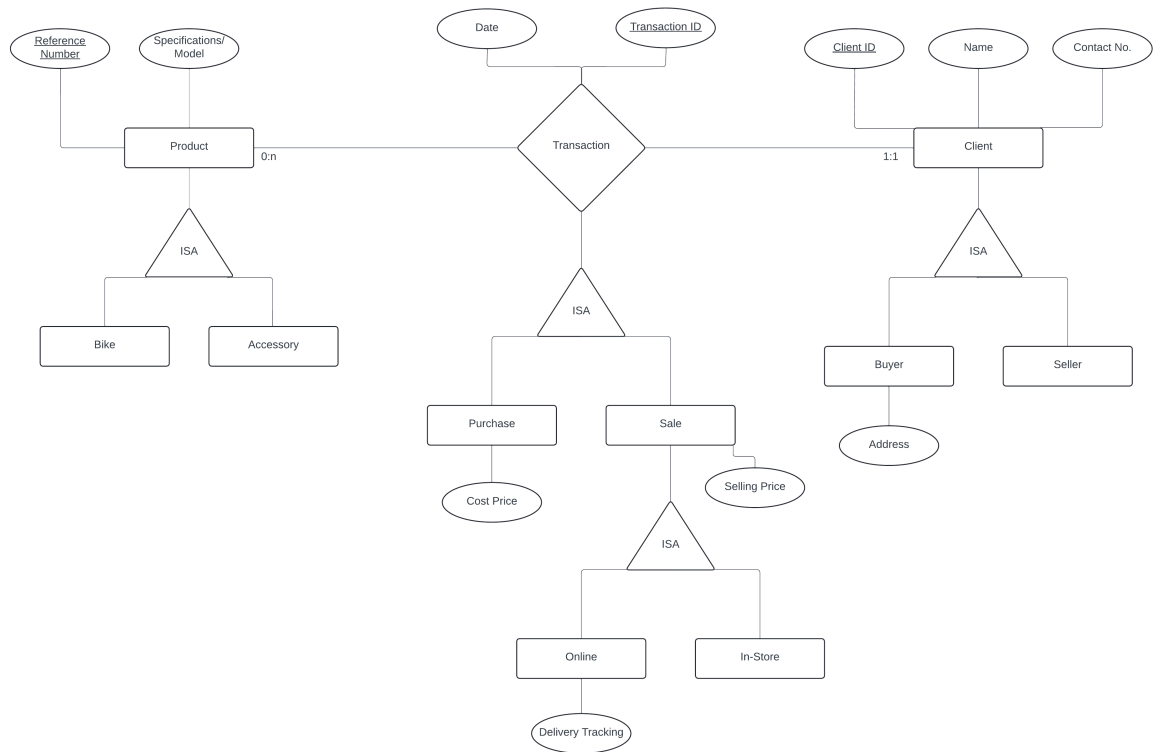
From the sellers' perspective, the platform will allow sellers to input their products, add or remove stock, and organize the products under the appropriate categories within the database. Sellers will also have the ability to add images and product descriptions to their listings, which will be visible to customers browsing the store. They can view their inventory, edit product details and descriptions, and make changes such as adjusting prices or adding discounts. When a buyer places an order, the system will automatically provide the seller with the buyer's name, address, and the pick list of products ordered, allowing the seller to package and ship the items to the appropriate customer.

For Buyers:

1. Multi-User Account Creation/login
2. Browsing Products/Filtering Results
3. Online Purchase Cart
4. Online Payment Gateway

For Sellers:

1. Seller Portal
2. Managing Stock
3. Handling Orders
4. Transaction Record Database

ER Diagram