

DBMS Project

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CartBharo - An Online Retail Store

Project Scope Of CartBharo-

This project aims to design and develop an avant-garde online retail store, inspired by the success of platforms like Blinkit. Focused on pushing the boundaries of user experience and technological integration, this online store will redefine the way customers engage with and purchase products, setting new standards for the e-commerce industry by using exceptional UI-UX design for easiness to move around the app and mind boggling features like schedule delivery, etc. The platform will offer a wide range of products, including groceries, electronics, clothing, and more. Our application **CartBharo** will manage and save data using MySQL to store and manage product, customer, and transaction data which will help me manage the data using ACID(Atomicity, Consistency, Isolation, Durability) properties, ensuring that database transactions are reliable and consistent, even in the event of system failures or crashes. This is crucial for maintaining data integrity. I will implement a smart cart system that intelligently suggests complementary products and notifies users of potential discounts or promotions. Need to develop a responsive design that caters to various platforms, including web browsers, tablets, and, mobile devices providing a consistent and optimized experience across all. AI-powered chatbots to assist customers in real-time, providing quick responses to inquiries and enhancing customer support will be implemented. Need to enhance user account security with 2FA, reducing the risk of unauthorized access to database. All the staff employed will follow a certain hierarchical system with proper responsibilities assigned to managers, vendors, heads, etc. At last, a complete proof system will be required to populate the tables with meaningful data for thorough testing of queries and the whole DBMS.

Stakeholders -

- Customers
- Project Manager
- Suppliers
- Supervisors
- Vendors
- Employees
- Database Administrator
- Application Programmers

Functional Requirements -

- For Retail Store of CartBharo, managers, supervisors and employees will take care of smooth and easy operations offline.
- For the online part, I will create a database which will store all the products in a unique manner like: **Product Id (Unique), Product Name, Product Price, Product Type, Pieces Sold** and all the users in manner like: **User Id (Unique), User Name, User Phone no, City, Pin, Address** so that they can be easily distinguished.
- For each new User Registration an OTP will be sent to their mobile for security reasons. For further logins, they can use either their phone numbers and password or email and password.
- All the info of Users can be changed by them, whereas info of products can only be changed by Managers and upper level employees.
- For each order, a unique Order Id will be generated which will be used to Track order details like shipping time, expected delivery data, etc.
- Coupons will be provided based on their app usage and other things like if User is new to the app, a discount of 20% will be given on first order. If a User frequently uses the app discounts of 10 - 15% will be randomly given. If the User doesn't use the app frequently, a discount of 15% will be given.
- Users' orders will remain stored in cart, and when he login again, the user can continue the purchase from their onwards.

- Managers can add employees under him/her, which will require info about his/her email and password. All stores and vendors will maintain data of daily sales, revenue, returns, etc.
- A transaction system will also be needed for both online and offline payments having attributes like: **Transaction Id, OTP generated, Delivery Charges** will be stored in database.
- Users can also save their Account Details and change them anytime.

Technical Requirements -

These specifies the technical requirements needed to design our database.

- Backend - MySQL, Python, flask(if needed)
- Frontend - HTML, CSS, JavaScript, Python
- Something for data security, such that users can't access Company's database.
- Schemas for tables and Relationship between them.



