

Application 3: Online store

An online store asks for an application to keep track of their products, prices, discounts, sales status, and customers. We interviewed the manager of the store to know about the requirements.

In this store, each product has a base price with various discounts on specific days/events. All the customers should be registered and logged in before any online shopping. Otherwise, they can only see the products' information and search for specific product. The application has two different types of users: admin (the application admin who is not a database admin) and customer. Here is a list of all requirements:

An **admin** can

- Add a list of suppliers, including their phone number and address;
- Add a product and its information to the stock. The information includes code, name, quantity (available amount of each product in stock), base price, and its supplier; *Please note that the quantity may decrease when the product is ordered by a customer or increase when the order is canceled.*
- Edit the quantity of a product to increase or decrease the available amount in stock;
- Delete a product from the list of products if it has not been sold yet;
- See a list of all products and their information; the admin can search and find a specific product(s) based on code, name, and supplier;
- Add a list of possible discounts, including the code, percentage, and the reason for that discount. For example, the Christmas discount is 15%, the Black Friday discount is 25%, old products have a 20% discount, etc;
- Assign specific discount codes to a particular product in particular date periods;

- See discounts' history to figure out, on which date, which product has/had a discount and how much discount, and final price of the product after discount.

A **customer** can

- Sign up and register him/herself by giving the required information, including first name, last name, email, address, city, country, and phone number. Each customer should be registered once. It means that if the customer has been registered before, there is no need to sign up again. Here, a customer must log in to be able to order any product;
- See a list of all available products, their information, and discount status. The customer can search for a specific product(s) based on code, name, supplier, and price. It should also be possible to see a list of discounted products in the current (search) date;
- Add one or more products (and their amounts) to the shopping list. The requested amount of each product should not be more than available amount of the product in stock; *Please note that by shopping an amount of product by a customer, the quantity (available amount of the product) must decrease automatically. However, as explained above, an admin can be able to increase the quantity of the product again.*
- See the shopping list's total price and accept to pay for that (no payment in this application is needed). It is important to keep each order's date and time and discount applied to each product on that order.

An **admin** can also

- Confirm an order: See a list of all new orders (which have not been confirmed yet) to confirm them. When an order is confirmed by the admin, it cannot be deleted by the customer anymore;
- See a list of products with maximum orders in each month.

A **customer** can also

- See a list of his/her orders;

- Delete an order just if it has not been confirmed by admin yet. Here, the quantity of the product in stock must increase again.