

COMP2411 – Database Systems

Submission Deadline: 1st Stage – 11-NOV-2023 | 2nd Stage – 2-DEC-2023

Weighting: 10% | 20%

Project Title: Online Shopping System (OSS)

The Online Shopping System (OSS) is described as follows:

OSS is a user-friendly platform that allows customers to browse, search, and purchase products, providing a seamless and convenient online shopping experience. You are required to create a Database Application and use SQL statements to enable the following basic features.

1. User Account Management:

- Allow users to create an account and securely authenticate themselves.
- Enable users to update their personal information, manage shipping addresses, change passwords, etc.

2. Product Listings and Search:

- Display a wide range of products available for purchase.
- Provide detailed information about each product, including descriptions, specifications, prices, customer reviews, etc.
- Enable users to search and filter products based on various criteria such as category, price range, brand, etc.

3. Shopping Cart and Checkout:

- Allow users to add products to their shopping cart.
- Provide a seamless checkout process, including options for choosing quantities (if there is enough stock), selecting shipping addresses, and making payments.

4. Inventory Management:

- Allow administrators to manage product inventory, including adding/deleting/updating products, updating stock levels, assigning categories to products, etc.

5. Reporting and Analytics:

- Generate analysis reports for administrators to review the system, e.g., to analyze data on sales, popular products, user behavior, etc., so that further promotions/discounts can be provided.

Feel free to add any other functionalities that you want the OSS to have, such as user watchlist, order tracking, customer support, etc.

What to do and submit?

1. You are required to form a group of **FOUR to SIX (4 ~ 6)** students. Send the list of group members (including student name, student ID, and primary contact of the group) to Dr. Wen Hua (wency.hua@polyu.edu.hk) through email on or before **27-OCT-2023**. In addition, this group project is divided into **TWO** stages.
2. For the **First Stage**, each group should submit the following to Blackboard on or before **11-Nov-2023 (Saturday)**:
 - According to the description of the Online Shopping System, **provide an ER diagram** to clearly define all necessary entities, for example, which entities are “weak” or “strong” as well as **the relationships** (*especially the many-to-many relationship and the N-ary relationship*) among the entities.
(*Note: You should have your assumptions to design your database application.*)
 - Generate a **relational schema** for the Online Shopping System based on ER diagram.
 - A **project plan or a project schedule** should be prepared and submitted.
3. For the **Second Stage**, each group should submit the following to Blackboard on or before **2-DEC-2023 (Saturday)**:
 - A **User Guide** explaining how to setup and use the OSS.
 - **Source code** file(s).
 - **Testing data** file(s).
 - Sample(s) of the **analysis report**(s).
 - A soft copy of the **presentation file**.
 - A **FIVE-minute (at most) video demonstration** to introduce and demonstrate your OSS (i.e., all the supported functionalities) using your testing data.
(*Note: all group members should present in the video.*)
 - **Contribution of Work**: A list to indicate/describe the workload of each member. The list should be **signed by all group members** to show your consensus.
 - **Peer Evaluation Form**: Each member should complete the Peer Evaluation Form and submit it to Blackboard.

*Note: All the above materials, except the Peer Evaluation Form, should be **submitted only by the primary contact** of your group.*

Late Submission Penalty – 33% per day.