**CZ2007 SS3 Group 2’s Lab 1 ER Diagram Writeup**

**Assumptions**

1. Users can only file a complaint to Shiokee about a product if he/she does not receive a product that has been shown to be “delivered” in an order.
2. Users can file a complaint to Shiokee about a shop anytime.
3. Complaints are uniquely identified by their own ID (key attribute).

**Diagram Explanation**

1. Relationship between Shops and Product
   1. Sell
      1. Supporting relationship of the weak entity set **Shops**. **Products** cannot be uniquely identified by their *Product ID* as there could be many products with the same *Product ID.* **Products** can, however, be uniquely identified by a composite key {*Shop ID, Product ID*}, with the *Shop ID* attribute from the supporting entity set **Shops.**
   2. History
      1. History entity will record the past prices of the products sold by the shops.
      2. Since shops can sell the same product and different products can be sold in a shop, it is a many to many relationship.
2. Relationship between Users and Orders
   1. Places
      1. Many-to-one relationship from **Orders** to **Users** with referential integrity on the **Orders** entity set. A user could place multiple orders but an order must be made by exactly one user.
3. Relationship between Orders and Products
   1. Contains
      1. Many-to-many relationship between **Orders** and **Products**. An order can be made up of many products and a product could be in many orders.
      2. Includes the attributes *price*, *quantity*, *status* and *delivery date*. The deadline for refunding the product will be computed on demand to prevent updating issues.
      3. These attributes cannot be included under the **Orders** entity set or **Products** entity set. For different products in the same order, the values of these attributes could be different. For different orders of the same product, the values of these attributes could be different.
4. Relationship between Users and Products
   1. Rate
      1. Many-to-many relationship between **Users** and **Products**. A user can rate many products and a product could be rated by many users.
      2. *Timestamp* attribute is used to find the average rating of a product in a time period.
5. Relationship between Users and Complaints
   1. Makes
      1. Many-to-one relationship from **Complaints** to **Users** with referential integrity on the **Complaints** entity set. There could be many complaints made by a single user but a complaint must be made by exactly one user.
6. Relationship between Complaints and Products
   1. About
      1. Many-to-one relationship from **Products** to **Complaints** with referential integrity on the **Products** entity set. There could be many complaints about a product but a specific complaint must be about exactly one product.
7. Relationship between Complaints and Shops
   1. About
      1. Many-to-one relationship from **Shops** to **Complaints** with referential integrity on the **Shops** entity set. There could be many complaints about a shop but a specific complaint must be about exactly one shop.
8. Relationship between Employees and Complaints
   1. Handles
      1. Many-to-one relationship from **Complaints** to **Employees** without referential integrity. An employee can handle many complaints but a complaint can only be handled by at most one employee. “Pending” complaints are not handled by any employee.
      2. The attributes *dateProcessed* and *dateHandled* allows us to determine the ‘latency’ of an employee in processing complaints.

APPENDIX C: INDIVIDUAL CONTRIBUTION FORM

| Name | Individual Contribution to Submission 1 (Lab 1) | Percentage of Contribution | Signature |
| --- | --- | --- | --- |
| Eugene Poh Yang Quan | * Writeup * ER diagram * discussion | 16.6 |  |
| Wong Yi Pun | * Writeup * ER diagram * discussion | 16.6 |  |
| Roy Lau Run-Xuan | * Writeup * ER diagram * discussion | 16.6 |  |
| Chua Zi Jian | * Writeup * ER diagram * discussion | 16.6 |  |
| Ryan | * Writeup * ER diagram * discussion | 16.6 |  |
| Koh Jun Kai | * Writeup * ER diagram * discussion | 16.6 |  |