

**ONLINE SHOPPING**

**Software Design Document**

– Hanoi, September 2021 –

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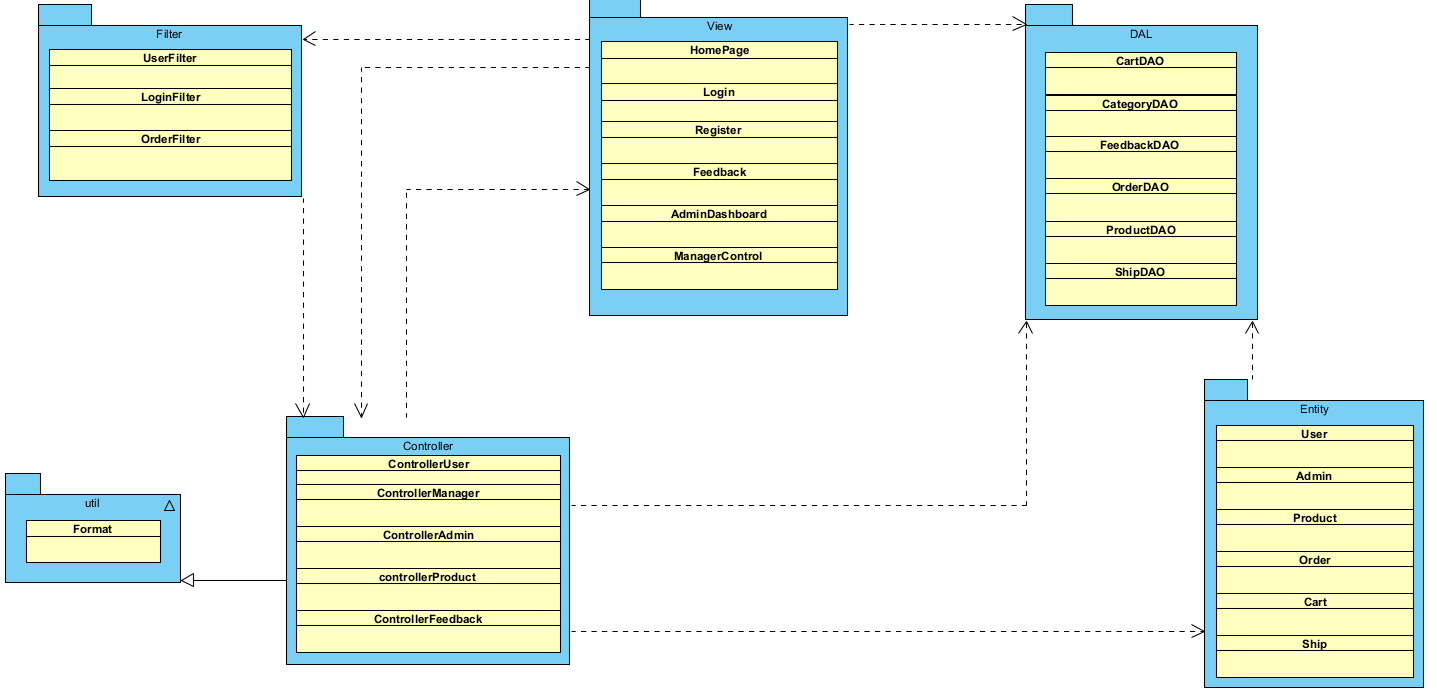
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# I. Overview

## Code Packages/Namespaces



***Package descriptions & package class naming conventions***

|  |  |  |
| --- | --- | --- |
| **No** | **Package** | **Description** |
| *01* | *View(Web Pages)* | *Provide interaction with user ,GUI*  *Java Class Naming Convention* |
| *02* | *Controller* | *Control the data flow between view and model (DAO),Control the logic of the system*  *Java Class Naming Convention* |
| *03* | *DAL* | *Provide the connection to the Database, Extract data for the system* |
| *04* | *Filter* | *Control the redirection between Pages in View and from View to Controller*  *Java Class Naming Convention* |
| *05* | *Entity* | *Define the logic of data extracted from Database*  *Java Class Naming Convention* |
| *06* | *Util* | *Utility Function* |

# II. Code Designs

## 1. Feature Product

### a. Class Diagram

### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 2. Search & Filter Product

### a. Class Diagram



### b. Class Specifications

Product

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *getProductQuery(Query,subcate,brand,price,sortType,sortMode)* | *Query product from database with input parameter* |

### c. Sequence Diagram(s)

**

### d. Database queries

* SELECT \* FROM dbo.ProductImg where ProductID = ?
* SELECT p.ProductID , ProductName , Description , OriginalPrice , SellPrice , SalePercent , SubCategoryID , SellerID , Amount , StatusID , StatusID ,BrandID , height , width ,weight , s.ProductImgURL from Product p join ProductImg s on p.ProductID = s.ProductID WHERE p.ProductName LIKE ? AND p.StatusID!= 2 AND p.Amount>0 [ AND SubCategoryID = ? ] [ AND BrandID = ? ] [AND p.SellPrice< ? AND p.SellPrice>= ? ] [ ORDER BY [ parameter ] ] [ ASC /DESC ]

## 3. View Product Detail

### a. Class Diagram

### b. Class Specifications

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *GetProductDetailsByProductID* | *Traverse from beginning to end all rows in the product table in the database* |

### c. Sequence Diagram(s)

### d. Database queries

SELECT \* from Product

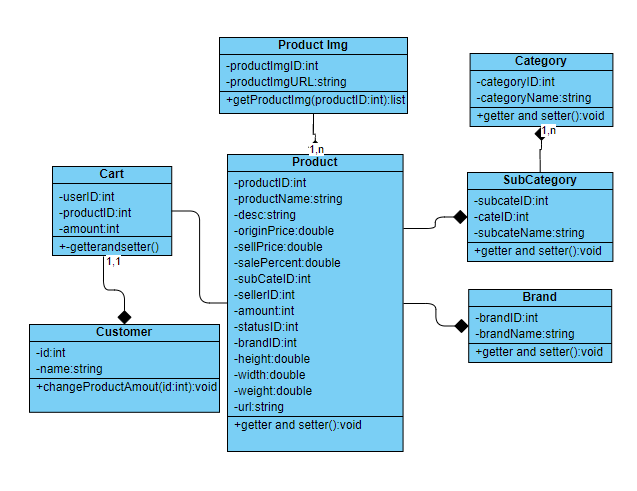
JOIN ProductImg

ON Product.ProductID = ProductImg.ProductID

WHERE Product.ProductID = ?

## 4. Change Amount

### a. Class Diagram

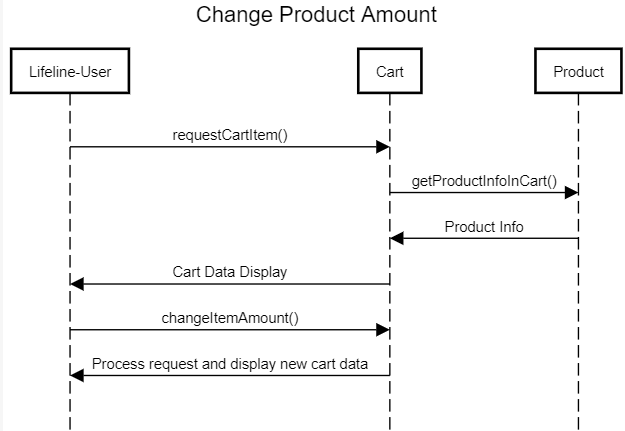


### b. Class Specifications

Customer

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *changeProductAmount()* | *Add or reduce amount of a product from cart* |

### c. Sequence Diagram(s)



### d. Database queries

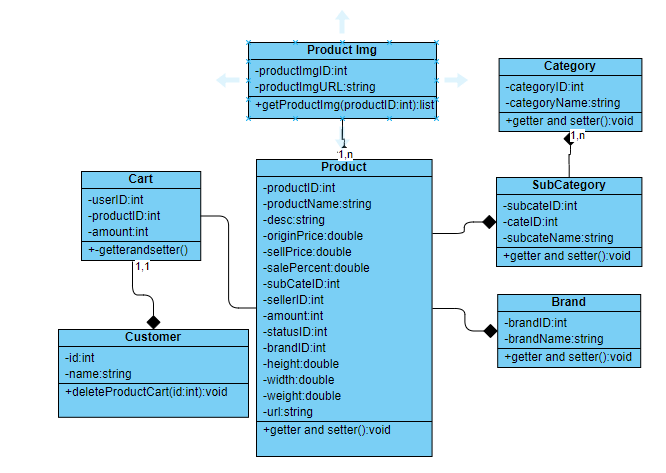
UPDATE dbo.cart

SET amount = ?

WHERE userID = ? and productID = ?

## 5. Delete Product From Cart

### a. Class Diagram

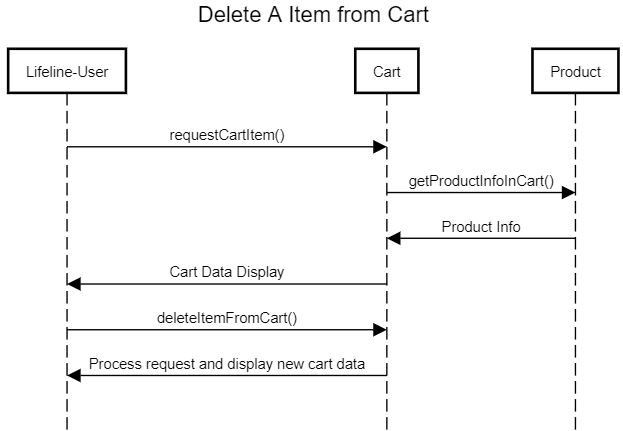


### b. Class Specifications

Customer

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *deleteProductCart()* | *Remove a product() from cart* |

### c. Sequence Diagram(s)

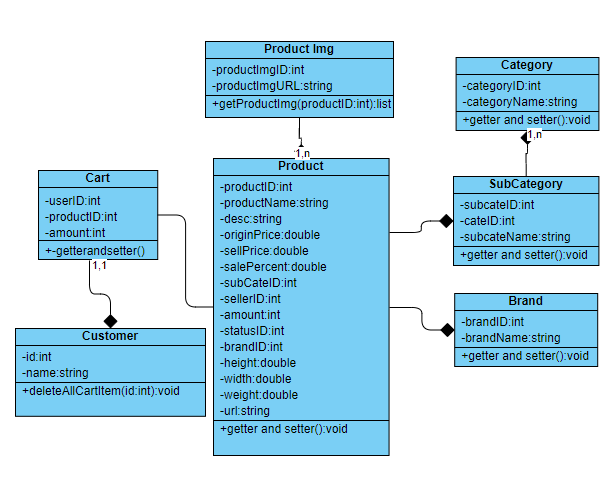


### d. Database queries

DELETE FROM *dbo.cart* WHERE *userID= ? and* productID = ?

## 6. Delete All Cart Item

### a. Class Diagram

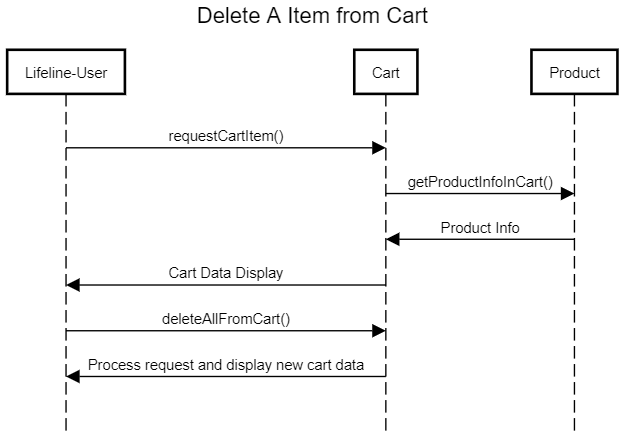


### b. Class Specifications

Customer

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *deleteAllCartItem()* | *Remove every item from cart* |

### c. Sequence Diagram(s)

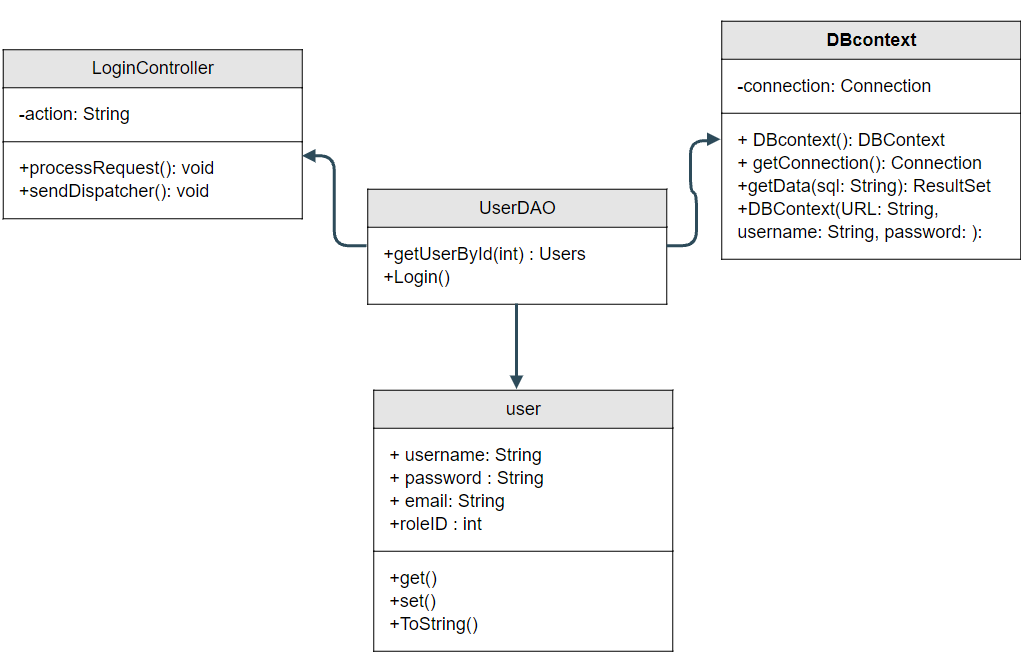


### d. Database queries

DELETE FROM *dbo.Cart* WHERE *UserID = ?*;

## 7. Login

### a. Class Diagram



### b. Class Specifications

UserController

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | get all new information from user Form and update the database |
|  |  |  |

UserDAO

[Provide the detailed description for the class methods]

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | getUserList() | get the list of user |
| 02 | getUserById(int uId) | get the user where the user id is |

### 

### c. Sequence Diagram(s)

****

### d. Database queries

**"select \* from [User] where username=? and password=?";**

## 8. Register

### a. Class Diagram



### b. Class Specifications

UserDAO

[Provide the detailed description for the class methods]

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | Register( String username,String password, String mai) | insert a new user with Name , Pass, Mail) |
| 02 | checkAccount(String xName) | - check if the username is already exist  - return null |

UserController

Class Methods

[Provide the detailed description for the class methods]

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest | get all new information from user Form and update the database |

### 

### c. Sequence Diagram(s)

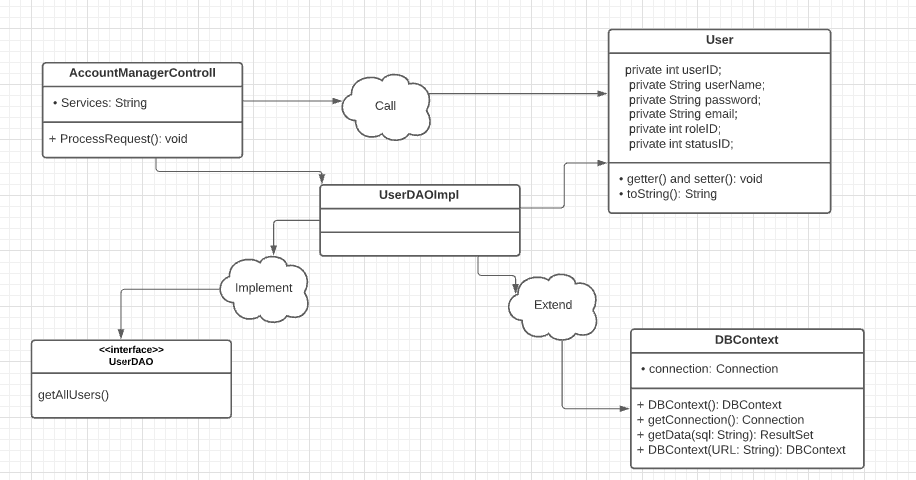
****

### d. Database queries

**+insert into [User] value(?,?,?,?,3,1)**

## 9. View User List

### a. Class Diagram



### b. Class Specifications

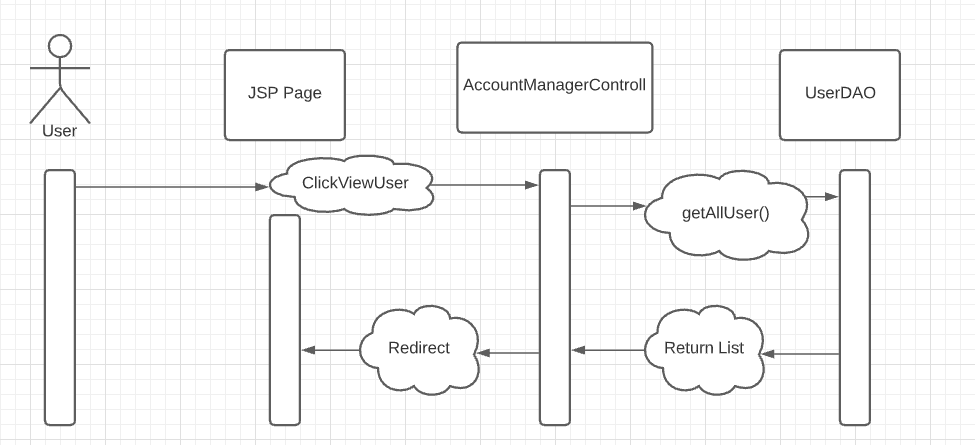
* AccountManagerControll:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | - *Return: Null*  - *Parameter: HttpServletRequest request, HttpServletResponse response*  - *Receive request from client and process data with Database, then return a list containing all users and put that data to jsp page* |

* UserDAO:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | getAllUsers() | - Return: List<User>  - Parameter: No  - Get all the users in the database and return a list of users |

### c. Sequence Diagram(s)

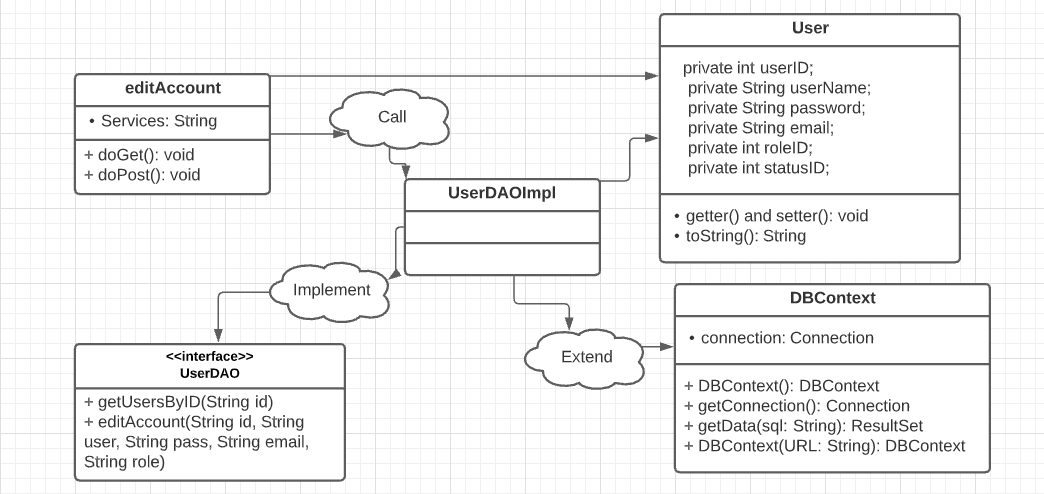


### d. Database queries

* select \* from Users

## 10. Edit User

### a. Class Diagram



### b. Class Specifications

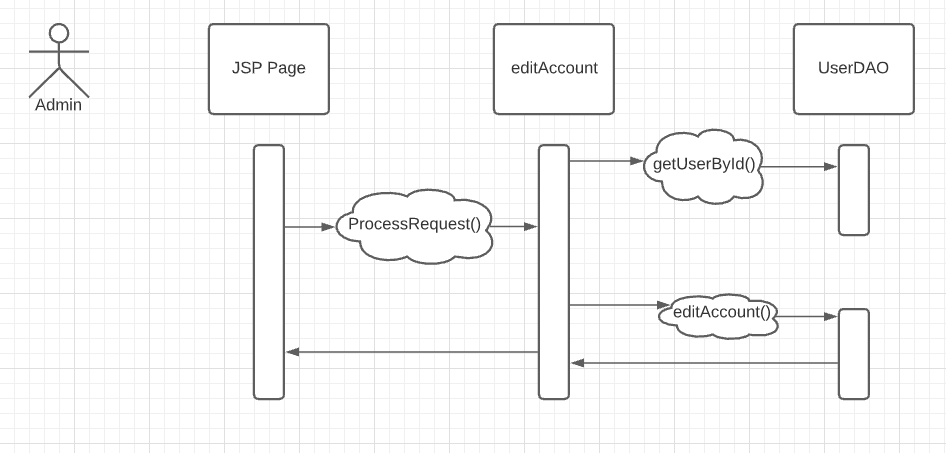
* editAccount:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | - *Return: Null*  - *Input: Service (createUser)*  - *Get data from Form in AccountManager.JSP page and process them, and update that User into DB and direct to the AccountManager.JSP page* |
| 02 | doGet() | * Get user by UserID from the database, and load current his/her information to textbox |
| 03 | doPost() | * Update User’s information in to database |

* UserDAO:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | editAccount | - *Return: new User*  - *Input: All properties of entity User*  - *Update the User entered on AccountManager.JSP page to database* |
| 02 | getUsersByID | - *Return: ‘A user’ or ‘Null’*  - *Input: UserID*  - *Find User by UserID* |

### c. Sequence Diagram(s)

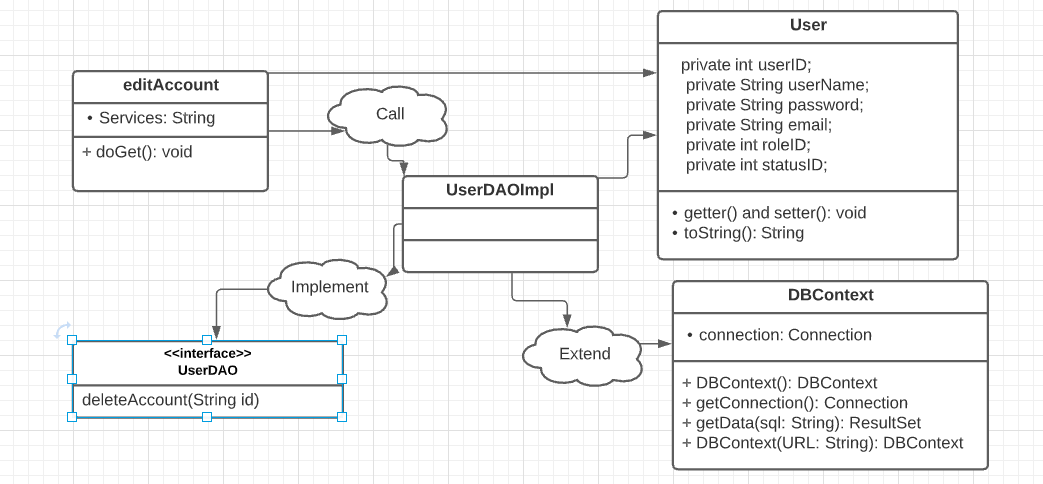


### d. Database queries

* select \* from Users where UserID = ?
* UPDATE Users SET Username = ?, Password = ?, email = ?, RoleID = ? WHERE UserID = ?

## 11. Delete User

### a. Class Diagram



### b. Class Specifications

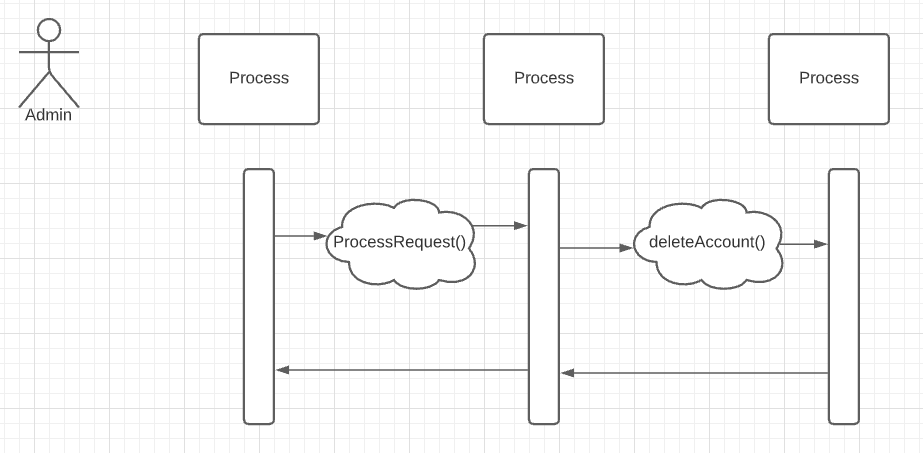
* deleteAccount:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | - *Return: Null*  - *Input: Service (deleteUser)*  - *Get data from Form in AccountManager.JSP page and process them, and delete that User into DB and direct to the AccountManager.JSP page* |

* UserDAO:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | deleteAccount | - *Return: New list of user*  - *Input: UserID of a user*  - *Delete the User entered on AccountManager.JSP page to database* |

### c. Sequence Diagram(s)

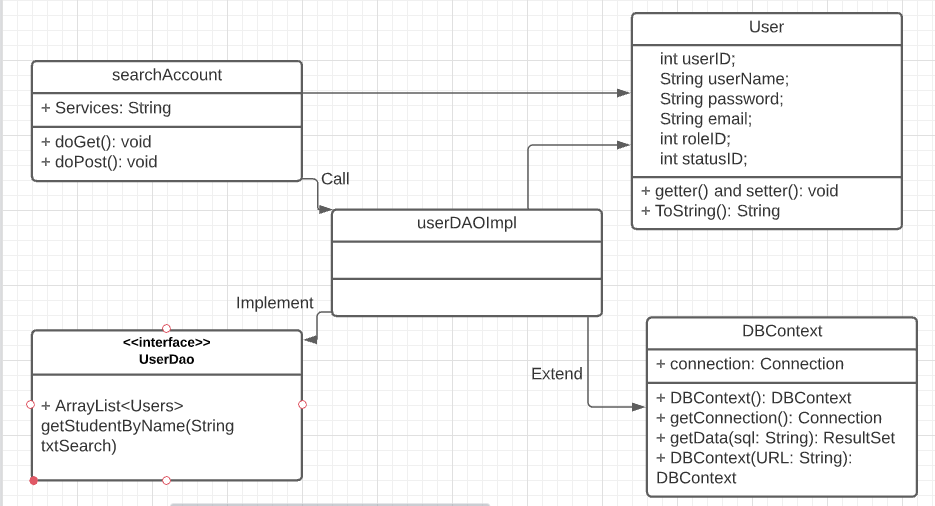


### d. Database queries

* delete from Users where UserID = ?

## 11. Search User

**a. Class Diagram**

****

### b. Class Specifications

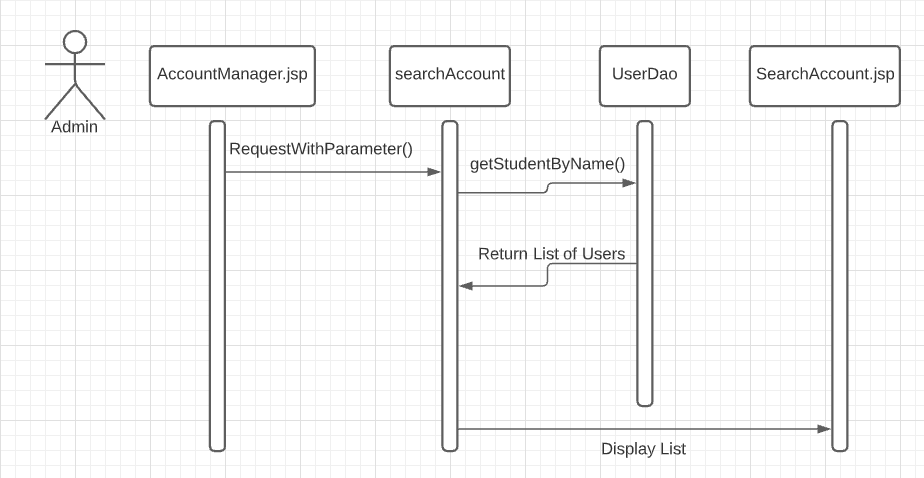
- searchAccount:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | doGet() | * Navigate to the SearchAccount.jsp . page |
| 02 | doPost() | * Get List of Users from database by the first letter of his or her name * Navigate to the SearchAccount.jsp . page |

- UserDao:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | ArrayList<Users> getStudentByName(String txtSearch) | - *Return: List of user*  *- Input:* The first letter of his or her name  - *Search for a user whose first letter is the same as the one entered by the admin and entered on SearchAccount.JSP page* |

### c. Sequence Diagram(s)



### d. Database queries

+ SELECT \* FROM Users where UserName like '" + txtSearch + "%'

## 12. Customers List[Seller]

### a. Class Diagram

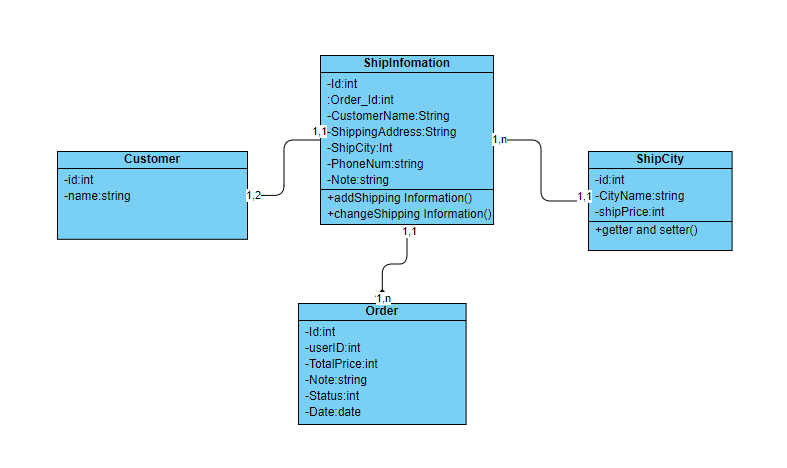
### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 13. Add Ship Information

### a. Class Diagram

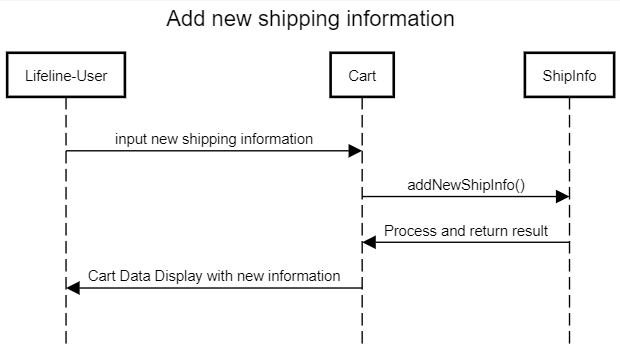


### b. Class Specifications

Ship Information Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *addShipping information()* | *Add New Shipping information for account* |

### c. Sequence Diagram(s)

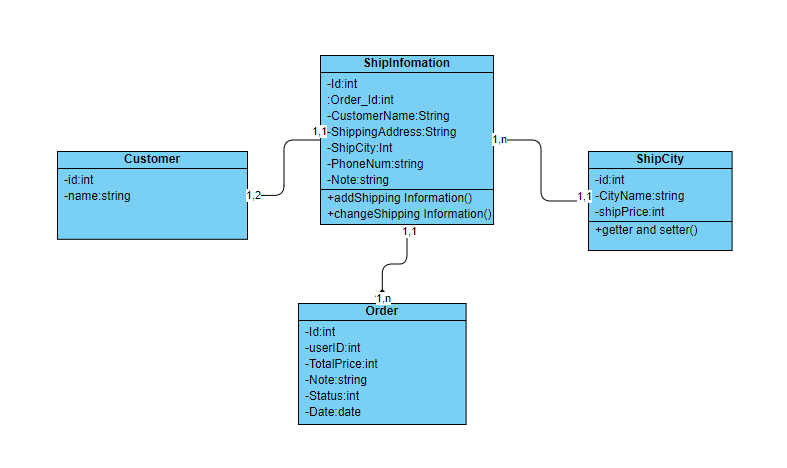


### d. Database queries

INSERT INTO dbo.ShipInfo(order\_id,customerName,shippingAddress,ShipCity,PhoneNum,Note) VALUES(?,?,?,?,?,?)

## 14. Change Ship Information

### a. Class Diagram

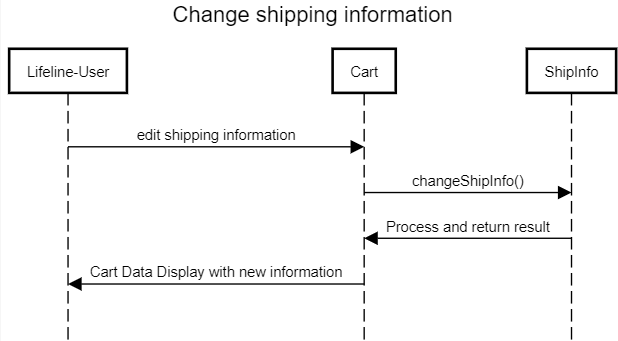


### b. Class Specifications

Ship Information Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *changeShipping information()* | *Change existing shipping information for current order* |

### c. Sequence Diagram(s)



### d. Database queries

Update dbo.ShipInfomation

SET CustomerName=?,ShippingAddress=?,ShipCity=?,PhoneNum=?,Note=?

Where orderID = ?

## 15. Reset Password

### a. Class Diagram

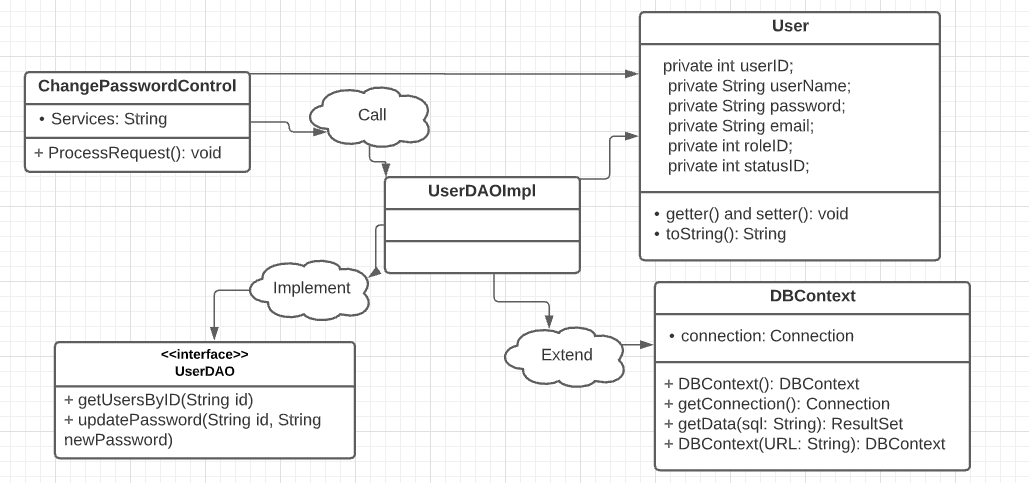
### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 16. Change Password

### a. Class Diagram



### b. Class Specifications

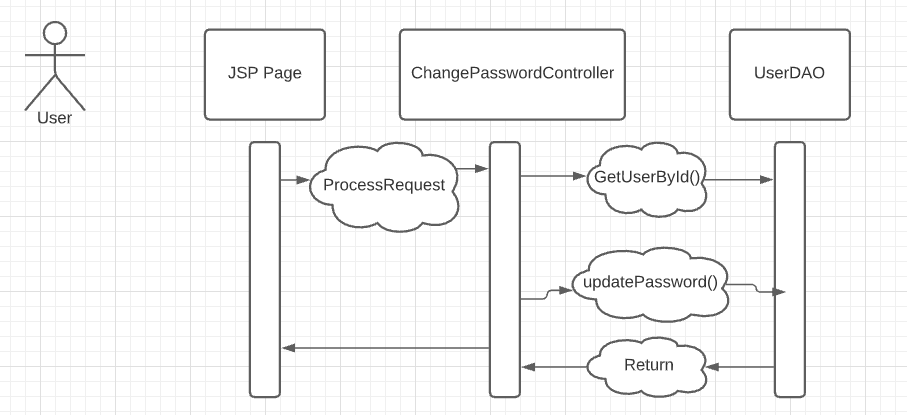
* ChangePasswordControl:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | - *Return: Null*  **- Parameter: HttpServletRequest request, HttpServletResponse response** |

* UserDAO:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | getUsersByID() | - *Return: ‘A user’ or ‘Null’*  - *Input: UserID*  - *Find User by UserID* |
| 02 | updatePassword() | - *Return: void*  - Parameter: input string  - *Input: UserID, newPassword*  - *Update this new password into database* |

### c. Sequence Diagram(s)

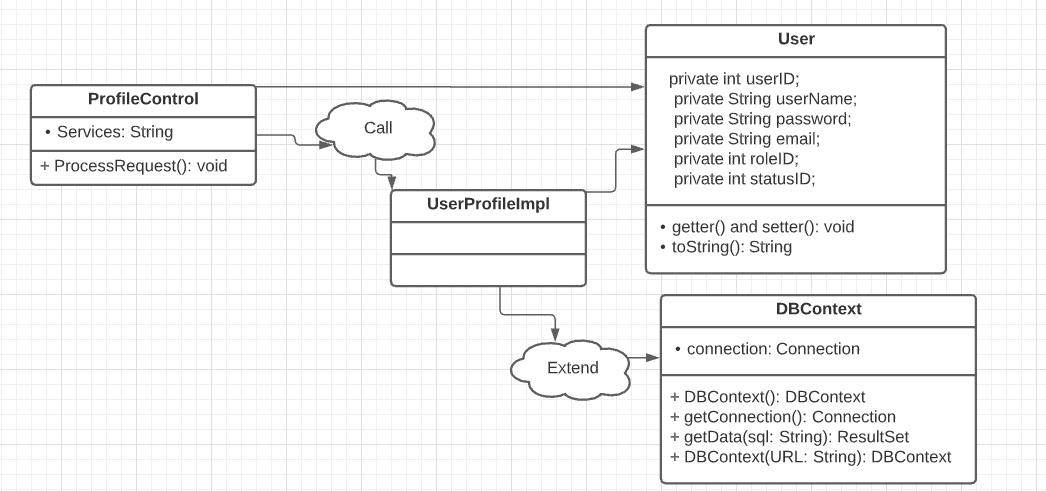


### d. Database queries

* select \* from Users where UserID = ?
* UPDATE Users SET Password = ? WHERE UserID = ?

## 17. User Profile

### a. Class Diagram

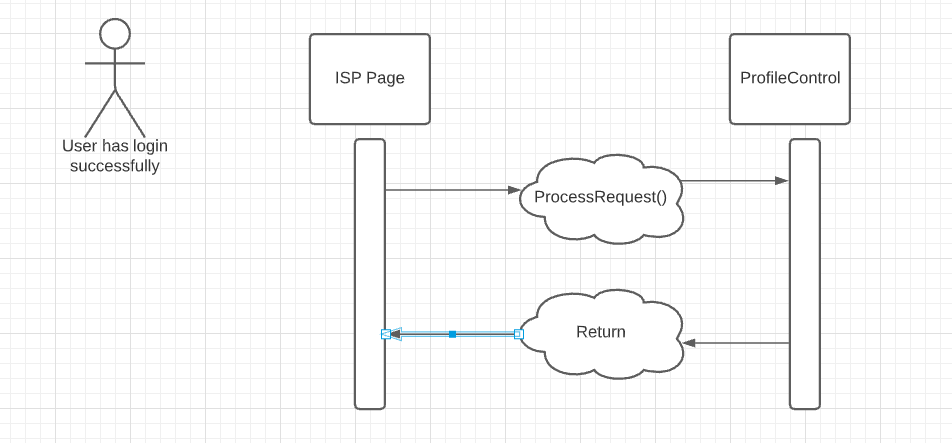


### b. Class Specifications

* ProfileControll:

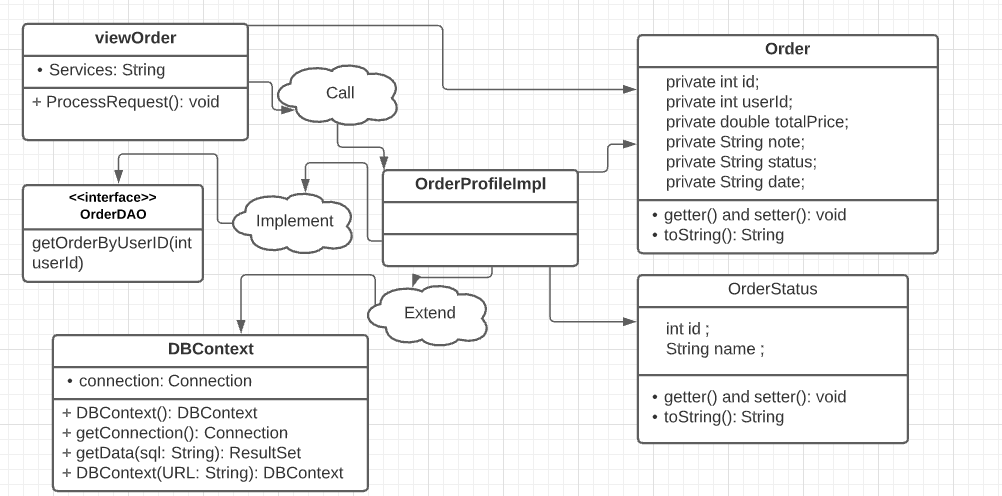
|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | get all user information from the database |

### c. Sequence Diagram(s)



## 18. My Orders

### a. Class Diagram



### b. Class Specifications

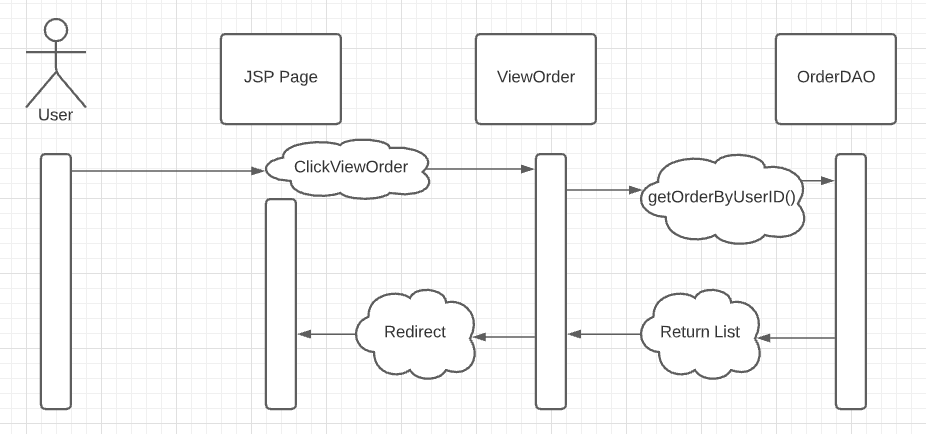
* viewOrderr:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | processRequest() | - *Return: Null*  - *Parameter: HttpServletRequest request, HttpServletResponse response*  - *Receive request from client and process data with Database, then return a list containing all orders and put that data to jsp page* |

* OrderDAO:

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 01 | getAllUsers() | - *Return: List<Order>*  - ***Parameter: UserID***  - *Get all the orders of a user in the database and return a list of orders* |

### c. Sequence Diagram(s)



### d. Database queries

* SELECT o.ID, o.UserID, o.TotalPrice, o.Note, os.Name, o.DayBuy FROM Orders o INNER JOIN Order\_Status os ON o.Status = os.ID WHERE o.UserId = ?

## 19. Order Information

### a. Class Diagram

### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 20. View Product List

### a. Class Diagram

### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 21. Orders List

### a. Class Diagram

### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 22. Order Details

### a. Class Diagram

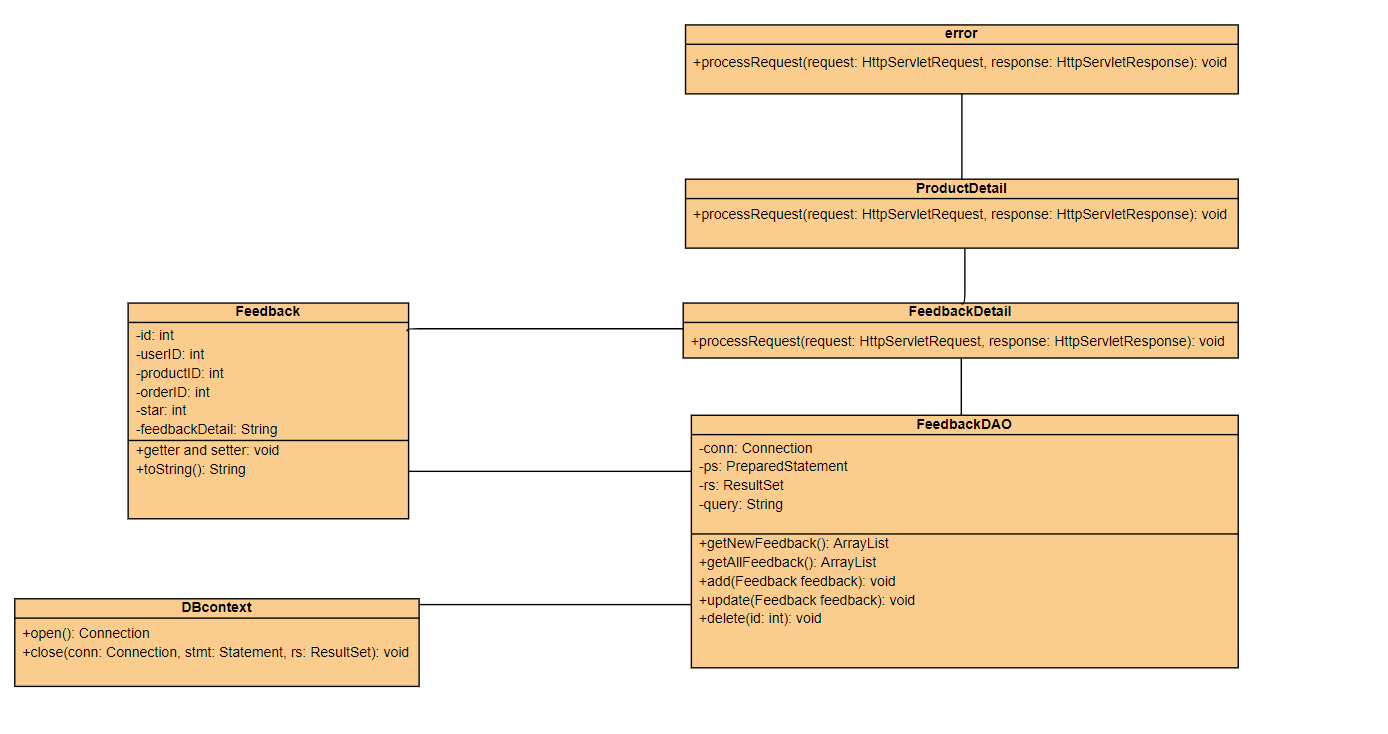
### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 23. View Feedback

### a. Class Diagram



### b. Class Specifications

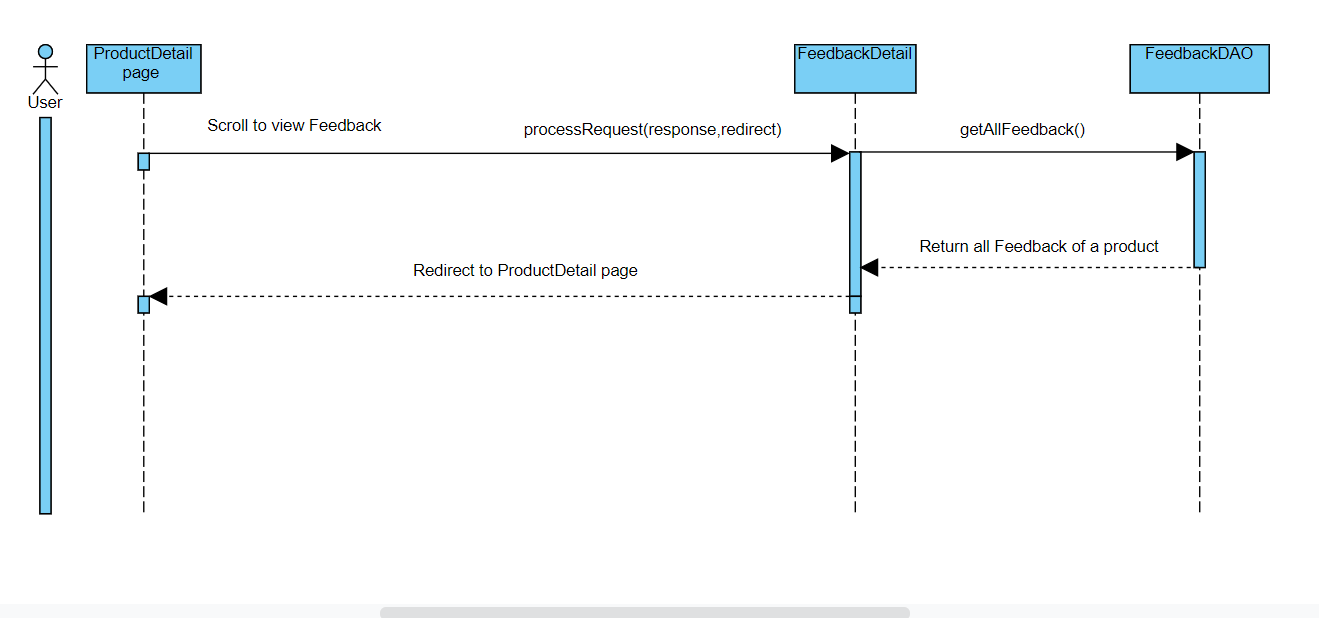
* FeedbackDetail class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *get blog detail from the database to display on ProductDetail.jsp* |

* FeedbackDAO class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *getNewFeedback()* | *Return: top 5 newest Feedback from database* |
| *03* | *getAllFeedback (int id)* | *Return: All Feedback of a product in database*  *input: id* |
| *04* | *add(Feedback feedback)* | *Add feedback with detail entered in addFeedback.jsp page*  *Return: null*  *Input: feedback* |
| *05* | *update(Feedback feedback)* | *Update feedback with detail entered in updateFeedback.jsp page*  *Return: null*  *Input: feedback* |
| *06* | *delete(int id)* | *Update feedback with id entered in updateFeedback.jsp*  *Return: null*  *Input: id* |

### c. Sequence Diagram(s)



### d. Database queries

Select \* from Feedback where productID=?

## 24. Send Feedback

### a. Class Diagram

### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 25. Blogs List

### a. Class Diagram



### b. Class Specifications

* BlogList class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *get blog list from the database to display on BlogList.jsp* |

* BlogDAO class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *getBlogByID(int id)* | *Return: Blog Detail where blog id contain parameter*  *Input: ID of blog* |
| *02* | *getHotBlogs()* | *Return: top 3 newest blog from database* |
| *03* | *getAllBlog()* | *Return: All blog in database* |
| *04* | *add(String author, String title, String content, String imageLink)* | *Add blog with detail entered in addBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink* |
| *05* | *update(String author, String title, String content, String imageLink, String id)* | *Update blog with detail entered in updateBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink, id* |
| *06* | *delete(int id)* | *Update blog with id entered in blogManage.jsp*  *Return: null*  *Input: id* |

### c. Sequence Diagram(s)

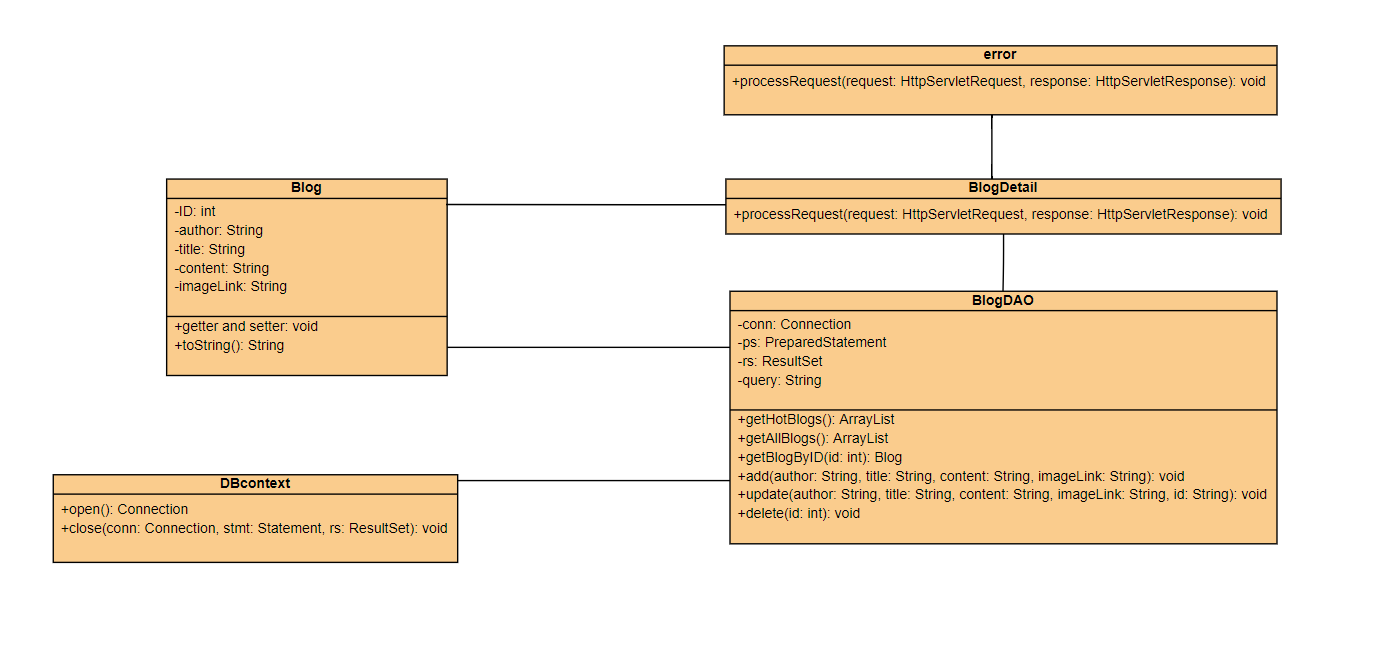


### d. Database queries

Select \* from Blog desc

## 26. Blog Details

### a. Class Diagram



### b. Class Specifications

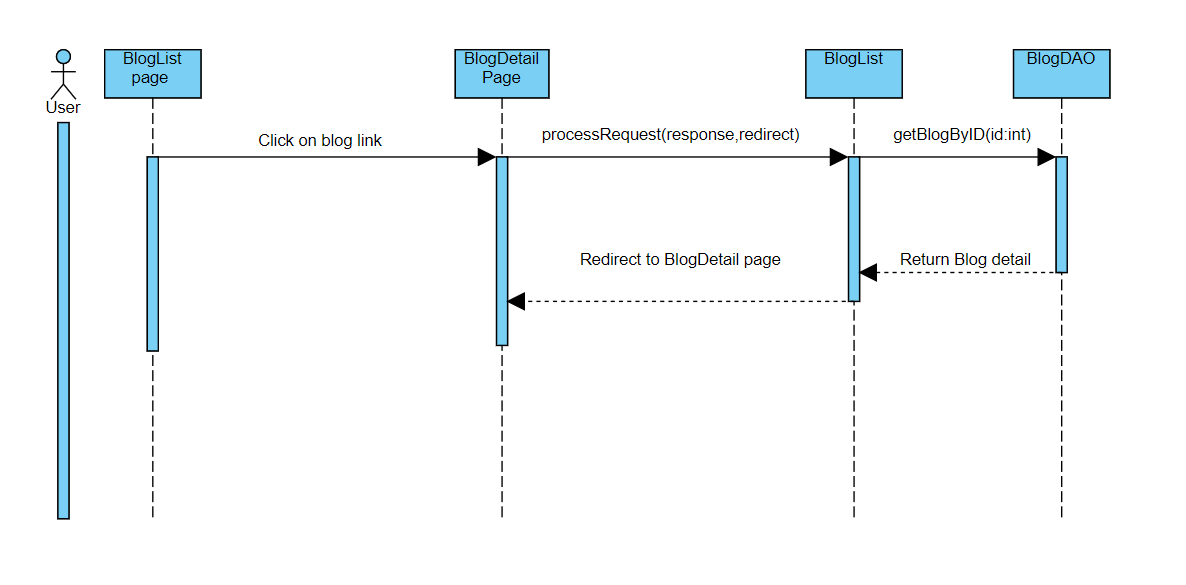
* BlogDetail class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *get blog detail from the database to display on BlogDetail.jsp* |

* BlogDAO class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *getBlogByID(int id)* | *Return: Blog Detail where blog id contain parameter*  *Input: ID of blog* |
| *02* | *getHotBlogs()* | *Return: top 3 newest blog from database* |
| *03* | *getAllBlog()* | *Return: All blog in database* |
| *04* | *add(String author, String title, String content, String imageLink)* | *Add blog with detail entered in addBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink* |
| *05* | *update(String author, String title, String content, String imageLink, String id)* | *Update blog with detail entered in updateBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink, id* |
| *06* | *delete(int id)* | *Update blog with id entered in blogManage.jsp*  *Return: null*  *Input: id* |

### c. Sequence Diagram(s)

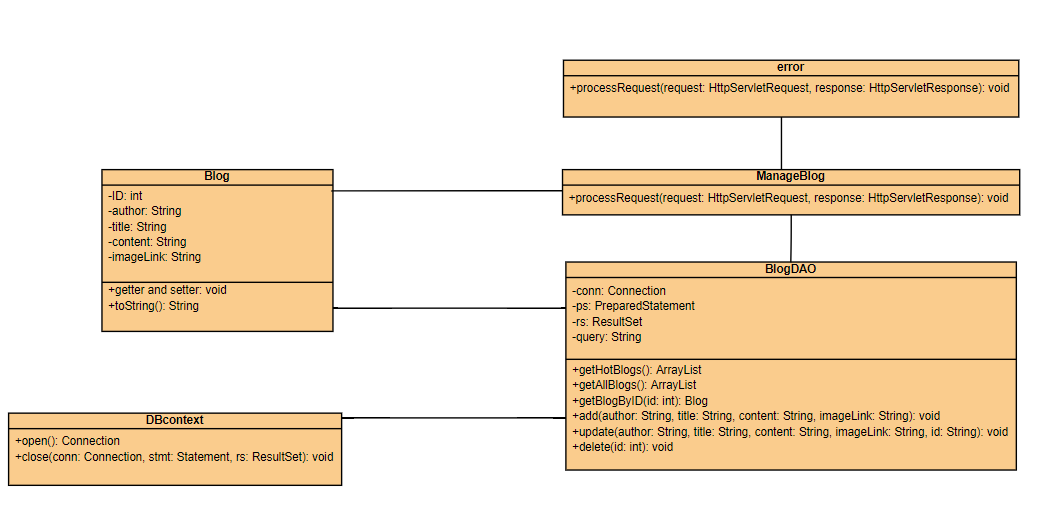


### d. Database queries

SELECT \* FROM Blog WHERE ID = ?

## 27. Blog Management

### a. Class Diagram



### b. Class Specifications

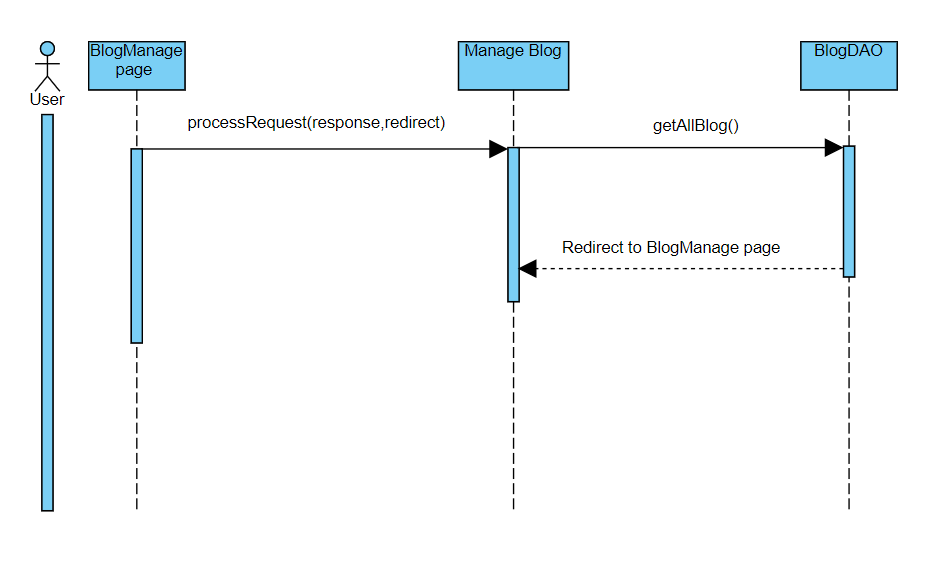
* ManageBlog class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *get blog detail from the database to display on ManageBlog.jsp* |

* BlogDAO class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *getBlogByID(int id)* | *Return: Blog Detail where blog id contain parameter*  *Input: ID of blog* |
| *02* | *getHotBlogs()* | *Return: top 3 newest blog from database* |
| *03* | *getAllBlog()* | *Return: All blog in database* |
| *04* | *add(String author, String title, String content, String imageLink)* | *Add blog with detail entered in addBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink* |
| *05* | *update(String author, String title, String content, String imageLink, String id)* | *Update blog with detail entered in updateBlog.jsp page*  *Return: null*  *Input: author, title, content, imageLink, id* |
| *06* | *delete(int id)* | *Update blog with id entered in blogManage.jsp*  *Return: null*  *Input: id* |

### c. Sequence Diagram(s)

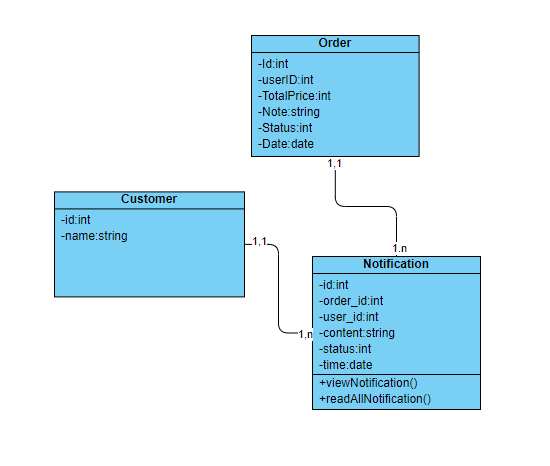


### d. Database queries

Select \* from blog

## 28. View Notification

### a. Class Diagram

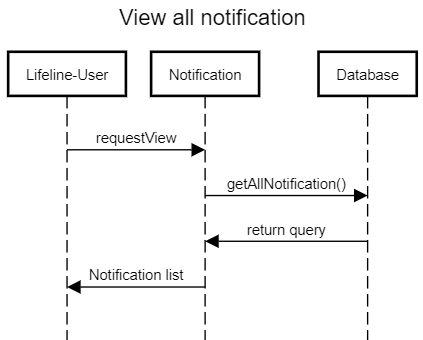


### b. Class Specifications

Notification class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *viewNotification()* | *get all notification from database for a user* |

### c. Sequence Diagram(s)

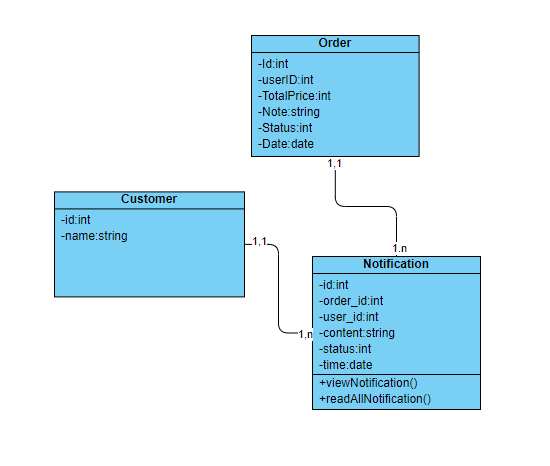


### d. Database queries

SELECT \* from dbo.Notification where user\_id = ?

## 29. Mark as Read

### a. Class Diagram

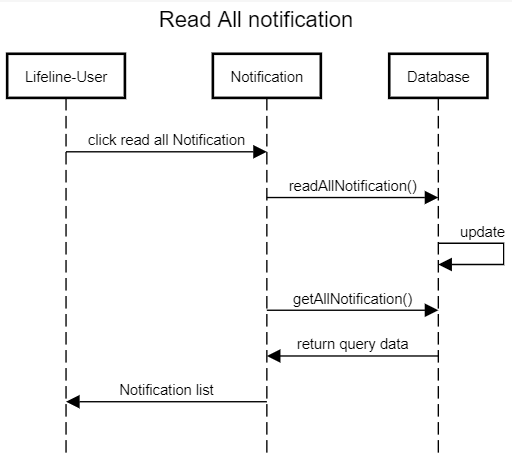


### b. Class Specifications

Notification class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *readAllNotification()* | *mark all notification as read* |

### c. Sequence Diagram(s)



### d. Database queries

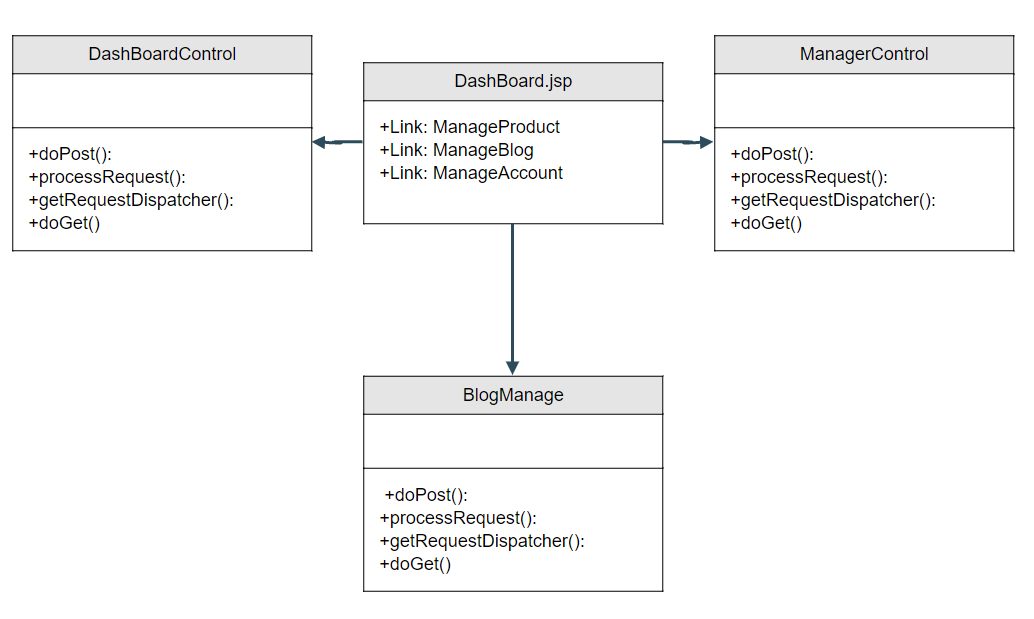
Update dbo.Notification

set status=1

where user\_id=?

## 30. Admin Feature

### a. Class Diagram



### b. Class Specifications

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *get blog detail from the database to display on ManageProduct.jsp* |
| *02* | *processRequest()* | *get blog detail from the database to display on ManageAccount.jsp* |
| *03* | *processRequest()* | *get blog detail from the database to display on ManageBlog.jsp* |

### c. Sequence Diagram(s)

### d. Database queries

+select \* from ...

## 31. Orders Dashboard

### a. Class Diagram

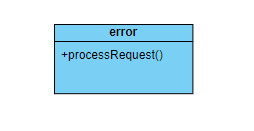
### b. Class Specifications

### c. Sequence Diagram(s)

### d. Database queries

## 32. Error

### a. Class Diagram

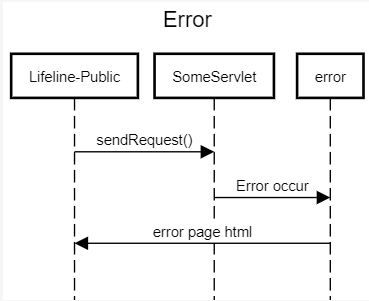
**

### b. Class Specifications

error Class

|  |  |  |
| --- | --- | --- |
| **No** | **Method** | **Description** |
| *01* | *processRequest()* | *Process and return error page html back to user* |

### c. Sequence Diagram(s)

**

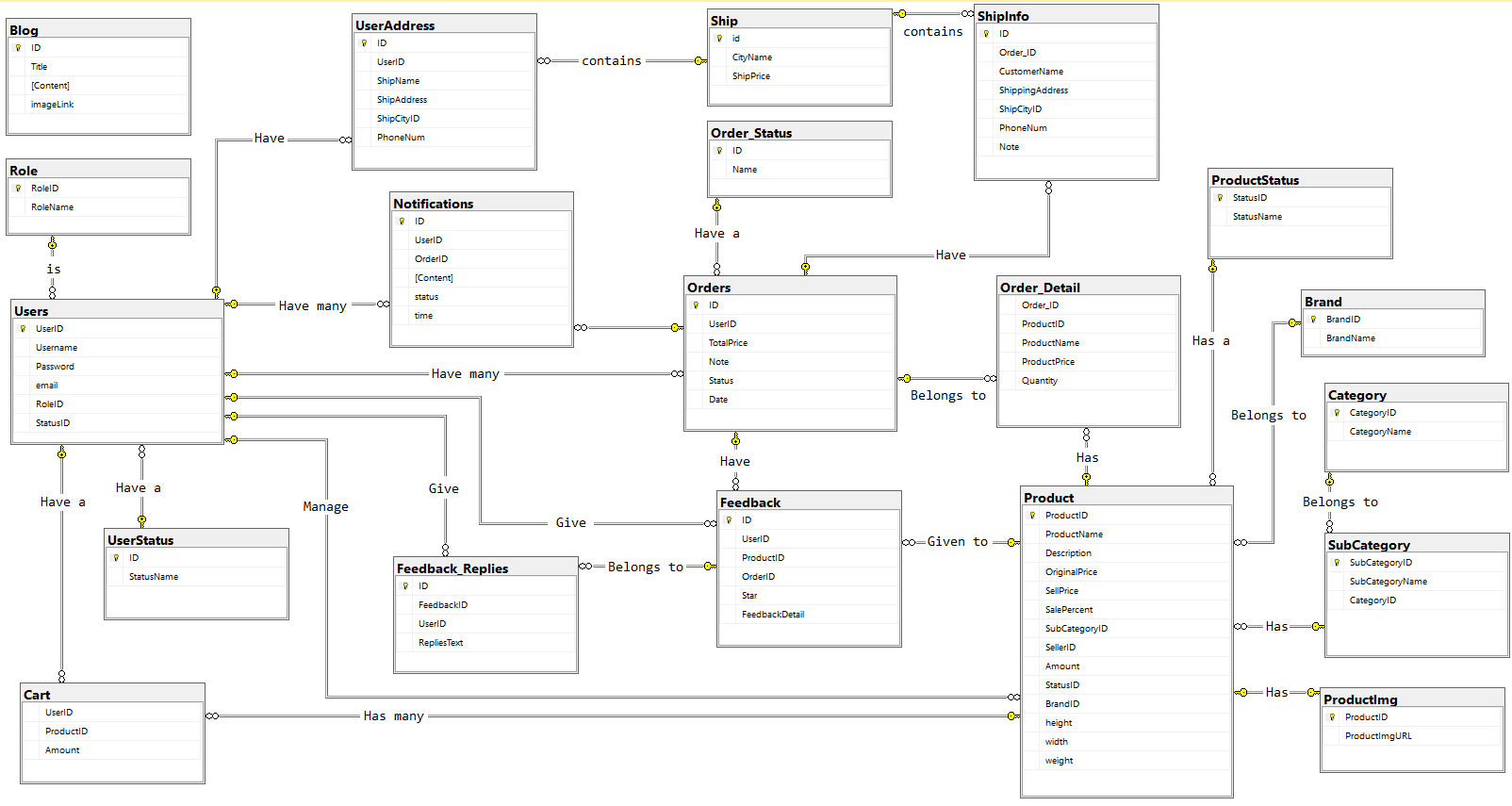
### d. Database queries

None

## 

# III. Database Tables

## 1. Database Schema



## 2. Table Description

|  |  |  |
| --- | --- | --- |
| **No** | **Table** | **Description** |
| *01* | *Blog* | *Blog content + image*  *- Primary keys: ID*  *- Foreign keys:* |
| *02* | *Role* | *Role of a user ( Admin,Marketing,Sale,Customer )*  *- Primary keys: RoleID*  *- Foreign keys:* |
| *03* | *UserStatus* | *Account activation status*  *- Primary keys: ID*  *- Foreign keys:* |
| *04* | *Ship* | *Shipping price for each city*  *- Primary keys: id*  *- Foreign keys:* |
| *05* | *Order\_Detail* | *Detail of each product in order*  *- Primary keys:*  *- Foreign keys: OrderID, ProductID* |
| *06* | *UserAddress* | *Address for each user*  *- Primary keys:ID*  *- Foreign keys: UserID, ShipCityID* |
| *07* | *Users* | *Users*  *- Primary keys: UserID*  *- Foreign keys: RoleID,StatusID* |
| *08* | *Notification* | *Notification data*  *- Primary keys: ID*  *- Foreign keys: OrderID, UserID* |
| *09* | *ShipInfo* | *Shipping info for each order*  *- Primary keys: ID*  *- Foreign keys: Order\_ID, ShipCityID* |
| *10* | *Order* | *Order data*  *- Primary keys: ID*  *- Foreign keys: UserID,Status* |
| *11* | *Feedback* | *Feedback of a product order*  *- Primary keys: ID*  *- Foreign keys: UserID,ProductID, OrderID* |
| *12* | *Feedback\_Replies* | *Replies of feedbacks*  *- Primary keys: id*  *- Foreign keys: FeedbackID,UserID* |
| *13* | *Order\_Status* | *Status of a order*  *- Primary keys: ID*  *- Foreign keys:* |
| *14* | *Product* | *Product Data*  *- Primary keys: ProductID*  *- Foreign keys: SubCategoryID,SellerID,StatusID,BrandID* |
| *15* | *Category* | *Category Data*  *- Primary keys: CategoryID*  *- Foreign keys:* |
| *16* | *SubCategory* | *Sub Category ID*  *- Primary keys: SubCategoryID*  *- Foreign keys: CategoryID* |
| *17* | *Productimg* | *Image of products*  *- Primary keys:*  *- Foreign keys: ProductID* |
| *18* | *ProductStatus* | *Status of a product*  *- Primary keys: StatusID*  *- Foreign keys: StatusName* |
| *19* | *Brand* | *Brand data*  *- Primary keys: BrandID*  *- Foreign keys:* |
| *20* | *Cart* | *Cart info for each user*  *- Primary keys: UserID*  *- Foreign keys: ProductID* |

## 