American International University- Bangladesh

CSC 2209: Object Oriented Programming 1 (JAVA)

CO1 Evaluation
Project Summary Report
Summer 18-19

Group No: 5
Project Title: Store Inventory Management System

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Store Inventory Management System

Introduction:
Presently there is a rapid growth of super shops in our country. Moreover, there are many stores and storage platforms which are having a big pool of items. They need to work with big amount of data which can be time consuming and prone to human error. Besides entry to a certain section can be time consuming and retrieving certain item's information can also be time consuming. A computer assisted management system can improve the efficiency of the operations significantly. The aim of this project is to make a basic design of an application for desktop platform or embedded systems which can be used by stores or storage platforms having a large number of items to conduct their operations effectively and efficiently.

User Category:

There are two types of Users here. They are:

- Admin
- Employee

Feature List:

In this project the "Admin" has the following features:

- Registering, removing, or updating information of Users
- Adding, removing and updating Item Categories.
- Adding, removing and updating Items.
- Adding, removing and updating Sales Information.
- Adding, removing and updating Suppliers information.
- Adding, removing and updating Damaged item information.
- Adding, removing and updating Returned item information.

In this project the "Employee" has the following features:

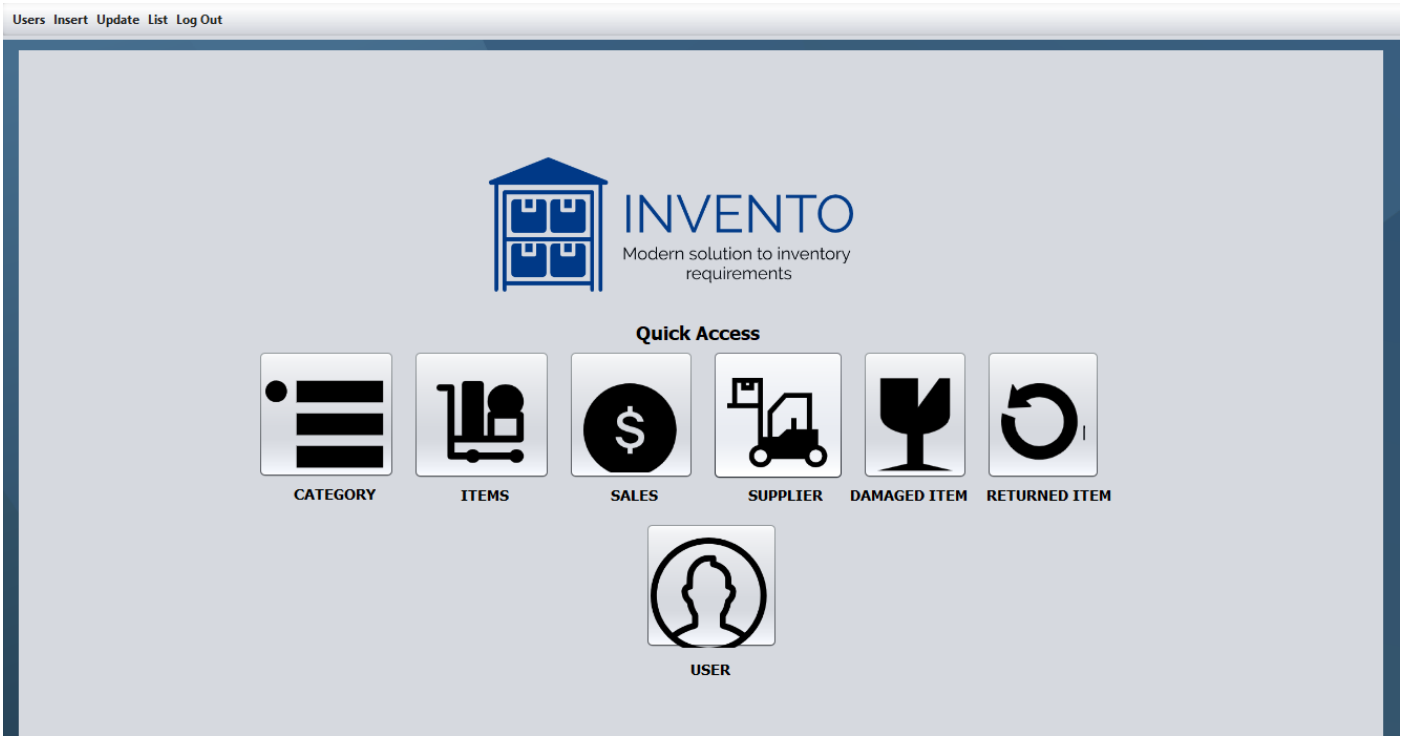
- Adding, removing and updating Item Categories.
- Adding, removing and updating Items.
- Adding, removing and updating Sales Information.
- Adding, removing and updating Suppliers information.
- Adding, removing and updating Damaged item information.
- Adding, removing and updating Returned item information.

Store Inventory Management System

GUI Description:

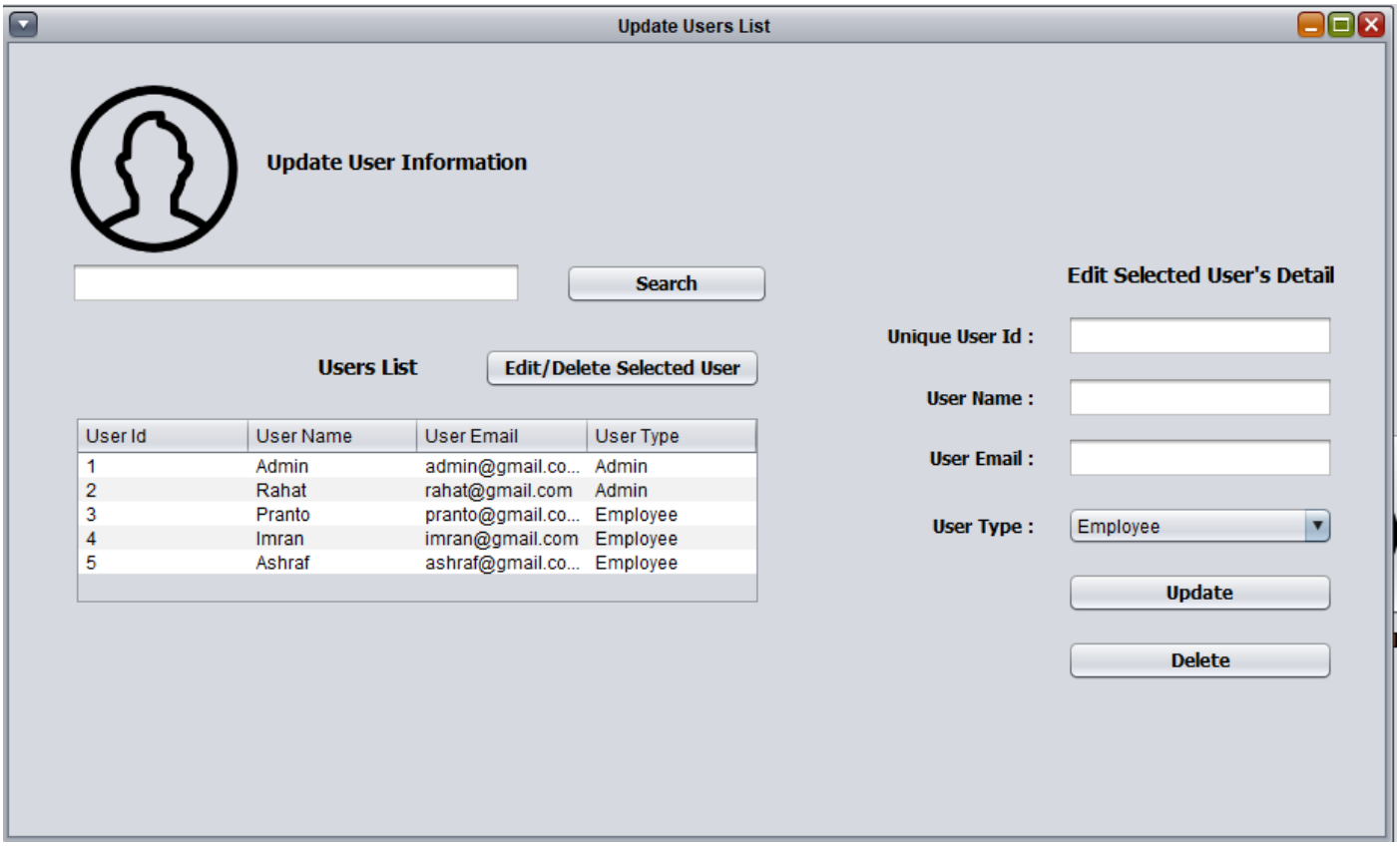
Login Screen: This form is used for authenticating the users.

Home Screen: This is the main home screen

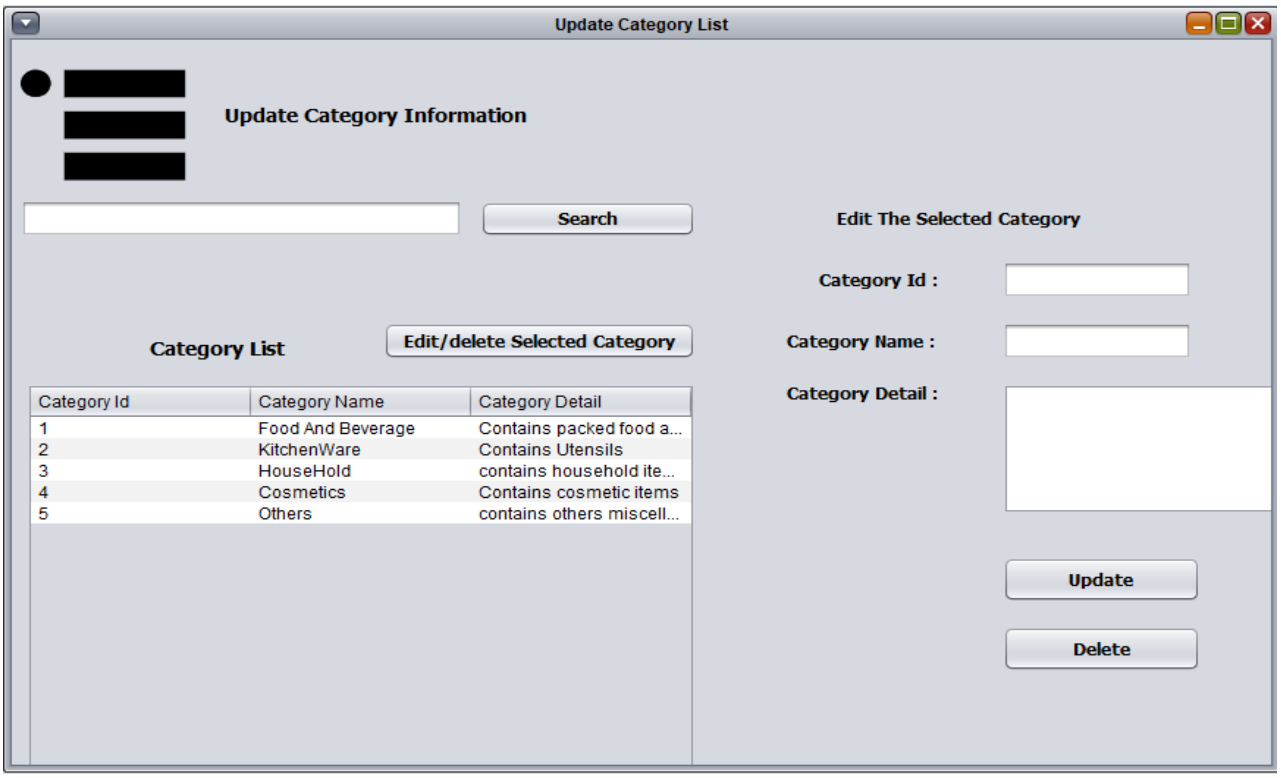


Store Inventory Management System

User Details Screen: This form is used to modify the user's information



Category Details screen: This form is used to modify the category information



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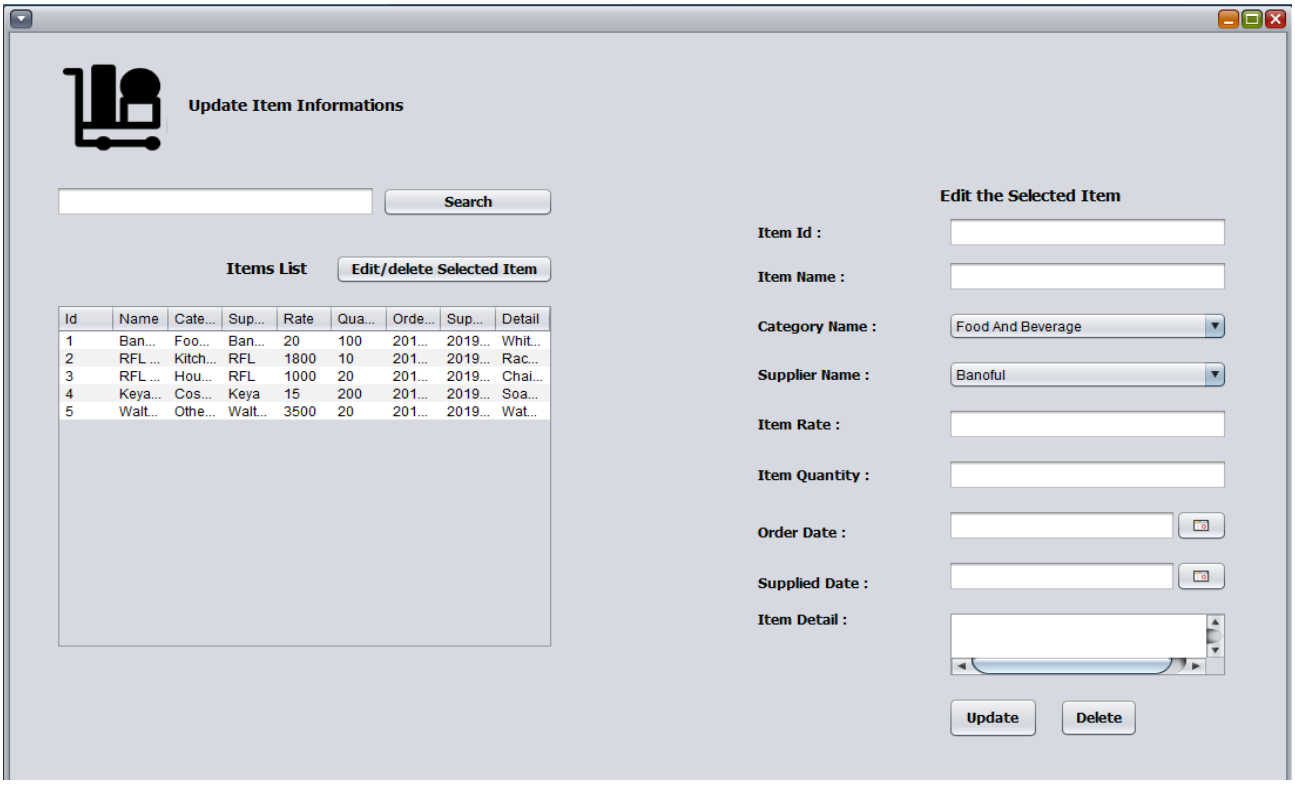
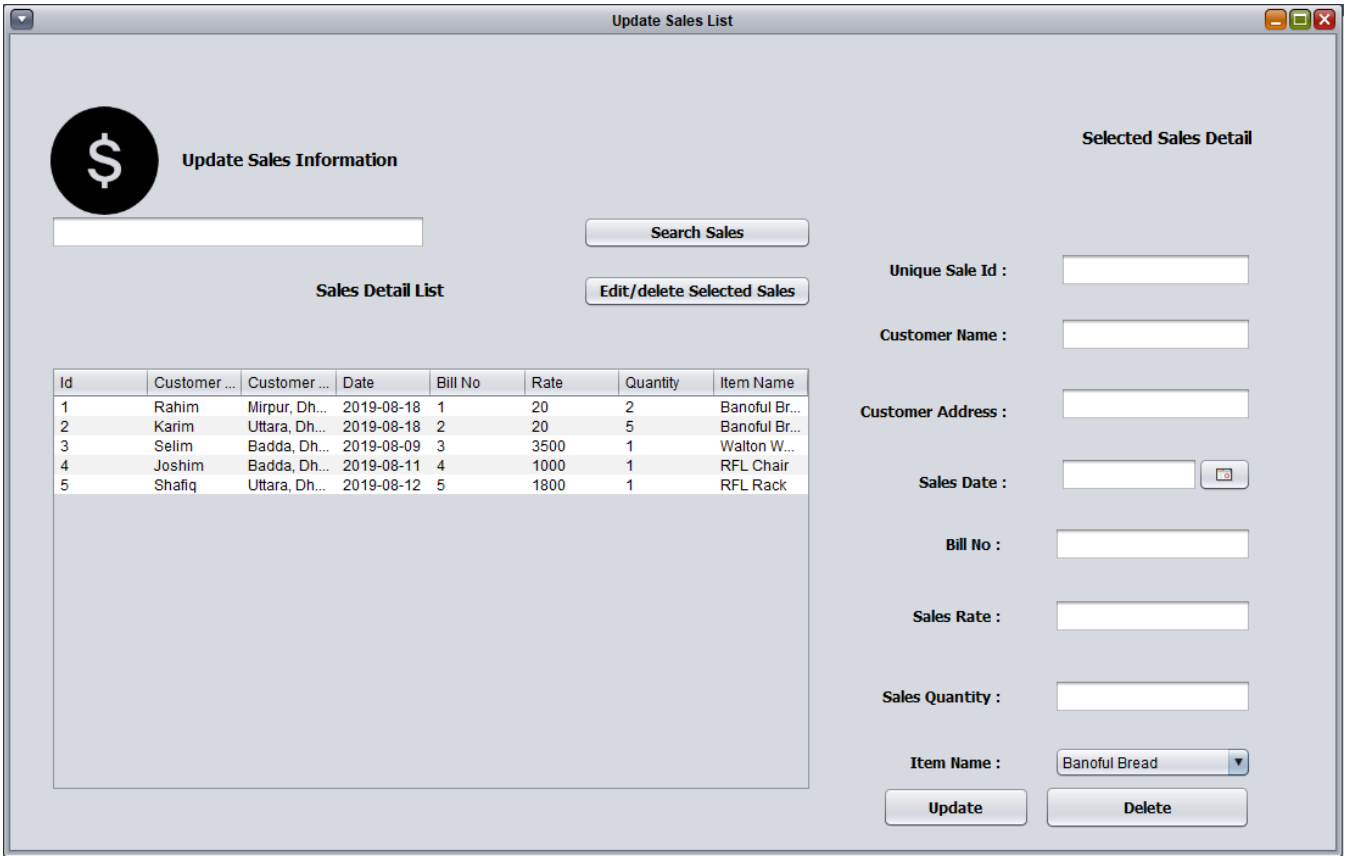
Item Details screen: This form is used to modify the Item information



Sales Details screen: This form is used to modify the Sales information



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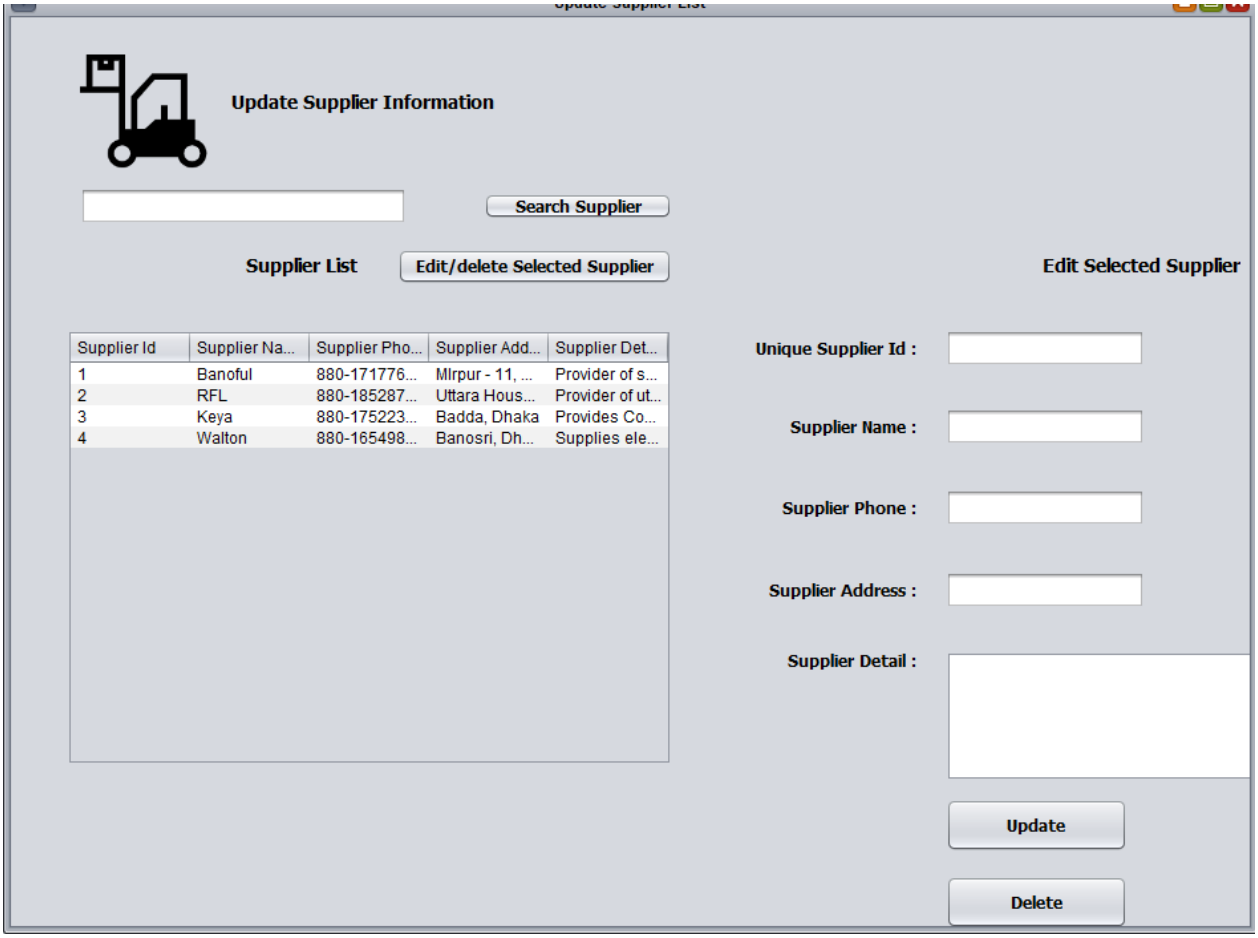
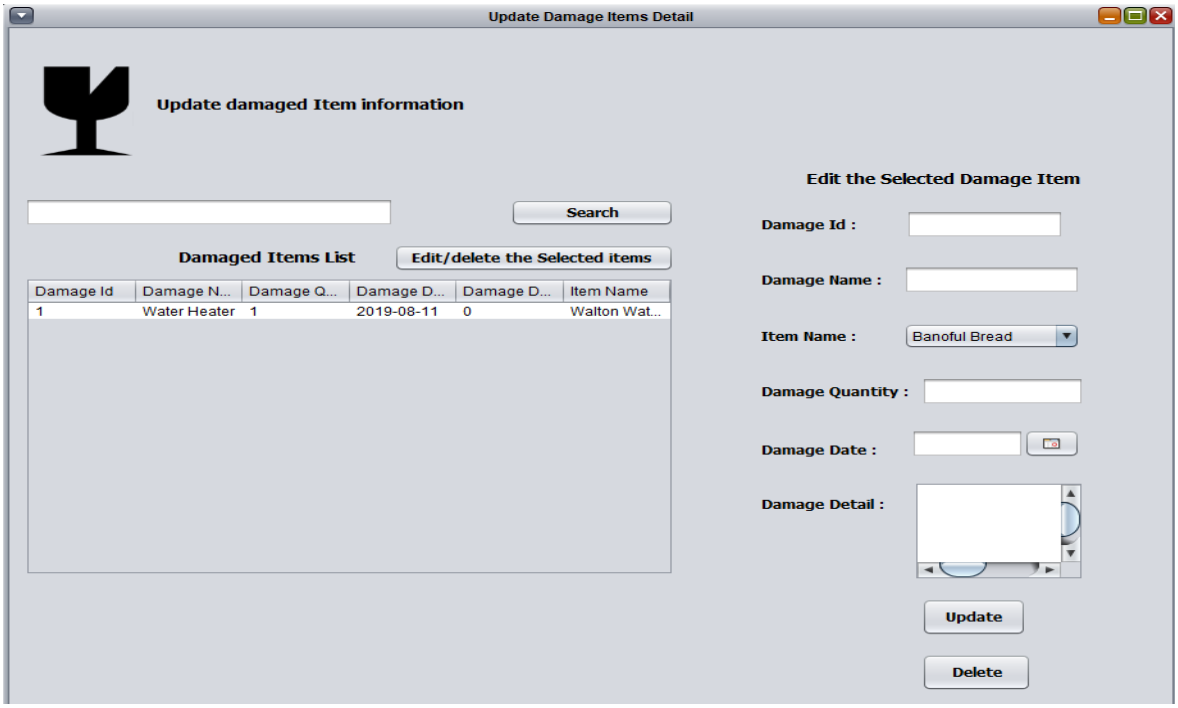
Supplier Details screen: This form is used to modify the Supplier information



Damaged Item Details screen: This form is used to modify the Damaged item information



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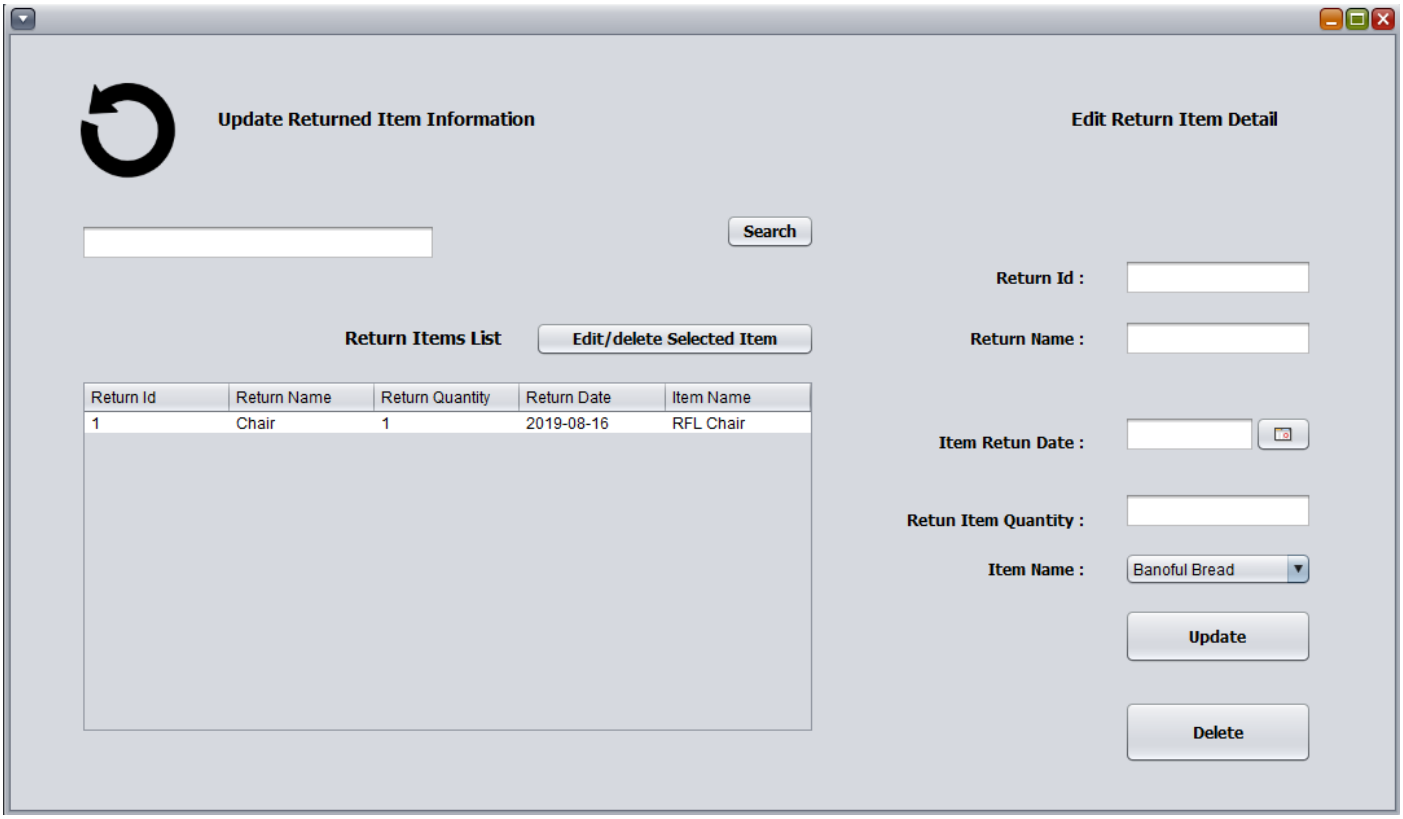
Returned Item Details screen: This form is used to modify the Returned item information



Database Table Description:

Category table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	catId	int(50)			No	*None*		AUTO_INCREMENT	Change Drop More
2	catName	varchar(200)	latin1_swedish_ci		Yes	*NULL*			Change Drop More
3	catDetail	varchar(200)	latin1_swedish_ci		Yes	*NULL*			Change Drop More

Damaged Item Table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	damageId	int(50)			No	*None*		AUTO_INCREMENT	Change Drop More
2	damageName	varchar(200)	latin1_swedish_ci		Yes	*NULL*			Change Drop More
3	damageQuantity	varchar(200)	latin1_swedish_ci		Yes	*NULL*			Change Drop More
4	damageDate	date			Yes	*NULL*			Change Drop More
5	damageDetail	varchar(1000)	latin1_swedish_ci		Yes	*NULL*			Change Drop More
6	itemId	int(50)			No	*None*			Change Drop More

Store Inventory Management System

Item Table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	itemId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
2	itemName	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
3	itemRate	int(50)			Yes	NULL			Change Drop More
4	itemQuantity	int(50)			Yes	NULL			Change Drop More
5	itemOrderDate	date			Yes	NULL			Change Drop More
6	itemSuppliedDate	date			Yes	NULL			Change Drop More
7	itemDetail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
8	catId	int(50)			Yes	NULL			Change Drop More
9	supplierId	int(50)			Yes	NULL			Change Drop More

User Table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	userId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
2	userName	varchar(50)	latin1_swedish_ci		Yes	NULL			Change Drop More
3	userPassword	varchar(50)	latin1_swedish_ci		Yes	NULL			Change Drop More
4	userEmail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
5	userType	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More

Returned Item table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	returnId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
2	returnQuantity	int(50)			Yes	NULL			Change Drop More
3	returnDate	date			Yes	NULL			Change Drop More
4	itemId	int(50)			No	None			Change Drop More
5	returnName	varchar(200)	latin1_swedish_ci		No	None			Change Drop More

Supplier Table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	supplierId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
2	supplierName	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
3	supplierPhone	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
4	supplierAddress	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
5	supplierDetail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More

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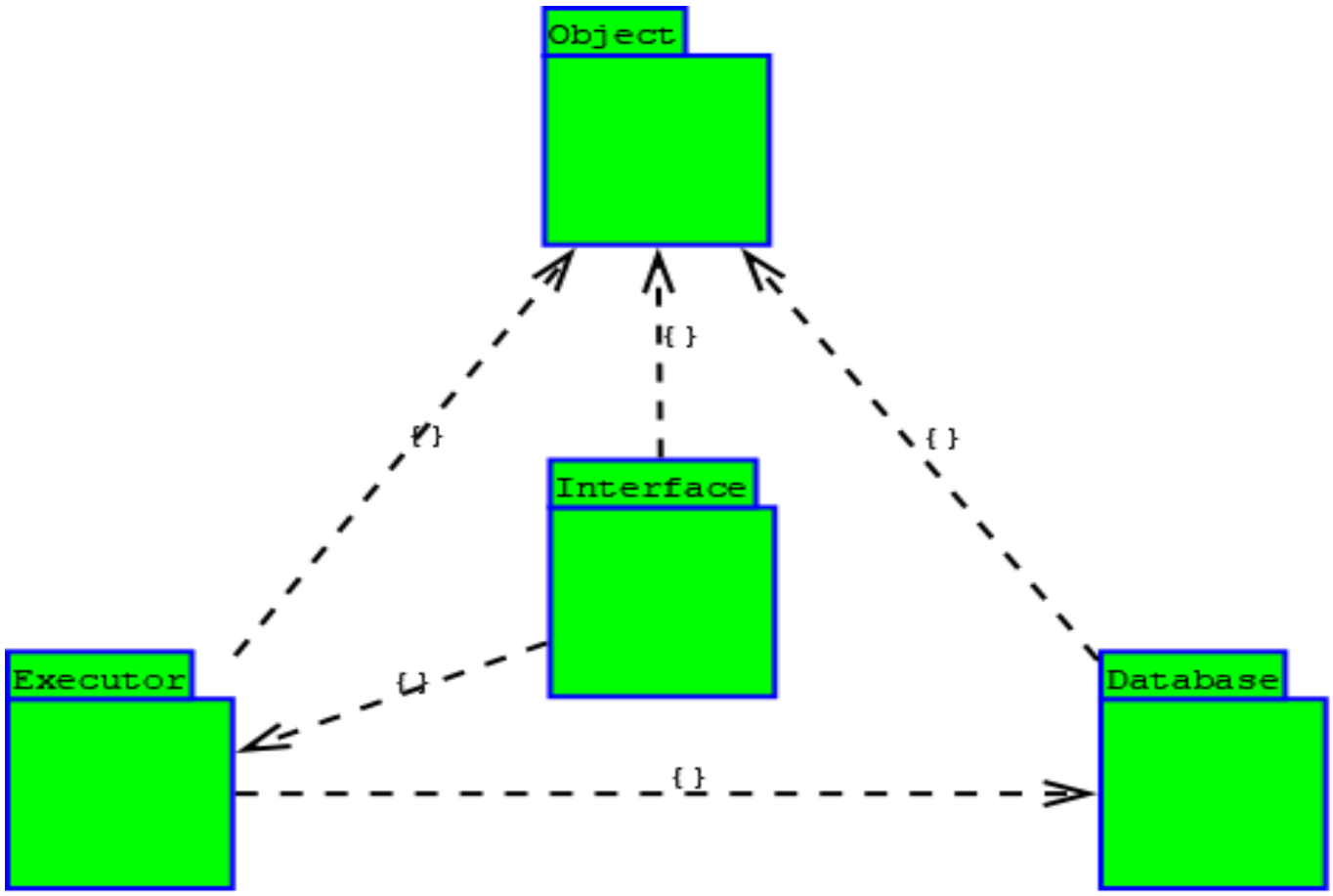
Sales Table:

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	saleId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
2	saleCustomerName	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
3	saleCustomerAddress	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
4	saleDate	date			Yes	NULL			Change Drop More
5	saleBillNo	int(50)			Yes	NULL			Change Drop More
6	saleRate	int(50)			Yes	NULL			Change Drop More
7	saleQuantity	int(50)			Yes	NULL			Change Drop More
8	itemId	int(50)			No	None			Change Drop More

Class Diagram:

Package Diagram:



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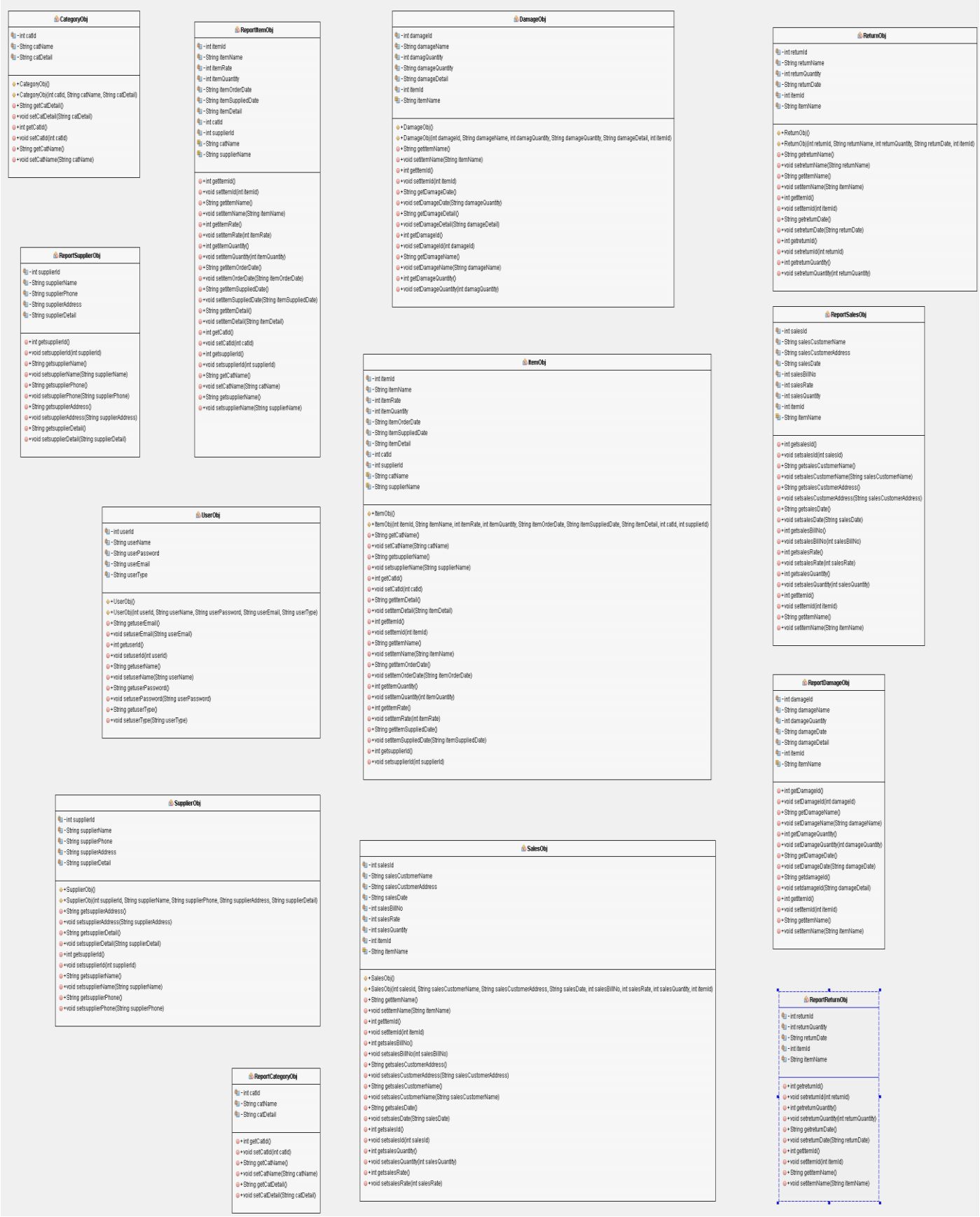
Class diagram of Object package:



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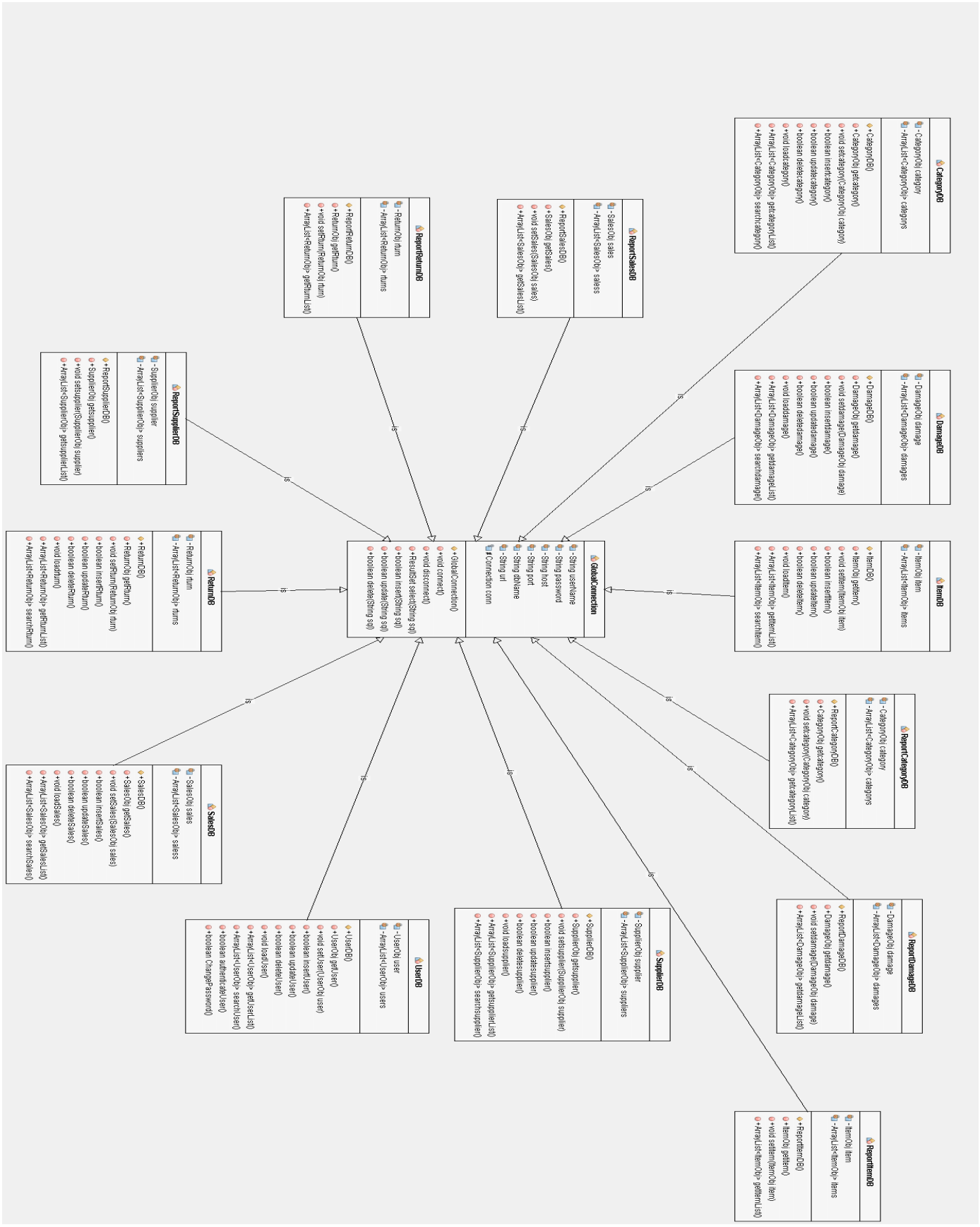
Class diagram of Database package:



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Class diagram of Executor package:

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Tools Used:

To develop this project following tools have been used:

- Java SE JDK 11.
- NetBeans IDE 8.2.
- phpMyAdmin.
- Adobe XD (for logo and icon design).
- Git (for version control).

OOP and Java Concepts Used:

- Inheritance: Different classes inherited the properties of other classes in the project.
- Encapsulation: The classes are encapsulated into different packages which achieves well defined smaller tasks and are used repeatedly.
- Abstraction: Classes were used to hide the internal operational details within itself.
- Associations: The classes and the objects of the classes were designed to have associative relations with each other.

Impact of this Project:
This project is a basic design of the required features of a store management system. This basic structure can be worked on and improved upon for a better version of the application. The class structure can be used to create similar application on android and web platforms. The project can be used in its present form also in shops for basic operations. The user interface can be improved for a more user friendly and easier interaction. This project is available on https://github.com/TangoRomeo69/JavaFinalProjectBackup as an open source project and can be worked on by anyone for improvements and noncommercial use.

Limitations and Possible Future Improvements:
There are lots of limitations to the project as this is a very elementary level design. Many features which were planned to be implemented could not be designed due to the lack of system related knowledge and the time constraints. Moreover, the interface design has a lot of scopes to improve. In future this project can be integrated with options like printing, billing and accounting systems. This can also integrate online user interactions procedures and can be connected to a central database which can be used to design similar applications in different platforms. More robust project structures can be designed for code readability and future maintenance. A well-designed reference file can be created for easier maintenance and portability. Overall the project has lots of spaces to improve and could be designed more meticulously if time permitted.