



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.



A screenshot of the login screen for the 'Invento' system. The window has a title bar with standard minimize, maximize, and close buttons. On the left is a blue icon of a warehouse. The main text reads 'Welcome To The Invento' followed by 'Please Log in first'. Below this are three input fields: 'User Name', 'Password', and 'User Type' (a dropdown menu currently showing 'Admin'). At the bottom are two buttons: 'Login' and 'Exit'.

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

Update Users List

Update User Information

Search

Users List

Edit/Delete Selected User

User Id	User Name	User Email	User Type
1	Admin	admin@gmail.co...	Admin
2	Rahat	rahat@gmail.com	Admin
3	Pranto	pranto@gmail.co...	Employee
4	Imran	imran@gmail.com	Employee
5	Ashraf	ashraf@gmail.co...	Employee

Edit Selected User's Detail

Unique User Id :

User Name :

User Email :

User Type :

Update

Delete

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

Update Category List

Update Category Information

Search

Category List

Edit/delete Selected Category

Category Id	Category Name	Category Detail
1	Food And Beverage	Contains packed food a...
2	KitchenWare	Contains Utensils
3	HouseHold	contains household ite...
4	Cosmetics	Contains cosmetic items
5	Others	contains others miscell...

Edit The Selected Category

Category Id :

Category Name :

Category Detail :

Update

Delete



Store Inventory Management System

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

Update Item Informations

Search

Items List Edit/delete Selected Item

Id	Name	Cate...	Sup...	Rate	Qua...	Orde...	Sup...	Detail
1	Ban...	Foo...	Ban...	20	100	201...	2019...	Whit...
2	RFL ...	Kitch...	RFL	1800	10	201...	2019...	Rac...
3	RFL ...	Hou...	RFL	1000	20	201...	2019...	Chai...
4	Keya...	Cos...	Keya	15	200	201...	2019...	Soa...
5	Walt...	Othe...	Walt...	3500	20	201...	2019...	Wat...

Edit the Selected Item

Item Id :

Item Name :

Category Name :

Supplier Name :

Item Rate :

Item Quantity :

Order Date :

Supplied Date :

Item Detail :

Update Delete

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

Update Sales List

Search Sales

Sales Detail List Edit/delete Selected Sales

Id	Customer ...	Customer ...	Date	Bill No	Rate	Quantity	Item Name
1	Rahim	Mirpur, Dh...	2019-08-18	1	20	2	Banoful Br...
2	Karim	Uttara, Dh...	2019-08-18	2	20	5	Banoful Br...
3	Selim	Badda, Dh...	2019-08-09	3	3500	1	Walton W...
4	Joshim	Badda, Dh...	2019-08-11	4	1000	1	RFL Chair
5	Shafiq	Uttara, Dh...	2019-08-12	5	1800	1	RFL Rack

Selected Sales Detail

Unique Sale Id :

Customer Name :

Customer Address :

Sales Date :

Bill No :

Sales Rate :

Sales Quantity :

Item Name :

Update Delete



Store Inventory Management System

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

Update Supplier Information

Search Supplier

Supplier List Edit/delete Selected Supplier

Supplier Id	Supplier Na...	Supplier Pho...	Supplier Add...	Supplier Det...
1	Banoful	880-171776...	Mlrpur - 11, ...	Provider of s...
2	RFL	880-185287...	Uttara Hous...	Provider of ut...
3	Keya	880-175223...	Badda, Dhaka	Provides Co...
4	Walton	880-165498...	Banosri, Dh...	Supplies ele...

Unique Supplier Id :

Supplier Name :

Supplier Phone :

Supplier Address :

Supplier Detail :

Update

Delete

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

Update damaged Item information

Search

Damaged Items List Edit/delete the Selected items

Damage Id	Damage N...	Damage Q...	Damage D...	Damage D...	Item Name
1	Water Heater	1	2019-08-11	0	Walton Wat...

Edit the Selected Damage Item

Damage Id :

Damage Name :

Item Name :

Damage Quantity :

Damage Date :

Damage Detail :

Update

Delete



Store Inventory Management System

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

Update Returned Item Information

Search

Return Items List **Edit/delete Selected Item**

Return Id	Return Name	Return Quantity	Return Date	Item Name
1	Chair	1	2019-08-16	RFL Chair

Return Id :

Return Name :

Item Return Date :

Return Item Quantity :

Item Name :

Update

Delete

Database Table Description:

Category table:

#	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:

#	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
<input type="checkbox"/> 1	itemId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/> 2	itemName	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 3	itemRate	int(50)			Yes	NULL			Change Drop More
<input type="checkbox"/> 4	itemQuantity	int(50)			Yes	NULL			Change Drop More
<input type="checkbox"/> 5	itemOrderDate	date			Yes	NULL			Change Drop More
<input type="checkbox"/> 6	itemSuppliedDate	date			Yes	NULL			Change Drop More
<input type="checkbox"/> 7	itemDetail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 8	catId	int(50)			Yes	NULL			Change Drop More
<input type="checkbox"/> 9	supplierId	int(50)			Yes	NULL			Change Drop More

User Table:

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	userId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/> 2	userName	varchar(50)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 3	userPassword	varchar(50)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 4	userEmail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 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
<input type="checkbox"/> 1	returnId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/> 2	returnQuantity	int(50)			Yes	NULL			Change Drop More
<input type="checkbox"/> 3	returnDate	date			Yes	NULL			Change Drop More
<input type="checkbox"/> 4	itemId	int(50)			No	None			Change Drop More
<input type="checkbox"/> 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
<input type="checkbox"/> 1	supplierId	int(50)			No	None		AUTO_INCREMENT	Change Drop More
<input type="checkbox"/> 2	supplierName	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 3	supplierPhone	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 4	supplierAddress	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More
<input type="checkbox"/> 5	supplierDetail	varchar(200)	latin1_swedish_ci		Yes	NULL			Change Drop More



Store Inventory Management System

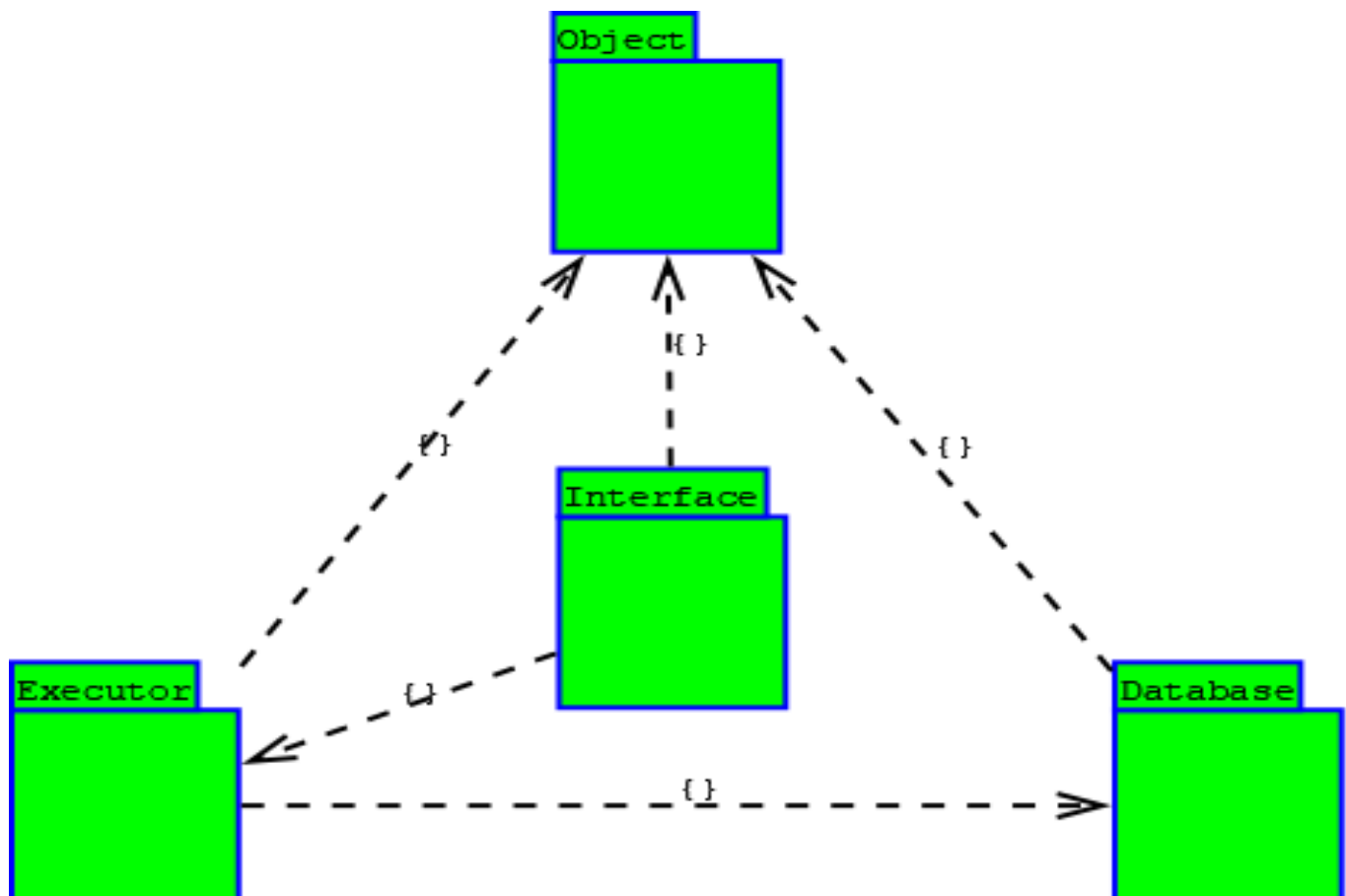
Sales Table:

[Table structure](#) [Relation view](#)

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

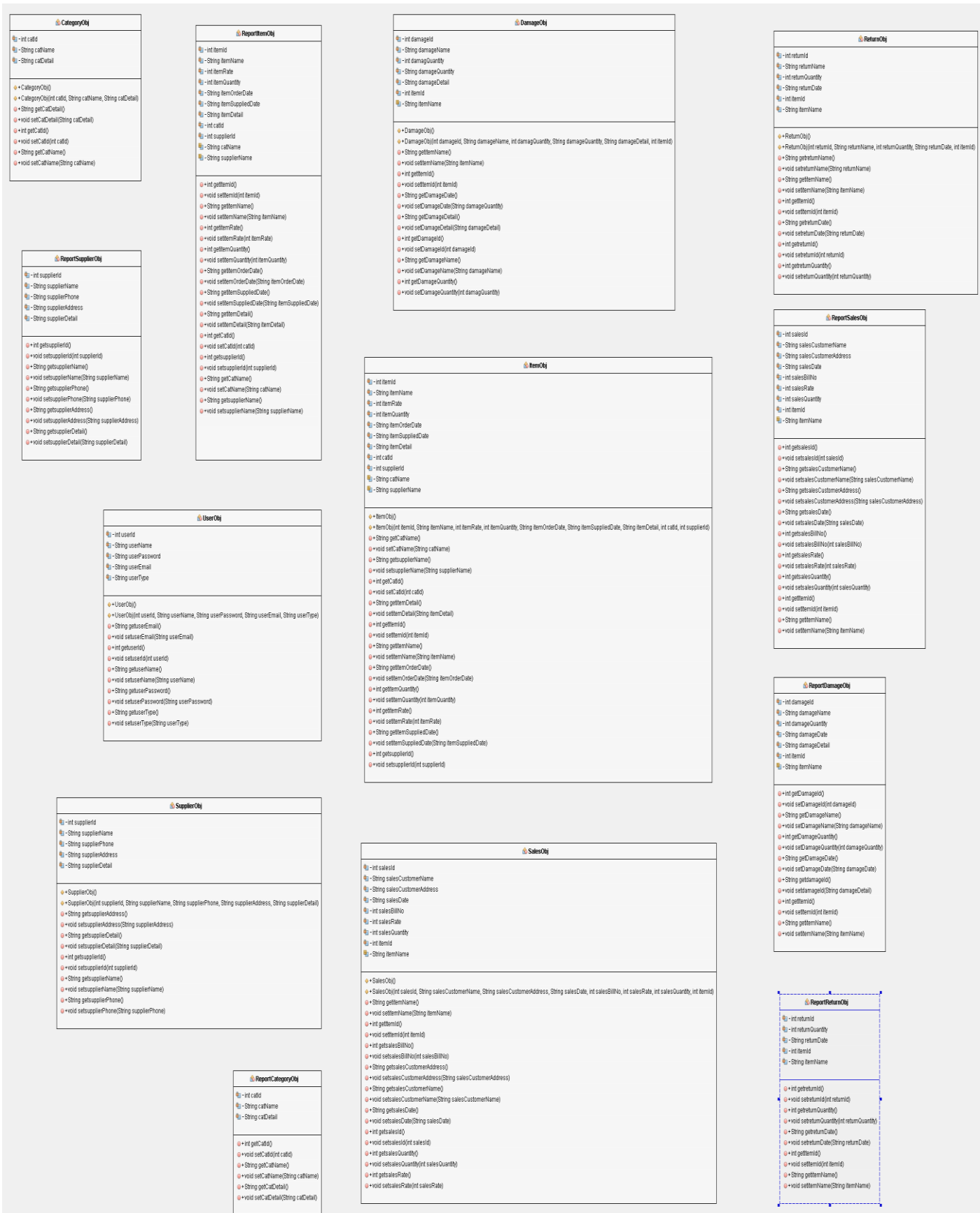
Class Diagram:

Package Diagram:



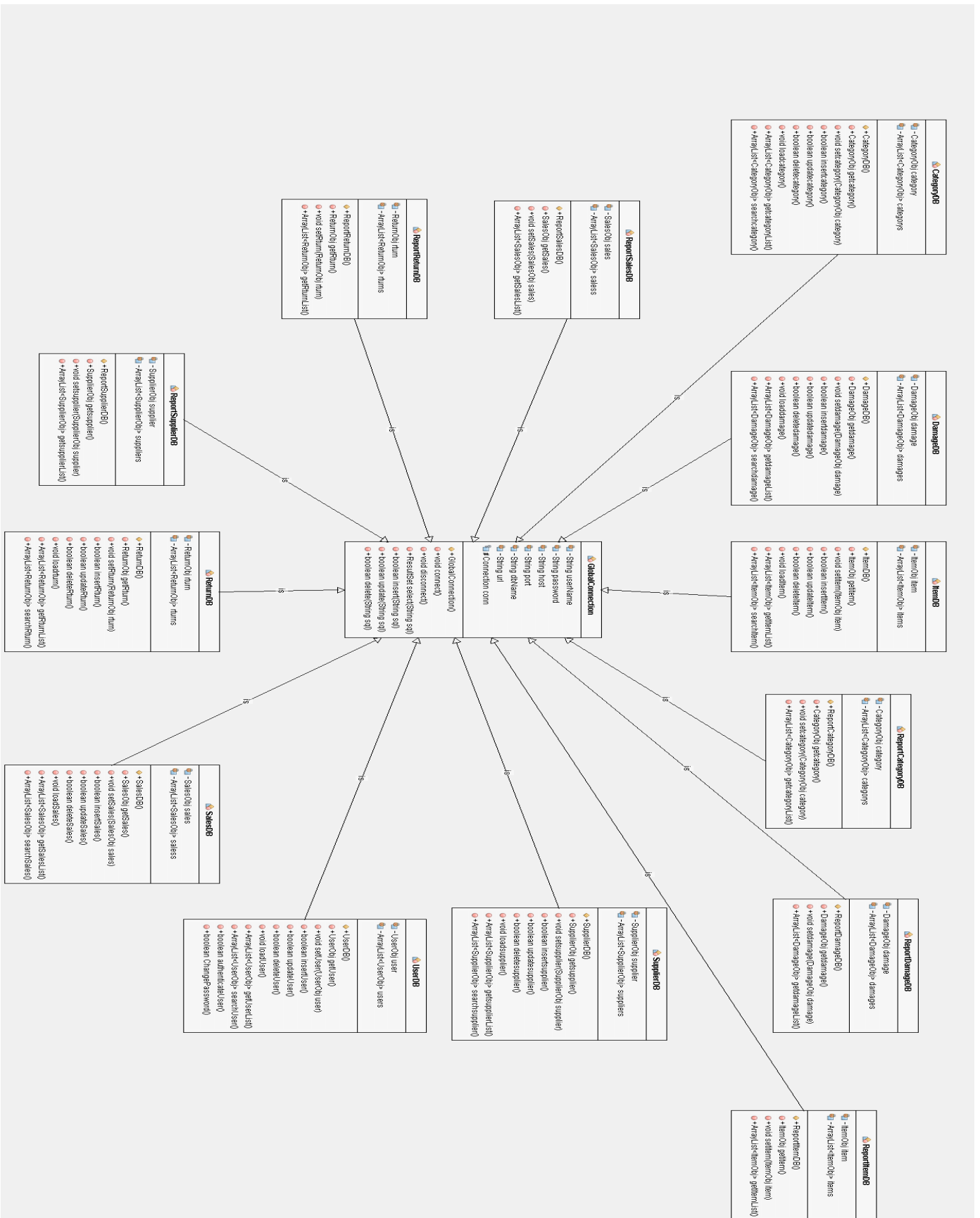
Store Inventory Management System

Class diagram of Object package:



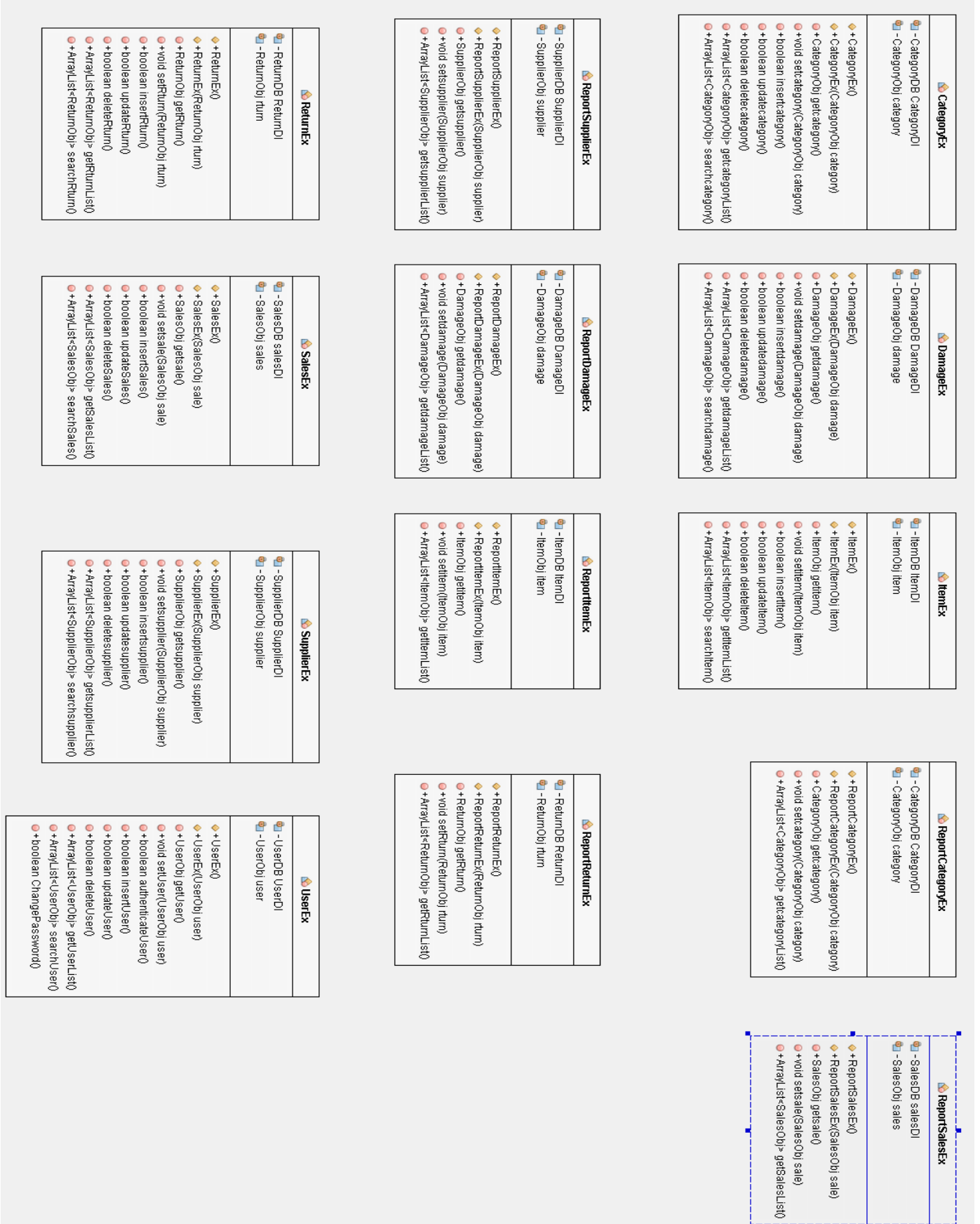
Store Inventory Management System

Class diagram of Database package:



Store Inventory Management System

Class diagram of Executor package:



Store Inventory Management System

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.

