INVENTORY OF PRODUCTS

Database class project 2020/2021

An-Najah National University

Faculty of Engineering

Department of Computer Engineering

Database Systems Course - 10636315

Inventory of products

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12/18/2019

----------This section is intended for the Instructor----------

Topic	**Mark**
Project Requirements and Modeling	
Correctness of Database mapping	
Functional Dependency and Normalization	
Project Tools	
Project Discussion	
Project Completeness	
Project Output Results or reporting (JasperReport, charts, graphs, etc.)	
Project Administration and Management	
Project Report	
Project Idea	
Project Complexity	
Team work	

Abstract :

The project talks about a program used by an owner of a store to sell computer accessories and supplies, as this program enables the user to count and enter goods into the stock, and this is done by filling in the information related to the product in several boxes like the name of the item, its price and the quantity entered, and this is done in an organized mechanism using databases. Also the program enables the user to review all the items listed in stock with the remaining quantity of each product and there will be an User-friendly interfaces that is easy to use.

Contents

Introduction :

This project was made for users as Organizational system for products as the user can manage and arrange his products in a stock list with simplified mechanism that the program provides, the user can reach his stock and search about certain product, see the available products in his shop and delete any sold product. The insertion interface has been designed to be clear and simple to use so the user can be comfortable while inserting his products.

The list in this program provides all the required information that the user needs like product name, price, quantity, supplier name and a brief description for each product and it can be generated in a printed bill.

There will be a pre-ready user in the database which allows the user to start using the program and of course if he wants to change the username or password he can do it simply in the registration interface.

Project Requirements :

Each user has an username and a password that allows him to enter the program, the user can control a number of products each of has id which is a code number, Price, Adding time, Quantities, name and type of the product.

Every product has a supplier with a full name, location of distributing and more than one product can be supplied by many suppliers .

Each product is classified as one brand which has a name, type and number.

We keep tracking each sold product by storing it in a single list that has a description of each product and his state, name of product, name of the supplier, ID, price, Whole price, original quantity, remaining quantity and sold-out quantity .

All the Functional Dependency of this project :

1. List Of Products Table

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
DESCRIPTION_FOR_PRODUCT	VARCHAR2(300 B...	Yes	(null)	7	(null)
ID	VARCHAR2(10 BYTE)	No	(null)	11	(null)
ORIGINAL_QUANTITY	NUMBER(38,0)	Yes	(null)	4	(null)
PRICE	NUMBER(38,0)	Yes	(null)	5	(null)
PRODUCT_NAM	VARCHAR2(30 BYTE)	No	(null)	1	(null)
REMAINING_QUANTITY	NUMBER(38,0)	Yes	(null)	2	(null)
SOLDOUT_QUANTITY	NUMBER(38,0)	Yes	(null)	3	(null)
SUPPLIER_FNAME	VARCHAR2(20 BYTE)	No	(null)	8	(null)
SUPPLIER_LNAME	VARCHAR2(20 BYTE)	No	(null)	10	(null)
SUPPLIER_MNAME	VARCHAR2(20 BYTE)	No	(null)	9	(null)
WHOLEPRICE	NUMBER(38,0)	Yes	(null)	6	(null)

3NF All attributes depend on PK (ID)

2. Product Table

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
ADD_TIME	VARCHAR2(30 BYTE)	Yes	(null)	3	(null)
ID	NUMBER	No	(null)	7	(null)
PRODUCT_NAME	VARCHAR2(30 BYTE)	No	(null)	1	(null)
QUANTITIES	NUMBER(38,0)	Yes	(null)	6	(null)
SELLING_PRICE	NUMBER(38,0)	Yes	(null)	4	(null)
TYPE_OF_PRODUCT	VARCHAR2(60 BYTE)	Yes	(null)	2	(null)
WHOLEPRICE	NUMBER(38,0)	Yes	(null)	5	(null)

3NF Most attributes depend on PK (ID)

3. Register Table

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
F_NAME	VARCHAR2(20 BYTE)	Yes	(null)	1	(null)
LAST_NAME	VARCHAR2(20 BYTE)	Yes	(null)	3	(null)
MINIT	VARCHAR2(20 BYTE)	Yes	(null)	2	(null)
PASS	VARCHAR2(20 BYTE)	Yes	(null)	4	(null)
USERID	NUMBER	No	(null)	5	(null)

3NF All attributes depend on PK (USERID)

4. Supplier Table

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
F_NAME	VARCHAR2(20 BYTE)	Yes	(null)	1	(null)
LAST_NAME	VARCHAR2(20 BYTE)	Yes	(null)	3	(null)
LOCATIONS	VARCHAR2(20 BYTE)	No	(null)	4	(null)
MINIT	VARCHAR2(20 BYTE)	Yes	(null)	2	(null)
PRODUCTID	NUMBER	No	(null)	7	(null)
PROVIDED_PRODUCT	VARCHAR2(20 BYTE)	No	(null)	5	(null)
WHOLEPRICE_OF_PROVIDED_PRODUCT	NUMBER(38,0)	Yes	(null)	6	(null)

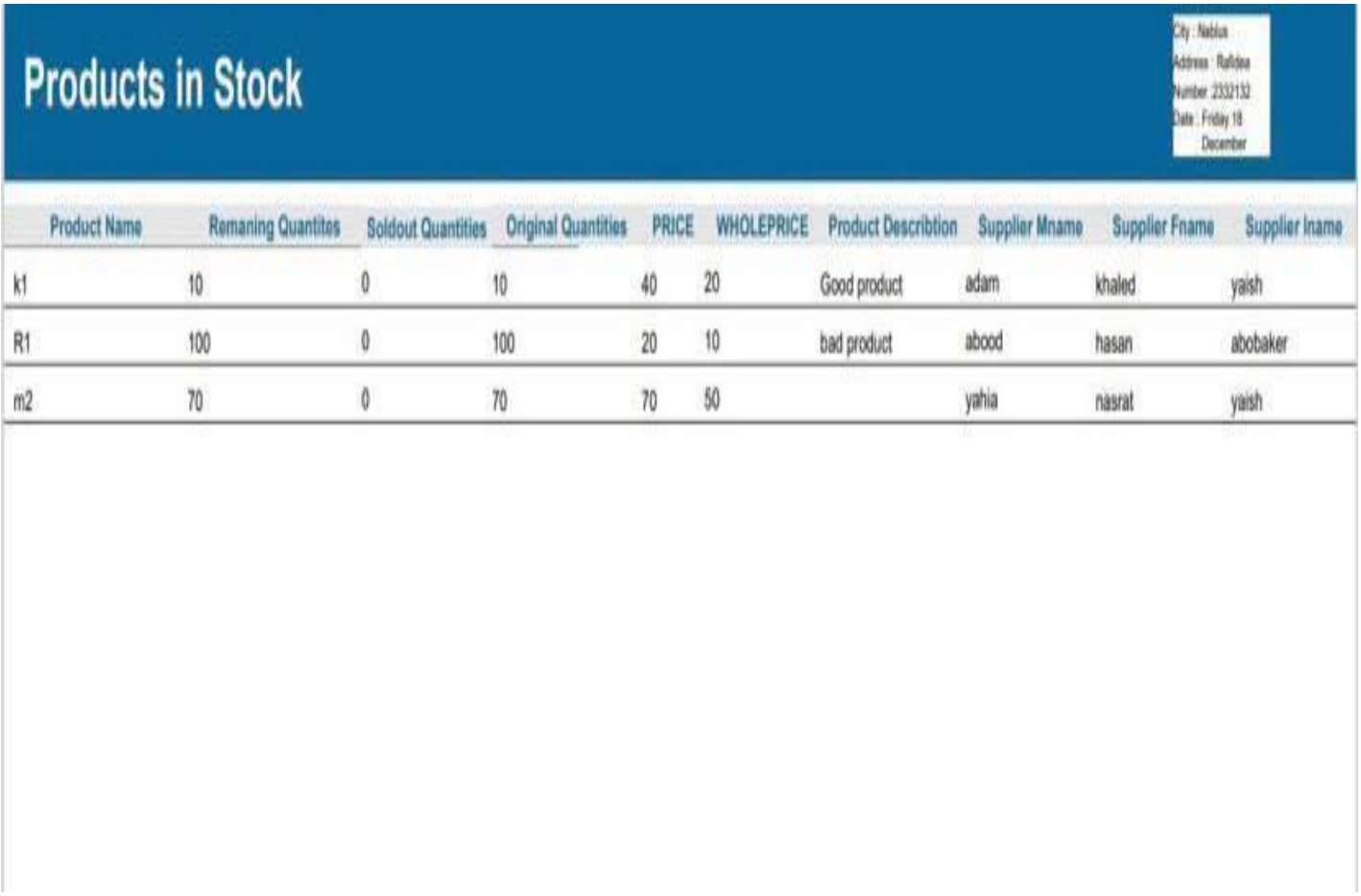
3NF All attributes depend on PK (PRODUCTID)

5. Class Table

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
NUM	NUMBER	No	(null)	1	(null)
PIECE_TYPE	VARCHAR2(15 BYTE)	No	(null)	2	(null)
TYPE_OF_PRODUCT	VARCHAR2(20 BYTE)	No	(null)	3	(null)

There is no functional dependence

Jasper Report Design :

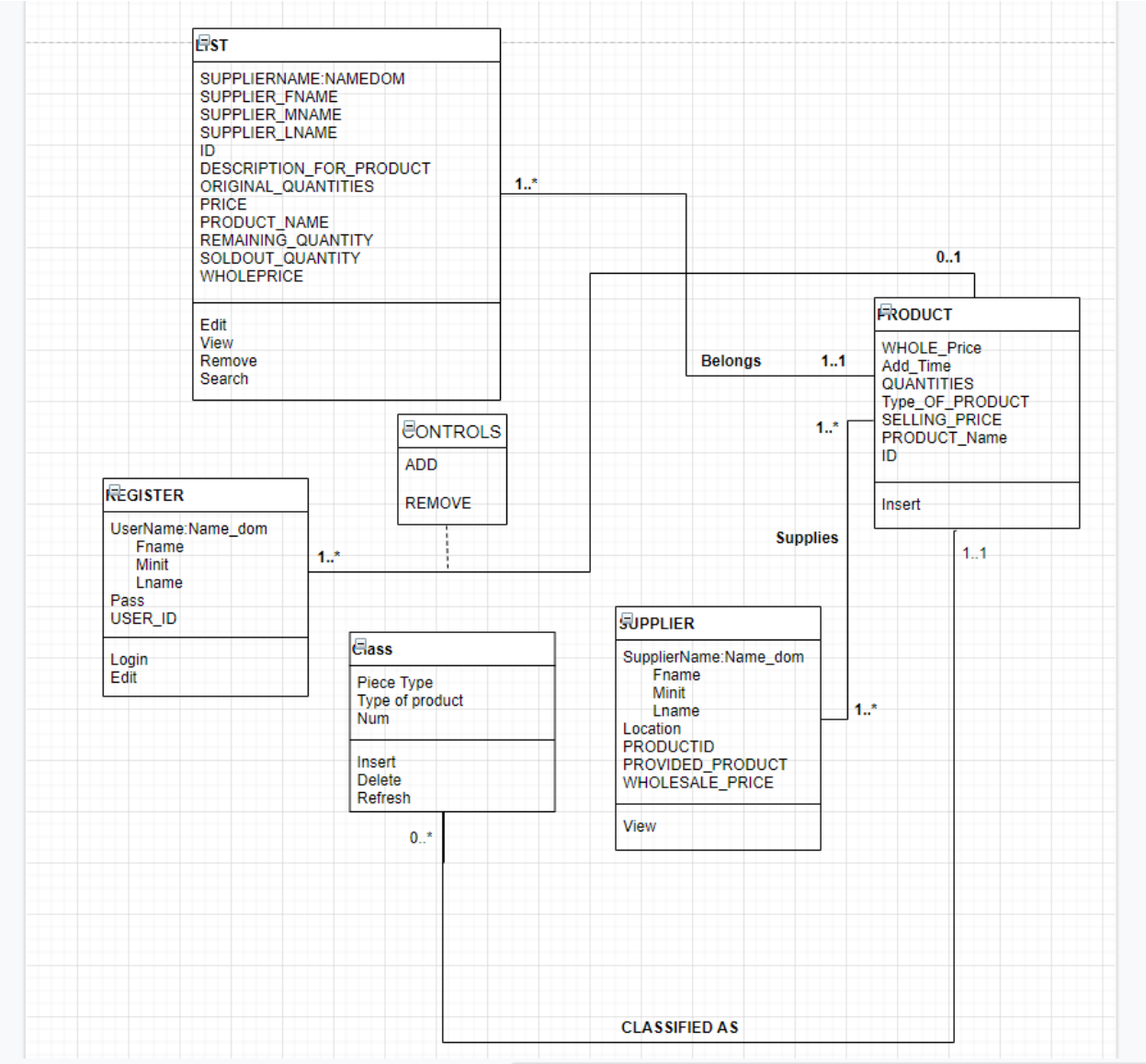


Products in Stock

City : Nablus
Address : Rafidia
Number :2332132
Date : Friday 18 December

Product Name	Remaning Quantites	Soldout Quantities	Original Quantities	PRICE	WHOLEPRICE	Product Describtion	Supplier Mname	Supplier Fname	Supplier lname
k1	10	0	10	40	20	Good product	adam	khaled	yaish
R1	100	0	100	20	10	bad product	abood	hasan	abobaker
m2	70	0	70	70	50		yahia	nasrat	yaish

Project in UML :



3NF :

All tables are in 3NF .

3NF : There is no non-primary key attribute has transitively dependent relationships to the primary key.

(3NF includes 1NF and 2NF normalization).

1NF : They in which the intersection of every column and record contains only one value.

2NF : They don’t have any composite key.

Tools used in the project **:**

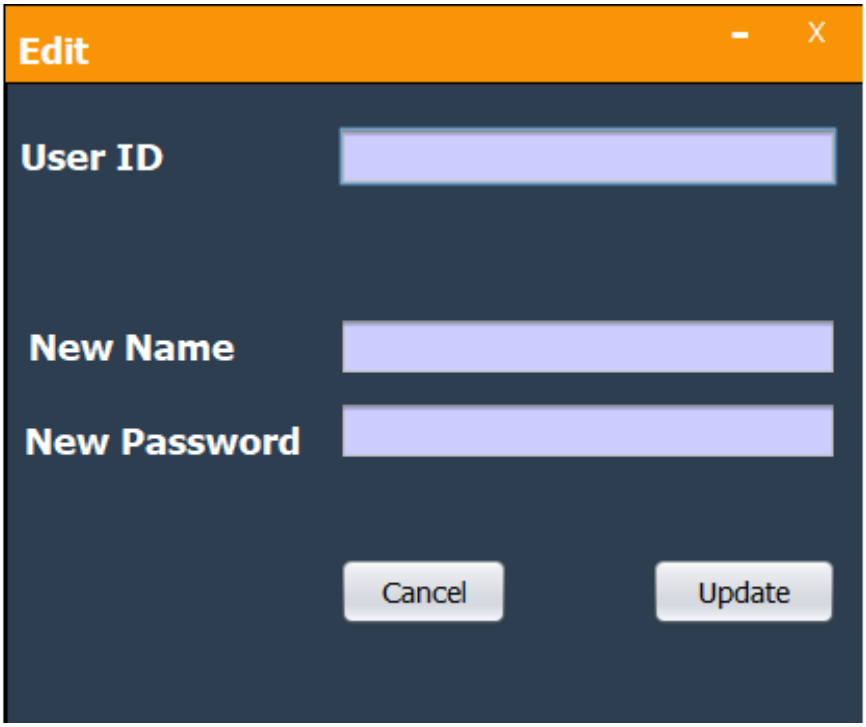
- **NetBeans for programming**
- **Sql developer and sql plus for database**
- **Draw.io for UML diagram**
- **Jasper soft studio for jasper report**
- **Word and text documents**

Discussion about project GUI :

1. Log in interface

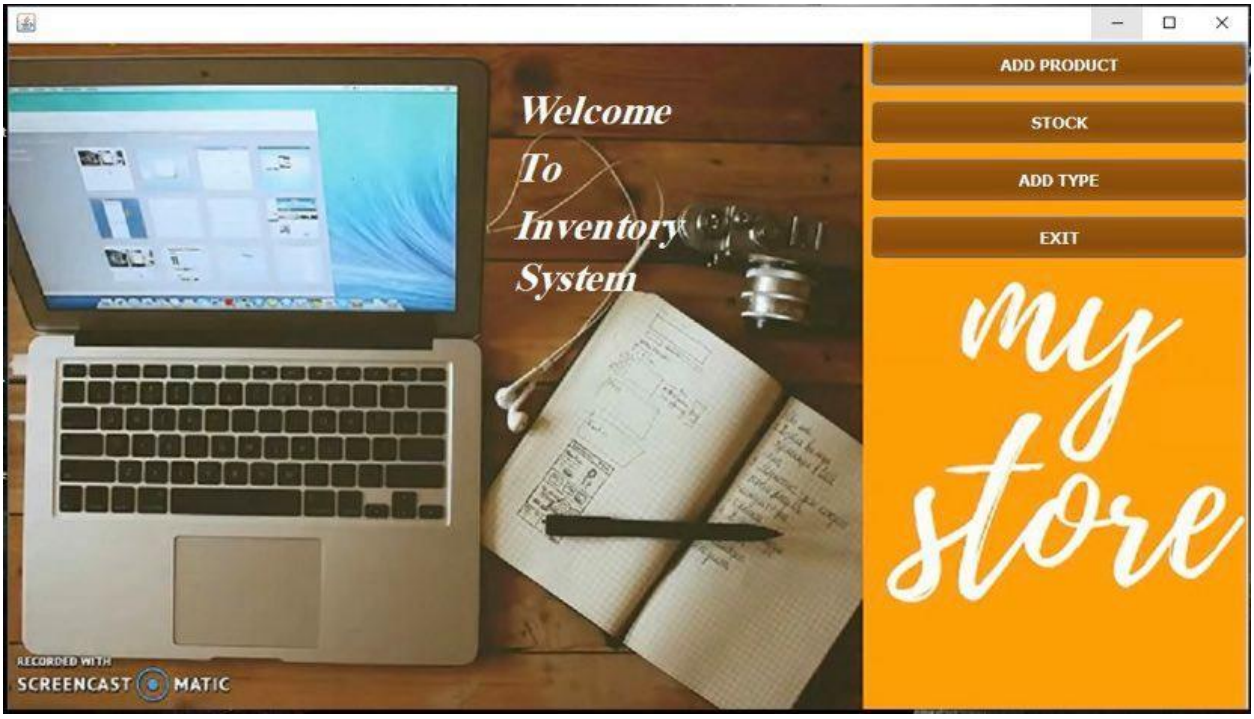
This is the first interface which includes the logging page and the user can enter with a pre-ready user in database but he can change its username or password by clicking on the label (Click here to edit user).

2. Register interface



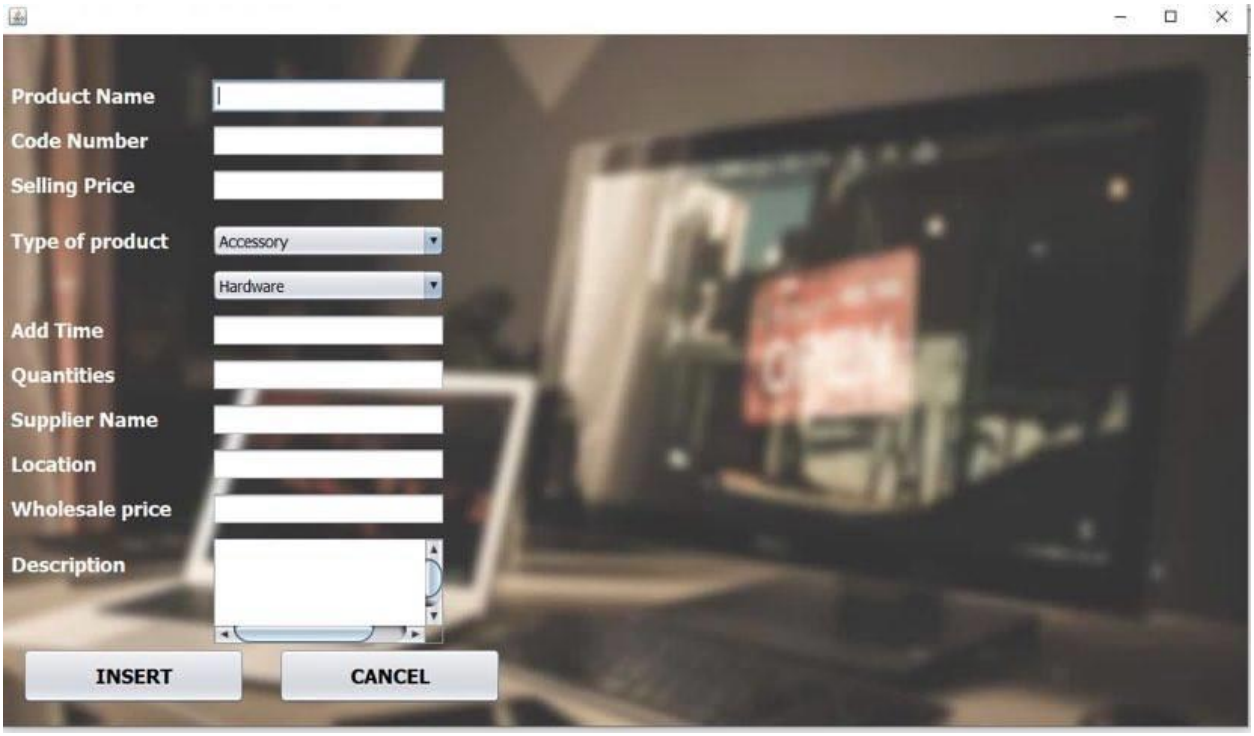
In this interface the user can change the old username and password in database by filling the fields and clicking on update button but first he has to enter the pre-ready user id .

3. Main interface



This is the main interface (greeting interface) that enables the user to alter between interfaces (Adding product interface, inventory list ……) and there is an exit button to close the program .

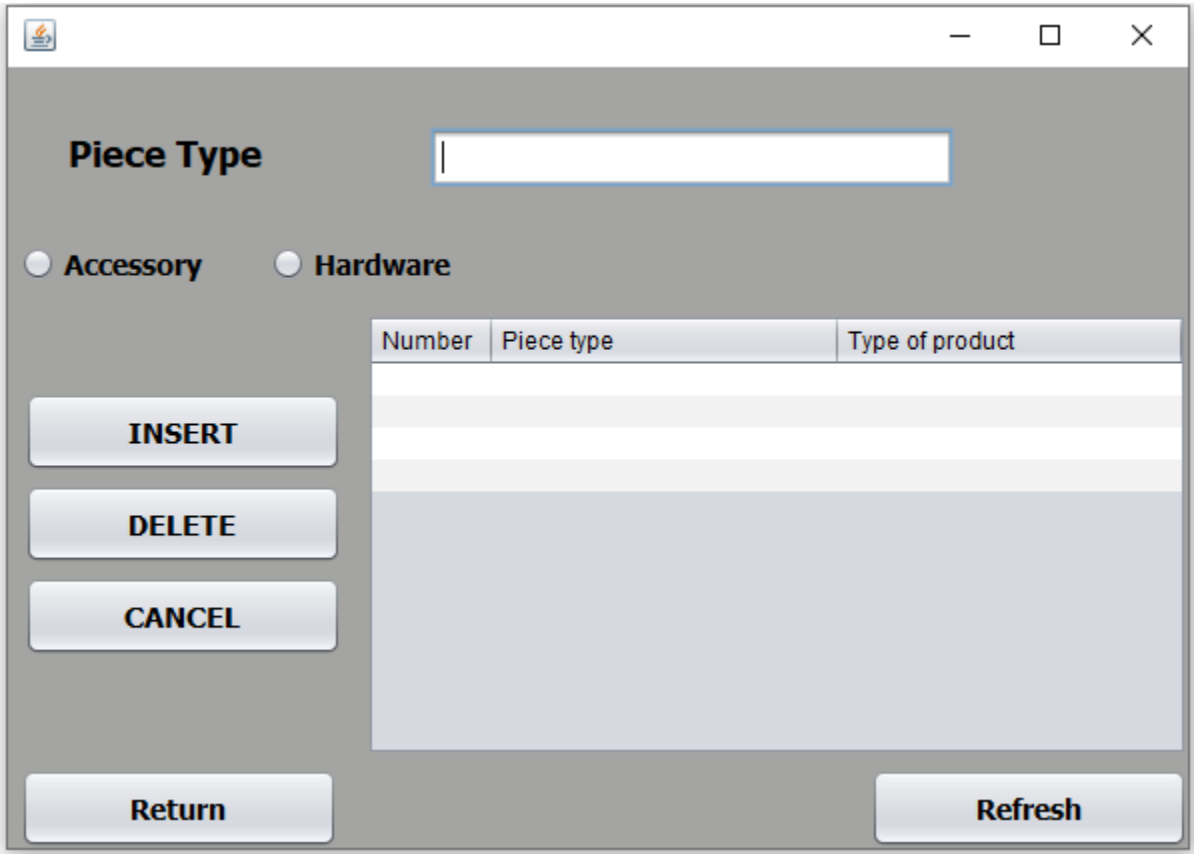
4. Add Product interface



The third interface includes the insertion operation for each product and you have to insert all related information to this product like name, price, quantity, type of this product, name of the supplier who provided this product, …… , and a brief description on it.

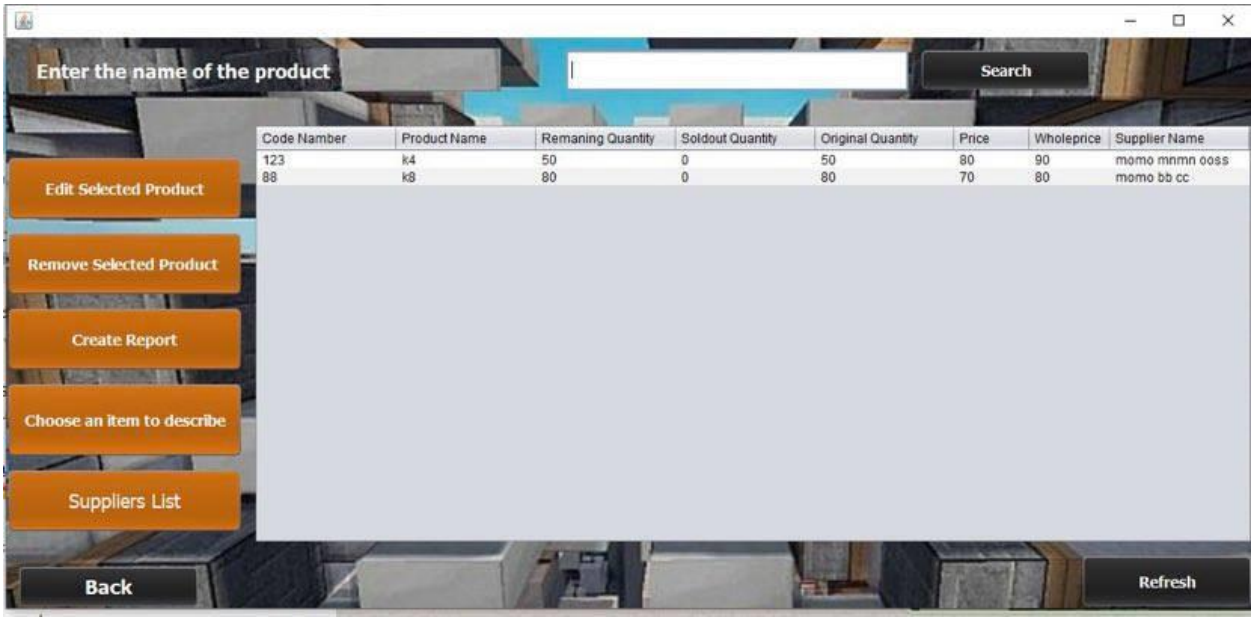
The insert button add the product and its related information to the list in the stock .

5. Class interface



This interface is for adding a new product type and selecting if it is accessory or hardware , the insert is for adding the new product type, delete is for removing a certain type and you can see the list of each product type.

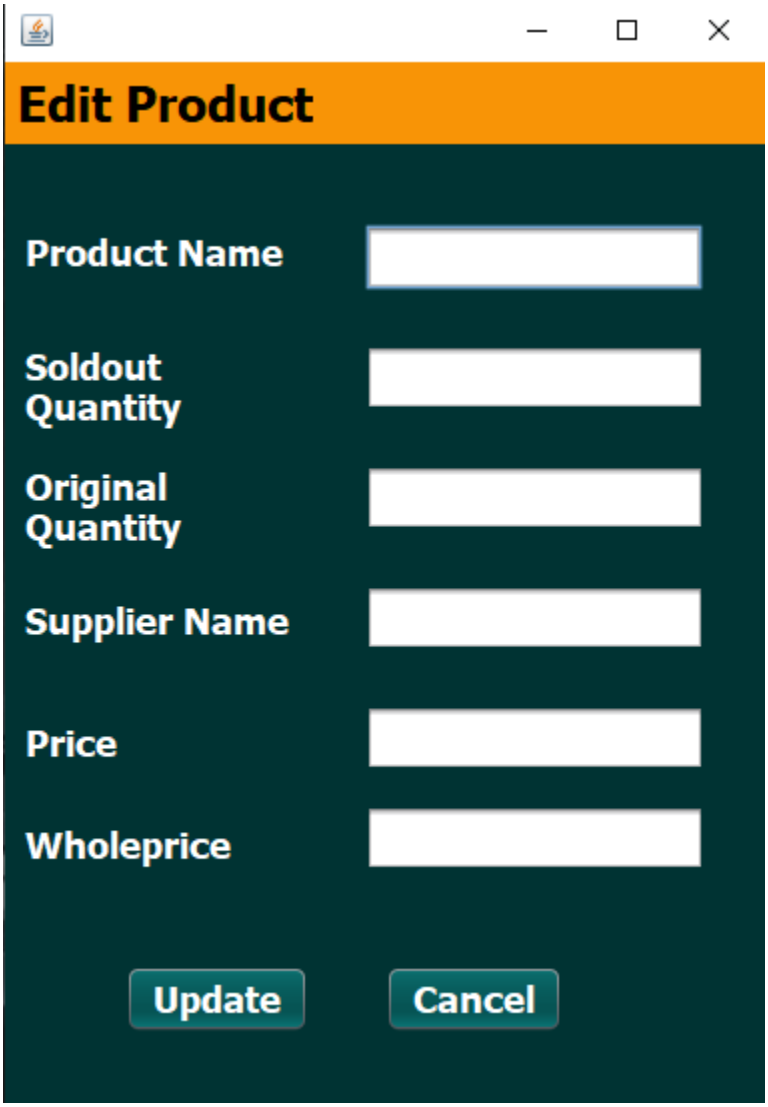
6. Stock interface



This is the stock interface which includes the general list that contains all added products with some information about each one, at the left there is an edit button which moves the user to the edit product interface which is described in the next page, the remove button deletes a single or a group of selected products in the list with their information in one step, we can see a create report button which generates a bill in the project folder that include the general list of products, the user's shop information like address, city, telephone number of the shop and the date of creating this bill. the next button at the left moves the user to the description interface which is explained later .

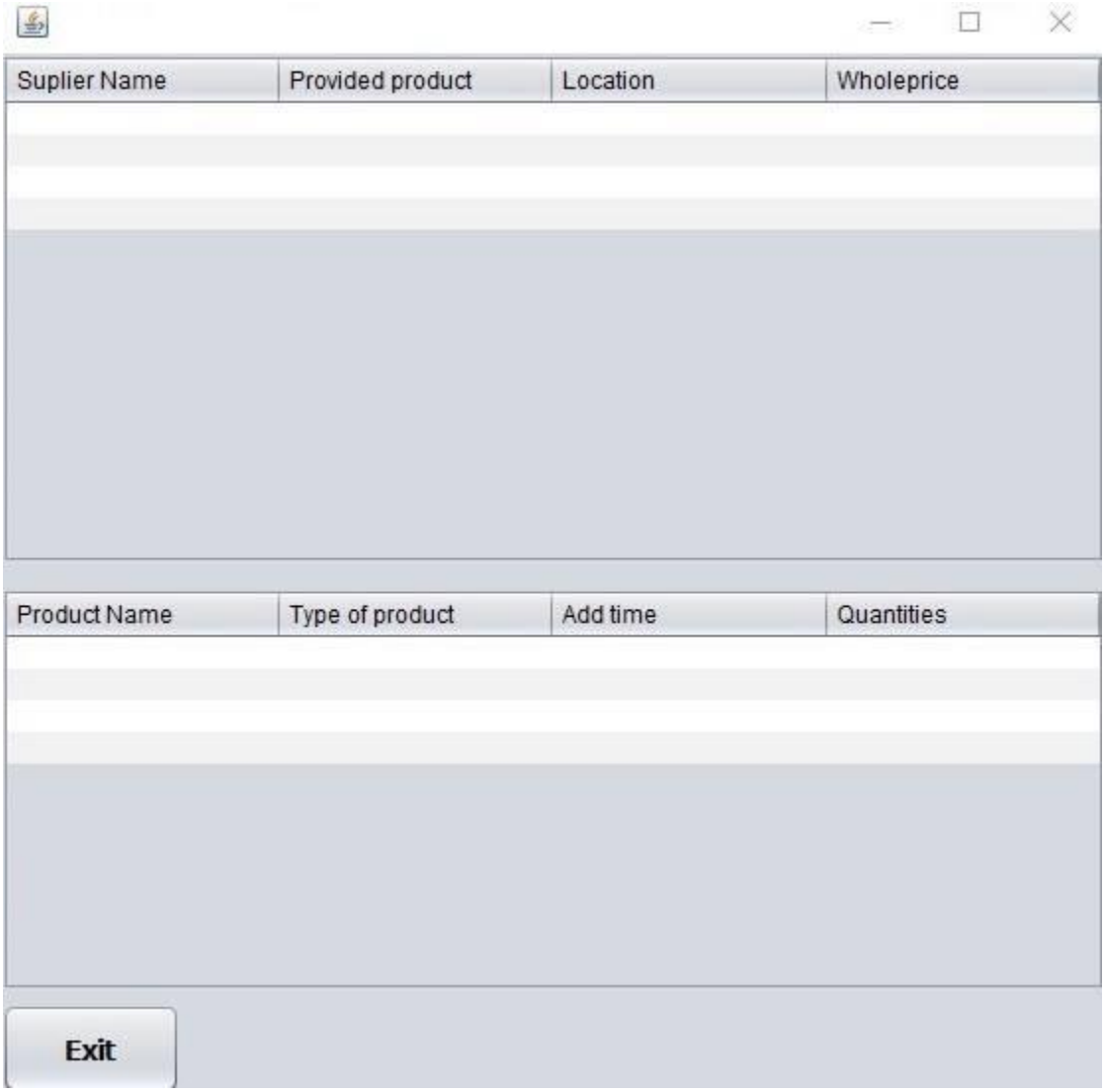
The last button with Supplier List label enables the user to view his suppliers with their information and the products they provide and he can see another list contains products with adding time, the product type and the original quantity .

7. Edit product interface



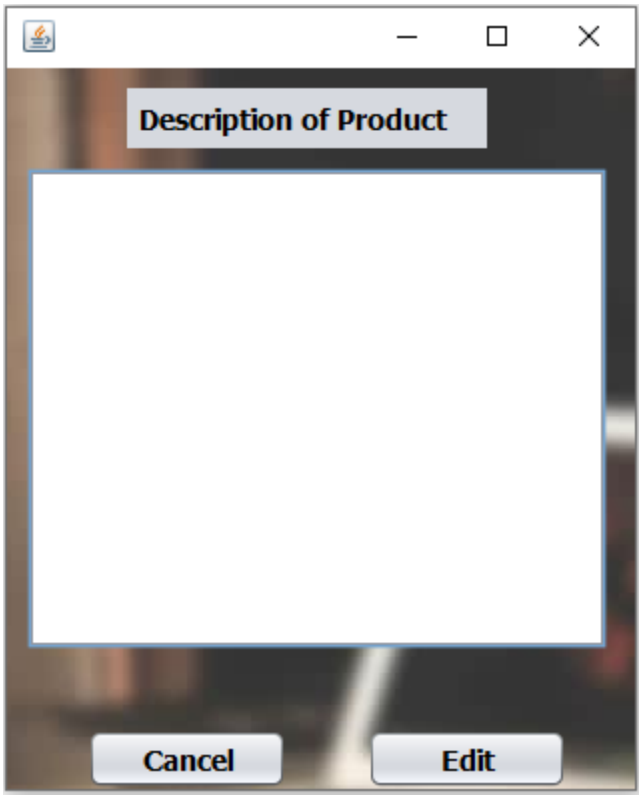
This interface enables the user to modify and update a certain product information .

8. Edit product interface



This interface is to display Suppliers List and it contains all suppliers with their location and the products that they provide and it also displays the products list with their adding time, type and quantities in the stock .

9. Description of product interface



The last interface can be entered after selecting a single product and pressing on describe button in the stock interface , it includes the old description of the selected product and the user can just read or update it .

Conclusion :

The main purpose of this project is to manage details of any sells by the user to reduce manual work for managing products and its related information which can't be avoided from mistakes . it is distinctive in its simplicity of controlling and managing of products.

The project stills in test level and can't be officially used widely by companies or any organization because it needs some developments and additional features to take advantage of all its capabilities and that is normal because we are still students and not eligible to develop a perfect program to use due some limits.

References :

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