

GIT Department of Computer Engineering  
CSE 222/505 - Spring 2020  
Homework 03

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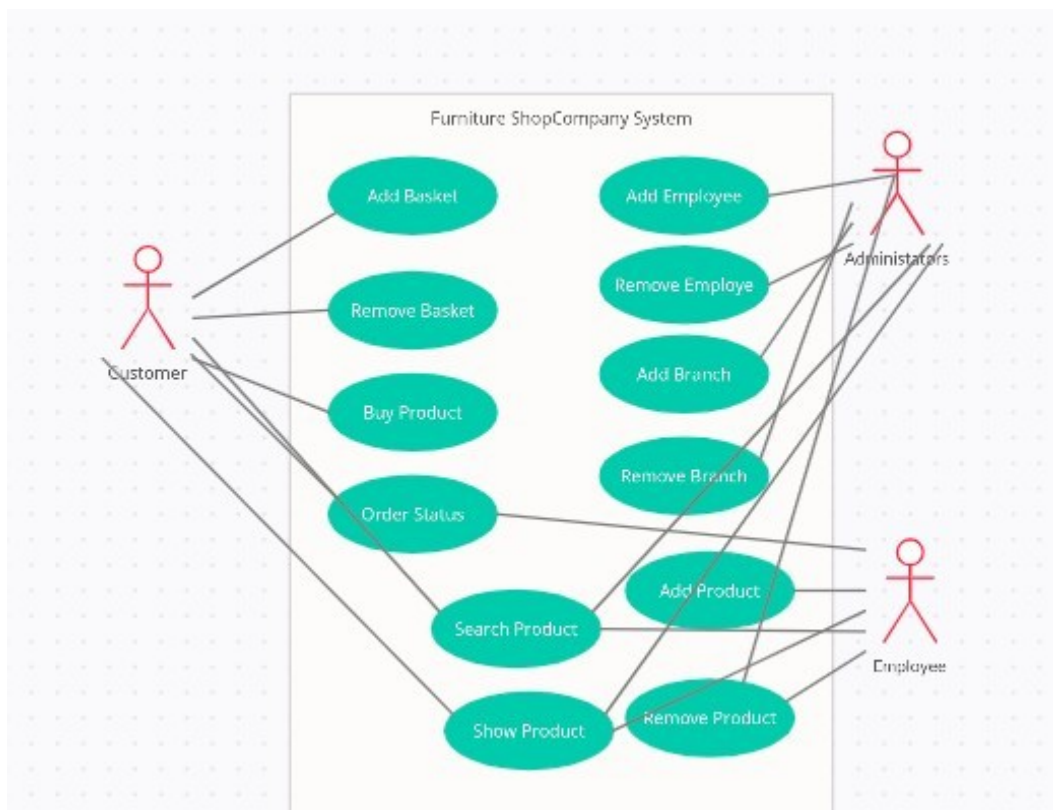
## 1 SYSTEM REQUIREMENTS

**Functional Requirements:** The customer can buy furniture and query the status of the product. Administrator can add or remove branch. Also can add branch employee to branch or remove branch employee from branch. Branch employee can add customer to the system or remove customer from the system. And also branch employee can modify product information. Administrator can add employee personnel to the system or can remove from the system. employee can modify product information.

### **Non-Functional Requirements:**

The furniture company has employees. These are administrator, branch employee personnel. In addition, the company may have branches and customers. Branch employees are belong to branches, not to the company. Each branch has furniture sent by the user.

## 2 Use Case Diagram



## 3. CLASS DIAGRAMS

My Class Diagram in "ClassDiagram.pdf" . Please check it.

## 4. PROBLEM SOLUTION APPROACH

My Problem solution steps are;

- Specify the problem requirements
- Analyze the problem
- Design an algorithm and Program
- Implement the algorithm
- Test and verify the program
- Maintain and update the program

- 1) Specify the problem requirements : I understand the problem.
- 2) Analyze the problem : I identify; – Input data – Output data – Additional requirements and constraints
- 3) Design an algorithm and Program : I divide the problem into sub-problems. I listed major steps (sub-problems). I break down each step into a more detailed list. To do these We have to divide this big project into small pieces. First of all I started with user type we need divide them with separate classes. And then to handle all data we need to write a class that manipulate the data. And lastly if we combine all these we can complete the project.
- 4) Implement the algorithm : I wrote the algorithm in Java by converting each step into statements of Java (classes ,methods etc.) First I wrote the User Interface I put the common operation among the users. Then I wrote User Class that implements the user interface and I put common things among users type in this class then I wrote the Classes for each user type such as administrator that extends from user class. Then also I wrote Data class to keep and operate my all data about the data. Then Since administrator and Branch employee has several tasks I wrote manipulate administor and manipulate branch employee array. Since we have more than 1 menu in our program I wrote Menu interface and Menu classes that implements this interface. Lastly I merge all this classes in main class.
- 5) Test and verify the program: I run the program for several input cases.
- 6) Maintain and update the program : I keep the program up-to-date.

## 6. TEST CASES

Main Menu

```
Server [java Application] /usr/lib/jvm/java-11-openjdk-amd64/bin/java (Mar 12, 2021, 0.0)
-----
|      Welcome to Berkan Furniture Shop      |
-----
Menu
-----
1-)Administrator Login
2-)Employee Login
3-)Customer Login
4-)Customer Subscribe
5-)EXIT
```

## Administrator Login

```
-----  
| Administrator Login Panel |  
-----  
First Name:  
berkan  
Last Name:  
akin  
Password:  
123  
Name:berkan  
True
```

## Administrator Menu

```
-----  
| Admin Manage Panel |  
-----  
Menu  
-----  
1-)Add Employee  
2-)Remove Employee  
3-)List Employee  
4-)Add Branch  
5-)Remove Branch  
6-)List Branch  
7-)Add Product  
8-)Remove Product  
9-)List Product  
10-)Search Product  
11-)EXIT
```

## Add Employee

```
-----  
| Add Employee |  
-----  
First Name:  
hasan  
Last Name:  
hasan  
Password:  
321  
Branch ID:  
2
```

## Remove Employee

```
2  
-----  
| Remove Employee |  
-----  
First Name:  
mahmut  
Last Name:  
mentes
```

```

5
First Name : bilal |Last Name : gok |Branch Number :1|ID Number :1
-----
First Name : arif |Last Name : korkmaz |Branch Number :2|ID Number :2
-----
First Name : talha |Last Name : aydin |Branch Number :3|ID Number :3
-----
First Name : ahmet |Last Name : akin |Branch Number :4|ID Number :4
-----
First Name : hasan |Last Name : hasan |Branch Number :2|ID Number :5
-----
-----

```

```
4
```

```
|-----|  
|               Add Branch               |  
|-----|  
  
!!!Open the New Branch!!!  
Branch ID:1
```

```
BranchId :0
-----
Branch Has Not Employee
BranchId :0
-----
Employee First Name: bilal
Employee Last Name: gok
Employee ID      : 1
-----%n
Please enter Branch ID
1
-----
```

```
-----%n
Employee First Name: bilal
Employee Last Name: gok
Employee ID : 1
-----%n
BranchId :0
-----%n
Employee First Name: arif
Employee Last Name: korkmaz
Employee ID : 2
-----%n
BranchId :0
-----%n
Employee First Name: hasan
Employee Last Name: hasan
Employee ID : 5
-----%n
BranchId :0
-----%n
Employee First Name: talha
Employee Last Name: aydin
Employee ID : 3
```

## Add Product

```

      -----
      |                      Add Product                      |
      -----
Model Number :
4
Branch Number :
1
Color       :
red
Name        :
seat
```

Remove Product

```

-----
Furniture Name : Office Bookcase
-----
ID Number      : 118
Model          : 11
Color          : Red
-----
Furniture Name : seat
-----
ID Number      : 119
Model          : 4
Color          : red
-----
Select Product ID :
119
```

## Product List

```

-----
Furniture Name : Office Bookcase
-----
ID Number      : 118
Model          : 11
Color          : Red
-----
```

## Search Product ("Bookcase")

```

-----
Furniture Name : Bookcase
-----
ID Number      : 104
Model          : 9
Color          : Red
-----
Furniture Name : Bookcase
-----
ID Number      : 105
Model          : 10
Color          : Red
-----
Furniture Name : Bookcase
-----
ID Number      : 106
Model          : 11
Color          : Red
-----

```

## Employee Panel

```

2
|-----|
| Employee Login Panel |
|-----|
First Name:
Ahmet
Last Name:
Akin
Password:
123
|-----|
| Employee Login Panel |
|-----|
Menu
-----
1-)Employee List
2-)Add Product
3-)Remove Product
4-)Product List
5-)Order List
6-)Customer List

```

## Employee List

1

-----  
First Name : bilal |Last Name : gok |Branch Number :1|ID Number :1  
-----

-----  
First Name : arif |Last Name : korkmaz |Branch Number :2|ID Number :2  
-----

-----  
First Name : talha |Last Name : aydin |Branch Number :3|ID Number :3  
-----

-----  
First Name : ahmet |Last Name : akin |Branch Number :4|ID Number :4  
-----

Add product

List

Product

Remove

Product

-----  
Add Product  
-----

Model Number :  
4

-----  
Furniture Name : Office Bookcase  
-----

ID Number : 118  
Model : 11  
Color : Red  
-----

-----  
Furniture Name : seat  
-----

ID Number : 119  
Model : 4  
Color : red  
-----

Select Product ID :  
119

-----  
Furniture Name : Office Bookcase  
-----

ID Number : 118  
Model : 11  
Color : Red  
-----

-----  
Furniture Name : seat  
-----

ID Number : 119  
Model : 4  
Color : red  
-----



## Order List

After the customer adds products to the cart and says buy, they see the products that are running.

```
5
      -----
      |              Order List              |
      -----
Furniture Name :   Office Chair
-----
ID Number      :    1
Model          :    0
Color          :   Yellow
-----
```

## Customer Login Panel

```
3
      -----
      |      Customer Login Panel      |
      -----

First Name:
ayse
Last Name:
ay
Password:
123
```

## Customer Menu

```
123
      -----
      |      Shop Subscribe      |
      -----

      Menu
-----
1-)Product List
2-)Search Product
3-)Basket List
4-)Buy Product
5-)Order Status
6-)Exit
```

## Product list

Add  
Basket  
List

Color	:	Red
-----		
Furniture Name	:	Office Bookcase
-----		
ID Number	:	117
Model	:	10
Color	:	Red
-----		
Furniture Name	:	Office Bookcase
-----		
ID Number	:	118
Model	:	11
Color	:	Red
-----		
Furniture Name	:	seat
-----		
ID Number	:	119
Model	:	4
Color	:	red
-----		

```
3
|-----|
|           Basket List           |
|-----|
|-----|
|           Furniture List        |
|-----|

Number:3
Furniture Name : Office Chair
-----
ID Number      : 10
Model          : 2
Color          : Red
-----
Furniture Name : Office Chair
-----
ID Number      : 15
Model          : 3
Color          : Red
-----
Furniture Name : Office Chair
-----
ID Number      : 7
Model          : 1
```

Buy product

```
4
|-----|
|           Buy Product           |
|-----|

1-)Buy Prodcuts
2-)Exit
1
```

Order Status

```
5
|-----|
|           Order Preparing       |
|-----|
|-----|
|           Shop Subscribe        |
|-----|

Menu
-----
1-)Product List
2-)Search Product
3-)Basket List
4-)Buy Product
5-)Order Status
6-)Exit
```

Customer Subscribe

-----  
Customer   Subscribe

First Name :

ali

Last Name :

ay

Password :

123

Email :

ali@asd