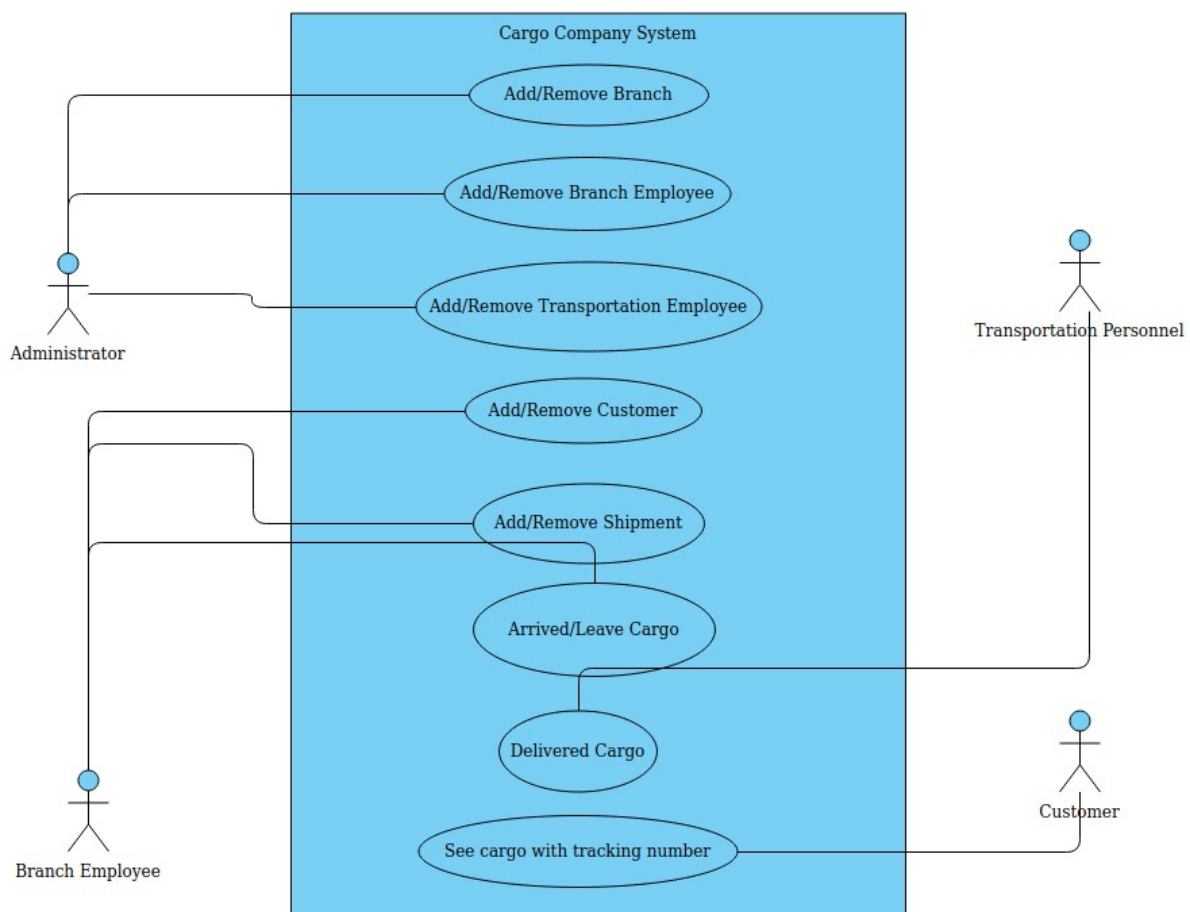# GTU Department of Computer Engineering
CSE222/505 – Spring 2020
Homework1 Part2 Report
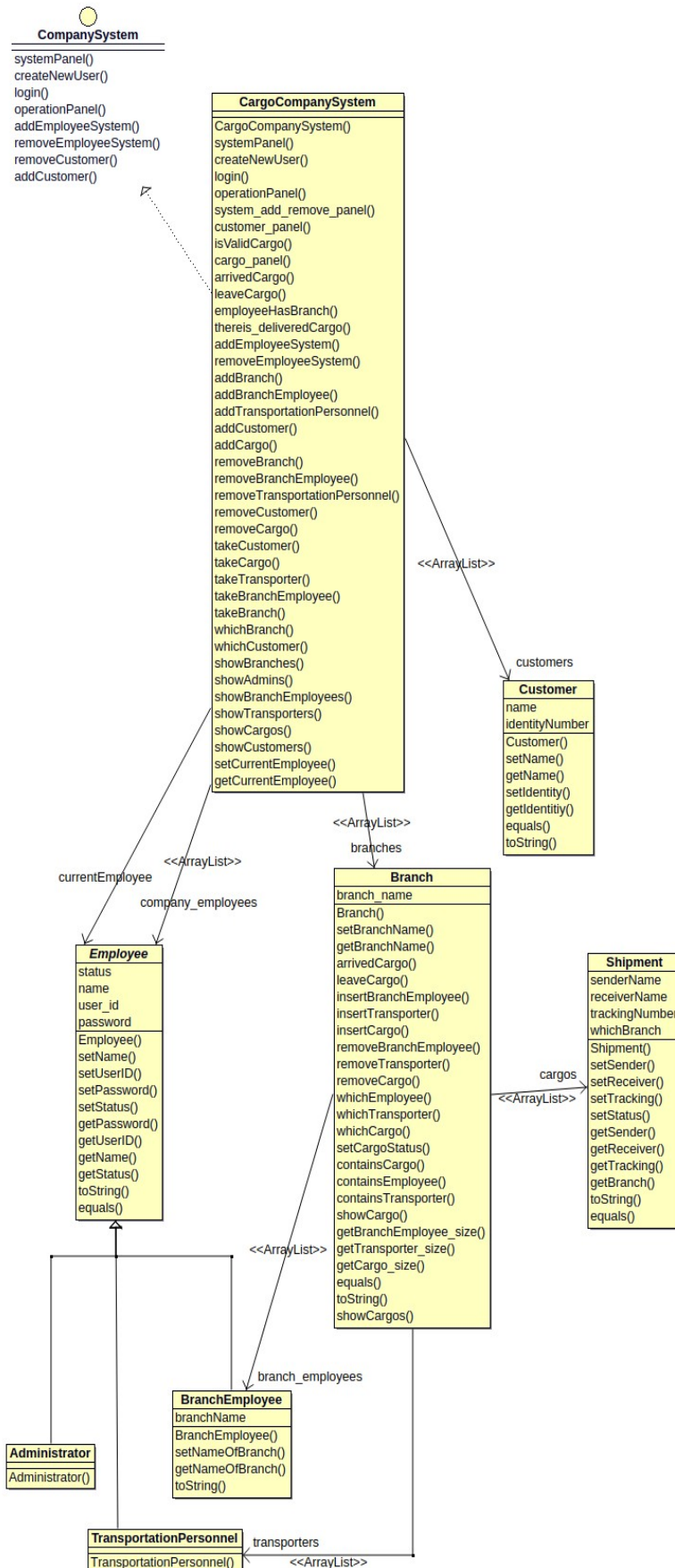
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1. SYSTEM REQUIREMENTS

This program does not require specific piece of hardware, software librar or any other plug-in to run. A user which has already installed Java into his/her computer, can run this program easily. There is no memory limitation for this program. If the size of the inputs is getting greater, the run-time of the program can be affect according the CPU speed, or memory size, but this will not exhaust the computer wile program running.

2. USE CASE DIAGRAMS

3. CLASS DIAGRAMS

CompanySystem
- systemPanel()
- createNewUser()
- login()
- operationPanel()
- addEmployeeSystem()
- removeEmployeeSystem()
- removeCustomer()
- addCustomer()

CargoCompanySystem
- CargoCompanySystem()
- systemPanel()
- createNewUser()
- login()
- operationPanel()
- system_add_remove_panel()
- customer_panel()
- isValidCargo()
- cargo_panel()
- arrivedCargo()
- leaveCargo()
- employeeHasBranch()
- thereis_deliveredCargo()
- addEmployeeSystem()
- removeEmployeeSystem()
- addBranch()
- addBranchEmployee()
- addTransportationPersonnel()
- addCustomer()
- addCargo()
- removeBranch()
- removeBranchEmployee()
- removeTransportationPersonnel()
- removeCustomer()
- removeCargo()
- takeCustomer()
- takeCargo()
- takeTransporter()
- takeBranchEmployee()
- takeBranch()
- whichBranch()
- whichCustomer()
- showBranches()
- showAdmins()
- showBranchEmployees()
- showTransporters()
- showCargos()
- showCustomers()
- setCurrentEmployee()
- getCurrentEmployee()

Customer
- name
- identityNumber
- Customer()
- setName()
- getName()
- setIdentity()
- getIdentitiy()
- equals()
- toString()

Branch
- branch_name
- Branch()
- setBranchName()
- getBranchName()
- arrivedCargo()
- leaveCargo()
- insertBranchEmployee()
- insertTransporter()
- insertCargo()
- removeBranchEmployee()
- removeTransporter()
- removeCargo()
- whichEmployee()
- whichTransporter()
- whichCargo()
- setCargoStatus()
- containsCargo()
- containsEmployee()
- containsTransporter()
- showCargo()
- getBranchEmployee_size()
- getTransporter_size()
- getCargo_size()
- equals()
- toString()
- showCargos()

Employee
- status
- name
- user_id
- password
- Employee()
- setName()
- setUserID()
- setPassword()
- setStatus()
- getPassword()
- getUserID()
- getName()
- getStatus()
- toString()
- equals()

Shipment
- senderName
- receiverName
- trackingNumber
- whichBranch
- Shipment()
- setSender()
- setReceiver()
- setTracking()
- setStatus()
- getSender()
- getReceiver()
- getTracking()
- getBranch()
- toString()
- equals()

BranchEmployee
- branchName
- BranchEmployee()
- setNameOfBranch()
- getNameOfBranch()
- toString()

Administrator
- Administrator()

TransportationPersonnel
- TransportationPersonnel()

Relationships / labels:
- <<ArrayList>> customers
- <<ArrayList>> branches
- <<ArrayList>> currentEmployee
- <<ArrayList>> company_employees
- <<ArrayList>> cargos
- <<ArrayList>> branch_employees
- transporters <<ArrayList>>

4. PROBLEM SOLUTION APPROACH

4.1 CargoCompanySystem:

This unit is the unit where my main system is located. It is a unit within this unit that holds this unit, ie who is using the program, and gives or does not give them a transaction restriction according to the authority of the person using this program. This unit also has branches and customers. Customers can enter the system with their tracking numbers and learn the status of their cargo. Branches are similar to this unit. There are some kind of small systems in branches according to my design, but they are definitely not a complete system, so I avoided using polymorphism. Branches also hold their own employees and manipulate this data, of course with commands from this unit.

4.2 Administrators:

Managers are responsible for adding and deleting branch, branch employee or transportation personnel information to the system. Therefore, managers should not do anything other than these methods.

4.3 Branches:

Branches are actually small system units according to my design. Within this unit, it keeps its employees and cargo and applies transactions to them. Of course, this should happen with a request from the main system. In the main system, the methods called by the user should pass the approval of the branch if they are related to the branch. The branch must take action on itself, because only its employees and cargo know it.

4.3 Branch Employees:

These employees can only add and remove customers and cargo to the system. If a cargo has arrived at the branch, it can process it into the system and if a cargo has been released from the branch, it can process the status of this cargo to the system.

4.4 Transportation Personnel:

These employees only process the information to the system when they deliver the cargo to the destination.

4.5 Customers:

In fact, they do not have access to the system completely. It only opens a small interface for system customers and requests a cargo tracking number. When the customer who knows the cargo tracking number enters the system, he / she can learn the status of the cargo.

5. TEST CASES

I tried this program with test methods of Mainclass.

6. RUNNING AND RESULTS

6.1 Administrator Results:

```
The user that be using system is Administrator...

The information of administrator:
--------------------
Name: Ozan - ID: Admin - Status: Administrator
--------------------

-------------------------------------------------------
The Current user(Administrator) try some add/remove operation...
-------------------------------------------------------

Try Adding Branch:
Added branch name is istanbul
ALL BRANCHES:
1) Name of Branch: istanbul
-------------

Try Adding Another Branch:
Added branch name is mersin
ALL BRANCHES:
1) Name of Branch: istanbul
2) Name of Branch: mersin
-------------

Try Adding Another Branch:
Added branch name is ankara
ALL BRANCHES:
1) Name of Branch: istanbul
2) Name of Branch: mersin
3) Name of Branch: ankara
-------------

---------------------------------------------
Try Adding Branch that system has already have:
The Branch name is ankara
ERROR -> This branches is visible in system please try again...
---------------------------------------------

Try Adding Another Branch:
Added branch name is adana
ALL BRANCHES:
1) Name of Branch: istanbul
2) Name of Branch: mersin
3) Name of Branch: ankara
4) Name of Branch: adana
-------------

Try Remove Branch:
Removed branch name is mersin
ALL BRANCHES:
1) Name of Branch: istanbul
2) Name of Branch: ankara
3) Name of Branch: adana
-------------
```

```
--------------
Try Remove Another Branch:
Removed branch name is adana
ALL BRANCHES:
1) Name of Branch: istanbul
2) Name of Branch: ankara
--------------

Try Add Branch Employee in istanbul:
Added Branch Employee is:
--------------------
Name: ozan - ID: ozannyesiller - Status: Branch Employee - Branch: istanbul
--------------------

Try Add Same Branch Employee in ankara:
ERROR -> This branch has already have this branch employee...

Try Add Branch Employee in ankara:
Added Branch Employee is:
--------------------
Name: berke - ID: berkesnmzz - Status: Branch Employee - Branch: ankara
--------------------

Try Add Branch Employee in istanbul:
Added Branch Employee is:
--------------------
Name: mehmetalp - ID: mehmetalpylmz - Status: Branch Employee - Branch: istanbul
--------------------

Try Add Branch Employee in ankara:
Added Branch Employee is:
--------------------
Name: goktug - ID: gok2a - Status: Branch Employee - Branch: ankara
--------------------

Try remove branch employee is goktug
SHOW ALL EMPLOYEES:
--------------------
Name: ozan - ID: ozannyesiller - Status: Branch Employee - Branch: istanbul
--------------------


--------------------
Name: berke - ID: berkesnmzz - Status: Branch Employee - Branch: ankara
--------------------


--------------------
Name: mehmetalp - ID: mehmetalpylmz - Status: Branch Employee - Branch: istanbul
--------------------

Try Add Transportation Personnel in ankara
Added Transportation Personnel is:
--------------------
Name: hasan - ID: hsnn - Status: Transportation Personnel
--------------------
```

```
Try Add Another Transportation Personnel in istanbul
Added Transportation Personnel is:
---------------------
Name: huseyin - ID: hsynn27 - Status: Transportation Personnel
---------------------


Try Add Another Transportation Personnel in ankara
Added Transportation Personnel is:
---------------------
Name: sami - ID: sami27 - Status: Transportation Personnel
---------------------


Try Add same transportation personnel but different branch:

ERROR -> This branch has already have this transporter...

SHOW ALL TRANSPORTERS:
---------------------
Name: hasan - ID: hsnn - Status: Transportation Personnel
---------------------


---------------------
Name: huseyin - ID: hsynn27 - Status: Transportation Personnel
---------------------


---------------------
Name: sami - ID: sami27 - Status: Transportation Personnel
---------------------

Try Remove Transportation Personel is sami in ankara

SHOW ALL TRANSPORTERS:
---------------------
Name: hasan - ID: hsnn - Status: Transportation Personnel
---------------------


---------------------
Name: huseyin - ID: hsynn27 - Status: Transportation Personnel
---------------------

Try adding customer:

You are not Branch Employee...


Try adding cargo:

You are not Branch Employee...

*********************END OF ADMINISTRATOR TEST*************************
```

6.2 Branch Employee Results:

```
The user that be using system is Branch Employee...

The information of branch employee:
--------------------
Name: ozan - ID: ozannyesiller - Status: Branch Employee - Branch: istanbul
--------------------

-------------------------------------------------------------
The Current user(branch employee) try some add/remove operation...
-------------------------------------------------------------


Try adding branch:

You are not Administrator...


Try removing branch:

You are not Administrator...


Try adding branch employee:

You are not Administrator...


Try removing branch employee:

You are not administrator...


Try adding transportation personnel:

You are not administrator...


Try removing transportation personnel:

You are not administrator...


Try adding customer in system:
Added customer name is ozan

Try adding customer in system:
Added customer name is melisa

ALL CUSTOMERS:
Name: ozan -- Identity Number: 2993254
Name: melisa -- Identity Number: 3224590
--------------
```

```
Try adding customer in system:
Added customer name is ahmet

ALL CUSTOMERS:
Name: ozan -- Identity Number: 2993254
Name: melisa -- Identity Number: 3224590
Name: ahmet -- Identity Number: 6205714
--------------


Try removing customer in system:
Removed customer name is melisa

ALL CUSTOMERS:
Name: ozan -- Identity Number: 2993254
Name: ahmet -- Identity Number: 6205714
--------------


Try adding cargo in system:

The cargo informations:
----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: istanbul
----------------------


Try adding another cargo in system:

The cargo informations:
----------------------
Tracking Number: 932c -- Sender: ahmet -- Receiver: ozan -- Branch Status: ankara
----------------------


Try removing cargo in ankara:

Removed cargo is
----------------------
Tracking Number: 932c -- Sender: ahmet -- Receiver: ozan -- Branch Status: ankara
----------------------
```

```
SHOW ALL CARGOS:

-----istanbul-----
----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: istanbul
----------------------

-----ankara-----

Arrived cargo in branch of ankara:

The cargo informations:
----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
----------------------

SHOW ALL CARGOS:

-----istanbul-----
----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: istanbul
----------------------

-----ankara-----
----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
----------------------

Leaved Cargo from istanbul

The cargo is:
----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: LEAVED from istanbul
----------------------


SHOW ALL CARGOS:

-----istanbul-----
----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: LEAVED from istanbul
----------------------

-----ankara-----
----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
----------------------
*********************END OF BRANCH EMPLOYEE TEST**************************
```

6.3 Transportation Personnel Results:

```
The user that be using system is transportation personnel...

The information of transportation personnel:
--------------------
Name: hasan - ID: hsnn - Status: Transportation Personnel
--------------------


----------------------------------------------------------------
The Current user(transportation personnel) try some add/remove operation...
----------------------------------------------------------------


Try adding branch:

You are not Administrator...


Try removing branch:

You are not Administrator...


Try adding branch employee:

You are not Administrator...


Try removing branch employee:

You are not administrator...


Try adding transportation personnel:

You are not administrator...


Try removing transportation personnel:

You are not administrator...


Try adding customer:

You are not Branch Employee...


Try removing customer:

You are not Branch Employee...


Try adding cargo:
```

```
Try adding cargo:

You are not Branch Employee...


Try removing cargo:

You are not Branch Employee...


BEFORE DELIVERED CARGO TEST:

SHOW ALL CARGOS:

-----istanbul-----
-----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: LEAVED from istanbul
-----------------------

-----ankara-----
-----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
-----------------------

Try delivered cargo status:


Delivered cargo:
-----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: LEAVED from istanbul
-----------------------

SHOW ALL CARGOS:

-----istanbul-----
-----------------------
Tracking Number: 962a -- Sender: ozan -- Receiver: ahmet -- Branch Status: DELIVERED CARGO
-----------------------

-----ankara-----
-----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
-----------------------
********************END OF TRANSPORTATON PERSONNEL TEST*************************
```

6.4 Customer Results:

```
Try search cargo with tracking number for customer:

The cargo that is tracking number 189t is:

Invalid tracking number...


Yes, there is not this cargo in system...


Try search cargo that is tracking number 152t is:


-----------------------
Tracking Number: 152t -- Sender: ahmet -- Receiver: ozan -- Branch Status: ARRIVED IN ankara
-----------------------

********************END OF CUSTOMER TEST*************************
```