GIT Department of Computer Engineering

CSE 222/505 - Spring 2020

Homework 01_part2 Report

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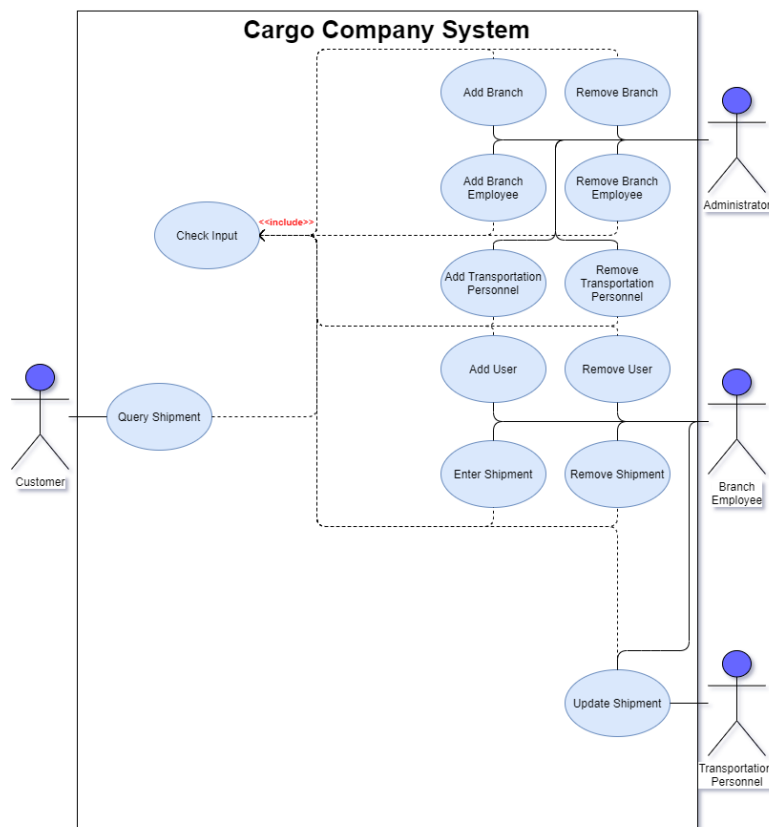**171044002**

1   SYSTEM REQUIREMENTS

Functional Requirements:

The customer can send cargo and query the status of the cargo. 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 shipment information. Administrator can add transportation personnel to the system or can remove from the system. Transportation personnel can modify shipment information.
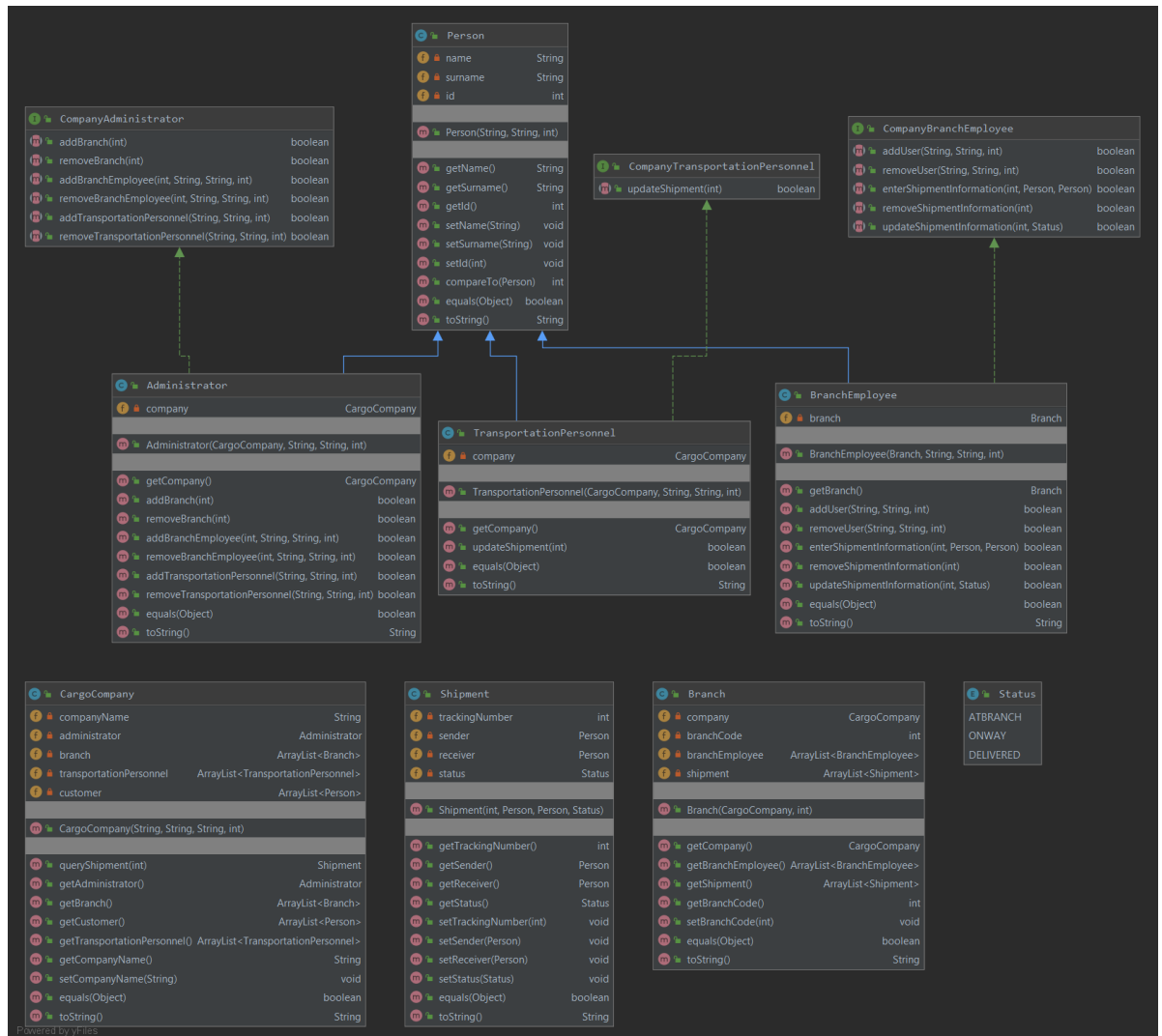
Non-Functional Requirements:

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

2   USE CASE DIAGRAMS

3   CLASS DIAGRAMS

4   PROBLEM SOLUTION APPROACH

Regarding my system's requirements and problems, i divided this complex structure into small pieces. There is a company and this company has four different users and some structures such branch, shipments.

It is important point to read, write and modify these datas effectively. Therefore, an effective container must first be determined. So i chose java.util.ArrayList fort this container. The reason is that ordering is not important while writing and i can add to the end, i can access the contents using index while reading and i can use this index again when modifying.

Other important point is classification. There are four different users such as administrator, branch employee, transportation personnel and customer. All of these classes have a name,surname and identical number and there is a "has a relation" between Person and these classes. Company has administrator, branch, transportation personnel and customers and there are "has a relation" between these classes and them. Likewise, while every company can have "has a relation", there is "has a relation" between them and the company. In this way, I can access these objects through the company as well as I can access the company through objects such as administrator. A kind of doubly linked list. Each branch has its own a unique branch code, branch employees and shipments and there are a "has a relation" between thoose branch,branch employees and shipments. Likewise, there is a relation between branch,branch employees and shipment as well as between them and the branch. These three employees can read, write or modify these datas using their authorization.

5   TEST CASES – RUNNING AND RESULTS

- Create a company with administrator

```
Cargo company's name : KDGL
Cargo company's administrator's name : Abdullah
Cargo company's administrator's surname : Celik
Cargo company's administrator's ID : 123
The company was founded.
```

Administrator

- Adding a branch

```
Branch code : 1
Adding branch is successful.
```

```
Choice : 3
Branch code : 1
The company already has this branch!
```

- Removing a branch

```
Branch code : 1
Removing branch is successful.
```

```
Branch code : 111
The company does not have this branch!
```

- Adding a branch employee

```
Branch code : 1
Name : Ismail
Surname : Celik
ID : 2
0
Adding branch employee is successful.
```

```
Branch code : 1
Name : Ismail
Surname : Celik
ID : 2
0
The branch already has this employee!
```

- Removing a branch employee

```
Branch code : 1
Name : Ismail
Surname : Celik
ID : 2
Removing branch employee is successful.
```

```
Branch code : 1
Name : ahmet
Surname : celik
ID : 3
The branch does not have this employee!
```

- Adding a transportation personnel

```
Name : behzat
Surname : celik
ID : 3
Adding transportation personnel is successful.
```

```
Name : behzat
Surname : celik
ID : 3
The company already has this transportation personnel!
```

- Removing a transportation personnel

```
Name : Behzat
Surname : Celik
ID : 3
Removing transportation personnel is successful.
```

```
Name : ahmet
Surname : celik
ID : 3
The company does not have this transportation personnel!
```

Branch Employee

- Adding a user

```
Name : Halit
Surname : Celik
ID : 4
Adding customer operation is successful.
```

```
Name : Halit
Surname : Celik
ID : 4
The company already has this user!
```

- Removing a user

```
Name : Ahmet
Surname : Celik
ID : 4
The company does not have this user!
```

```
Name : Halit
Surname : Celik
ID : 4
Removing customer operation is successful.
```

- Entering a shipment

```
Tracking number : 222
Name : Sender
Surname : Sender
ID : 5
Name : Receiver
Surname : Receiver
ID : 5
Entering a shipment information operation is successful.
```

```
Tracking number : 222
Name : a
Surname : a
ID : 1
Name : b
Surname : b
ID : 2
Company already has this shipment!
```

- Removing a shipment

```
Tracking number : 222
Removing a shipment information operation is successful.
```

```
Tracking number : 333
Company does not have this shipment!
```

- Updating a shipment

```
Tracking number : 223
Wrong tracking number! Try again!
```

```
Tracking number : 222
Tracking ID: 222
Sender Information
Name: Sender
Surname: Sender
ID: 1
Receiver Information
Name: Receiver
Surname: Receiver
ID: 2
Status : ATBRANCH
```

```
Tracking number : 222
(1) AT BRANCH
(2) ON WAY
Status : 2
Updating is successful.
```

```
Tracking number : 222
Tracking ID: 222
Sender Information
Name: Sender
Surname: Sender
ID: 1
Receiver Information
Name: Receiver
Surname: Receiver
ID: 2
Status : ONWAY
```

TRANSPORTATION PERSONNEL

- Update a shipment

```
Tracking number : 222
Update operation is successful.
```

```
Tracking number : 223
Wrong tracking number! Try again!
```

CUSTOMER

- Query a shipment

```
Tracking number : 222
Tracking ID: 222
Sender Information
Name: Sender
Surname: Sender
ID: 1
Receiver Information
Name: Receiver
Surname: Receiver
ID: 2
Status : DELIVERED
```