**GIT Department of Computer Engineering**

**CSE 222/505 - Spring 2020**

**Homework 1 Report**

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1. **SYSTEM REQUIREMENTS**

The software is a Cargo Company based system the use should be able to login as one of four categories which are Administrator, Branch Employee, Transportation Personnel and a Customer.

The Administrator is responsible of adding and removing branches as well as employees, when a branch is being added the system will require a name for the branch and when an employee is being added the system will require the name of an existing branch as well as the name of the employee.

The Branch Employee is responsible of adding and managing Shipments, when a shipment is being added the system will require the name of the branch accepting the shipment as well as the names of the sender and receiver. After the shipment has been accepted the System will print out the info of the shipment containing the names of the sender, receiver, the shipments id and the shipments status.

The Transportation Personnel are responsible of delivering the shipments.

The Customer can only use the system to check the info of the shipment provided he has the shipment ID.

Employees cannot be added before the administrator add a branch.

Shipments cannot be added if there are no existing branch employees and they cannot be delivered if there are no transportation personnel.

Logging in as one of the four categories does not require any ID or Password.

The system should work on any machine the has a JVM (Java Virtual Machine).

1. **USE CASE DIAGRAMS**

**A close up of a map

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1. CLASS DIAGRAM

A screenshot of a cell phone

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1. **PROBLEM SOLUTION APPROACH**

Problem: in a shipping company how can we create a system to keep track of the branches, employees, shipments and customers of the company?

Solution Approach: we can divide the problem into sub problems and solve each of them separately.

We can first solve the problem of keeping track of the branches by collecting them in an array of sort and this array will be managed by the administrators of the company.

Then we can store the employees of each branch inside their respective branches so we can keep track of each employee and the branch he belongs to.

As for the Shipments each of them will have some information to keep track of it like the sender and receiver names and each will have a unique ID so we don’t mix them up.

1. **TEST CASES**

|  |  |  |  |
| --- | --- | --- | --- |
| Test Scenario | Test Cases | Test Result | |
| Adding a Branch | Branch Name does not exist | Branch is added | |
| Branch Name exists | Branch is Rejected | |
| Adding an employee | Branch Name exists | | Employee is Added | |
| Branch Name does not exist | | Employee is rejected | |
| Adding a Shipment | Branch Name exists | | Shipment is Added | |
| Branch Name does not exist | | Shipment is rejected | |
| Checking or Changing a shipments info or Status | Branch Name does not exist | | Info cannot be accessed | |
| Branch Name exists and ID is correct | | Info is accessed | |
| Branch Name exists but ID is not correct | | Info cannot be accessed | |

**Running and Results**

A screenshot of a cell phone

Description automatically generatedA screen shot of a social media post

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A screen shot of a computer

Description automatically generated

A picture containing sitting

Description automatically generatedA picture containing sitting, black

Description automatically generated

A picture containing sitting, black

Description automatically generatedA picture containing sitting, wall

Description automatically generated

A picture containing sitting, text

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