

GTU Department of Computer Engineering

CSE 222

Homework 1 part 2

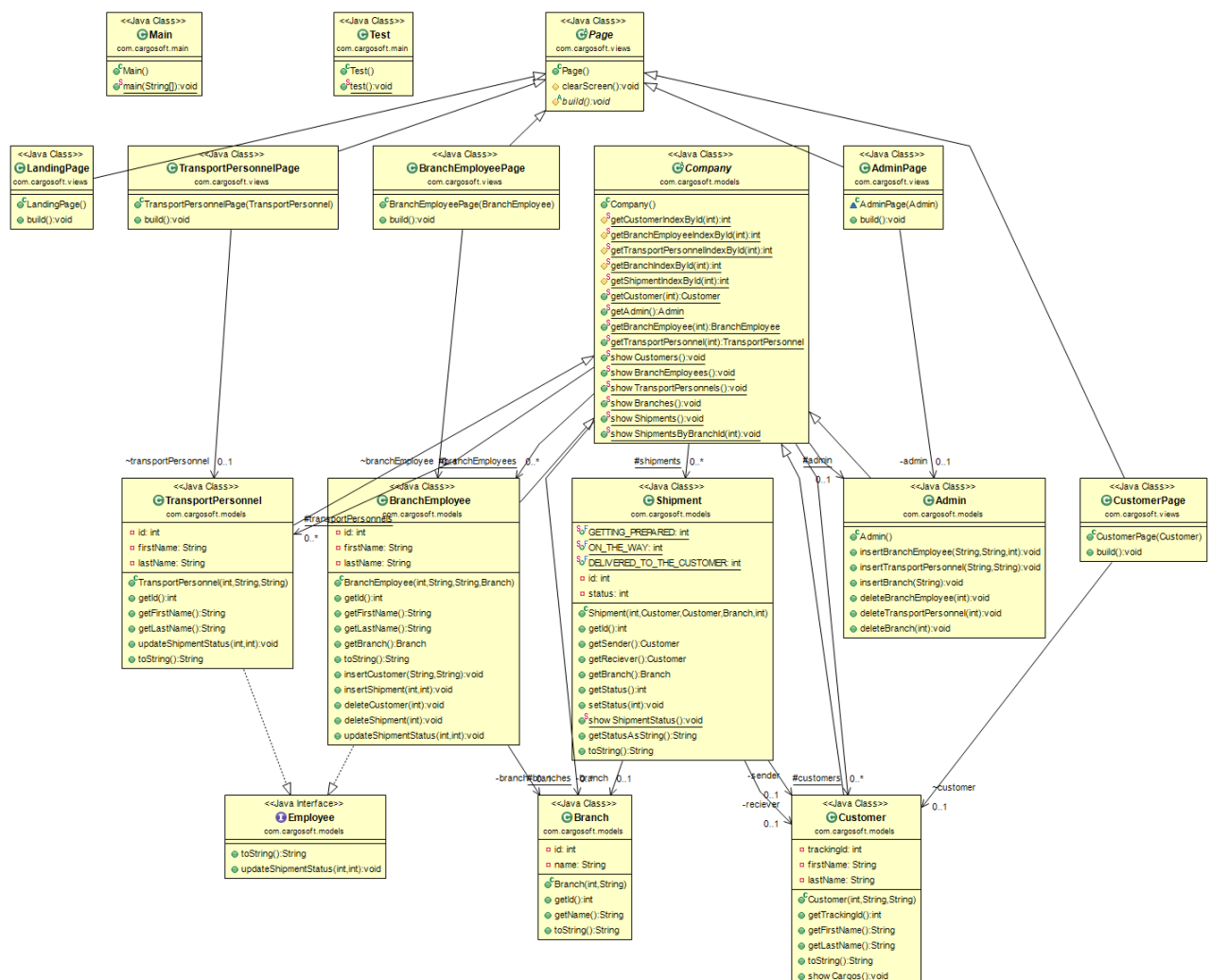
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System Requirements

In the program we basically have 4 groups under a company. They are Customers, Employees, Shipments, Branches. Under employees we have also two subgroups which are Branch Employees and Transport Personnels. A company of course must have an admin too. Admin can manage (add and remove) branches and employees. After the company has employees and branches, branch employees can add, manage new customers and shipments which are the purpose of the company. Transport Personnel can update the status of the shipment after delivery. Customers can track whole delivery process of all their cargos.

Class Diagram



Problem Solutions Approach

To solve the problem I separated business logic and user interface project wise and inspired from basics of flutter frameworks (a framework to develop cross platform applications on mobile) user interface rendering structure with build() methods which all UI elements have to override.

Since we can have only one company at a time, I implemented company like an abstract class which stores all the data of the company with static fields and methods. All sensitive operations like insert, delete are handled from Admin, BranchEmployee or TransportPersonnel classes according to which one is authorized to do that specific task.

Test Cases

Creating branches...
Creating Employees...
Creating customers...
Creating shipments...

Branches:

- 1 Kadikoy
- 2 Kartal
- 3 Maltepe

BranchEmployees:

- 1 Lara Croft Kadikoy
- 2 Captain Price Kadikoy
- 3 Geralt Rivia Kartal
- 4 Adolf Kinder Kartal
- 5 Josef Stalin Maltepe

TransportPersonnels:

- 1 Luke Skywalker
- 2 Obi Wan Kenobi
- 3 Dol Amaroth
- 4 Minas Tirith
- 5 Enes Batur

Customers:

- 1 Winston Churchill
- 2 Benito Musollini
- 3 Neil Armstrong
- 4 Tony Stark
- 5 Bruce Banner
- 6 Howard Stark
- 7 Kylo Ren

Shipments:

- 1 - Winston Churchill -> Neil Armstrong - Kadikoy - Getting Prepared
- 2 - Bruce Banner -> Benito Musollini - Kadikoy - Getting Prepared
- 3 - Tony Stark -> Winston Churchill - Kadikoy - Getting Prepared
- 4 - Benito Musollini -> Neil Armstrong - Kadikoy - Getting Prepared
- 5 - Kylo Ren -> Bruce Banner - Kadikoy - Getting Prepared

6 - Winston Churchill -> Neil Armstrong - Kadikoy - Getting Prepared

Deleting the last element of all lists...

Branches:

- 1 Kadikoy
- 2 Kartal

BranchEmployees:

- 1 Lara Croft Kadikoy
- 2 Captain Price Kadikoy
- 3 Geralt Rivia Kartal
- 4 Adolf Kinder Kartal

TransportPersonnels:

- 1 Luke Skywalker
- 2 Obi Wan Kenobi
- 3 Dol Amarothe
- 4 Minas Tirith

Customers:

- 1 Winston Churchill
- 2 Benito Mussolini
- 3 Neil Armstrong
- 4 Tony Stark
- 5 Bruce Banner
- 6 Howard Stark

Shipments:

- 1 - Winston Churchill -> Neil Armstrong - Kadikoy - Getting Prepared
- 2 - Bruce Banner -> Benito Mussolini - Kadikoy - Getting Prepared
- 3 - Tony Stark -> Winston Churchill - Kadikoy - Getting Prepared
- 4 - Benito Mussolini -> Neil Armstrong - Kadikoy - Getting Prepared
- 6 - Winston Churchill -> Neil Armstrong - Kadikoy - Getting Prepared

Running Command and Results

Welcome to cargosoft

- 0) Admin
- 1) Customer
- 2) Employee
- 3) Exit

Please make a choice to proceed: 0

BranchEmployees:

- 1 Lara Croft Kadikoy
- 2 Captain Price Kadikoy
- 3 Geralt Rivia Kartal
- 4 Adolf Kinder Kartal

TransportPersonnels:

- 5 Luke Skywalker
- 6 Obi Wan Kenobi
- 7 Dol Amarothe
- 8 Minas Tirith

Branches:

- 1 Kadikoy
- 2 Kartal

- 1) Insert Branch Employee
- 2) Delete Branch Employee
- 3) Insert Transport Personnel
- 4) Delete Transport Personnel
- 5) Insert Branch
- 6) Delete Branch
- 7) Back

Please choose the operation you would like to do: 2

Branch Employee Id: 2

BranchEmployees:

- 1 Lara Croft Kadikoy
- 3 Geralt Rivia Kartal
- 4 Adolf Kinder Kartal

TransportPersonnels:

- 5 Luke Skywalker
- 6 Obi Wan Kenobi
- 7 Dol Amarothe
- 8 Minas Tirith

Branches:

- 1 Kadikoy
- 2 Kartal

- 1) Insert Branch Employee
- 2) Delete Branch Employee
- 3) Insert Transport Personnel
- 4) Delete Transport Personnel
- 5) Insert Branch
- 6) Delete Branch
- 7) Back

Please choose the operation you would like to do: 5

Name: Atasehir

BranchEmployees:

- 1 Lara Croft Kadikoy
- 3 Geralt Rivia Kartal
- 4 Adolf Kinder Kartal

TransportPersonnels:

- 5 Luke Skywalker

6 Obi Wan Kenobi
7 Dol Amarothe
8 Minas Tirith

Branches:

1 Kadikoy
2 Kartal
3 Atasehir

1) Insert Branch Employee
2) Delete Branch Employee
3) Insert Transport Personnel
4) Delete Transport Personnel
5) Insert Branch
6) Delete Branch
7) Back

Please choose the operation you would like to do: 1

First Name: Serenay

Last Name: Sarıkaya

Branch Id: 3

BranchEmployees:

1 Lara Croft Kadikoy
3 Geralt Rivia Kartal
4 Adolf Kinder Kartal
9 Serenay Sarıkaya Atasehir

TransportPersonnels:

5 Luke Skywalker
6 Obi Wan Kenobi
7 Dol Amarothe
8 Minas Tirith

Branches:

1 Kadikoy
2 Kartal
3 Atasehir

1) Insert Branch Employee
2) Delete Branch Employee
3) Insert Transport Personnel
4) Delete Transport Personnel
5) Insert Branch
6) Delete Branch
7) Back

Please choose the operation you would like to do: 4

Transport Personnel Id: 8

BranchEmployees:

1 Lara Croft Kadikoy
3 Geralt Rivia Kartal
4 Adolf Kinder Kartal
9 Serenay Sarıkaya Atasehir

TransportPersonnels:

5 Luke Skywalker
6 Obi Wan Kenobi
7 Dol Amarothe

Branches:

- 1 Kadikoy
- 2 Kartal
- 3 Atasehir

- 1) Insert Branch Employee
- 2) Delete Branch Employee
- 3) Insert Transport Personnel
- 4) Delete Transport Personnel
- 5) Insert Branch
- 6) Delete Branch
- 7) Back

Please choose the operation you would like to do: 7

Welcome to cargosoft

- 0) Admin
- 1) Customer
- 2) Employee
- 3) Exit

Please make a choice to proceed: 2

Please enter your id: 1

Shipments:

- 1 Winston Churchill Neil Armstrong Kadikoy Getting Prepared
- 2 Bruce Banner Benito Mussolini Kadikoy Getting Prepared

Customers:

- 1 Winston Churchill
- 2 Benito Mussolini
- 3 Neil Armstrong
- 4 Tony Stark
- 5 Bruce Banner
- 6 Howard Stark

Branch: Kadikoy

- 1) Insert Shipment
- 2) Delete Shipment
- 3) Update Shipment Status
- 4) Insert Customer
- 5) Delete Customer
- 6) Back

Please choose the operation you would like to do: 3

Shipment Id: 1

- 0) Getting Prepared
- 1) On The Way
- 2) Delivered To The Customer

Status Id: 1

Shipments:

- 1 Winston Churchill Neil Armstrong Kadikoy On The Way
- 2 Bruce Banner Benito Mussolini Kadikoy Getting Prepared

Customers:

- 1 Winston Churchill
- 2 Benito Mussolini
- 3 Neil Armstrong
- 4 Tony Stark

5 Bruce Banner
6 Howard Stark

Branch: Kadikoy

- 1) Insert Shipment
- 2) Delete Shipment
- 3) Update Shipment Status
- 4) Insert Customer
- 5) Delete Customer
- 6) Back

Please choose the operation you would like to do: 6

Welcome to cargosoft

- 0) Admin
- 1) Customer
- 2) Employee
- 3) Exit

Please make a choice to proceed: 2

Please enter your id: 5

Shipments:

- 1 Winston Churchill Neil Armstrong Kadikoy On The Way
- 2 Bruce Banner Benito Mussolini Kadikoy Getting Prepared
- 3 Tony Stark Winston Churchill Kartal Getting Prepared
- 4 Benito Mussolini Neil Armstrong Kartal Getting Prepared
- 1) Update Shipment Status As Delivered
- 2) Back

Please choose the operation you would like to do: 1

Shipment Id: 1

Shipments:

- 1 Winston Churchill Neil Armstrong Kadikoy Delivered To The Customer
- 2 Bruce Banner Benito Mussolini Kadikoy Getting Prepared
- 3 Tony Stark Winston Churchill Kartal Getting Prepared
- 4 Benito Mussolini Neil Armstrong Kartal Getting Prepared
- 1) Update Shipment Status As Delivered
- 2) Back

Please choose the operation you would like to do: 2

Welcome to cargosoft

- 0) Admin
- 1) Customer
- 2) Employee
- 3) Exit

Please make a choice to proceed: 1

Please enter your id: 3

- 1 Winston Churchill Neil Armstrong Kadikoy Delivered To The Customer
- 4 Benito Mussolini Neil Armstrong Kartal Getting Prepared
- 1) Back

Please choose the operation you would like to do: 1

Welcome to cargosoft

- 0) Admin
- 1) Customer

2) Employee

3) Exit

Please make a choice to proceed: 3