

| UserStage | | |
|-----------|--|-----------|
| f | account | Button |
| f | go | Button |
| f | createNewAccount | Button |
| f | addTen | Button |
| f | set | Button |
| f | tapButton | Button |
| f | accountName | TextField |
| f | email | TextField |
| f | whichCard | TextField |
| f | startingStation | TextField |
| f | stopType | TextField |
| f | name | TextField |
| f | stationTwo | TextField |
| f | stationThree | TextField |
| f | stationFour | TextField |
| f | stopTypeTwo | TextField |
| f | stopTypeThree | TextField |
| f | stopTypeFour | TextField |
| f | cards | TextArea |
| f | map | TextArea |
| m | showNewStage(String, String, int, int) | void |
| m | showAlert(String, String, String) | void |
| m | showNameEmail(String, Button) | String |
| m | addAllBalance(int) | void |
| m | accountInfo() | void |
| m | logOut() | void |
| m | logOutForLogIn() | void |
| m | returnPre() | void |
| m | logIn(ActionEvent) | void |
| m | creatingAccount() | void |
| m | creatingUser() | void |
| m | tapAction(ActionEvent) | void |
| m | setMap() | void |
| m | getInOutDemo(ActionEvent) | void |
| m | apply() | void |
| m | viewRecent() | void |
| m | addBalance() | void |
| m | add10Balance() | void |
| m | add20Balance() | void |
| m | add50Balance() | void |
| m | viewBalance() | void |
| m | change() | void |
| m | setName() | void |
| m | remove() | void |
| m | deactivating() | void |
| m | viewMonthlyCost() | void |
| m | warning() | void |
| m | showCards() | void |
| m | chooseCard() | void |
| m | showAnnouncement() | void |
| m | showPieChart() | void |

| AdminStage | | |
|------------|--------------------|-----------|
| f | set | Button |
| f | cost | TextField |
| f | data | TextArea |
| m | setCost() | void |
| m | showData() | void |
| m | endProgram() | void |
| m | logOut() | void |
| m | typeAnnouncement() | void |
| m | clearBox() | void |
| m | showBarChart() | void |

| Main | | |
|------|----------------|------|
| m | start(Stage) | void |
| m | main(String[]) | void |

| | |
|----------------------|--------|
| User | |
| serialVersionUID | long |
| ◦ name | String |
| ◦ email | String |
| User(String, String) | |
| toString() | String |

| | |
|---------------------------------|-----------------------|
| Cardholder | |
| serialVersionUID | long |
| cards | ArrayList<TravelCard> |
| recentTrip | ArrayList<Trip> |
| tripReport | ArrayList<Trip> |
| monthlyCost | Double[] |
| warningPrice | double |
| Cardholder(String, String) | |
| ◦ addCostByMonth(Double) | void |
| ◦ changeName(String) | void |
| allCards() | StringBuilder |
| addTravelCard() | void |
| removeCard(int) | void |
| addRecentTrip(Trip) | void |
| getCard(int) | TravelCard |
| trackAverageCost() | String |
| update(Observable, Object) | void |
| ◦ setDemoTime(Date, Date, Date) | void |
| getWarningPrice() | double |
| numBusTrips | int |
| numSubwayTrips | int |
| lastCard | int |
| recentTrip | String |

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|---------------------------|------|
| AdminUser | |
| serialVersionUID | long |
| AdminUser(String, String) | |
| endProgram(AdminInfo) | void |

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|--|--------------|
| TravelCard | |
| serialVersionUID | long |
| cardBalance | double |
| activated | boolean |
| cardholder | Cardholder |
| numCard | int |
| cardId | int |
| trip | Trip |
| lastTrip | Trip |
| transferStops | TransferTrip |
| isTransfer | boolean |
| TravelCard(Cardholder) | |
| addBalance(double) | void |
| deactivate() | void |
| pay(double, AdminInfo) | void |
| startNewTrip(Station, AdminInfo) | void |
| endTheTrip(Station, AdminInfo) | void |
| getNumCard() | int |
| setNumCard(int) | void |
| getCardNum() | int |
| toString() | String |
| demo(Station, Station, Station, Station) | void |
| cardBalance | String |

| | |
|---------------------------------|---------|
| Trip | |
| serialVersionUID | long |
| ◦ start | Station |
| ◦ end | Station |
| ◦ startTime | Date |
| ◦ endTime | Date |
| capPrice | double |
| Trip(Station, Date) | |
| ◦ endTrip(Station, Date) | void |
| toString() | String |
| ◦ charge(Cardholder) | double |
| ◦ rec(Station, Station, Double) | double |
| ◦ sameType() | boolean |
| ◦ setStartTime(Date) | void |
| ◦ setEndTime(Date) | void |

| | |
|------------------------|--------|
| BusTrip | |
| BusTrip(Station, Date) | |
| charge(Cardholder) | double |

| | |
|---------------------------|--------|
| SubwayTrip | |
| serialVersionUID | long |
| SubwayTrip(Station, Date) | |
| charge(Cardholder) | double |
| toString() | String |

| | |
|--|------------------------|
| AdminInfo | |
| serialVersionUID | long |
| logger | Logger |
| ◦ logBalance(String, String, String, String) | void |
| ◦ logTap(String, String, Station, int, String) | void |
| setFormat(FileHandler) | void |
| addAllStationReached(double) | void |
| setAllStationReached() | void |
| checkIncome() | double |
| addRevenue(Double) | void |
| setRevenue() | void |
| addDailyReport(DailyReport) | void |
| announcement | String |
| revenue | double |
| allStationReached | Double |
| operatingCost | double |
| reportOf30Days | ArrayList<DailyReport> |

| | |
|-------------------------|--------------------|
| Station | |
| serialVersionUID | long |
| name | String |
| stationType | String |
| routes | ArrayList<Route> |
| Station(String, String) | |
| addRoute(Station) | void |
| toString() | String |
| equals(Object) | boolean |
| hasRoute(Station) | boolean |
| getNextStations() | ArrayList<Station> |
| getType() | String |

| | |
|-------------------------------|-----------------------|
| UserList | |
| serialVersionUID | long |
| cardholderList | ArrayList<Cardholder> |
| adminUserList | ArrayList<AdminUser> |
| UserList() | |
| getHolderWQ(String, String) | Cardholder |
| addAdmin(AdminUser) | void |
| addCardholder(Cardholder) | void |
| hasAdmin(String, String) | boolean |
| getAdmin(String) | AdminUser |
| hasCardholder(String, String) | boolean |

| | |
|---------------------------|-----------|
| TransInfo | |
| serialVersionUID | long |
| ourInstance | TransInfo |
| numCard | int |
| TransInfo() | |
| getInstance() | TransInfo |
| writeSerializableObject() | void |
| readSerializableObject() | void |
| userList | UserList |
| adminInfo | AdminInfo |

| | |
|-------------------------|---------|
| Route | |
| serialVersionUID | long |
| s1 | Station |
| s2 | Station |
| Route(Station, Station) | |
| toString() | String |
| theSame(Route) | boolean |
| getS2() | Station |

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|----------------------|---------|
| TimeManager | |
| serialVersionUID | long |
| capTime | long |
| timeDifference | long |
| ◦ overOneMonth(Trip) | boolean |
| getCapTime() | long |
| setCapTime(long) | void |
| getMonth() | int |

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|-----------------------------|--------|
| DailyReport | |
| serialVersionUID | long |
| DailyReport(Double, double) | |
| toString() | String |
| revenue | double |
| stationReached | double |
| date | Date |

| | |
|--------------------|-----------------|
| TransferTrip | |
| serialVersionUID | long |
| tripsTravelled | ArrayList<Trip> |
| TransferTrip() | |
| add(Trip) | void |
| charge(Cardholder) | double |

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|----------------------------|--------------------|
| PublicTrans | |
| allStations | ArrayList<Station> |
| getStation(String, String) | Station |