OBJECT ORIENTED ANALYSIS AND DESIGN

VEHICLE RENTING SYSTEM

Group: 12

Section: D

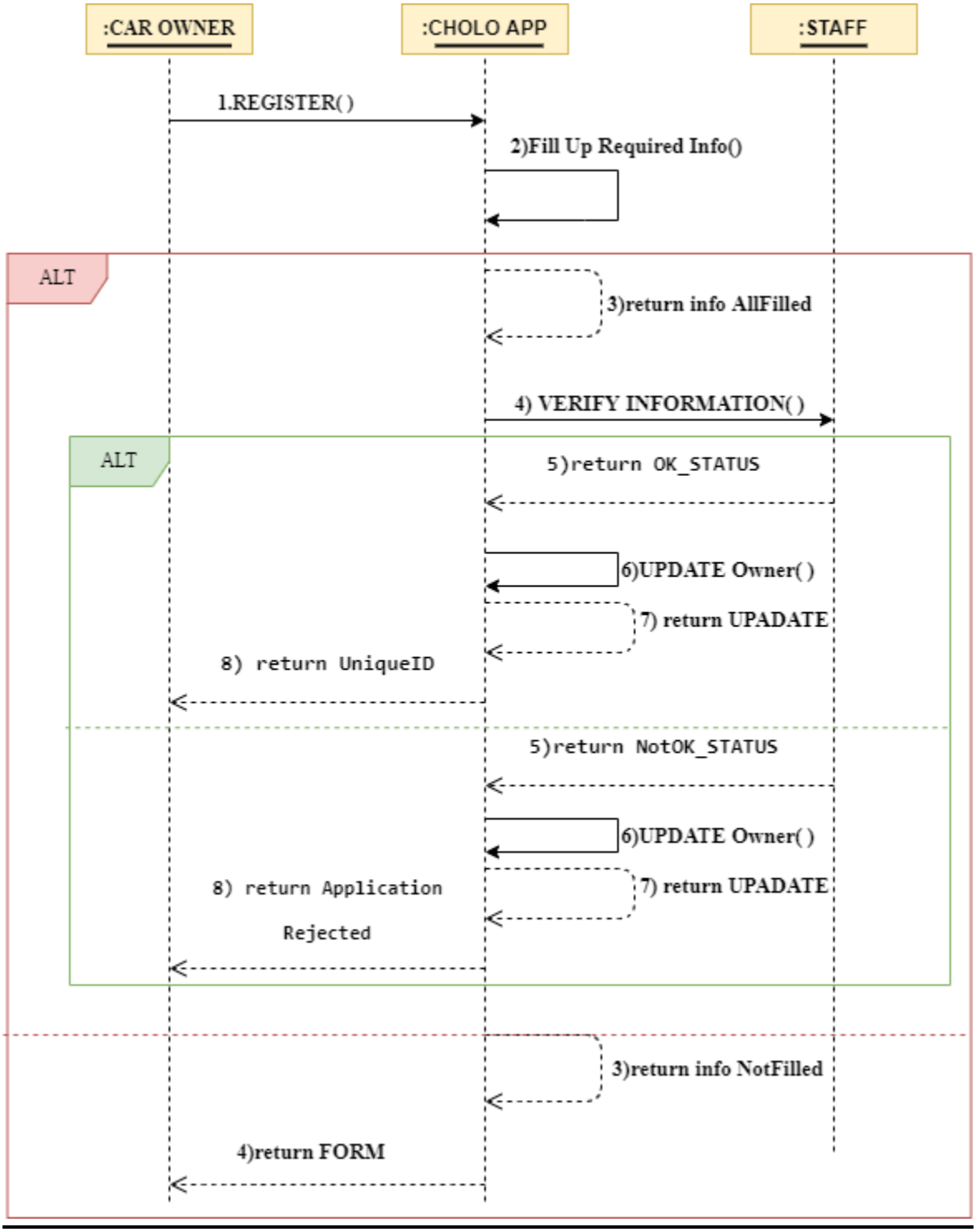
Group Members:

Name	ID
MOSTAFA MASUD SHAFI	**20-42790-1**
FAHIM MUNTASIR RUBY	**20-43557-1**
GOURAV SAHA	**20-42977-1**

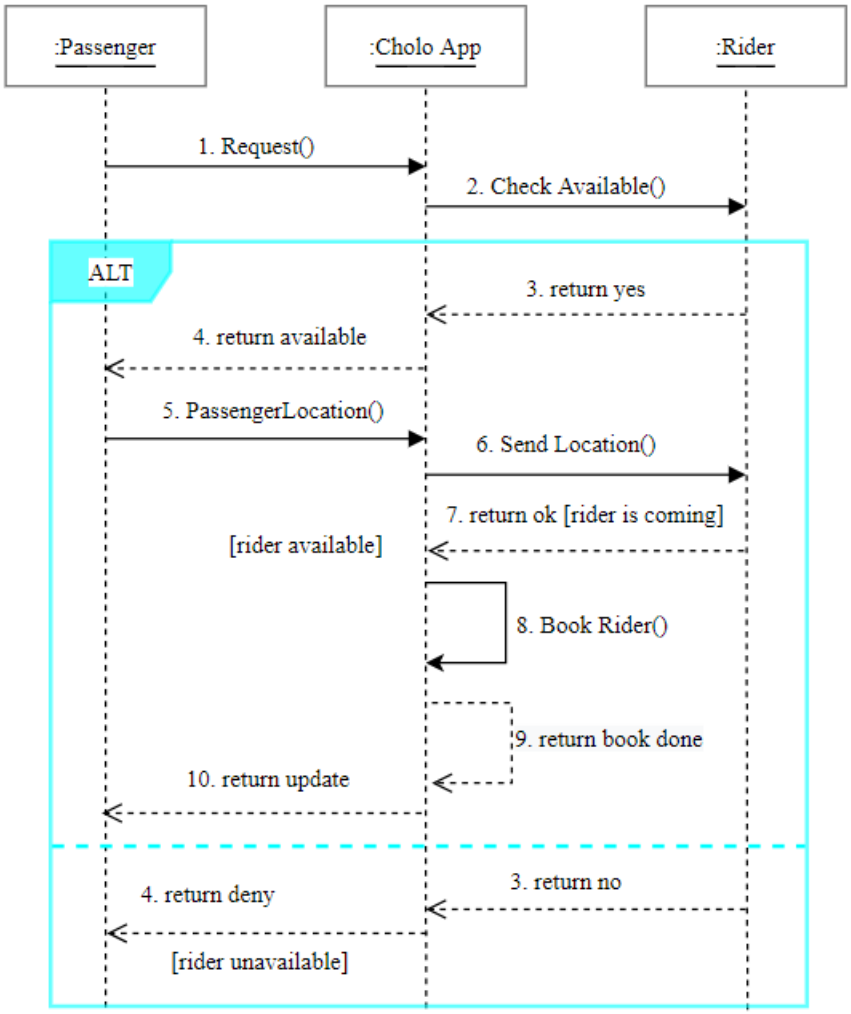
BRIEF DESCRIPTION

This is a vehicle renting system .There are three types of user. If the passenger asked for a ride through app, employee will collect passengers account id, phone number and current location/address and pass to the driver who will receive the passenger and take him to his/her desired location. The vehicles is not owned by the company but required information if the rider wants to register with the app .The employee salary will not paid in cash .They must have a bank account, if they provide bank account number cash will transfer in the account. The app will be user friendly so Client can easily register and use it. Passenger can pay rent in online or in cash.

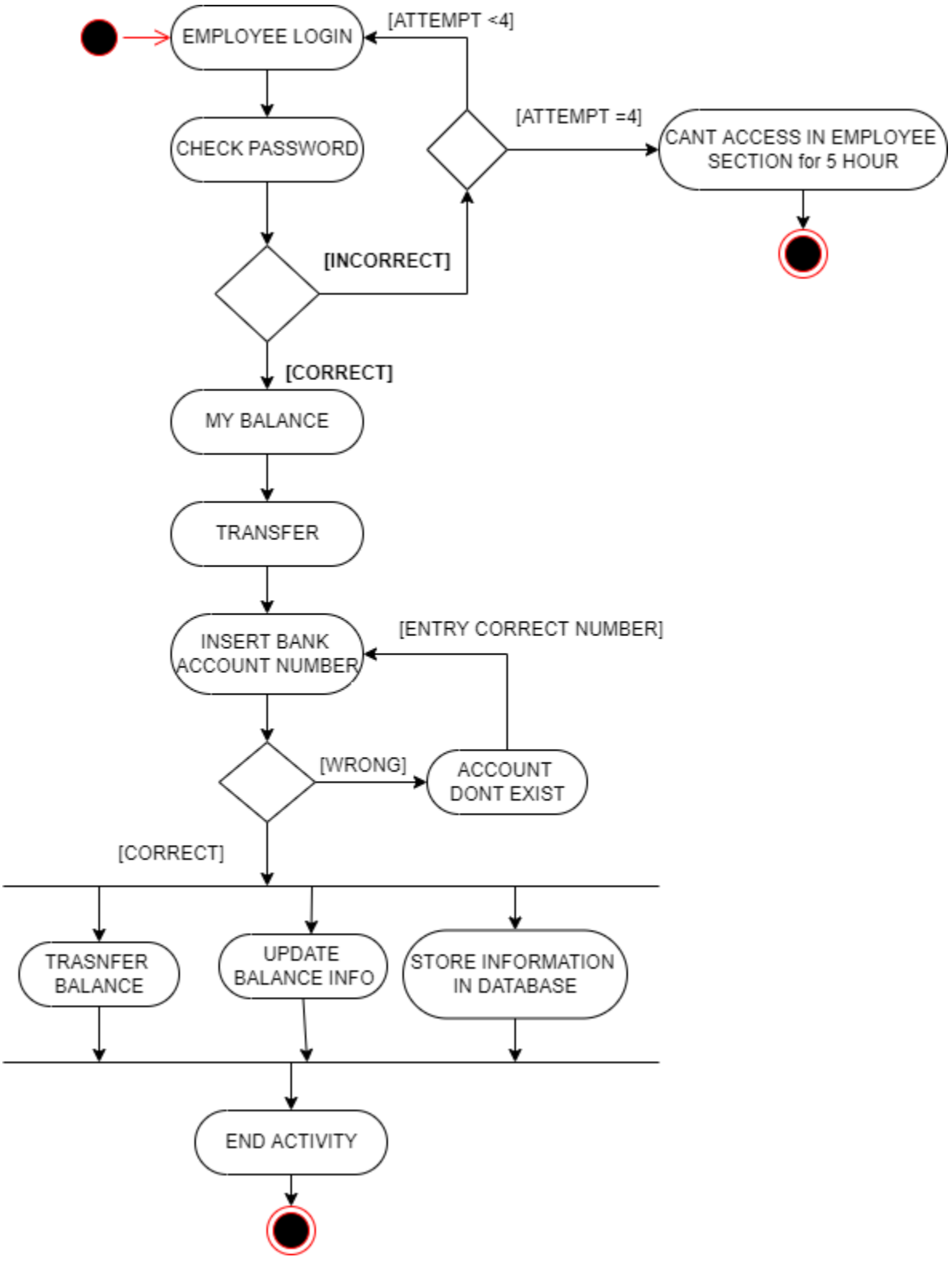
SEQUENCE DIAGRAM FOR VEHICLE REGESTRATION



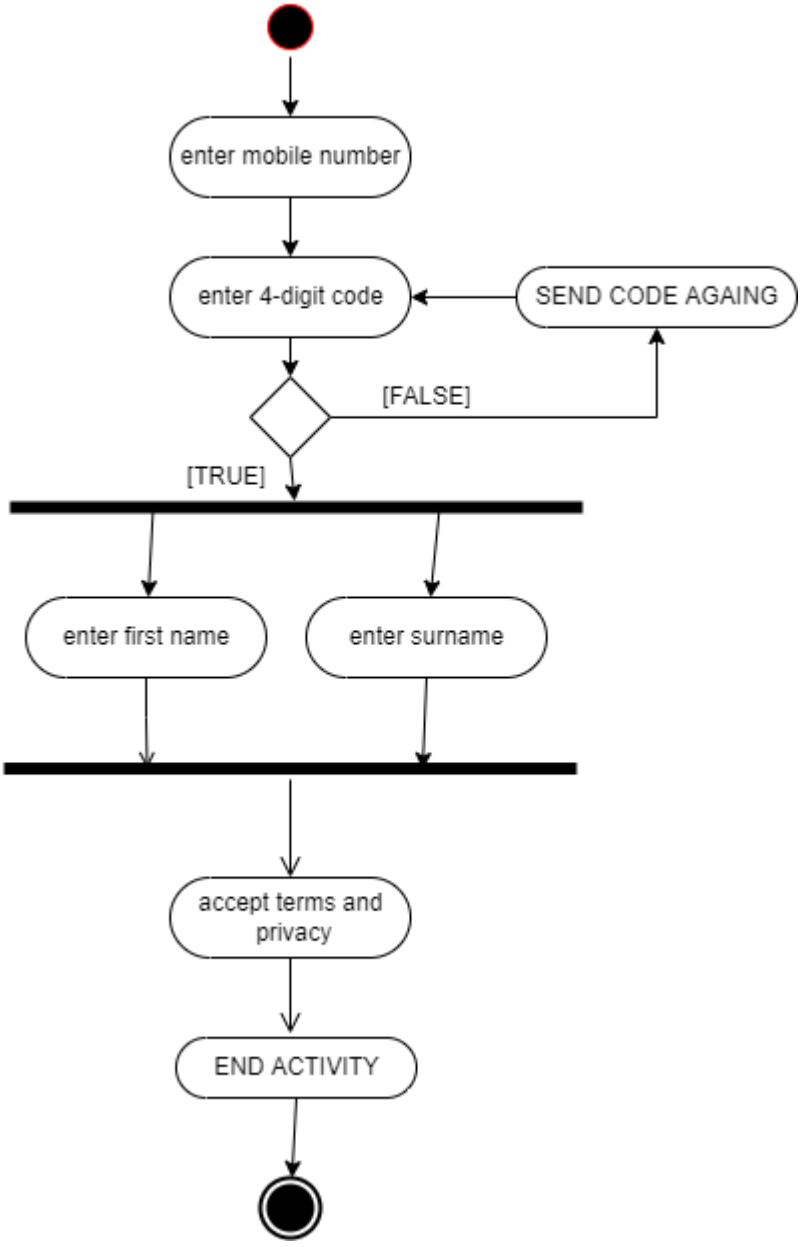
SEQUENCE DIAGRAM FOR VEHICLE REQUEST



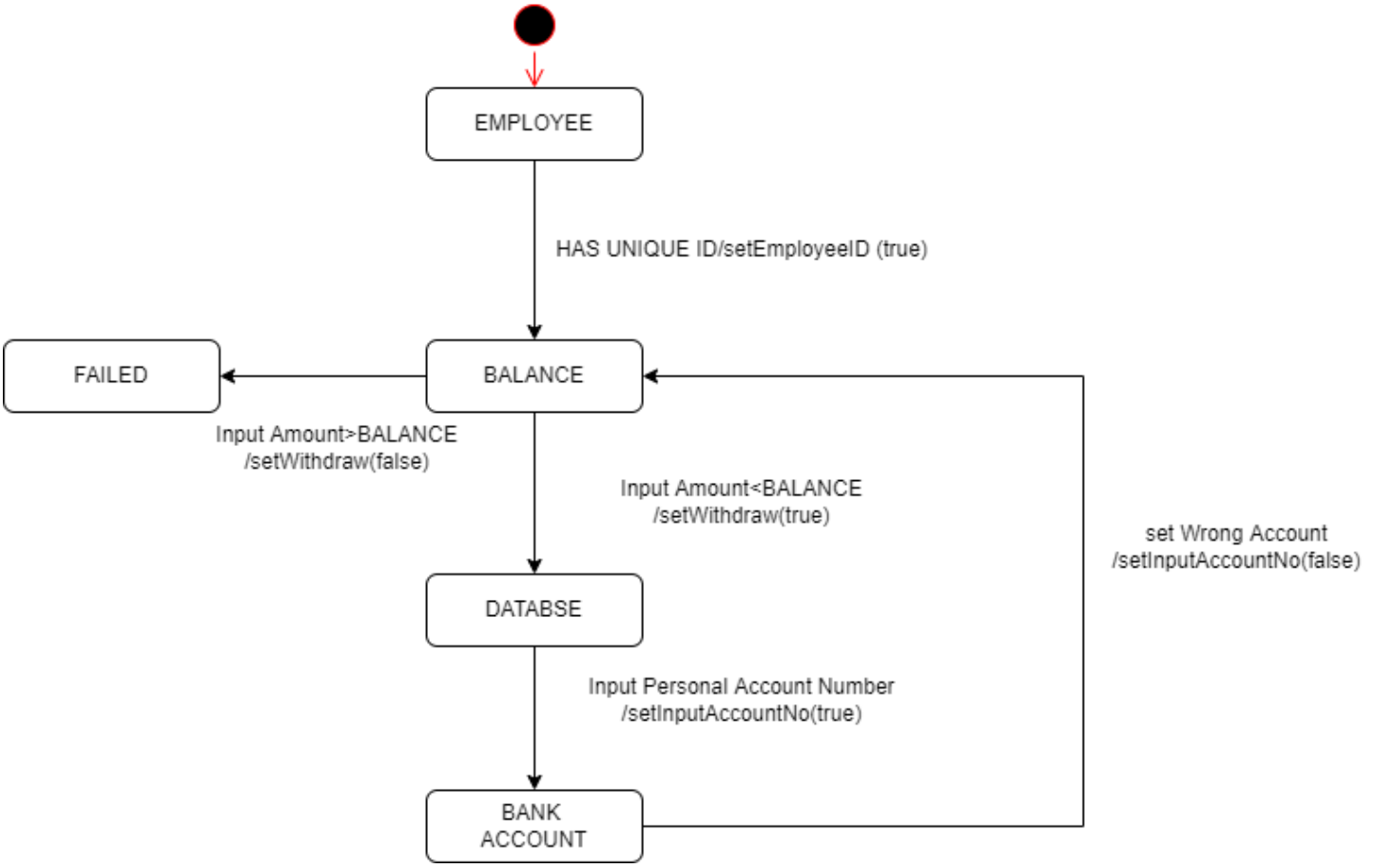
ACTIVITY DIAGRAM FOR SALARY



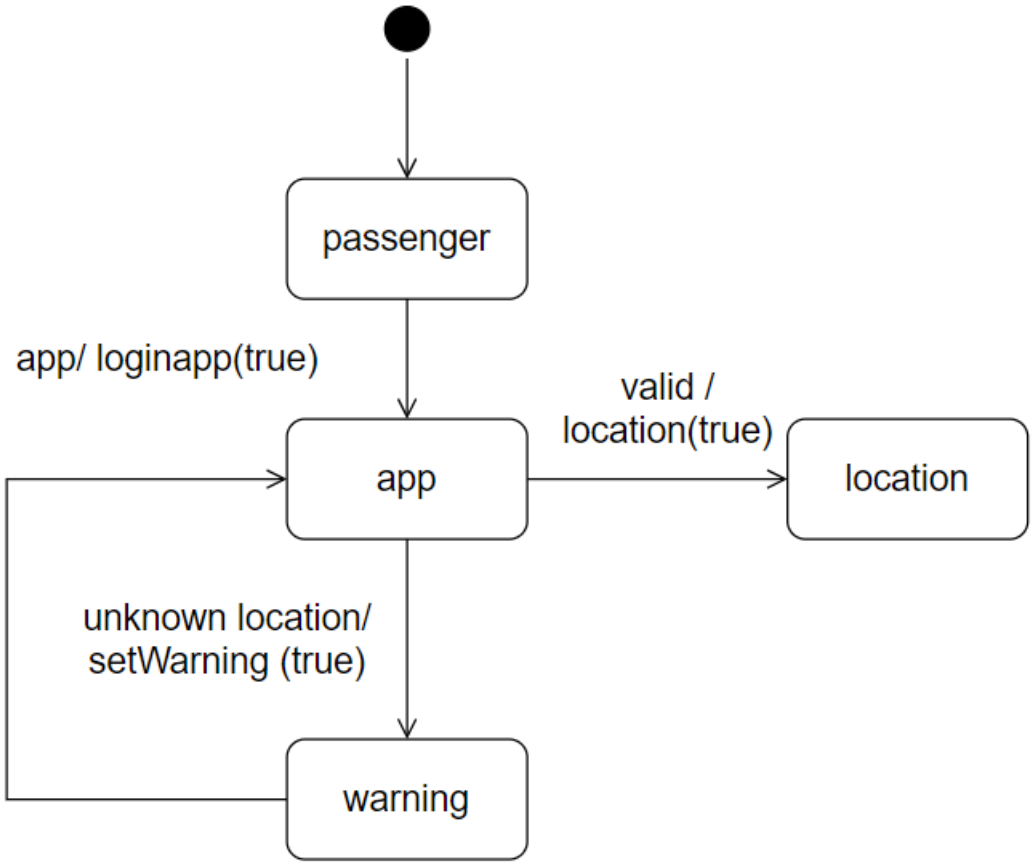
ACTIVITY DIAGRAM REGESTRATION



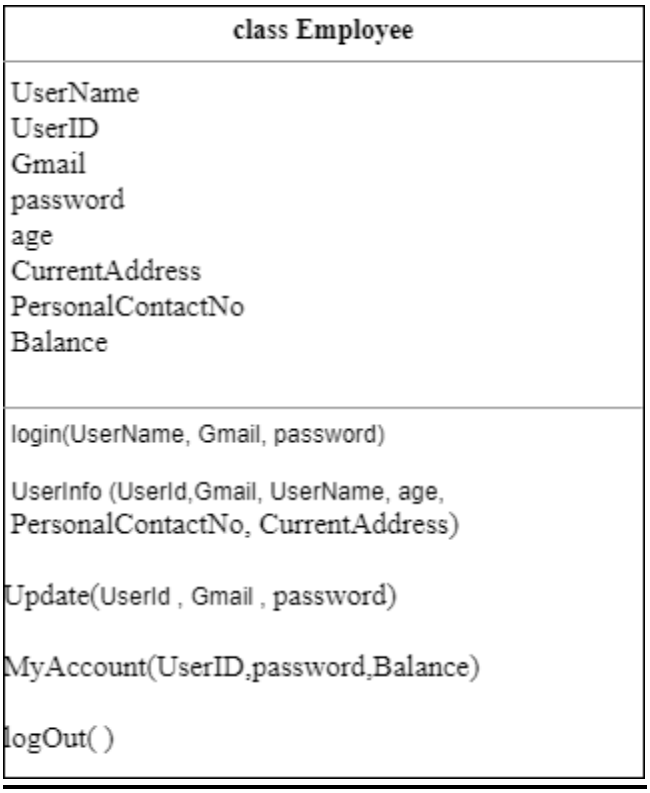
STATE-CHART DIAGRAM FOR BALANCE



STATE-CHART DIAGRAM FOR PASSENGER



Calculation of LCOM values for Employee



Here,

login (UserName, Gmail, password) = O1

UserInfo (UserId, Gmail, UserName, age, PersonalContactNo, CurrentAddress) = O2

Update(UserId , Gmail , password)= O3

MyAccount(UserID, password, Balance) = O4

logOut( ) = O5

Pairs:

(O1, O2), (O1, O3), (O1, O4), (O1, O5), (O2, O3), (O2, O4), (O2, O5), (O3, O4), (O3, O5), (O4, O5)

So,

P = 4 (Non-Cohesive pairs)

Q = 6 (Cohesive pairs)

We know, LCOM = |P| - |Q|, if |P| > |Q|, otherwise 0
Now, Q > P
LCOM = 0
The LCOM value of the class indicates that the methods of the class are cohesive, and it is a desirable design.

Calculation of LCOM values for Passenger

class Passenger
UserName UserID Gmail password age passLocation CurrentAddress PersonalContactNo
login (Gmail, UserName, password) passInfo (UserName, UserID, passLocation, age, Gmail, PersonalContactNo, CurrentAddress) requestRent (UserName, UserID, PersonalContactNo) logout ()

Here,

login (Gmail, UserName, password) = O1

passInfo (UserName, UserID, passLocation, age, Gmail, PersonalContactNo, CurrentAddress)= O2

requestRent (UserName, UserID, PersonalContactNo)= O3

logout ( ) = O4

Pairs:

(O1, O2), (O1, O3), (O1, O4), (O2, O3), (O2, O4), (O3, O4)

So,

P= 3 (Non-Cohesive pairs)

Q= 3 (Cohesive pairs)

We know, LCOM = |P| - |Q|, if |P| > |Q|, otherwise 0
Now, Q = P
So, LCOM = 0
The LCOM value of the class indicates that the methods of the class are cohesive, and it is a desirable design.