VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama", Belgaum -590014, Karnataka.

LAB REPORT

on

Object Oriented Modelling and Design

Submitted by

MAHANTESH GATTINA (1BM19CS219)

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

B.M.S. COLLEGE OF ENGINEERING

(Autonomous Institution under VTU)

BENGALURU-560019

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B. M. S. College of Engineering,

Bull Temple Road, Bangalore 560019

(Affiliated To Visvesvaraya Technological University, Belgaum)

Department of Computer Science and Engineering

CERTIFICATE

This is to certify that the Lab work entitled “OBJECT ORIENTED MODELLING AND DESIGN” carried out by **MAHANTESH GATTINA (1BM19CS219),** who is bonafide student of **B. M. S. College of Engineering.** It is in partial fulfillment for the award of **Bachelor of Engineering in Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year 2022. The Lab report has been approved as it satisfies the academic requirements in respect of an **OBJECT ORIENTED MODELLING AND DESIGN - (20CS6PCOMD)** work prescribed for the said degree.

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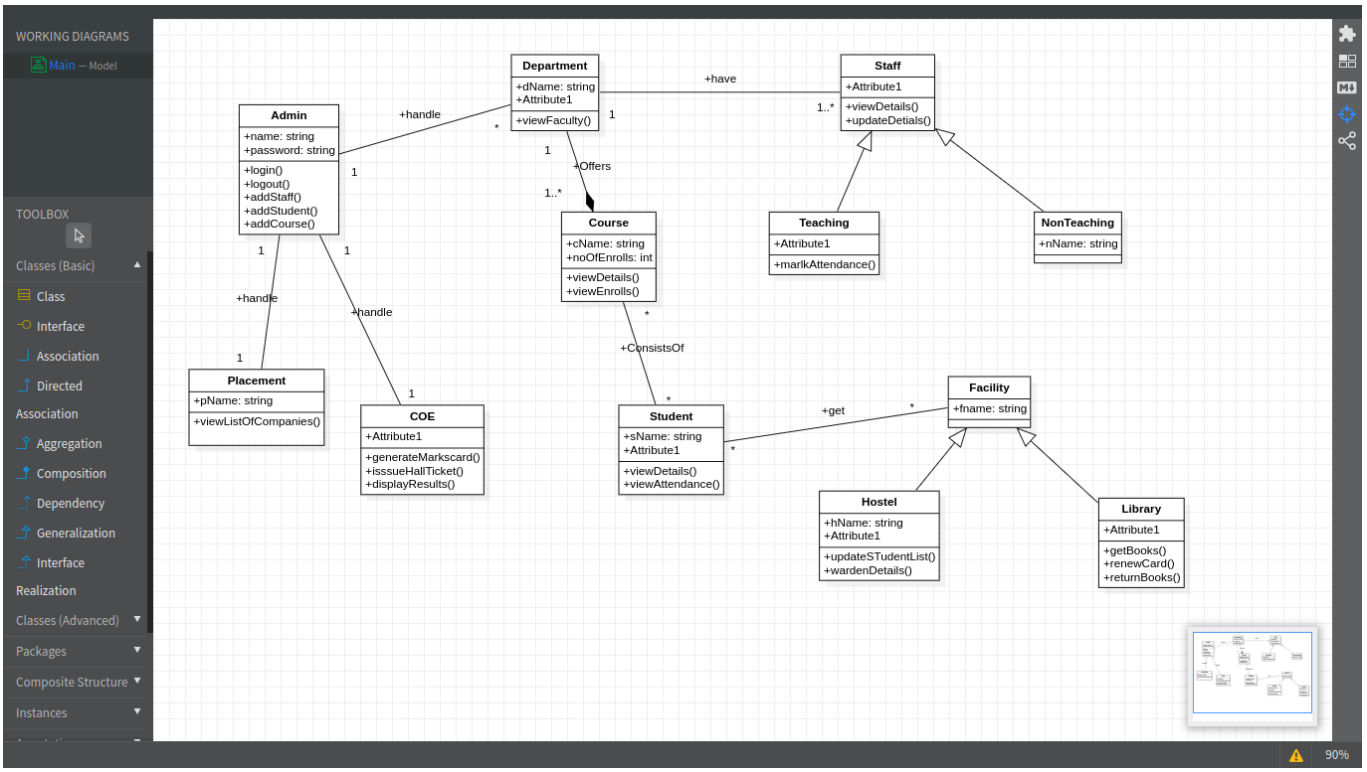
Index Sheet

Course Outcome

CO1	Ability to apply the knowledge of class, State & Interaction Modeling using Unified Modeling Language to solve a given problem.
CO2	Ability to analyze a System for a given requirement using Unified Modeling language.
CO3	Ability to design a given system using high level strategy.
CO4	Ability to conduct practical experiment to solve a given problem using Unified Modeling language.

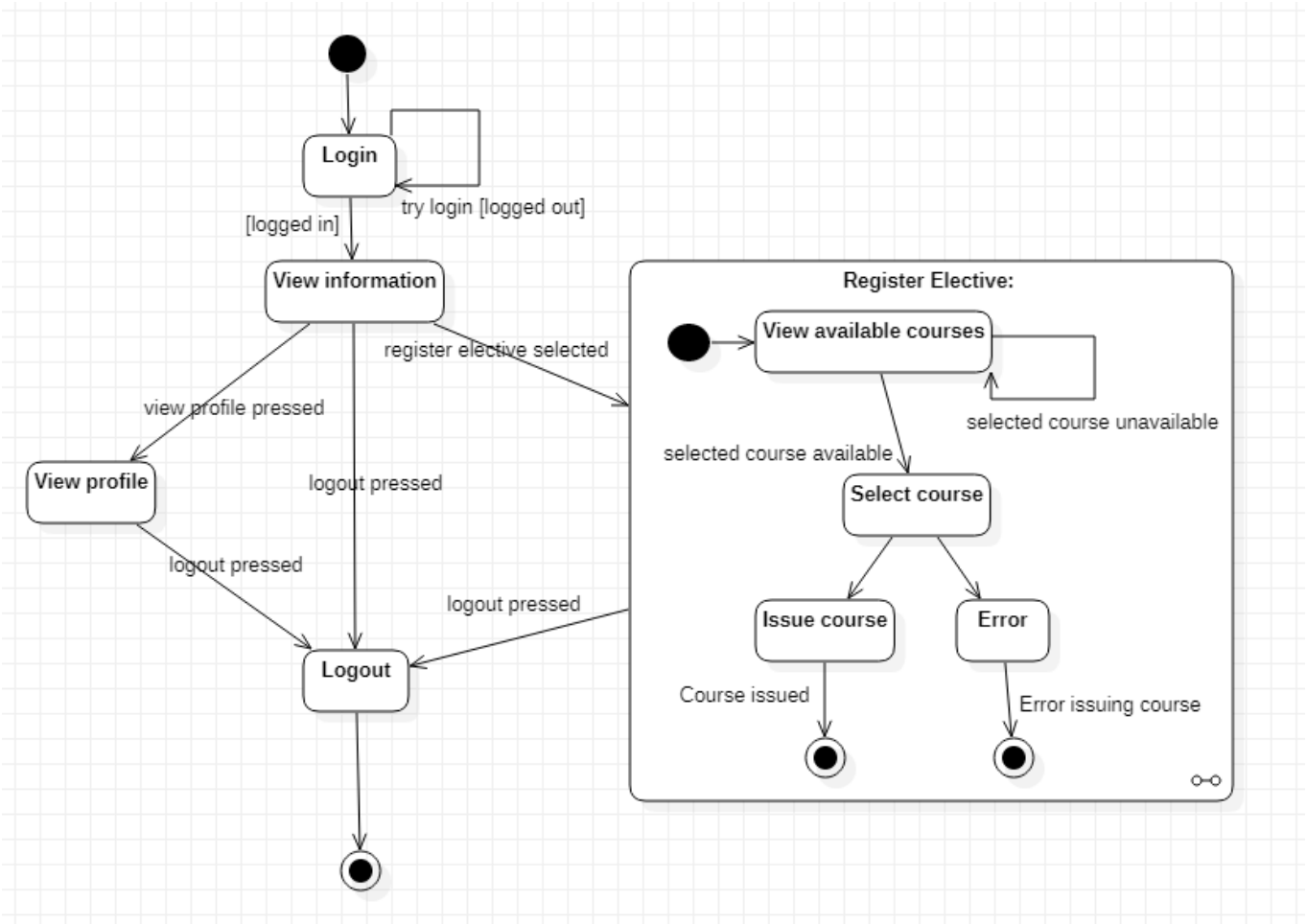
College Information System:

Advanced Class Diagram:



1. An Admin handles Department, Placement and COE classes.
2. Each department has one or more staff, and is composed of various courses.
3. Staff can be either teaching or non-teaching
4. Each student can enroll to multiple courses and each course can be enrolled by multiple students
5. Each student gets Facilities of College which can include library or hostel

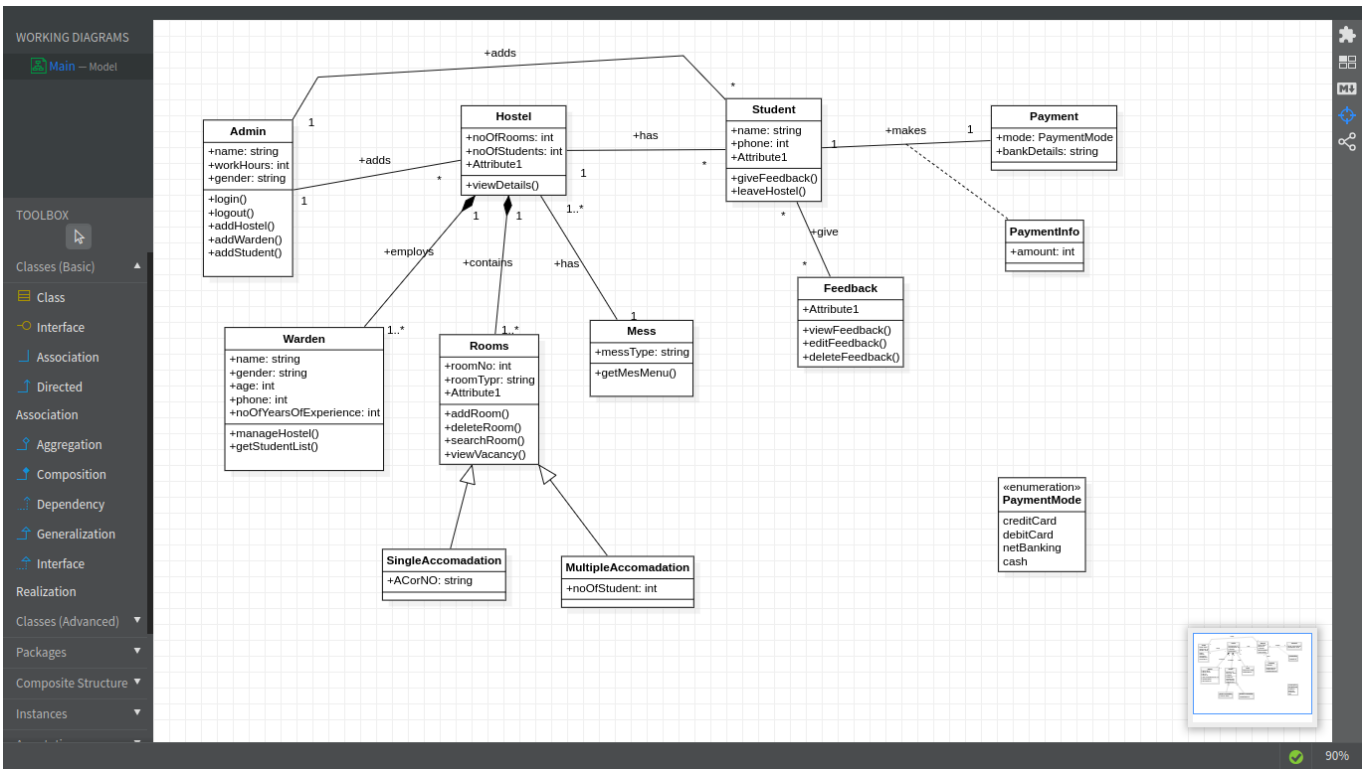
Advanced State Diagram:



A user has to enter valid credentials before logging into the website. After logging in he can view Information. He can click on profile icon to see his profile or can register to an elective. In course Registration he can select the available courses and then logOut.

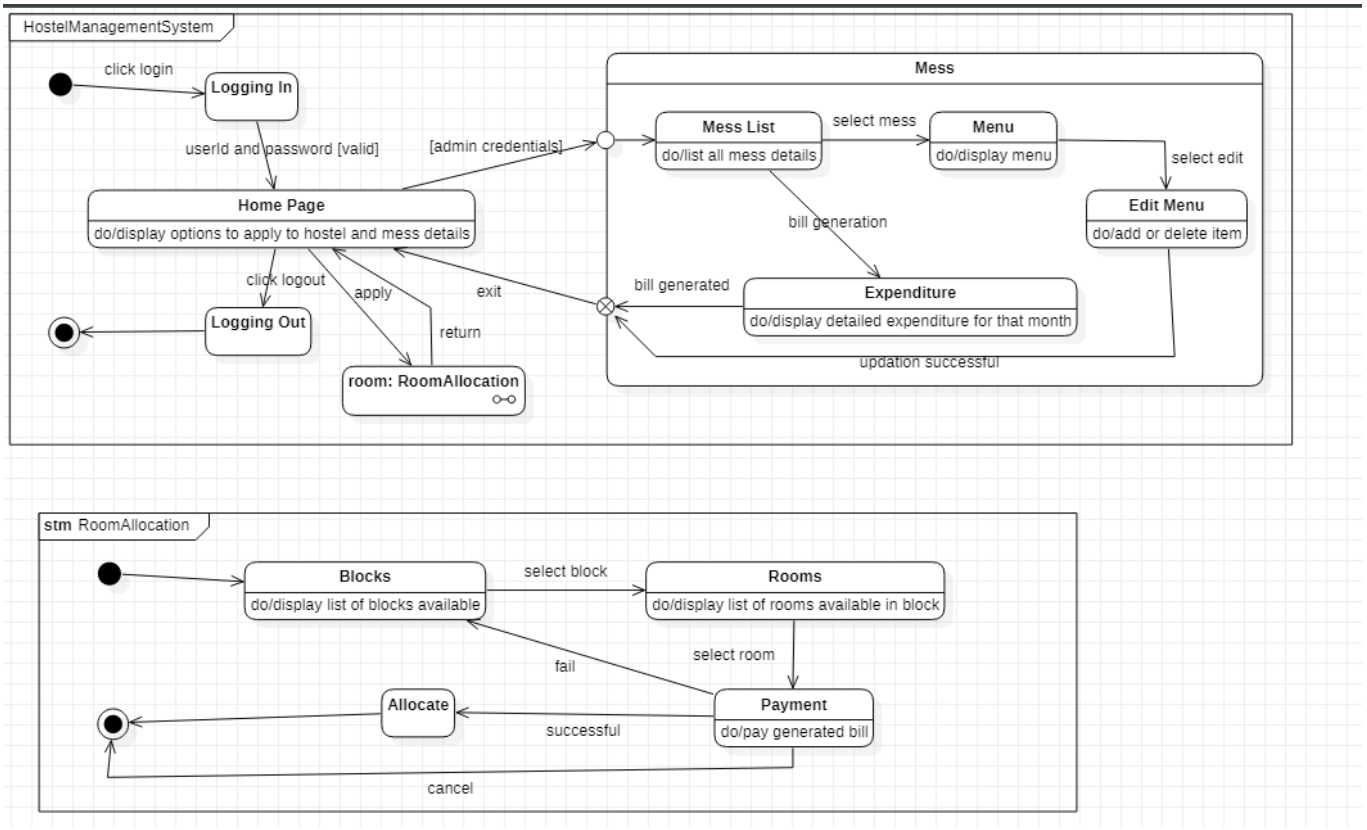
Hostel Management System:

Advanced Class Diagram:



1. An hostel is composed of Rooms and Mess.
2. It employs wardens.
3. Rooms can be either SingleAccomodation for MultipleAccomodation.
4. An admin can add hostels, add students and wardens.
5. Each student can stay in the hostel and make payments through some payment modes and also give feedback.

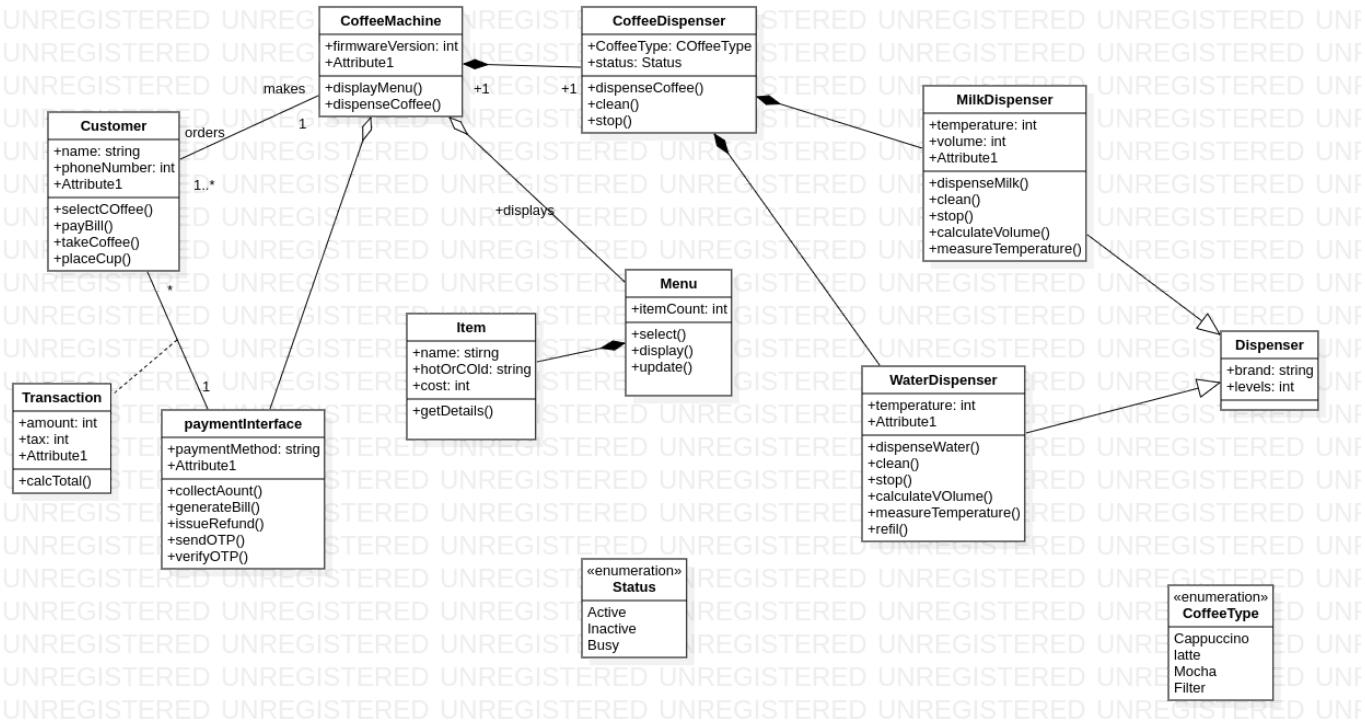
Advanced StateDiagram:



After entering the website a person needs to logIn to continue. On successfully Logging In he will be redirected to the homePage. Now he can either log out or still stay in the website. He can select the room that he wants to stay in the hostel. He first needs to select the block, then select the room, complete the payment. On successful payment he needs to be allocated the room. Admin can also log in to the website. He can view the mess list. Select and edit the menu of the mess. He can also view the monthly expenditure of the mess.

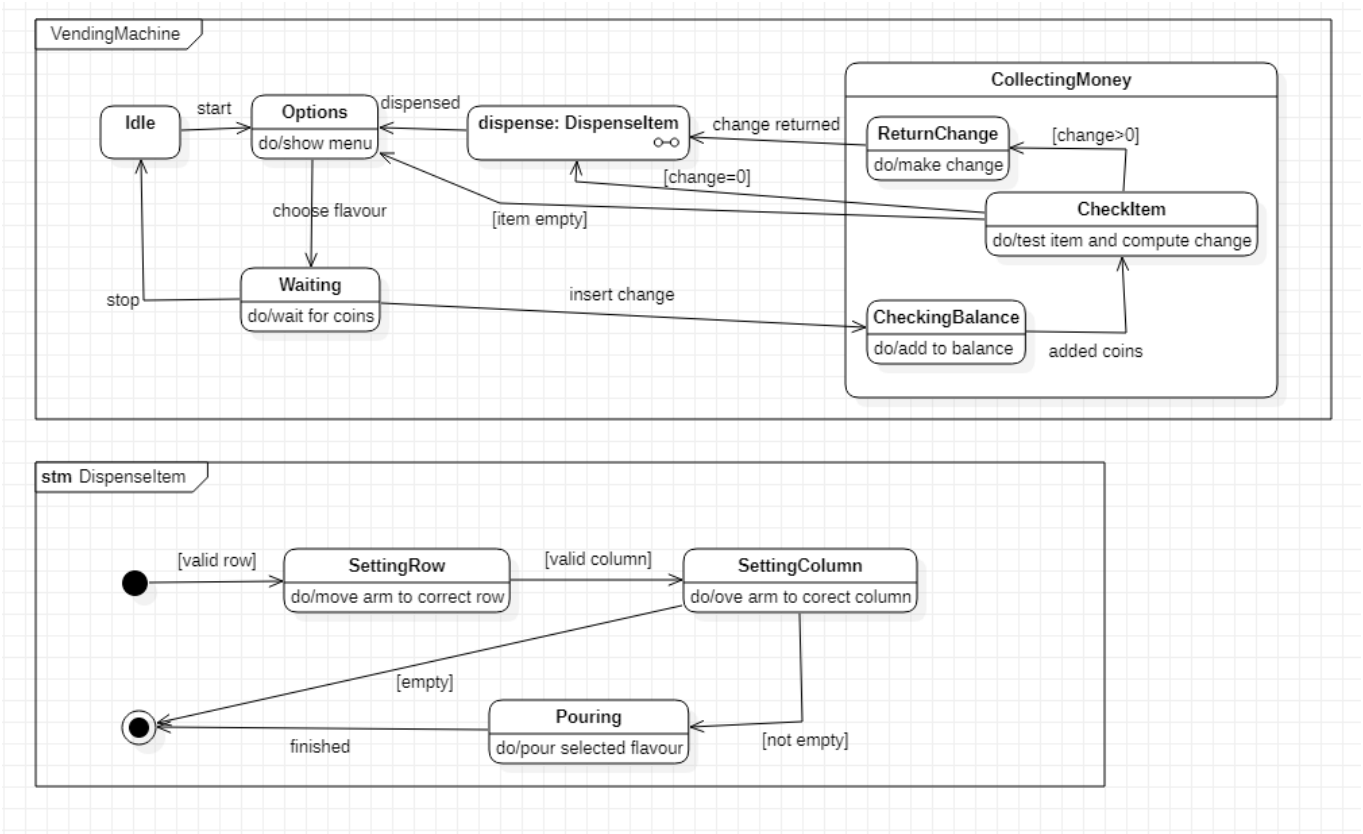
Coffee Vending Machine:

Advanced Class Diagram:



1. A Coffee Machine is composed of a coffee dispenser.
2. Each dispenser is composed of a milk dispenser and water dispenser.
3. Milk and water dispensers are derived from dispenser class.
4. Menu is composed of many items.
5. A customer can get coffee from the coffee vending machine.
6. He can pay through the payment interface.

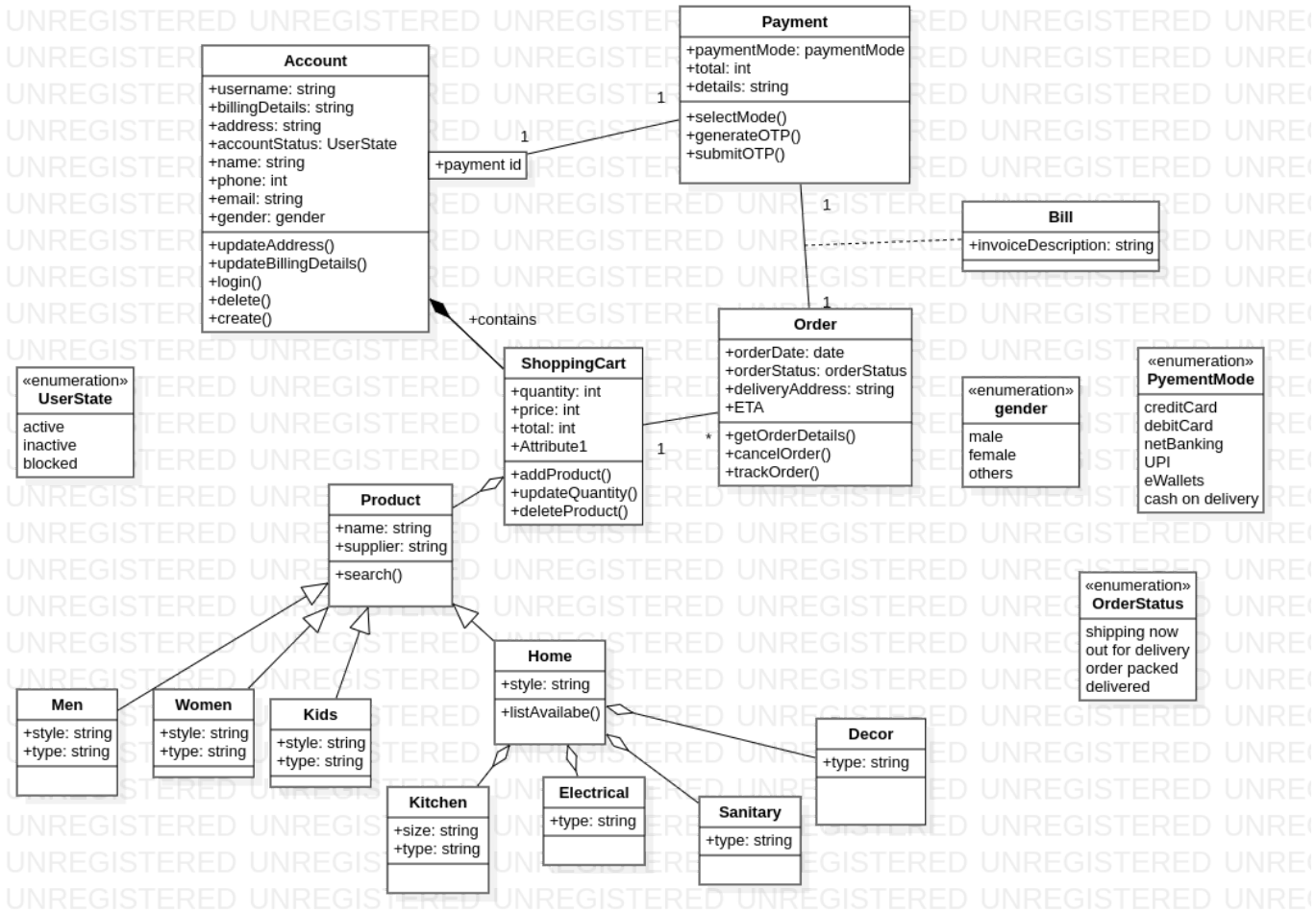
Advanced State Diagram:



Person can first select Options to view the menu. Once the flavor is chosen the machine needs to wait for a person to add the coins into the machine. Once a sufficient amount of money is added to the machine. Selected Items should be dispensed after which the change should be returned back. While dispensing an item first handicker should set the row and then the column. On reaching to the correct position selected flavor should be dispensed.

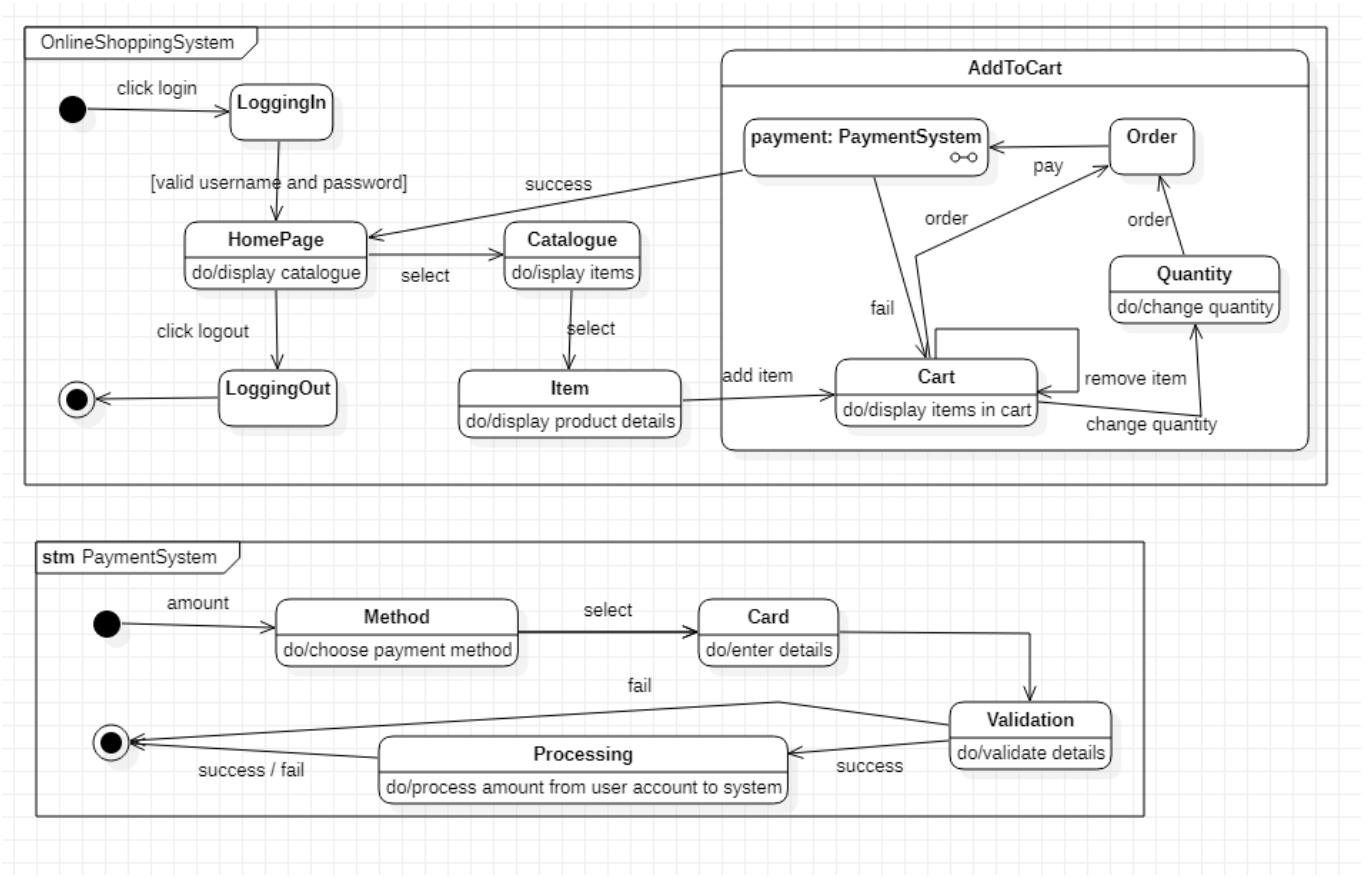
Online shopping system:

Advanced Class Diagram:



1. Each account is composed of a shopping cart.
2. Users can add products to the shopping cart.
3. A product can be of type Men or Women or Kids or Home products.
4. Home products can contain Kitchen, Electrical, Sanitary, Decor products.
5. An account can be active or inactive or blocked.
6. Gender of a user can be male or female or others.
7. An user can make any order and then pay for it through any payment method.
8. User can know about his order using the order status.

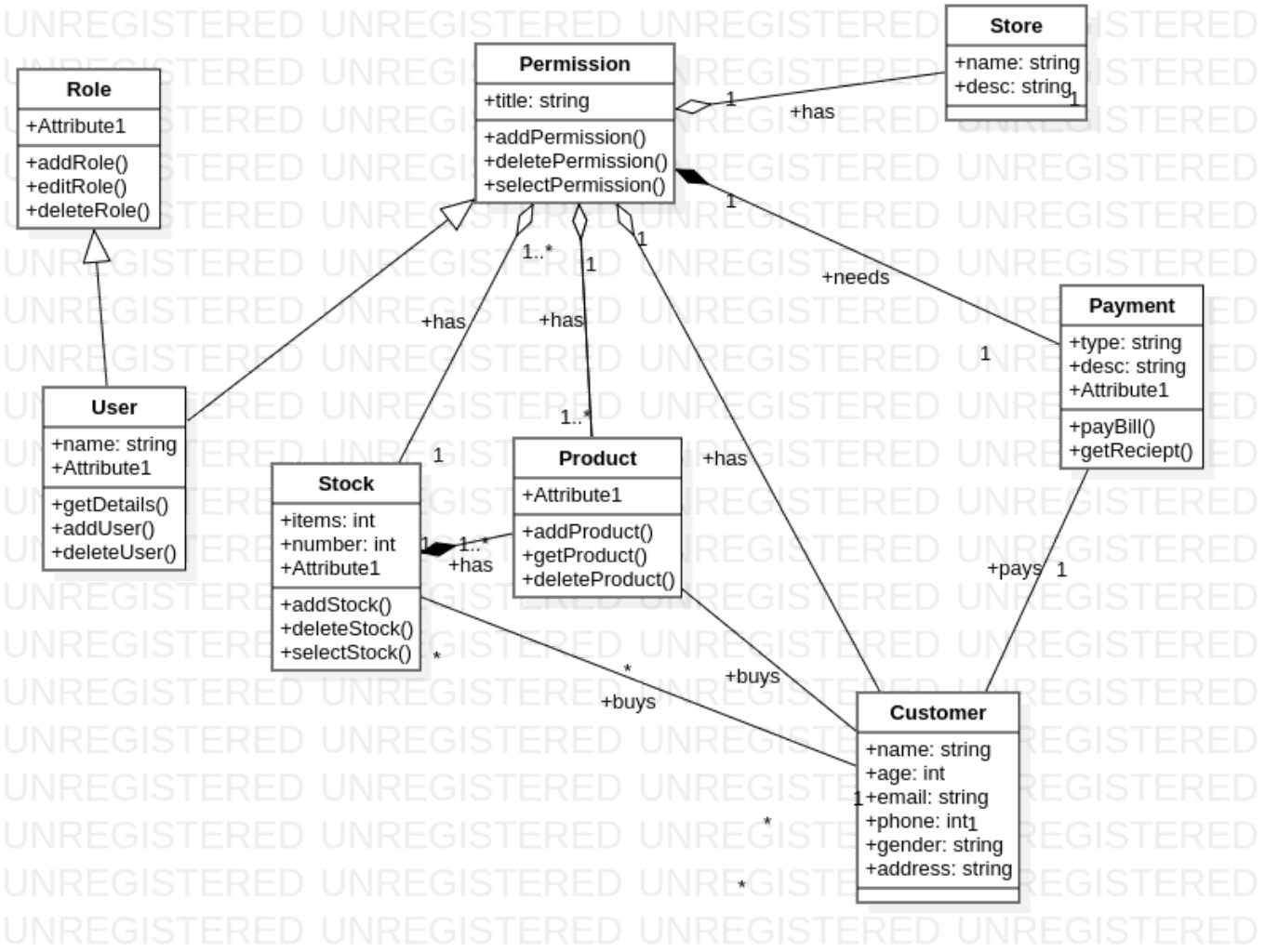
Advanced State Diagram:



An user has to enter valid credentials to log in. Once he logs in he can either directly logout or he choose an item in the catalog. After selecting an item he can add them into the cart and place the order directly or he can also change the quantity of items to be added. Once done with choosing with the order, he can go for payment methods and make a payment to final make an order.

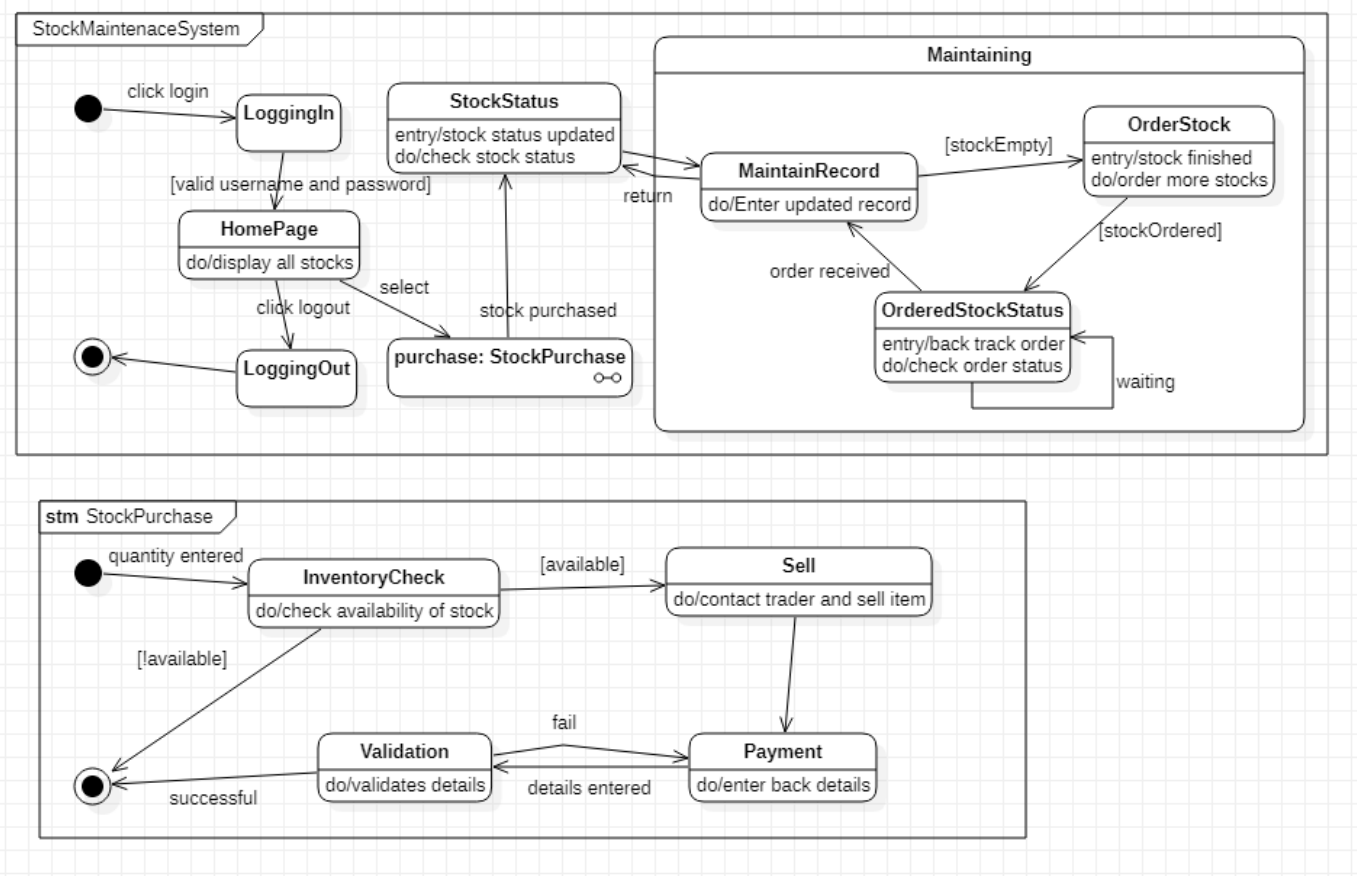
Stock Maintenance System [Inventory]:

Advanced Class Diagram:



An user has certain roles and permissions. A permission consists of Payment as well as it is made up of stocks, products, stores and etc. A customer can buy a stock or a product and make payment for the same.

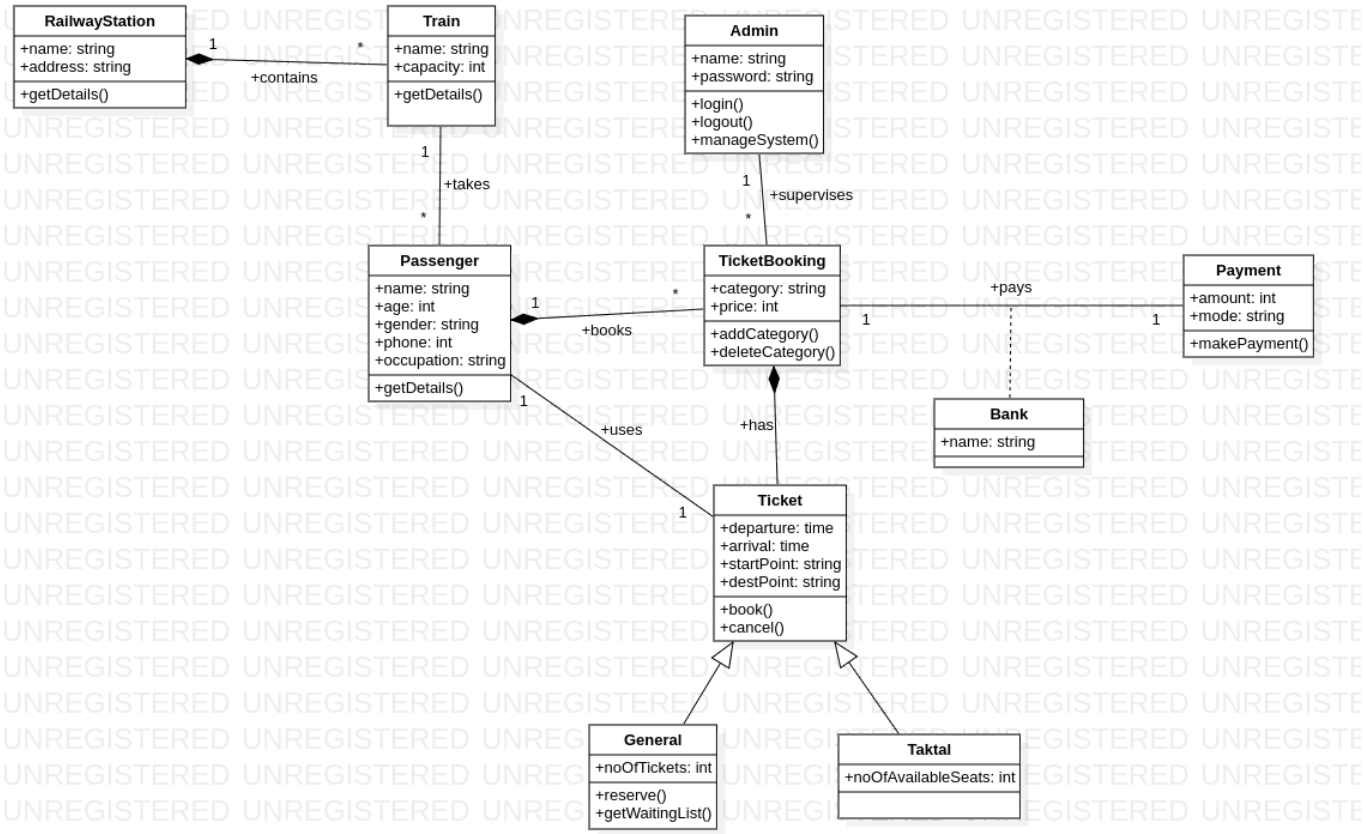
State Diagram:



An user must login in by entering valid credentials before accessing the functionalities of the website. After Log in he will be redirected to the home page. From there he directly log out or purchase stocks. When he purchases some stock he needs to enter the quantity and then the dealer should check the availability of the stock and sell it to the customer after accepting the payment from the same. Admin should also maintain the status the stocks.

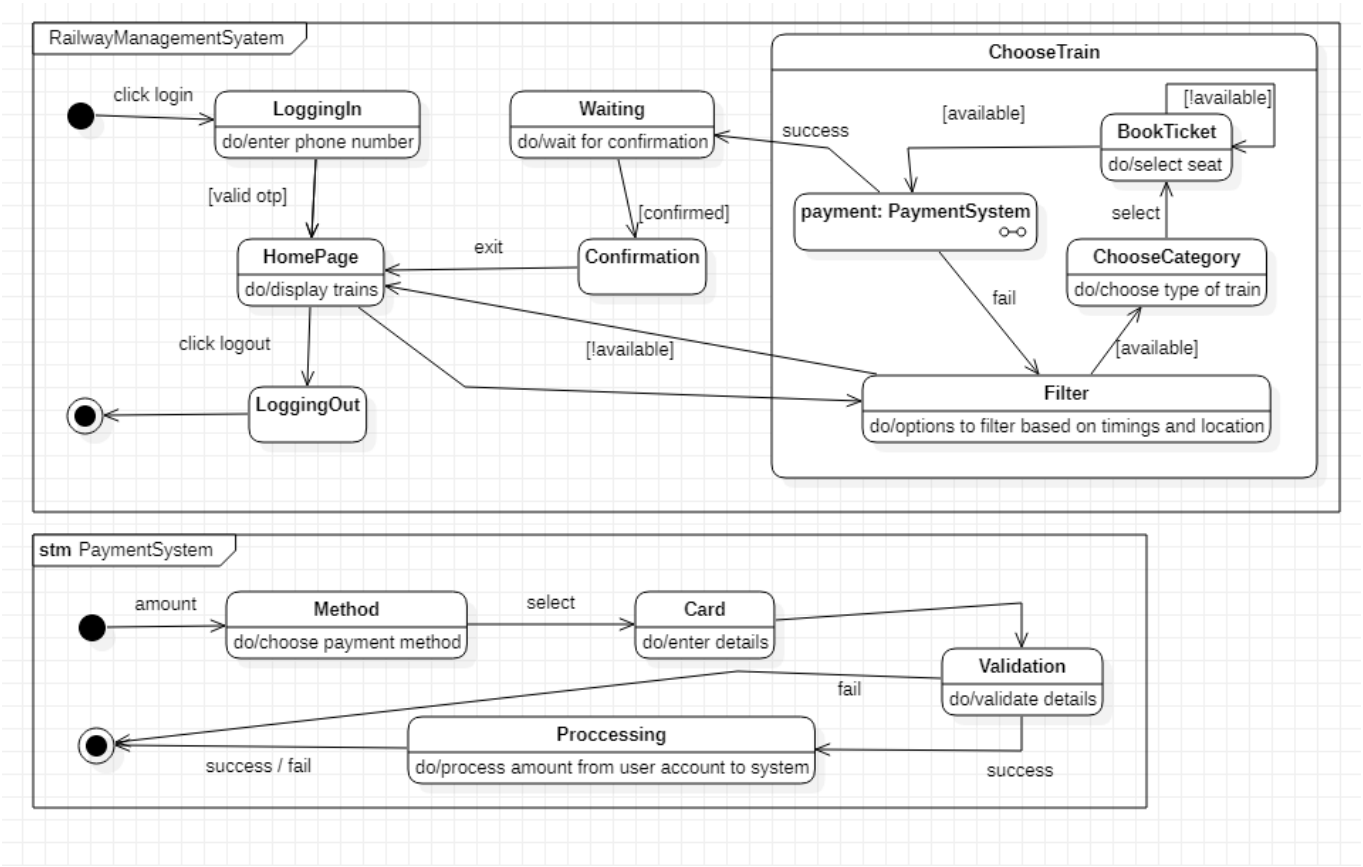
Railway Reservation System:

Advanced Class Diagram:



A train ticket can either be a general one or a tatkal one. Passenger has to buy a ticket if he wants to travel through a train. Passenger buys a ticket and makes a payment through some particular bank.

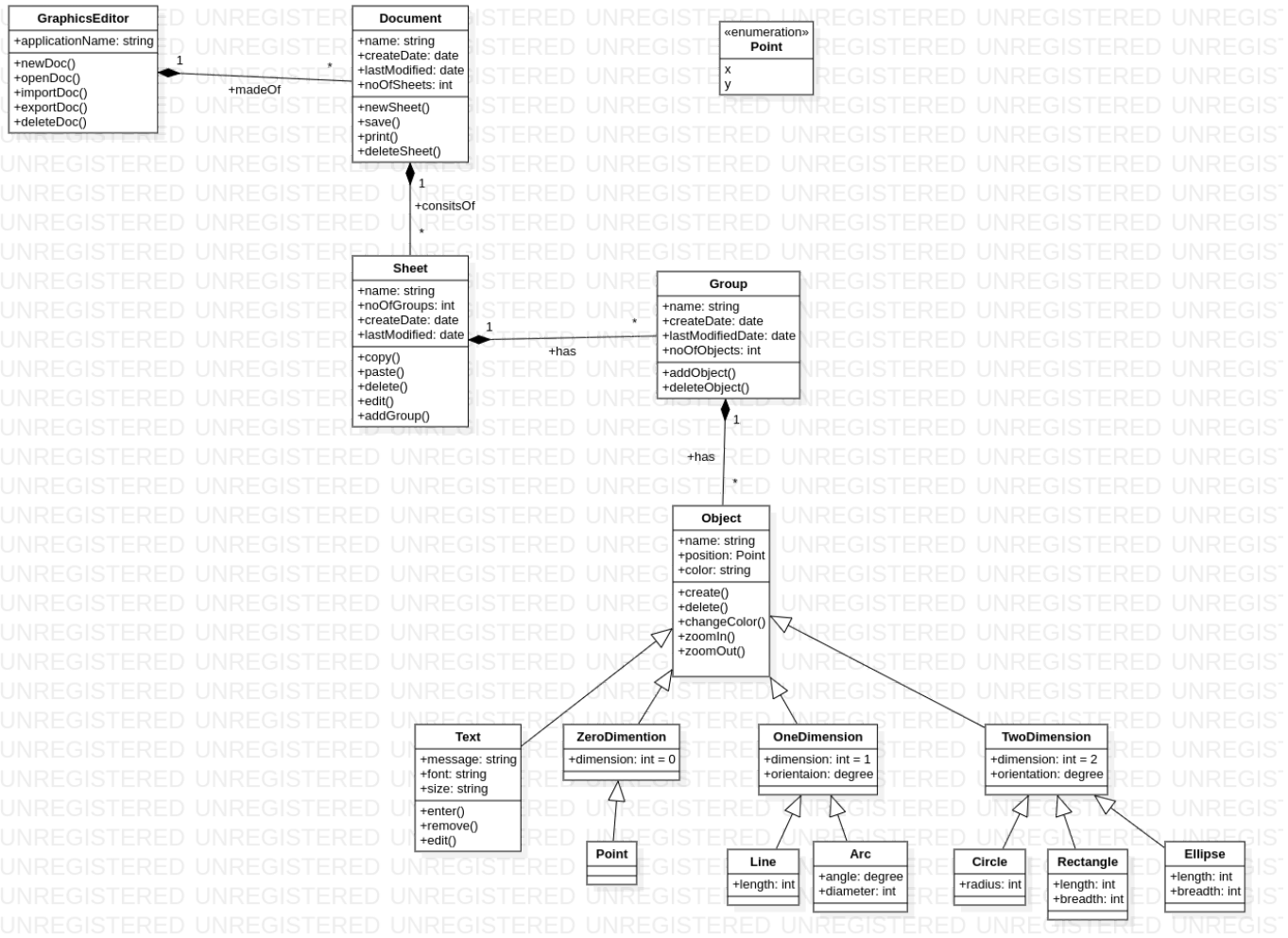
Advanced State Diagram:



To log in to the website an user has to enter his phone number and then enter a valid otp. After log in he can choose a train through which he wants to travel. After choosing a train he can select a payment method and confirm his ticket.

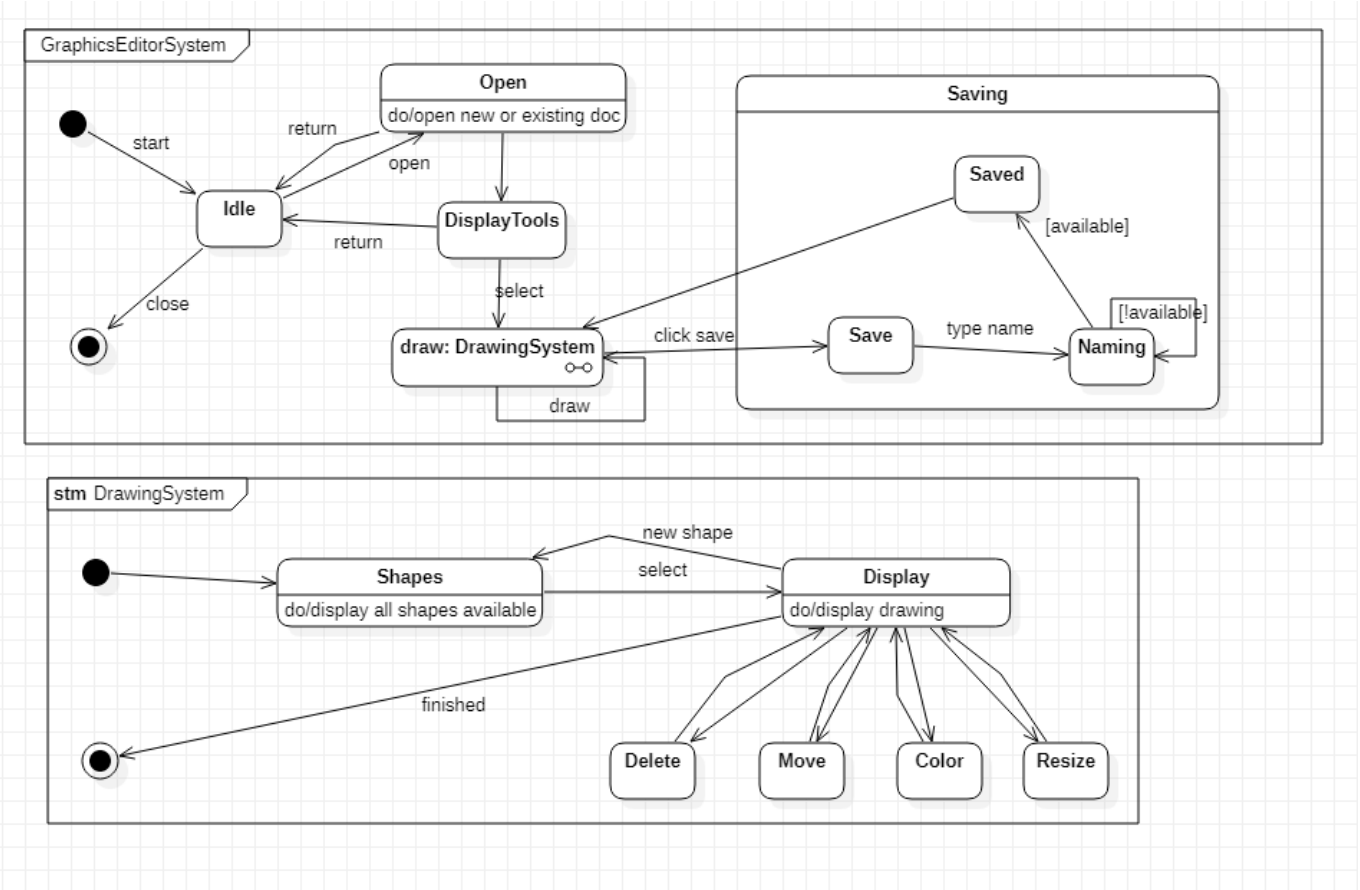
Graphical Editor System:

Class Diagram:



A Graphical Editor is made up of Documents. Each document consists of sheets. Each sheet has a group. And a group has objects. An object can be a Text object or a zero dimensional object or a one dimensional object or a two dimensional object. Point is a zero dimensional object
. Line and arcs are two dimensional objects and circle, rectangle, ellipse fall under two dimensional objects.

State Diagram:



A person can open an existing document or create a new document. He can click on display tools to select a drawing tool. He can drag and drop the required objects and latersav the file by giving it an appropriate name.