

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



## LAB REPORT

on

## COURSE TITLE

*Submitted by*

**Rohan Siwach (1BM19CS132)**

*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**

**May-2022 to July-2022**

**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 “LAB COURSE **Object Oriented Modeling**” carried out by **Rohan Siwach (1BM19CS132)**, 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 a **Object oriented modeling - ()** work prescribed for the said degree.

Name of the Lab-Incharge  
Designation  
Department of CSE  
BMSCE, Bengaluru

**Dr. Jyothi S Nayak**  
Professor and Head  
Department of CSE  
BMSCE, Bengaluru

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## Course Outcome

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## Lab 1 college information system

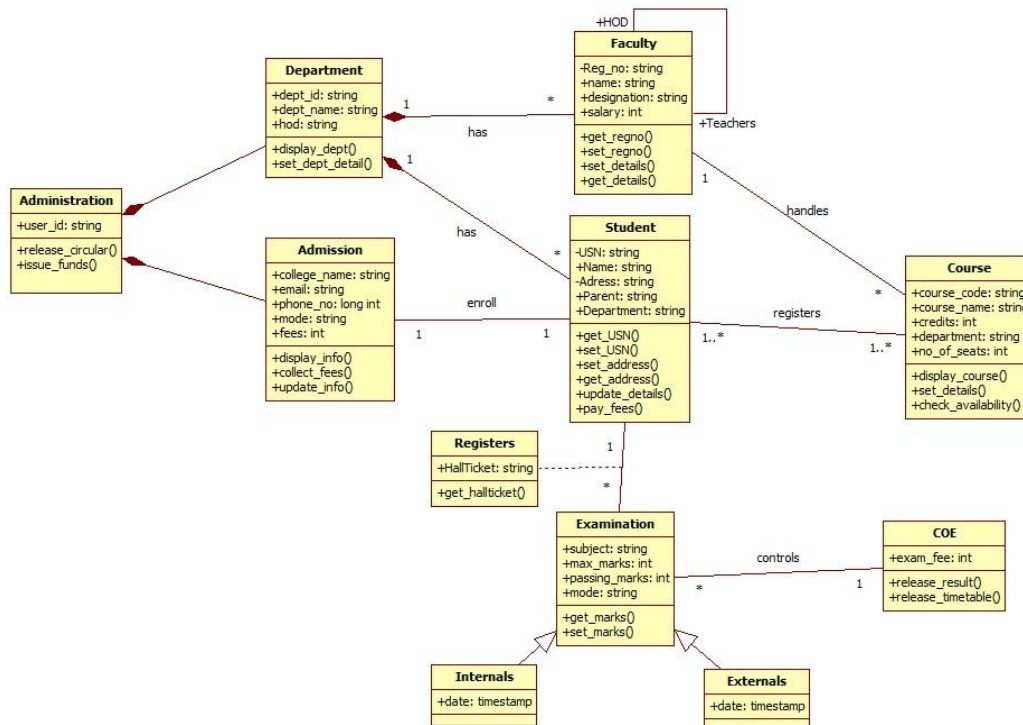
Problem Statement: A centralized approach and system for managing, storing, accessing and updating all the information and details present in relevance to students, and teaching and non-teaching faculty, increasing efficiency and convenience of information management in educational institutions.

### Software Requirements:

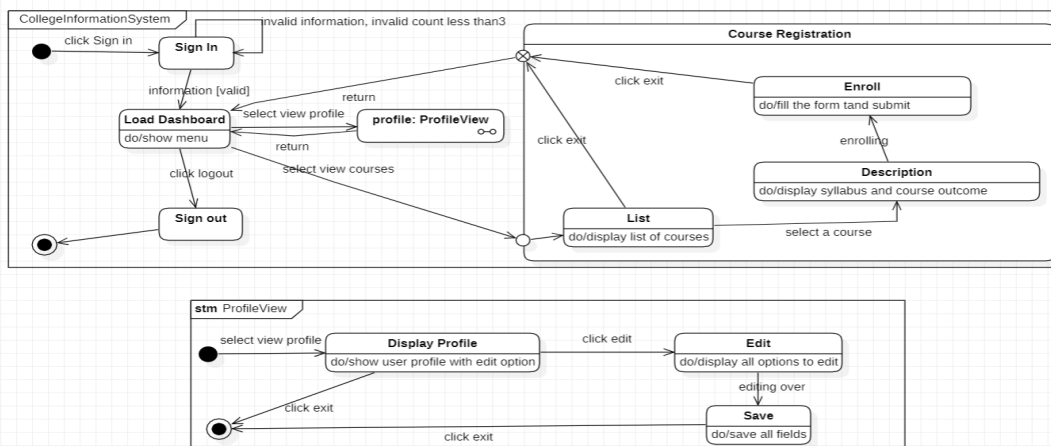
- Educational institutions should be able to add, edit and view student personal details, like name, age, gender, email, phone number, address and so on.
- Educational institutions should be able to add, edit and view student academic details, like USN, department, semester and registered courses.
- Faculty should be able to view all student personal details, and should be able to view and edit internal evaluation marks and attendance of students.
- The COE office should be able to view all student details, and view and edit internal and examination marks, and publish results.
- Placement section should be able to view all student details, and add companies coming to the campus for placements.
- Management section should be able to view, add and edit teaching and non-teaching staff details.
- Students should not be allowed to edit their personal or academic details.

- The system should be convenient and easy to use by students, management and faculty.
- The system should be a reliable source of information viewing (most importantly, academic grades) for students, COE and faculty

Class diag:



State Diag:



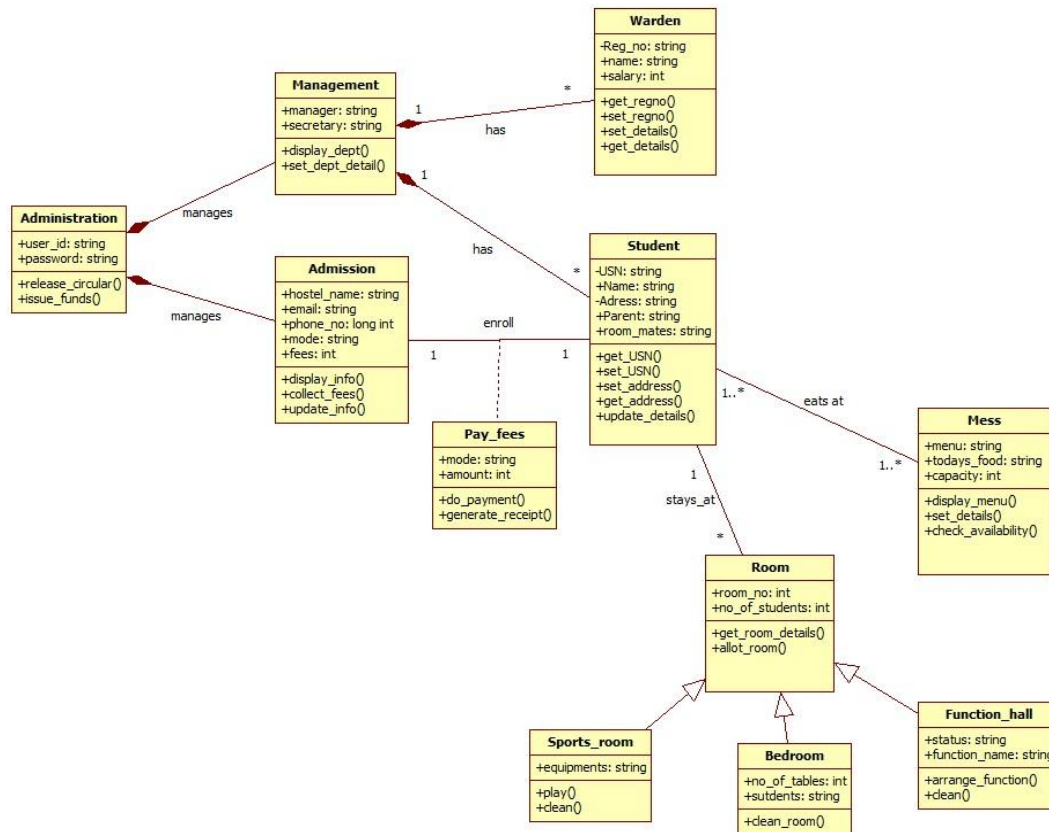
## Lab 2 Hostel management System

Problem Statement: The purpose of the Hostel Management System is to carry out different operations of a hostel. This system will provide ease of use to the staff of the hostel by performing all work on computers. It helps to manage student and staff records.

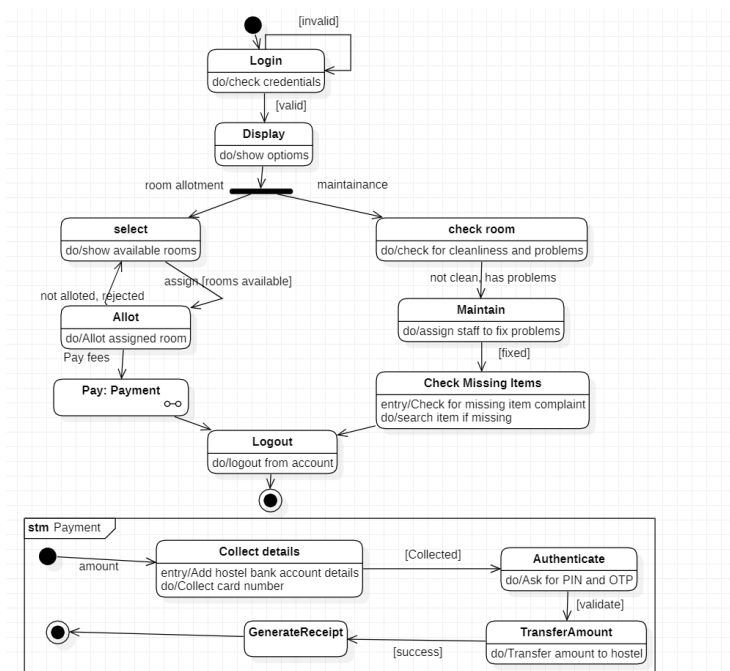
Software Requirements:

- Admin can login using credentials provided to him.
- Admin can allot room to students.
- Students can login using the credential provided and can give feedback about staff
- . ● Admin can review the feedback provided by students.
- Admin can appoint staff.
- Students can provide message feedback.
- Mess managers can review the mess feedback.
- Mess manager can update the menu list
- . ● Admin can assign work to staff members.
- The system should be easy to handle.
- System should give expected performance results.
- The response time should be small

Class diag:



## State diag:



### Lab 3 Stock Maintenance

**Problem Statement:** The stock maintenance system will allow the employees to record information of the items available in the store and generate reports based on the total amount of sales. The new system will have a windows-based desktop interface to allow employees to enter the information of sales, purchase orders, change employee preferences and create reports. The system retains information on all the items in the shop. The system retains the records of the cost, expiry date, vendor details, Discount, quantity. The employee maintains the information of the sale of the item. He can add the items at the right time and update the database. The customer can view the availability of the required items and the price of the items. The customer can just view them but cannot make any changes.

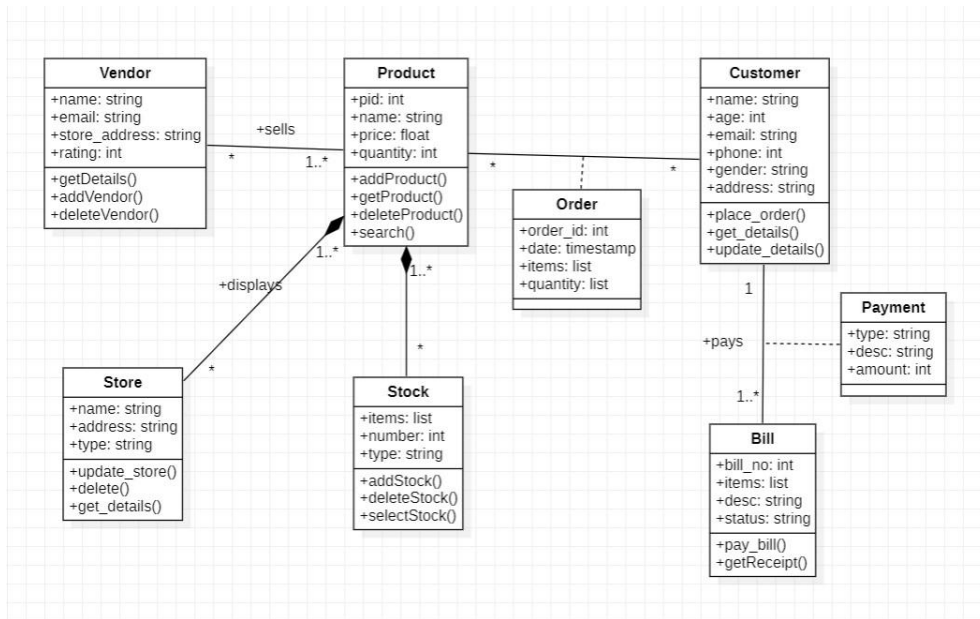
**Software Requirements:** The process of the stock maintenance system is that the customer logs in to the particular site to place the order for the customer product.

The stock maintenance system is described sequentially through steps

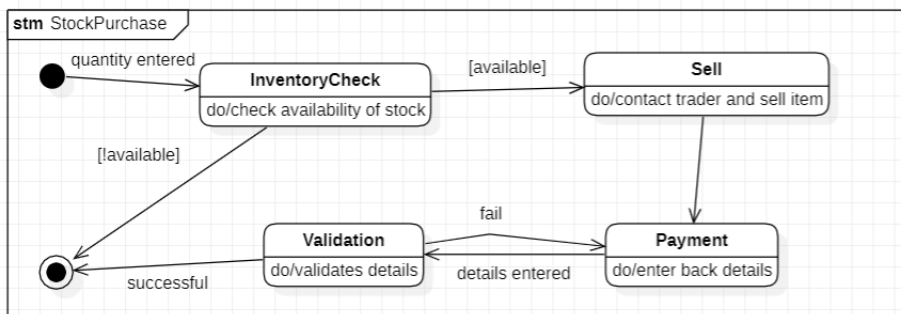
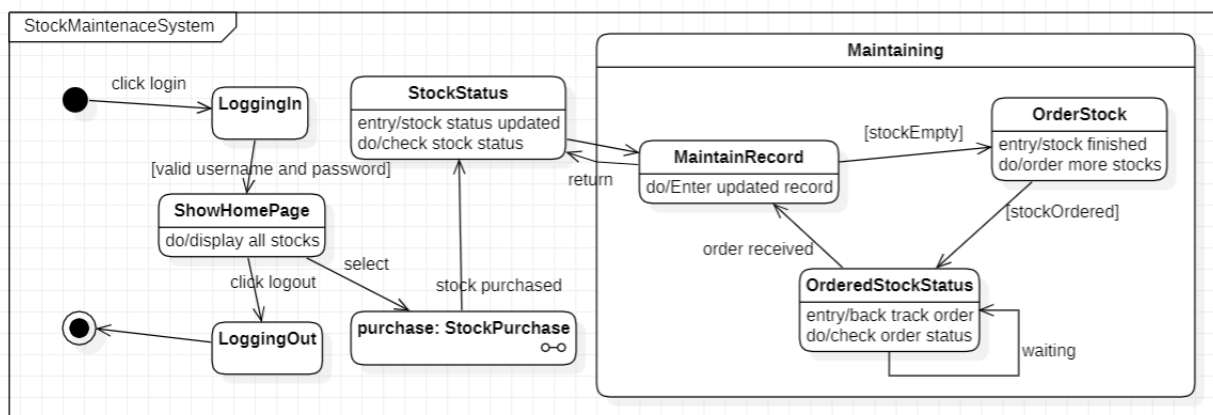
- The customer logs in to the particular site.
- They fill the customer details.
- They place the orders for their product
- . • The vendor logs in and views the customer details and order

**Class Diag:**





## State diag:



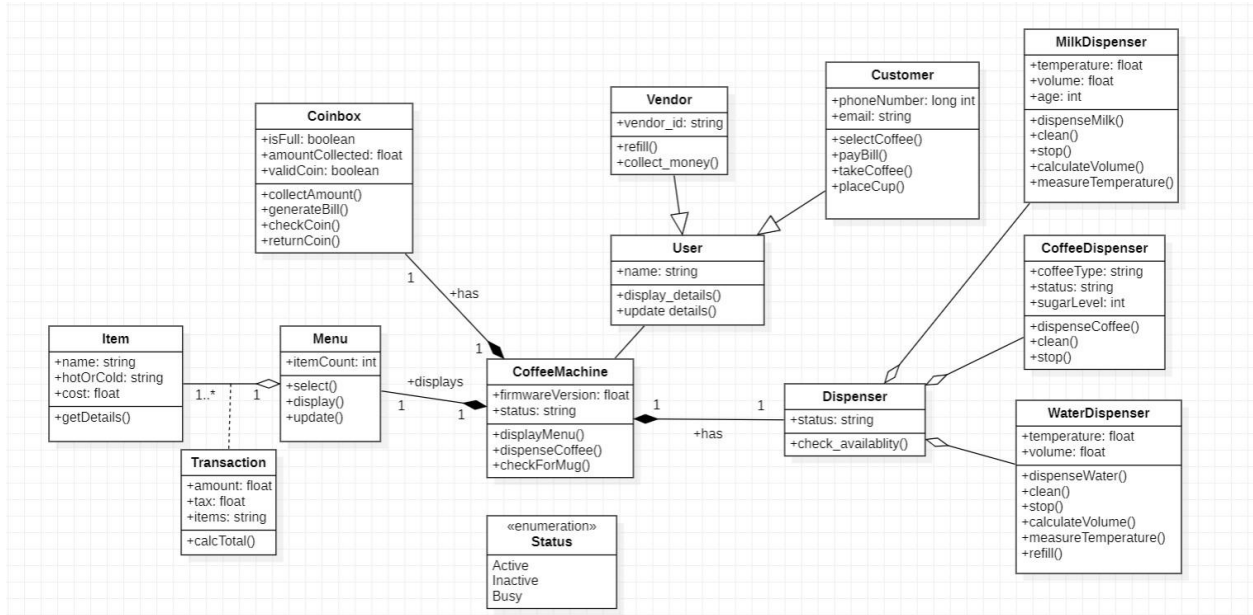
## Lab4 : Coffee vending machine

**Problem Statement:** The Objective of the system is to prepare a coffee vending machine for commercial purposes. The system will be able to prepare coffee by processing all its required ingredients. Users will be provided with sophisticated and easy to use user interfaces.

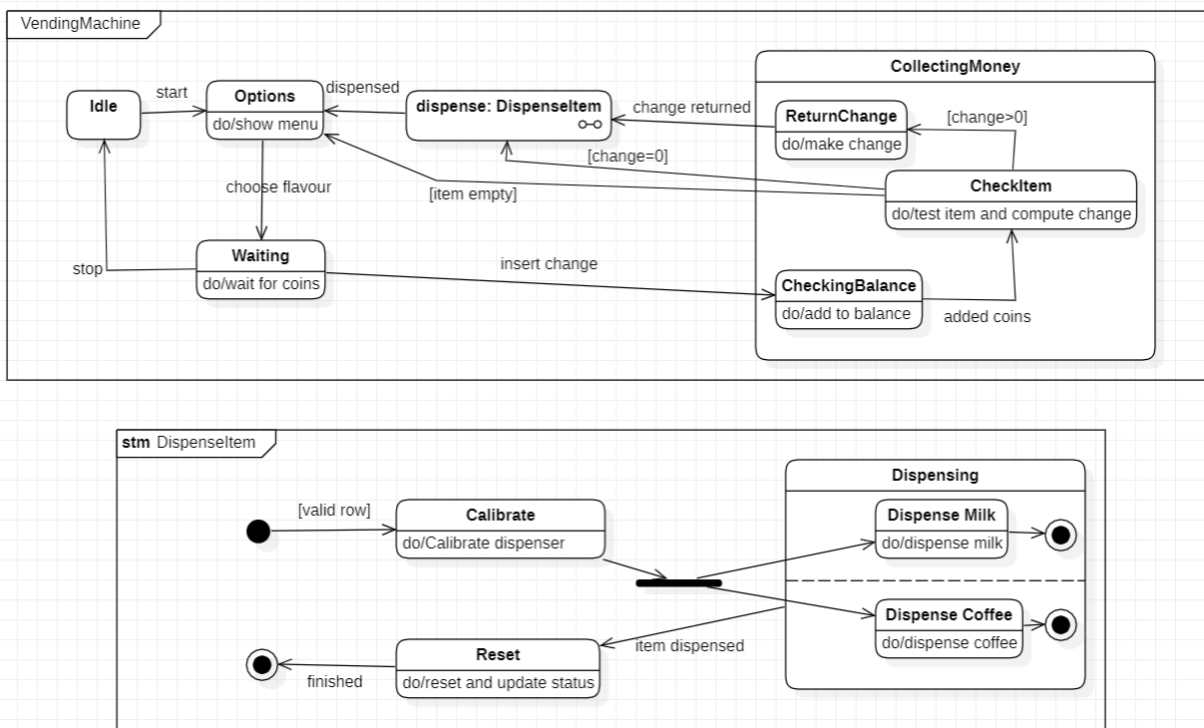
**Software Requirements:** There are many different types of coffee makers using a number of different brewing principles, in the most common devices, coffee grounds are placed in a paper or metal filter inside a funnel, which is set over a glass or ceramic coffee pot, a cooking pot in the kettle family. Cold water is poured into a separate chamber, which is then heated up to the boiling point, and directed into the funnel.

- **Cash Box:**Knows amount of money put in; Give change; Knows price of coffee; Turns front panel on and off.
- **Front panel:**Captures selection; Knows what to mix in each; Instructs mixer when to mix.
- **Mixer:**Knows how to talk to the dispensers.
- **Dispenser [cup-, coffee powder-, sugar-, creamer-, water-]:**Knows how to dispense a fixed amount, knows when it is empty. Features :
  - Small carbon footprint
  - Energy saving advanced power management system
  - Comprehensive drink range
  - Simple user interface

**Class diag:**



State diag:



## Lab5 Online Shopping System

Problem Statement: The online shopping system allows the users and vendors to exchange products remotely and reduces the amount of cost and time substantially.

Software Requirements:

The software provides the following facilities to the customers:

- Facilitates easy shopping online anywhere with free shipping (conditions apply).
- Provides information about the products in categories
- Can avail the facility of purchasing second hand products
- Can reserve if the particular product is not available
- Customers are provided with up to date information on the products available
- Provides email facility for future correspondence
- Provides backup facility
- Can add nearly ten products to their shopping cart at a time

The software will not provide the following facilities to the customers:

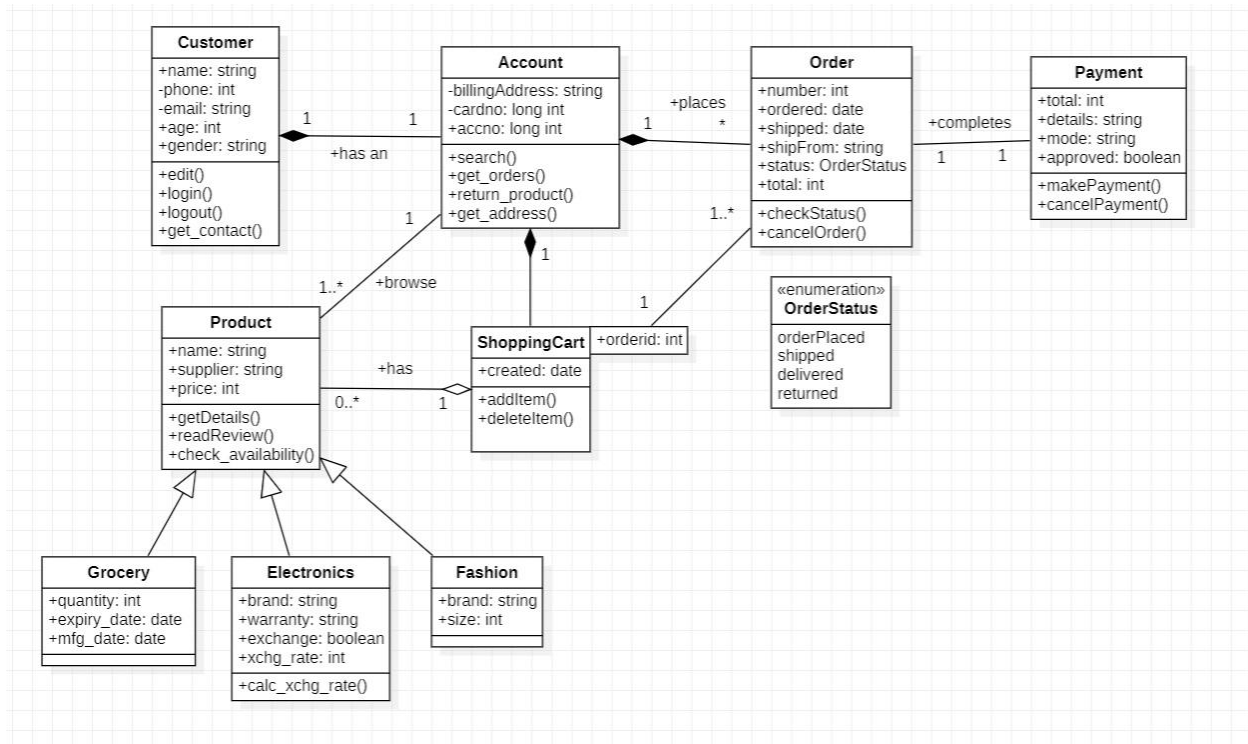
- Cannot reserve the product for more than two days.
- Cannot reserve more than two products
- Responsibility of damages
- The product cannot be changeable once confirmed

The software provides the following facilities to the merchants:

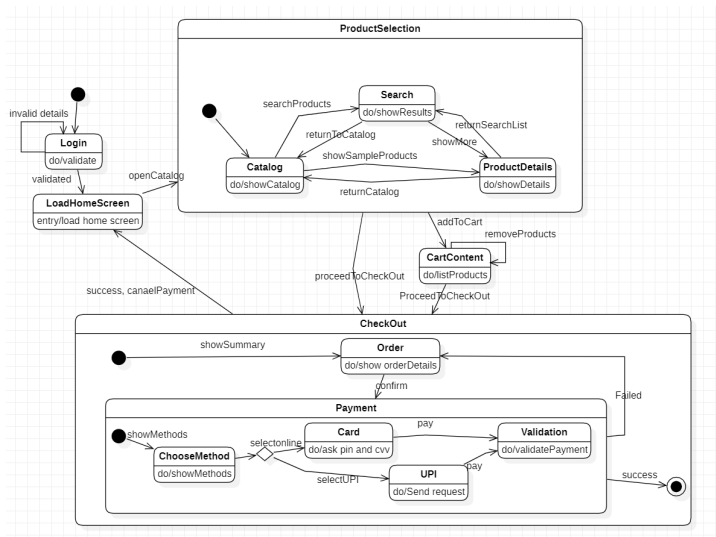
- Facilitates easy bidding facility
- Provides complete information about the customers

- Provides complete information about their products
- Can avail the facility of email correspondence
- Can avail the brand catalog facility

Class diag :



State Diag:



## Lab6: Railway Reservation System

Problem Statement: To develop a user-friendly Railway Reservation System to enable passengers to book tickets online and make payment online as well.

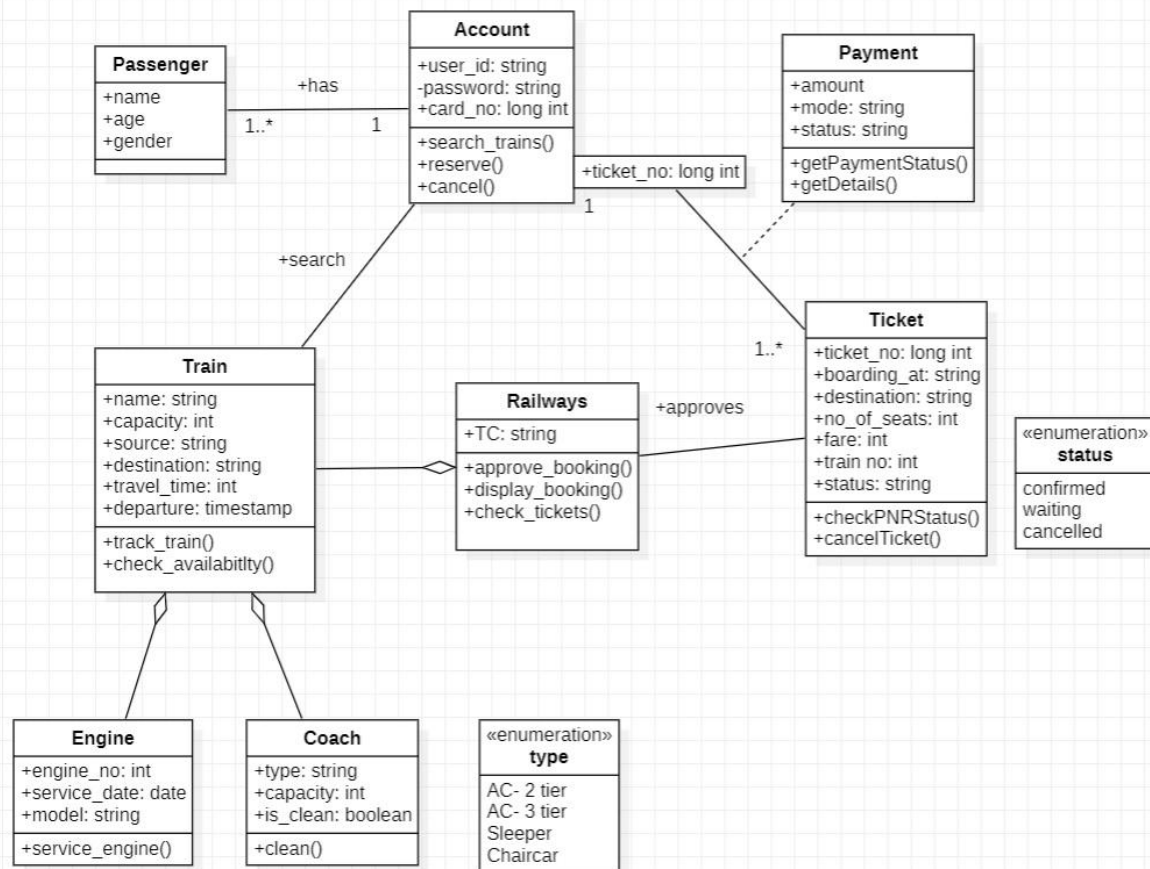
Software Requirements: Railway reservation system project which provides the train timing details, reservation, billing and cancellation on various types of reservation namely

- , • Confirm Reservation for Seat.
- Reservation against Cancellation.
- Waiting list Reservation.
- Online Reservation.
- Tatkal Reservation.

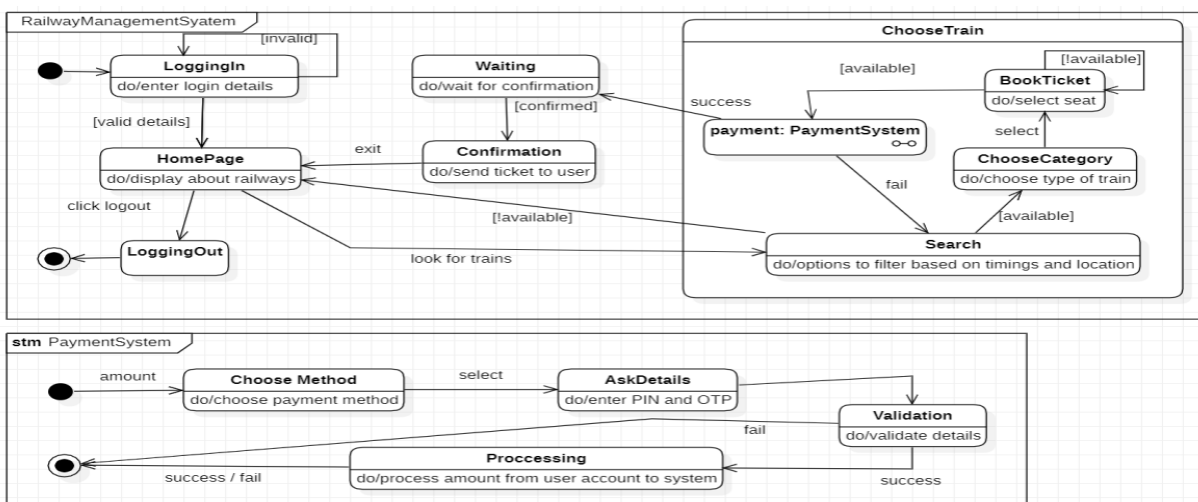
This system enables the Advance booking in any class, against general and ladies quota, on payment of fare in full for adults and children, a maximum of six berths/seats at a time, for journey between any two stations served by a train. It also provides details about

1. Timetable
  2. Train Fares
  3. Current status of reservation position
  4. Train available between a pair of stations
  5. Accommodation available for a train/date combination
- Types of tickets: General and Tatkaal

Class Diag:



## State Diag:



## Lab 7 Graphical Editor

Problem Statement: The graphics editor provides an Application Programmer's Interface that enables a programmer to develop their own graphical model editor for a specific type of model. This API in turn, relies on extending the Eclipse Graphical Editing Framework to provide an environment in which the editor functions, and the programmer can create a graphical editor and palette of shapes in order to modify an underlying model. The graphical editor provides an interface with which the programmer implements said editor for a given underlying model. Such an instance of the graphical editor allows a user to drag objects from a specified model into a working graphical diagram

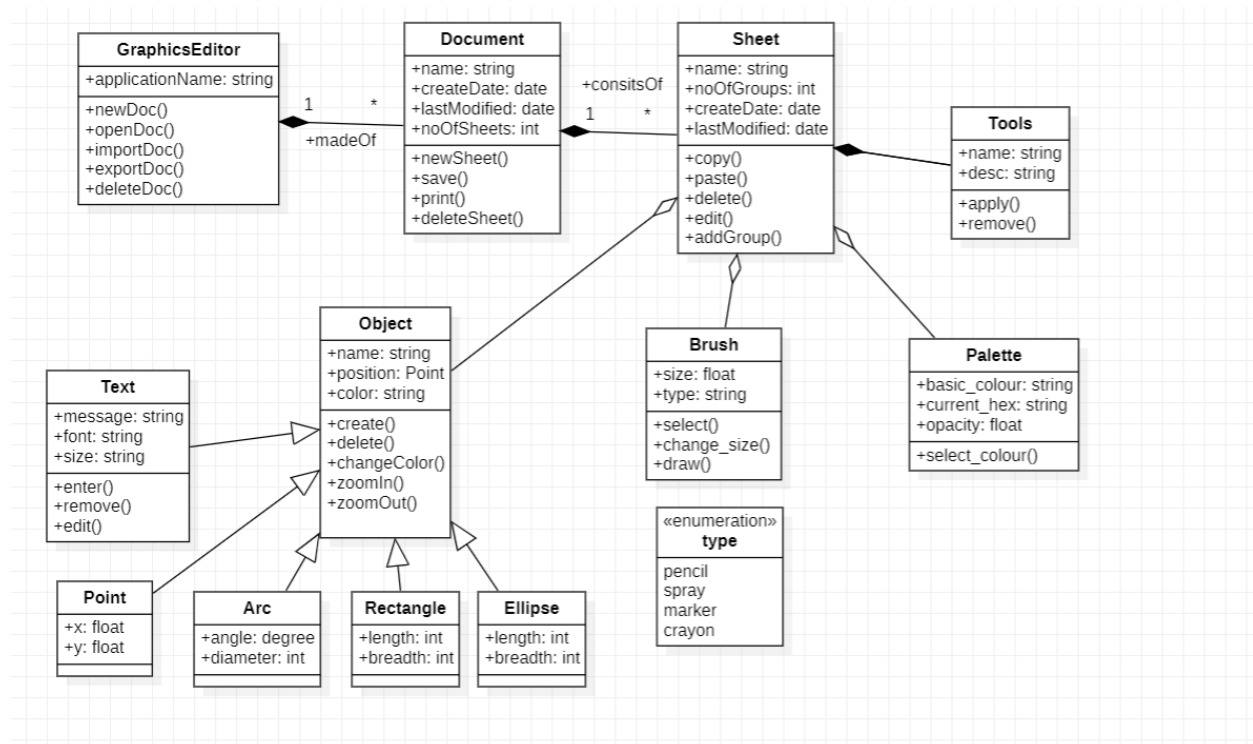
. Software Requirements:

It should support following functionalities:

- It contains the toolbox which contains tools like: Line, Circle, Rectangle, Arc, Text, Draw, Eraser
- Color box or palette
- Standard toolbar with options for New, Open, Save, toolbox and Text Toolbox.
- One integrated view to users for toolbar, color box, menu, and graphic screen.
- Easy handling of tools for users.
- Ability to group several drawings into one i.e. complex drawing
- . • Provision of zoom in and zoom out.
- Different shadings of line tool are provide



## Class diag:



## State diag

