

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT on

Object Oriented Modelling and Design

Submitted by

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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 **NIRANJAN NAGARAJ SAVANUR (1BM19CS104)**, who is a 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 academic year 2021-2022. The Lab report has been approved as it satisfies the academic requirements in respect of a **Object Oriented Modelling and Design-(20CS6PCOMD)** work prescribed for the said degree.

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Course Outcome

CO1	Ability to apply the knowledge of class, State & Interaction Modelling 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.

1. COLLEGE INFORMATION SYSTEM

1.1 Problem statement

Paper-based maintenance of college systems was difficult to maintain, expensive, and required more manpower. There was a need for an s/w system that could handle large records effortlessly and could address locus of redundancy and consistency. This system maintains staff and department.

1.2 Software Requirement Specification

- College information system has admin who manages staff, student and department.
- The Admin can view and modify the student records like profile, attendance, fee, results and details of teachers and other employees in college, these personal information and their attendance for their salaries.
- Authentication will be done. and clarified by typeing username and password
- Staff in college teach more than one course to many students and the staff who are teachers conduct examination for students of college should register themselves in department course they are interested in.
- There are different types of exams conducted by the college. Internals and SEE are 2 of them.
- Every course has unique name with different subject. Every subject had its unique name.
- Every department has a name provide detail about himself and COE officer should be able to view student detail, edit examination marks, and publish them.

LAB-1.

College Information System

Problem Statement

Paper based maintaining of college system was difficult to maintain, expensive and required more manpower. There was a need for a system that could handle large records efficiently and could address issues of redundancy and consistency.

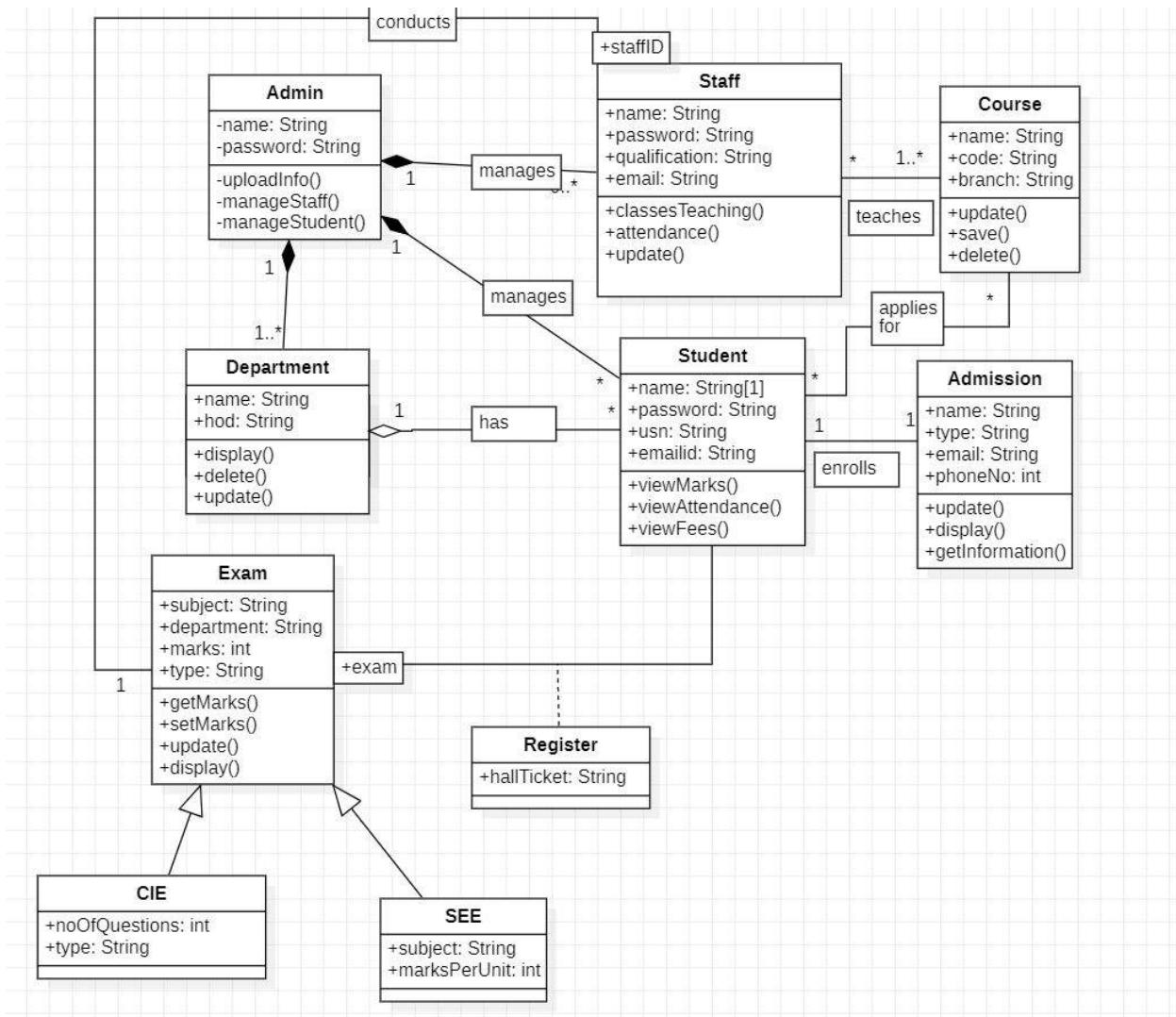
This system maintains student, staff and department information.

SRS

- College information system has admin who manages the staff, student and department.
- Admin can view and modify the student records like profile, attendance, fee, result and details of teachers and other employees in college, their personal information and their attendance for their salaries.
- Authentication will be done by username and password and classified by user type.
- Staff in college teach more than one course to many students and the staff who are teachers conduct examination for students of college.
- Students register themselves in department course they are interested in.
- There are different types of exams conducted by the college. Internals and SEE are 2 of them.

- Every course has unique name with different subjects.
Every subject has its unique name.
- Every department has a name ^{and} provide details about itself.
- COE office should be able to view student details, edit examination marks, and publish them.

1.3 Class Diagram



Description

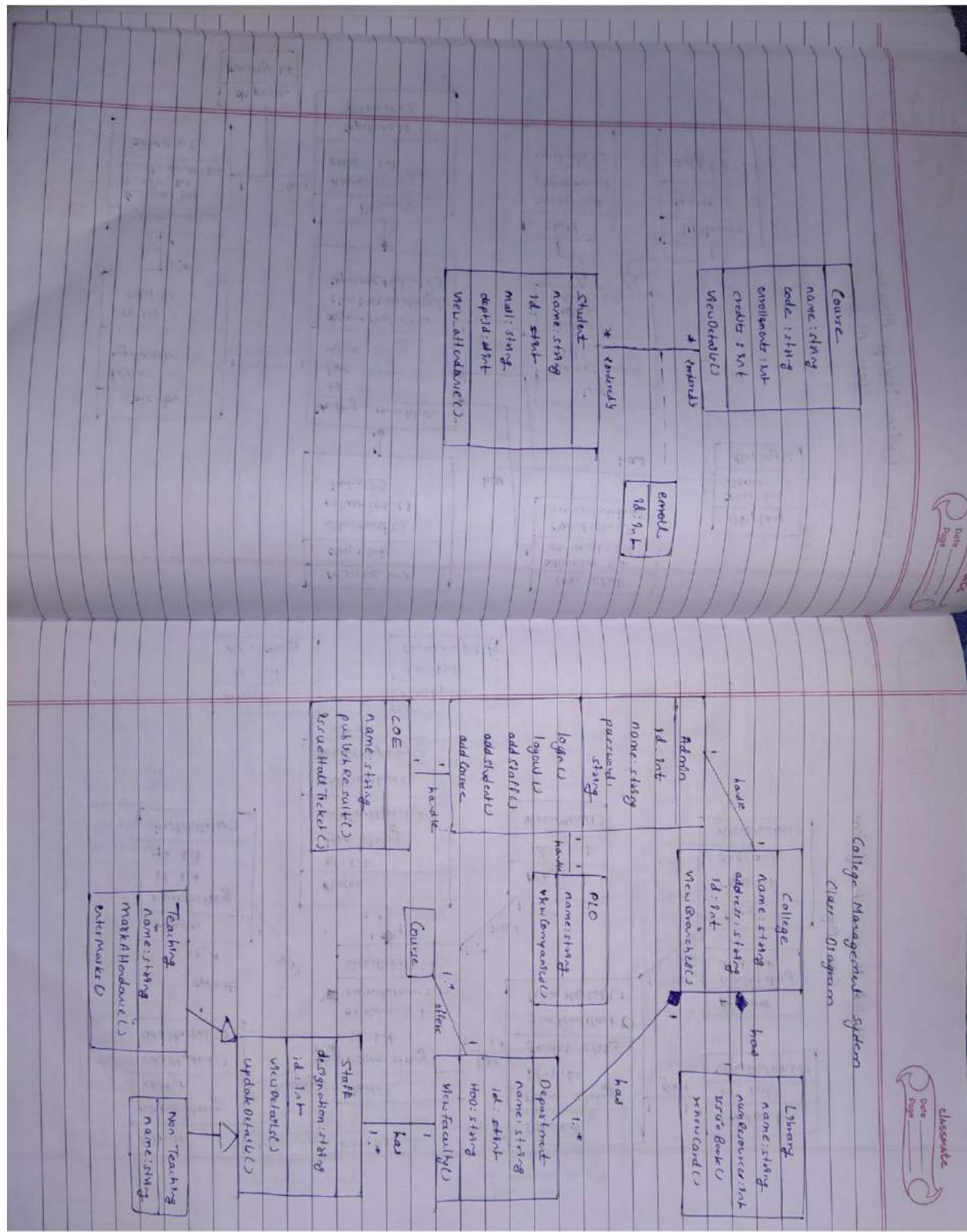
Admin can view and modify the student's records, teachers and department details.

The students of the college register themselves in the department and examination and for the courses they are interested in and join the college by taking admission and following all the admission procedures.

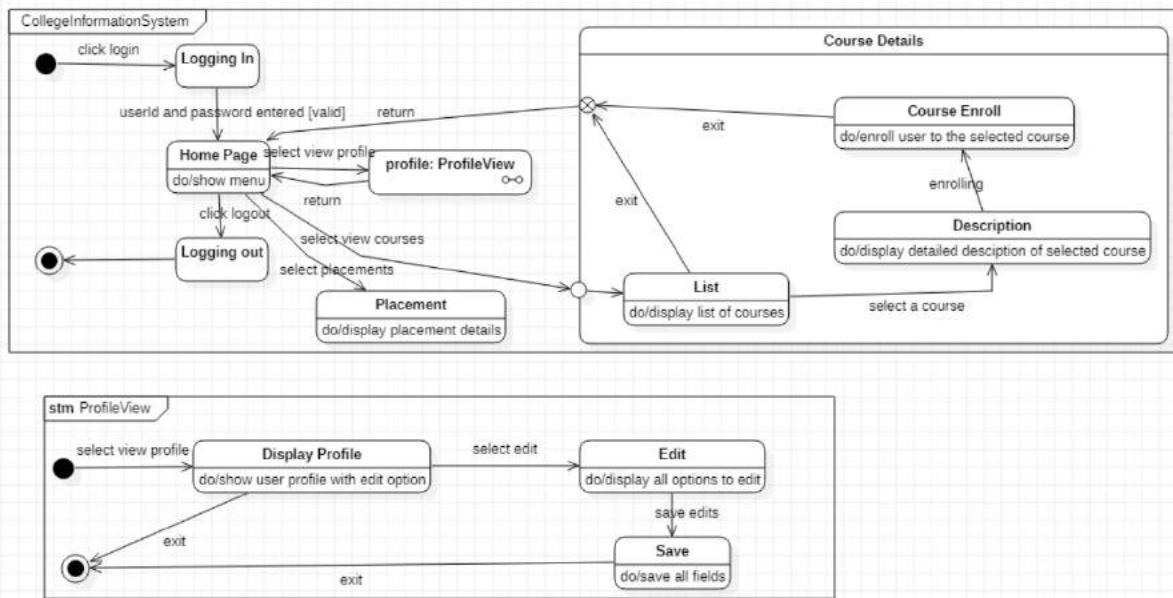
College conducts Internals and semester end examination for students.

College Management System

Class Diagram



1.4 State Diagram



Description

The above state diagram describes the states the admin goes through in uploading information about students, staff, and department.

The admin first needs to log in which then leads to the validate state, where the login id and password are validated.

If invalid it then goes back to the login state or the get information state. Upon receiving the correct information it goes to the upload state and then to the commit state to save all changes.

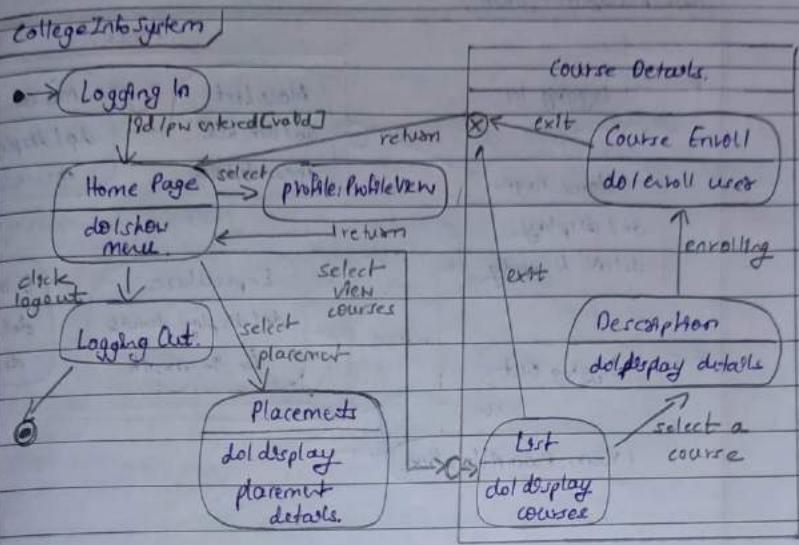
The admin first needs to log in and be cleared of their permissions.

The admin can then manage the student, teacher, or department information.

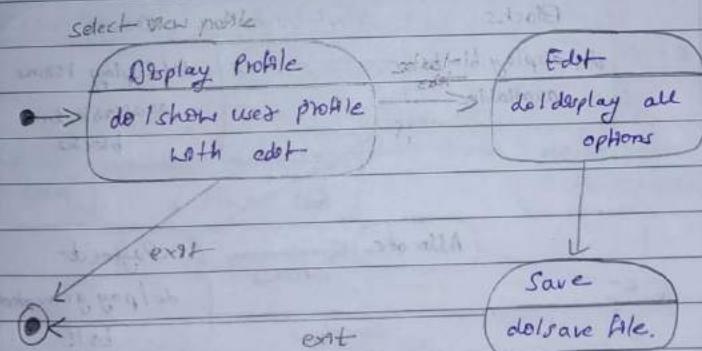
After necessary changes, the admin can update the information and log out from the system.

CLASSMATE
Date _____
Page _____

Advanced State Diagram

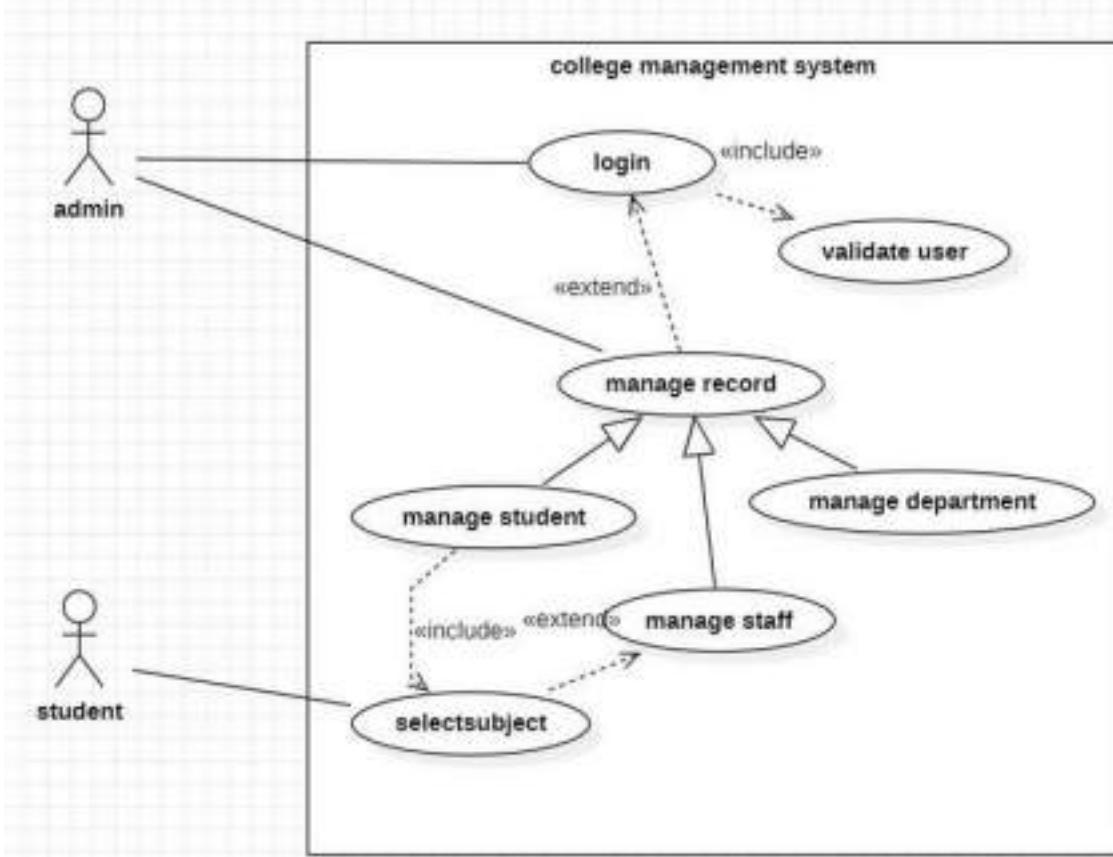


Profile View



College Information System

1.5 Use Case Diagram



Actors:

Admin: the person who manages everything

Student: A person who uses the system

COE: A person who is responsible for examinations

Staff: A person who works in the college

Use Cases:

Manage details: the admin can update, insert or delete the data.

View results: displays the result of students.

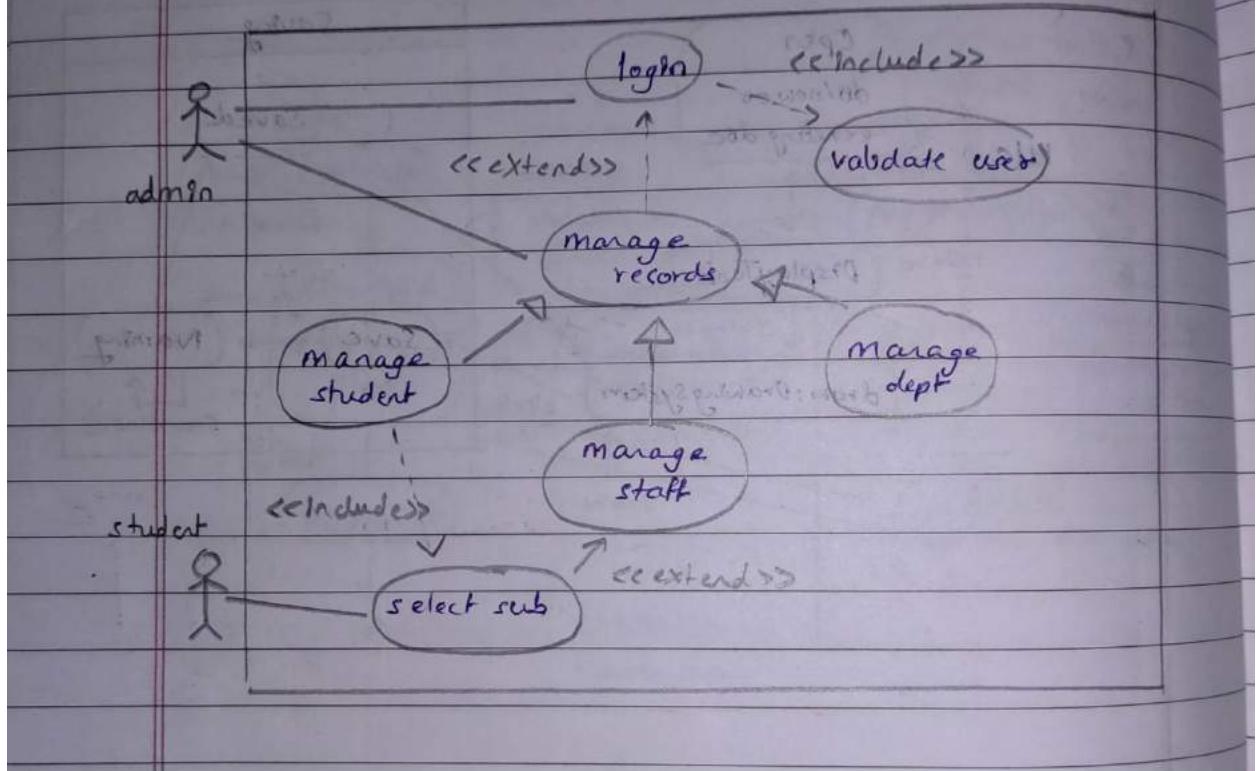
Subject details: various details related to the subject are displayed.

View student details: the details of the student is displayed

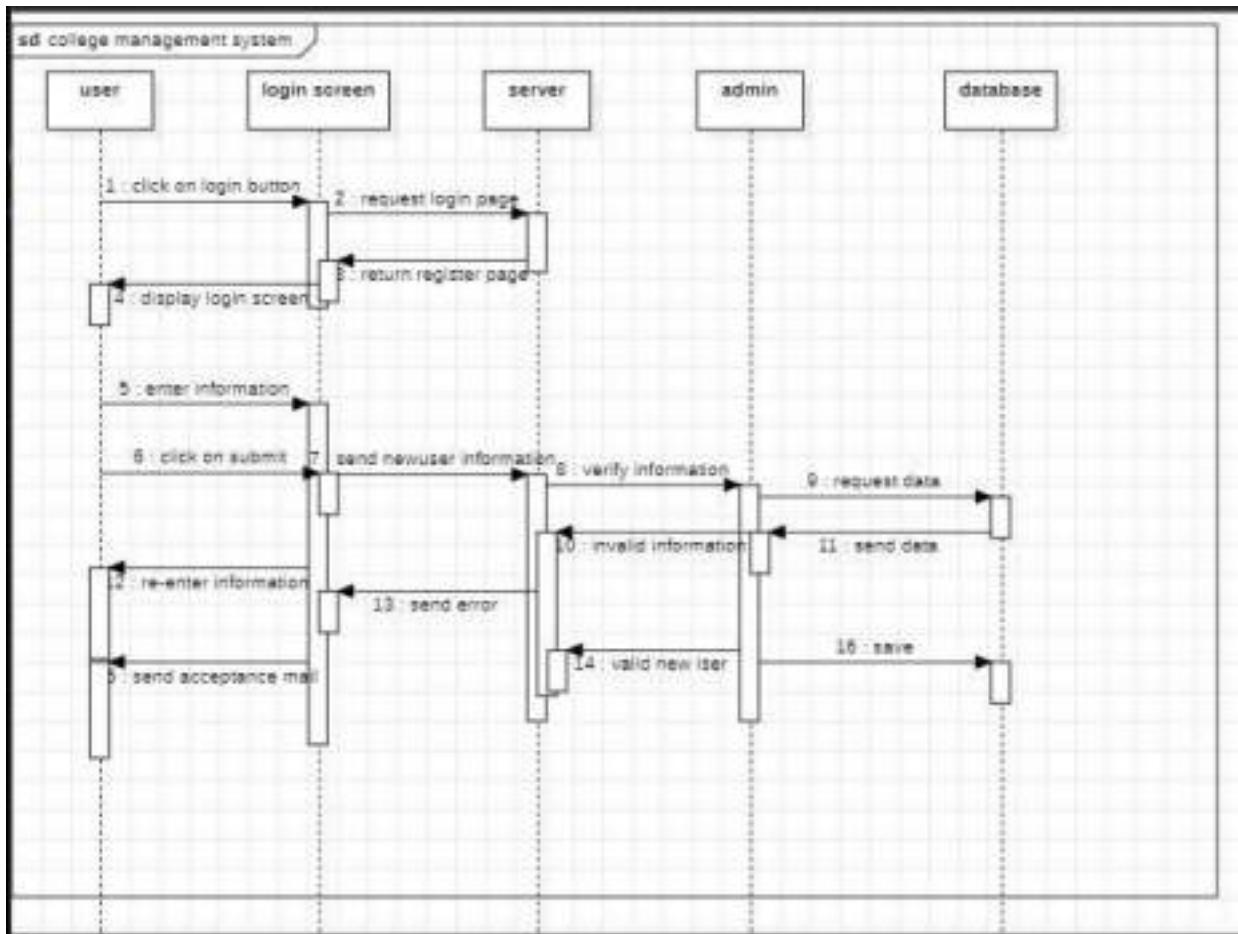
Declare results: the results of exams written by the student is displayed.

Advanced Use Case Diagrams

College Information System



1.6 Sequence Diagram

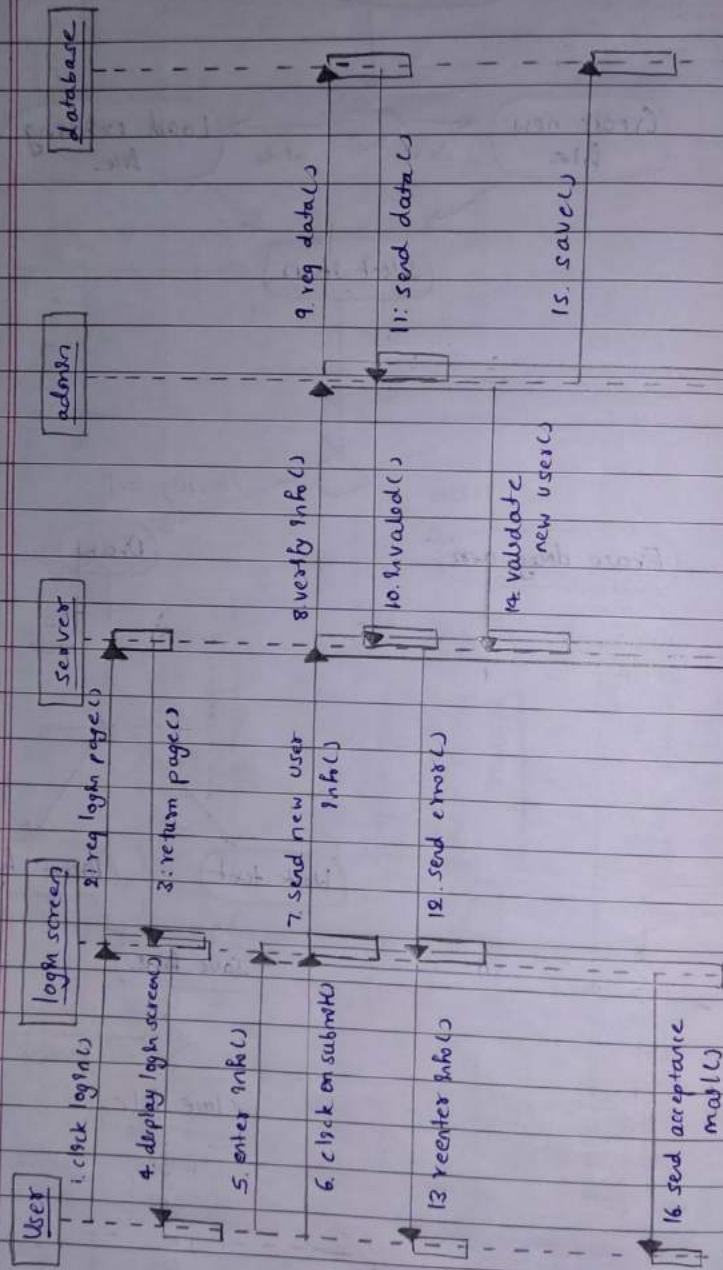


Description

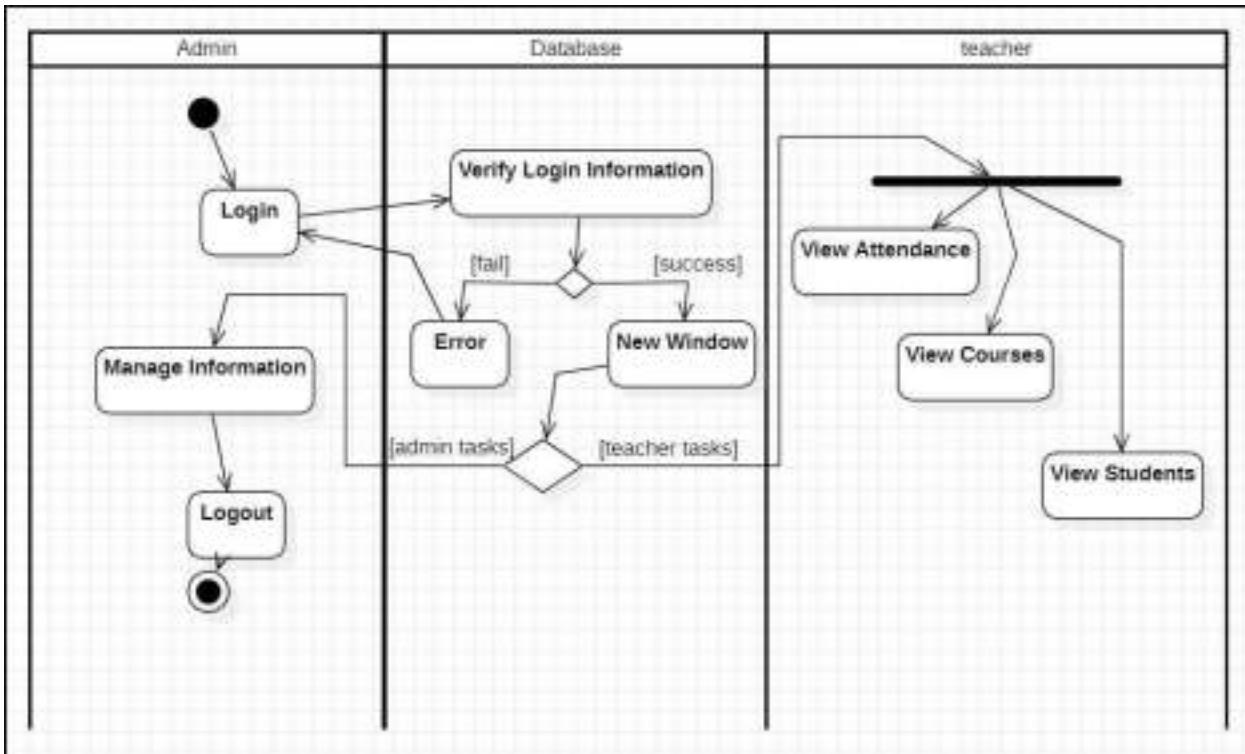
The above sequence diagram gives the interaction between objects while a user is logging into a system. The user enters login information in the website which sends to the server, where the information is validated and the appropriate reply message is displayed to the user.

Advanced Sequence Diagrams

College Information System

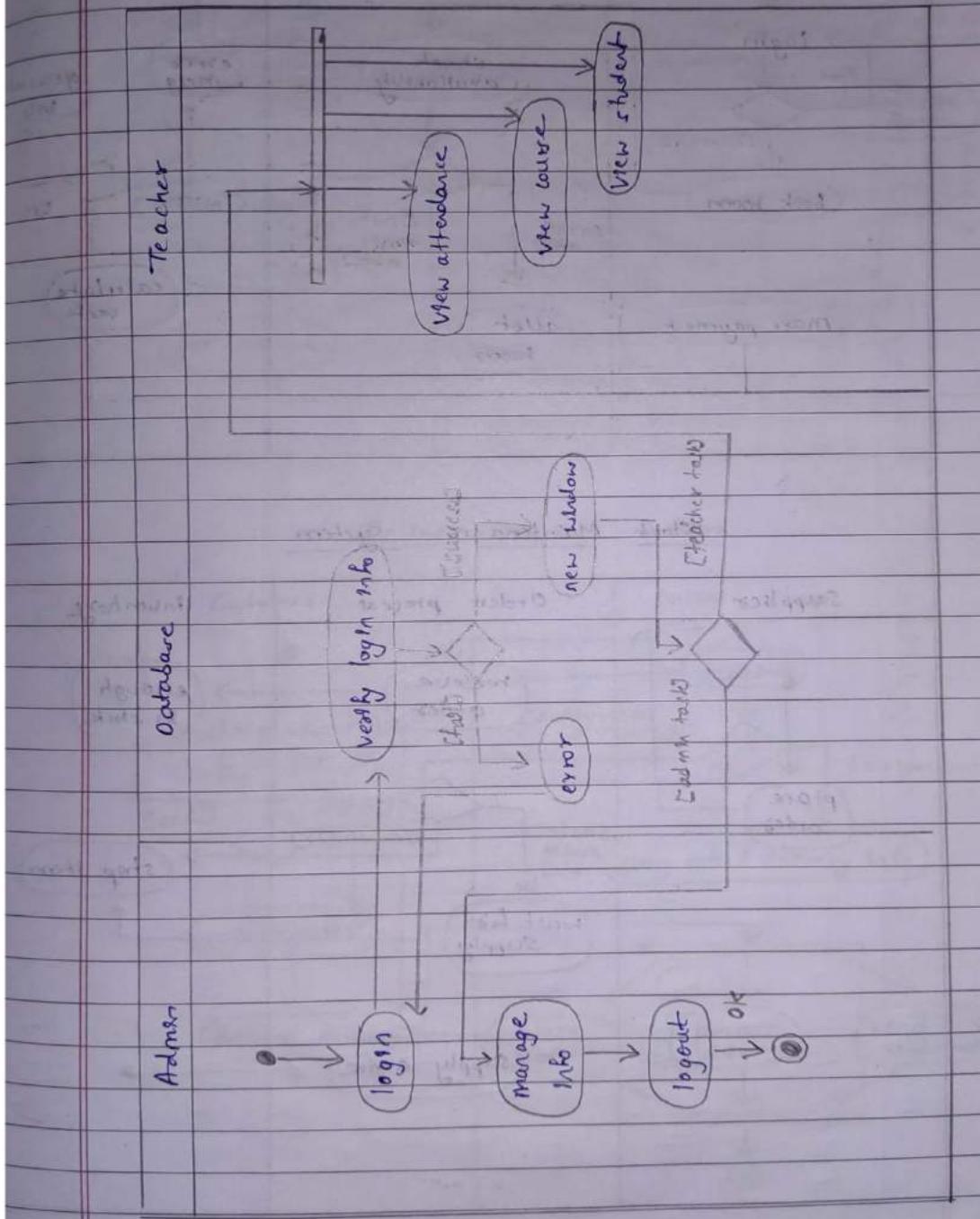


1.7 Activity Diagram



Description

The above activity diagram has three swimlanes mainly admin, database, and teacher. The admin can log in and manage information. The database verifies the login information and on success has two options. The teacher can view attendance, view course details, and view student lists.

Advanced Activity DiagramsCollege Information System

2. HOSTEL MANAGEMENT SYSTEM

2.1 Problem statement

For the past few years, the no. of educational institutions had increased rapidly. Therefore the no of hotels is also increasing to provide accommodation for these students. There is a lot of strain on the person running them. Identification of drawbacks of the existing system. leads to the designing of a computerized system with GVI which is friendly.

2.2 Software Requirement Specification

- It had an admin who manages hostel allocation and As the students vacate the room, their entry needs to be deleted from the database.
- Payment needs to be done according to the bill generated. which has attributes. number, type, and date.
- The student's details like name, place, address, and contact details are maintained.
- There are boys and girls hostels, which have different casts, wardens, and names. Cash & It compares both rooms and mess.
- The mess account. Well have mess bill entire month, on the basis of which monthly charges of the student will be defined...
- The accommodation provided to each room like further are also maintained in the database Mecc manager should manage mess workers and update.

LAB-2

Hostel Management System

Problem statement

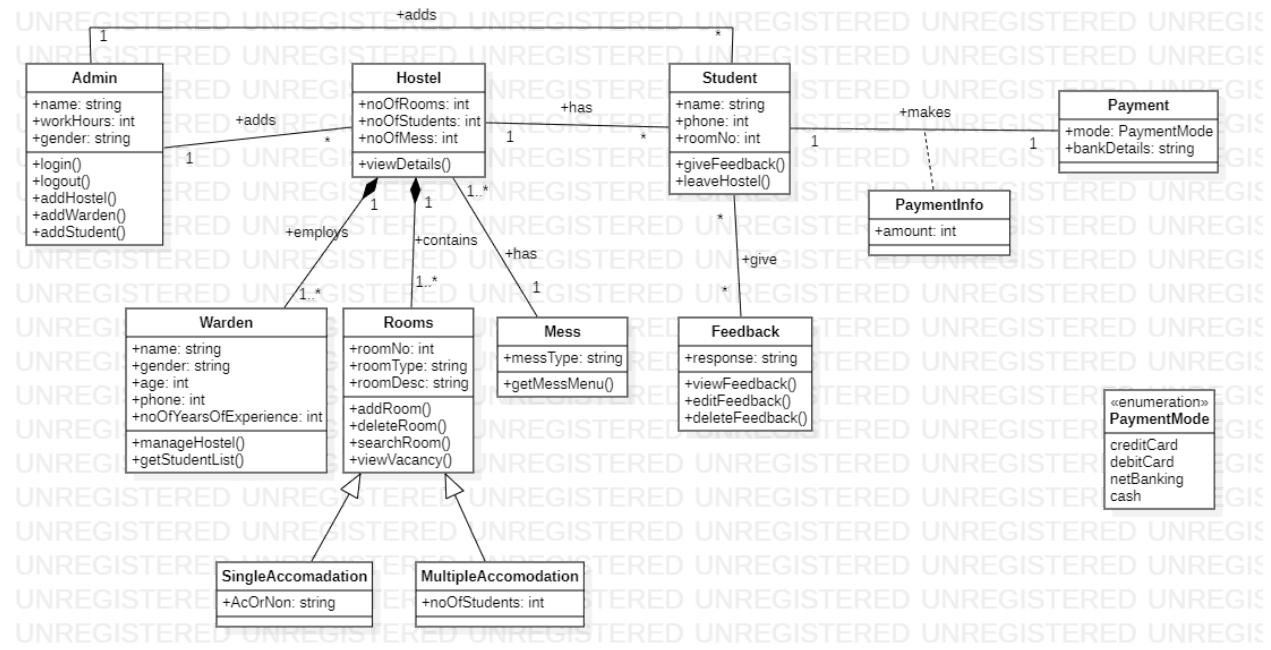
For the past few years, the no. of educational institutions has increased rapidly. Therefore the no. of hostel is also increasing to provide accommodation for these students. There is a lot of strain on person running them. Identification of drawbacks of existing system leads to designing of computerized system with GUI which is user friendly.

SRS

- It has an admin who manages hostel allocation and payment methods.
- As the students vacate the room, their entry needs to be deleted from database.
- Payment needs to be done according to bill generated which has attributes number, type and date.
- The student's details like name, place, address, contact details is maintained.
- There are boy and girls hostels, ^{each &} which have different cost, warden and name.
- It compares of both rooms and mess. The mess account will have mess status of an entire month, on the basis of which monthly charges of the student will be defined.

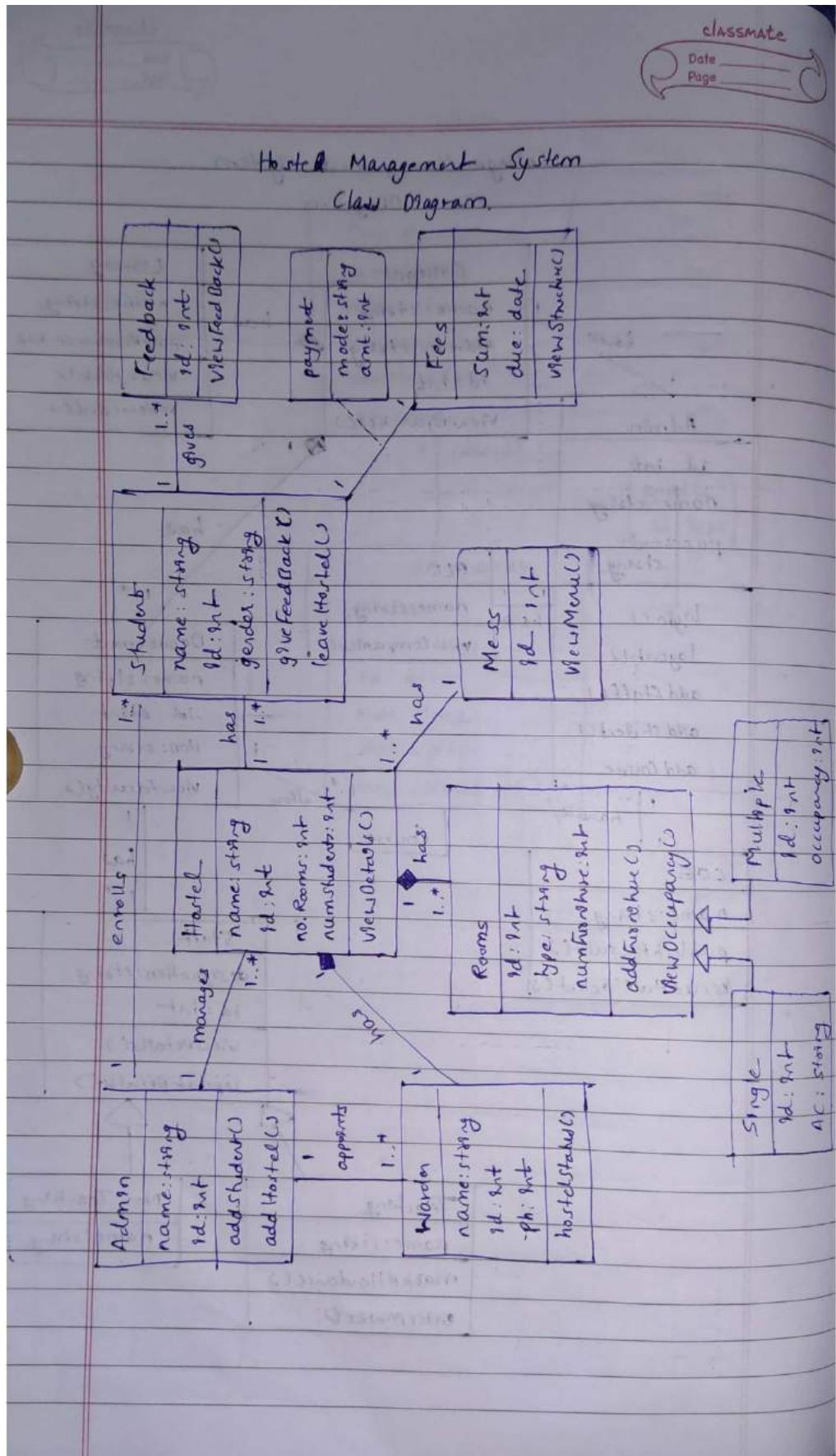
- The accessories provided to each room like furniture are also maintained in the database.
- Mess manager should manage mess workers and update menu.

2.3 Class Diagram

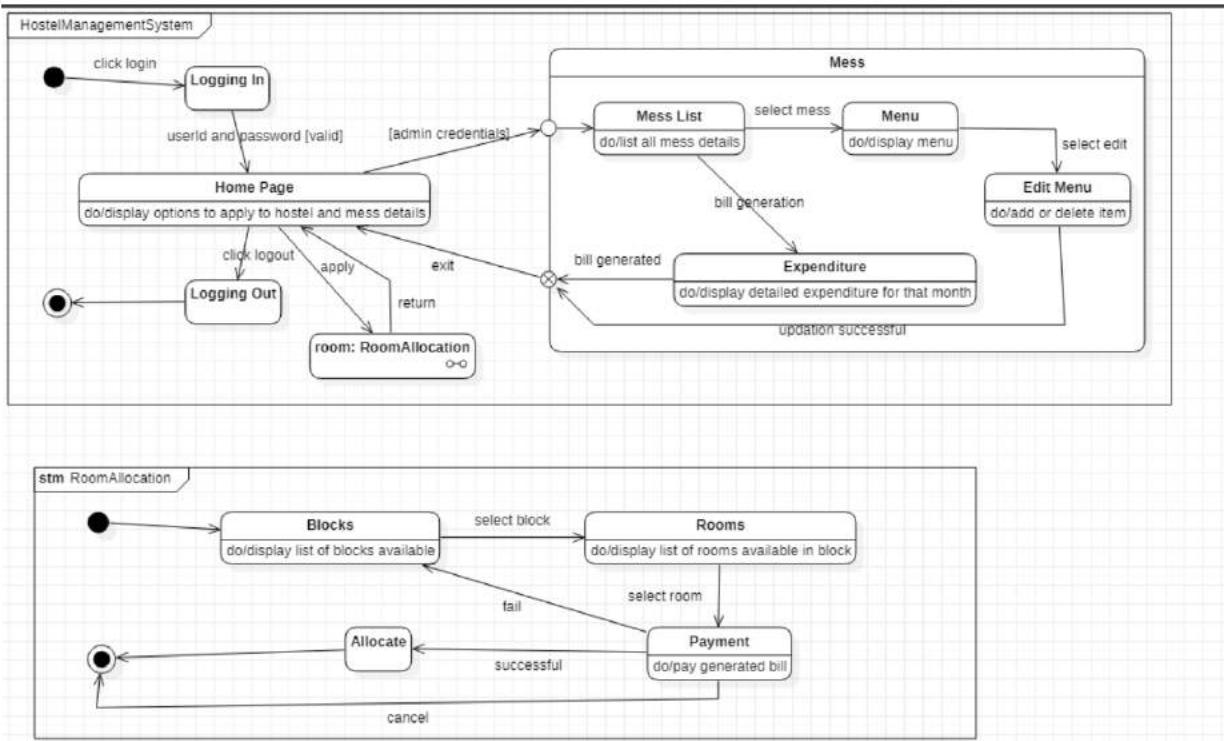


Description

Hostel management system has an admin who manages the hostel, allot-ees, and payment methods. The allot-ees makes payment according to the bill generated which has the attribute bill number, type, and date. The hostel is categorized into two types I.e boys and girls hostel. A hostel is made up of mess and rooms. A mess account will also generate. This account has a mess of the status of the whole month.



2.4 State Diagram



Description

The above state diagram gives the movement of states in allotting a room to a student. The admin allows rooms for students. The admin first logins to the database, which displays a set of options. the admin then chooses to allot rooms and finds the availability for rooms. If rooms are available then the admin allows room to the student and when successful the student makes the payment. If no rooms are available, a message is displayed, and control backs.

Hostel Management System

Hostel Management System

click login

① → Logging In

id & pw[valid?]

[Admin credentials]

→

do / list all

Mess details

Mess

select mess

Mess

do / display mess

Home Page

do / display

details to apply

Logging Out

apply

exit

return

Mess List

do / list all

Mess details

Mess

select mess

Mess

do / display mess

bill gen.

Expenditure

do / display details

for the month

select edit

Edit Mess

do / add or delete items

successful

room: Room Allocation.

Room Allocation

Blocks

do / display blocks

available

select block

Rooms

do / display rooms

available in blocks

return

fail

select room

Select

Allocate

success

Payment

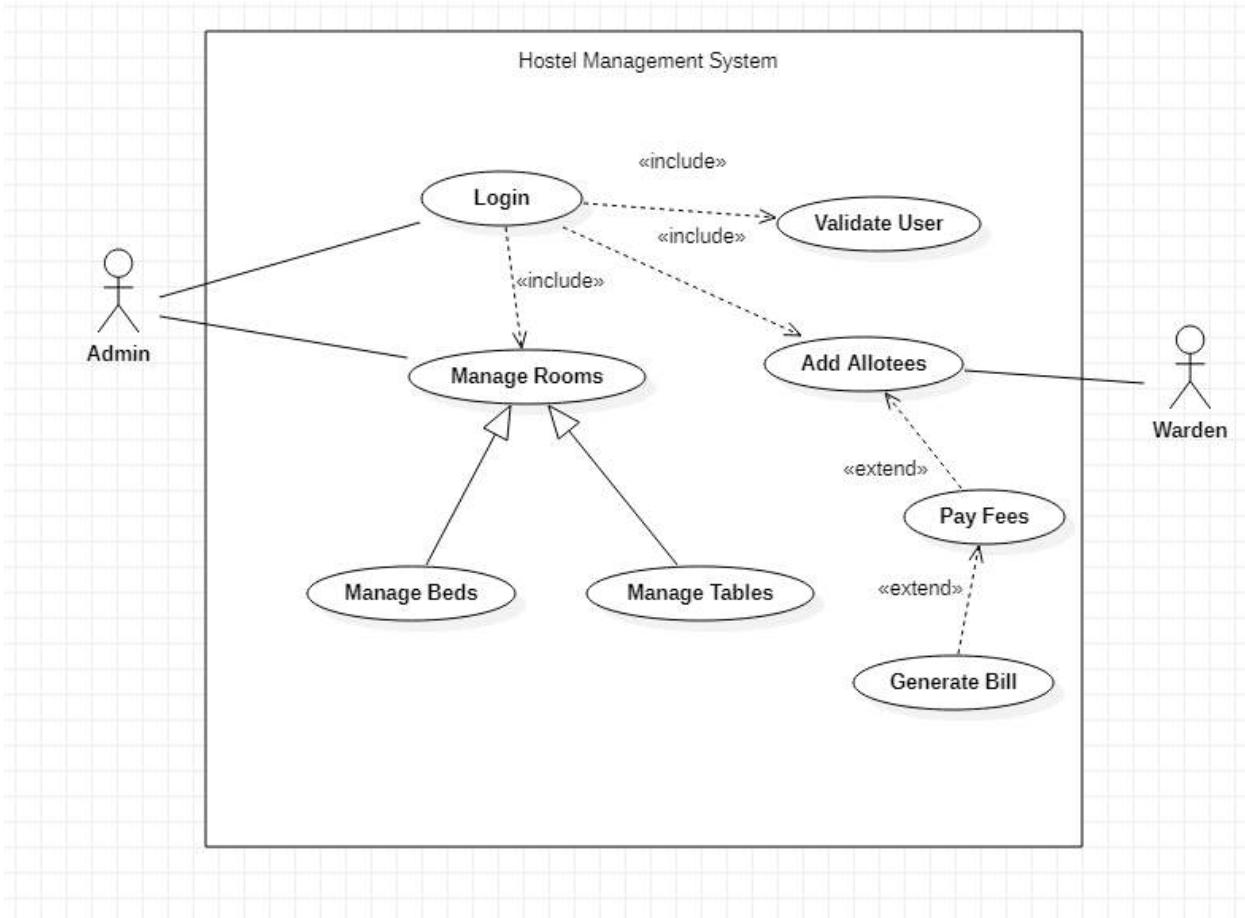
do / pay generated

bill

cancel

cancel

2.5 Use Case Diagram



Actors:

Admin: the person who manages the whole system

Warden: the person who manages the allotees

Student : the person who uses the hostel system

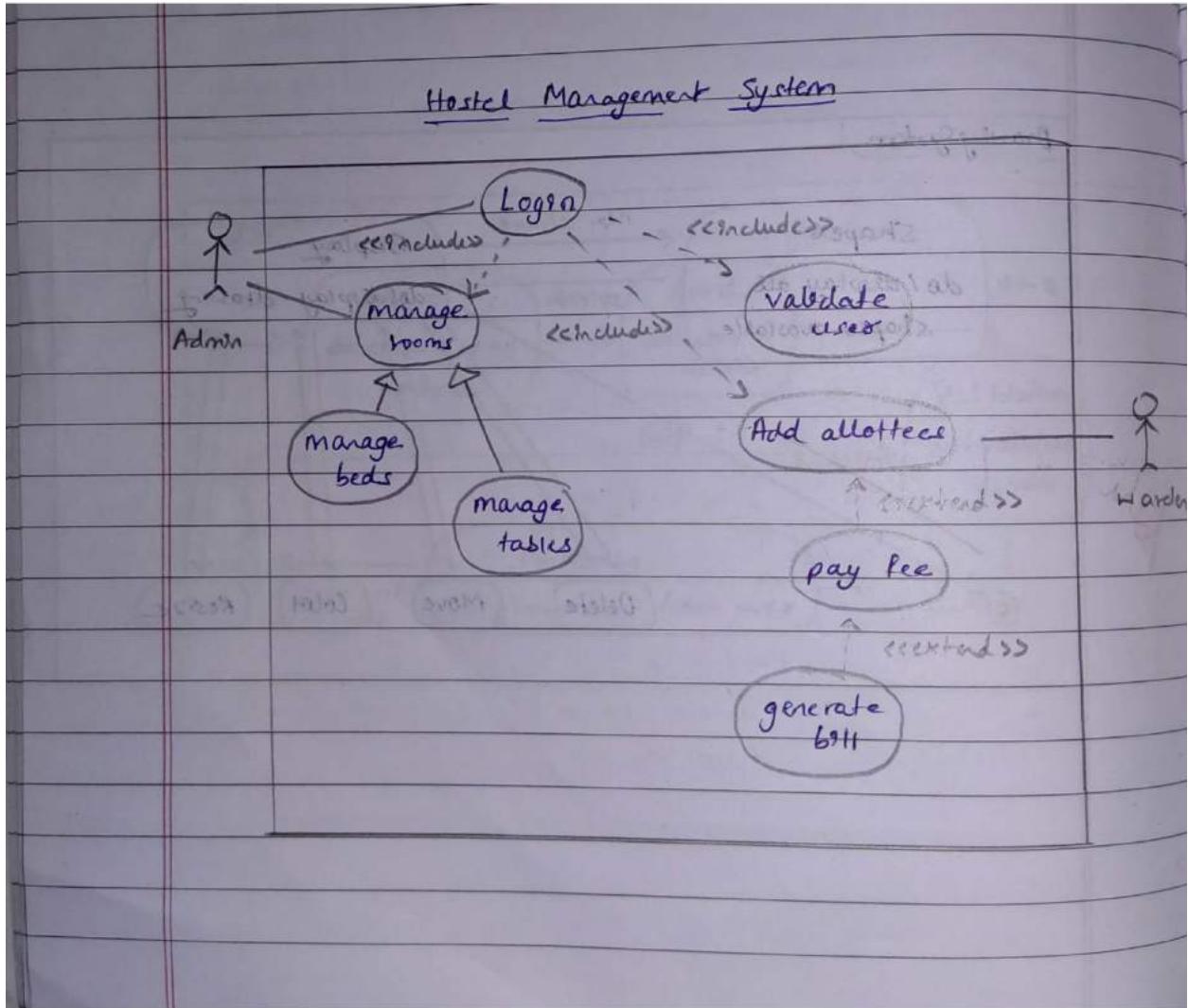
Use Cases:

Manage hostel: allows the actor to update delete or add information

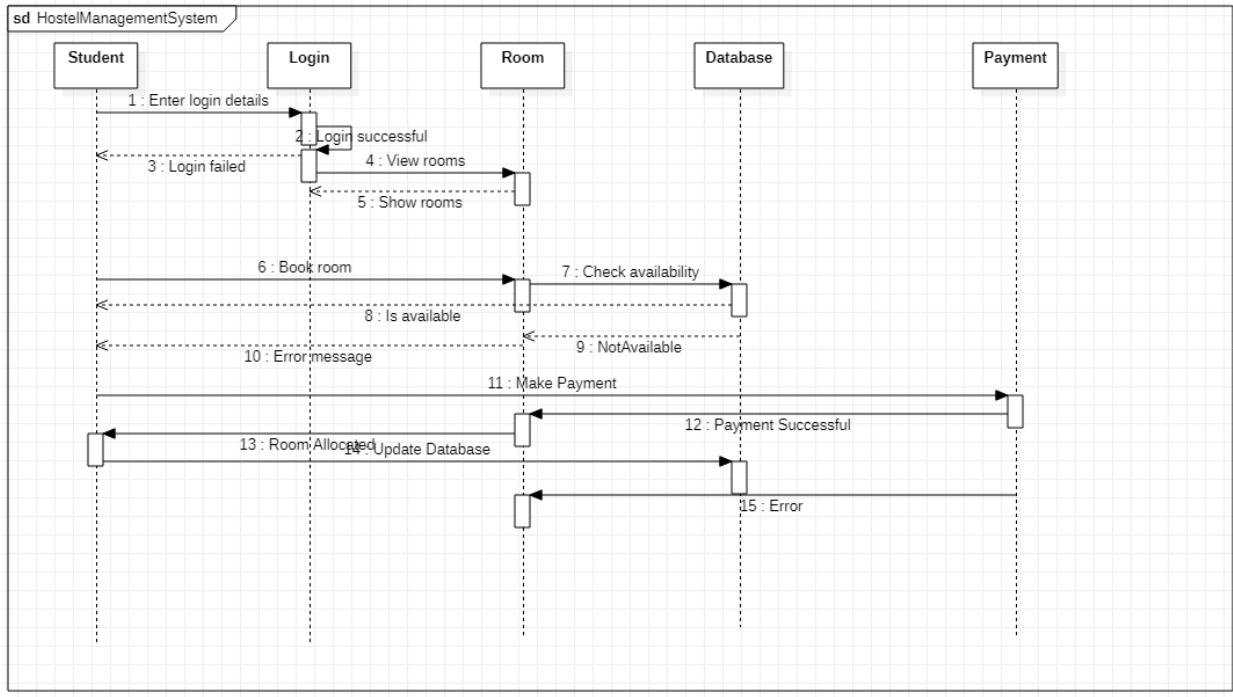
Login: allows actors to login into the system. Add allottee: the students are allotted hostel rooms

Book hostel: the student can select the hostel they wish to stay in. Pay fees: the fee payment is done by this use case.

Hostel Management System

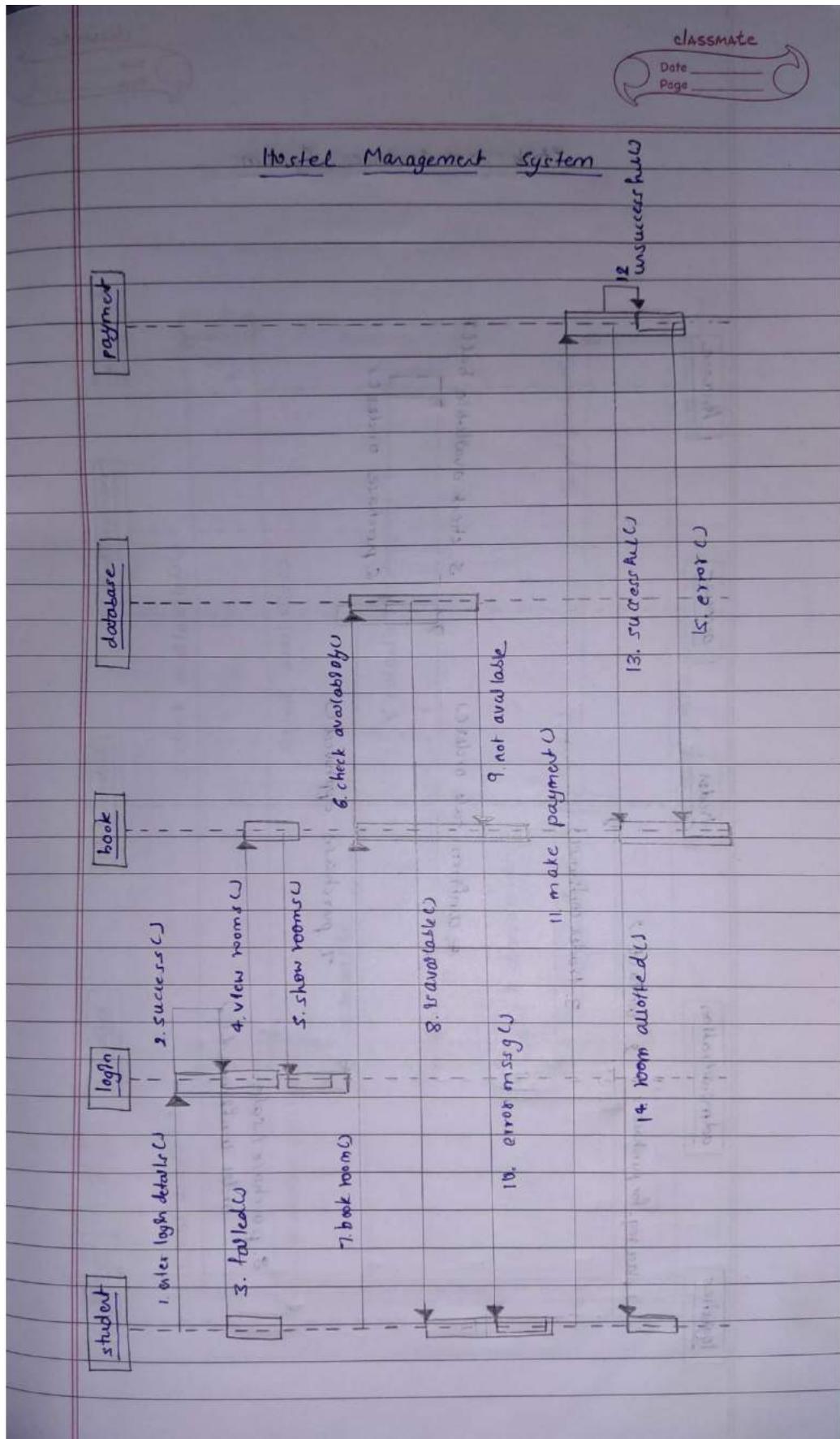


2.6 Sequence Diagram

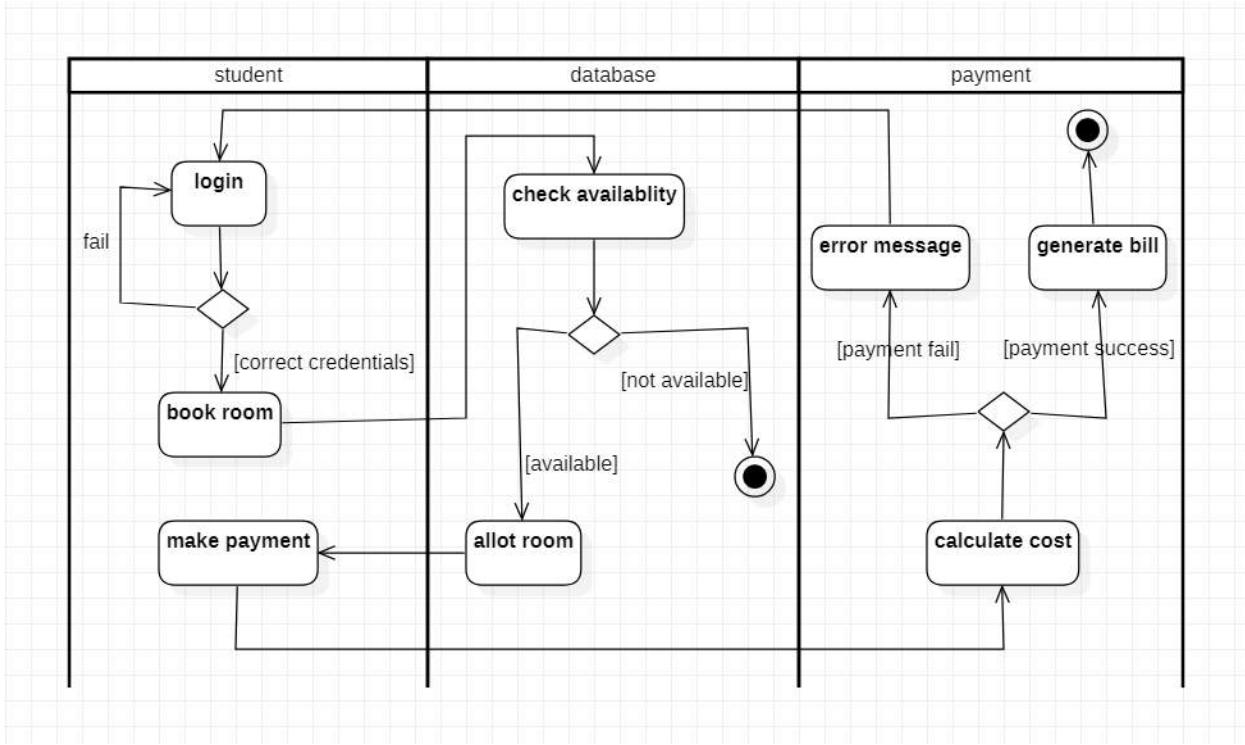


Description

The above sequence diagram gives the steps involved in a student logging in, and booking a room, which is verified in the database, and the payment for the same is made by the student.



2.7 Activity Diagram



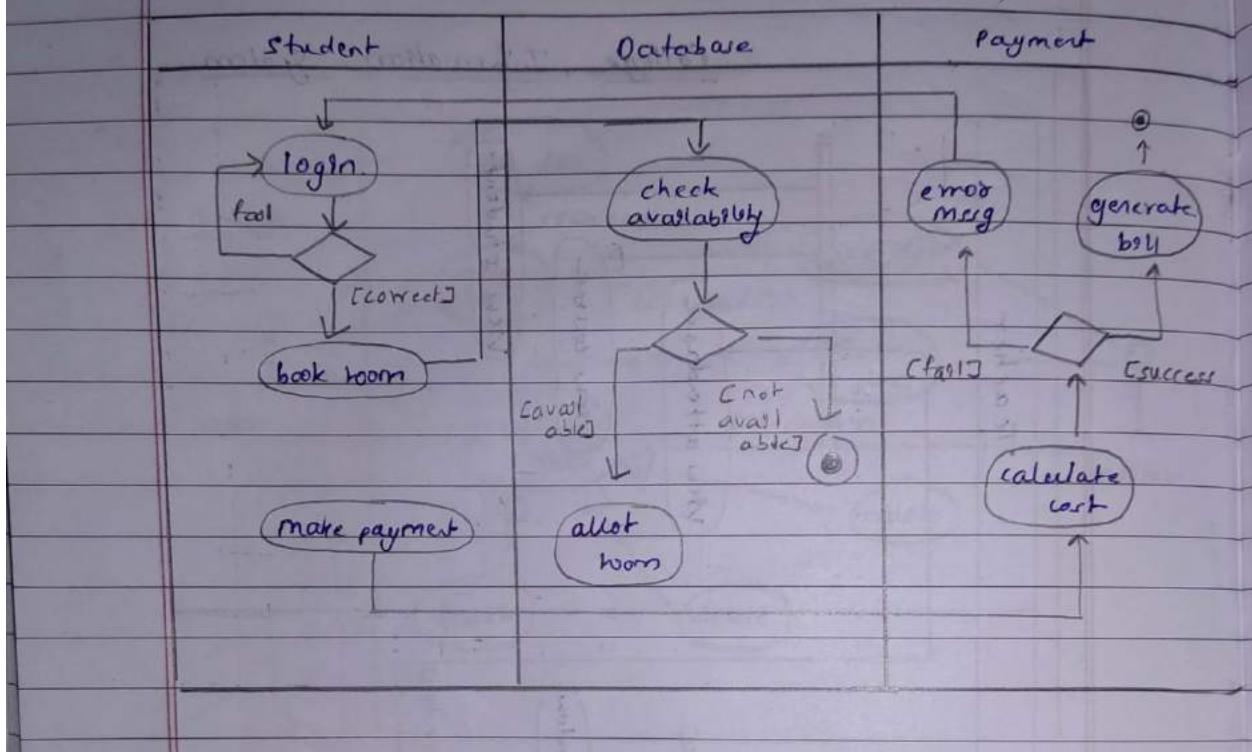
Description

The activity diagram tells about the activities involved in the payment of fees. The above activity diagram gives the steps involved in a student logging in and booking a room, which is verified in the database, and the payment for the same is made by the student.

classmate

Date _____
Page _____

Hotel Management System



3. STOCK MAINTENANCE SYSTEM

3.1 Problem statement

In order for people to purchase things in stores, they should maintain product detail and stocks. There is a need for a system that could store details of purchases and remaining stocks along with product details. When the stock becomes large, it gets difficult to organize, maintain and discard expired products.

3.2 Software Requirement Specification

- The customer can purchase one or more products on any day, which will have a code price and quantity.
- The customer will need to pay the bill for the products he or she has purchased. thebill number, type description, and customer who is paying the bill are maintained.
- The stock of the products is maintained separately, The stock deals with information about the details of the product that the concern handling.
- Stock consists of details such as the name of the product, id generated, quantity, cost, etc. The vendor consists of details such as vendor name, address, email id, sales tax number, etc.
- All the information regarding the store such as store id, name, address, and type are used to locate any product. The stores can be of many types.
- Some of them are departmental stores, supermarkets, and warehouses where the products are kept for display.

LAQ-3

Stock Maintenance System.

Problem statement

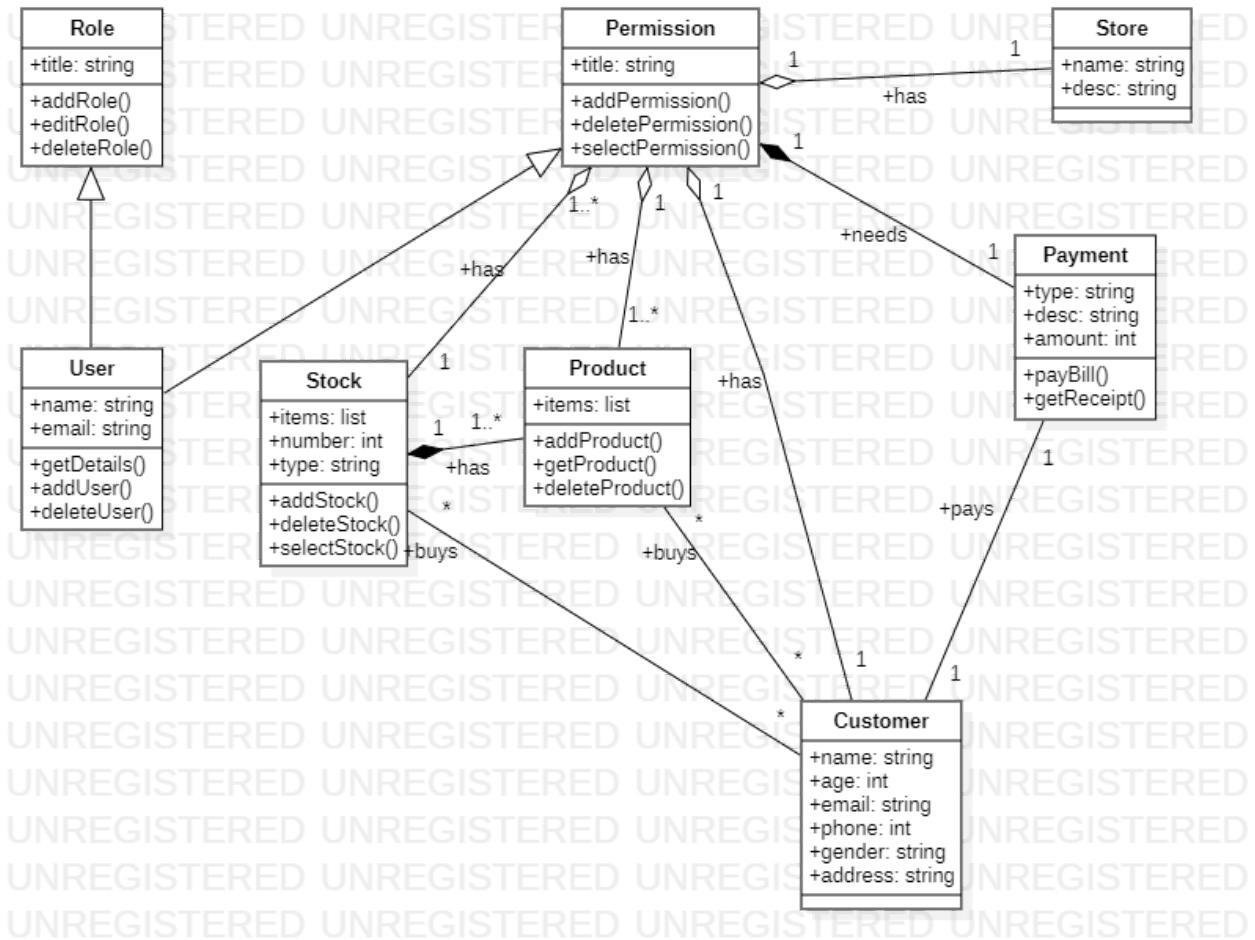
In order for people to purchase things in stores, they should maintain product details and stocks. There is a need for a system that could store details of purchases and remaining stocks along with product details. When the stock becomes large, it gets difficult to organise, maintain and discard expired products.

SRS

- The customer can purchase one or more product on any day which will have a code price and quantity
- Customer pays bill for their purchase, bill no type and details of the same are maintained
- The stock of products is maintained separately. It deals with information of product and handling
- Stock contains details such as name, id generated, quantity, sort etc. which are retrieved during sales and purchase of the product.
- The vendor deals with information about details of suppliers giving product to organization.
- Vendor consists of name, address, email id, sales tax, number etc.
This is retrieved when purchase is done.

- The products are displayed in stores. All the information regarding store such as store id, name, address and type are used to locate any product. Stores can be of many types. Some are departmental, supermarkets or warehouses.

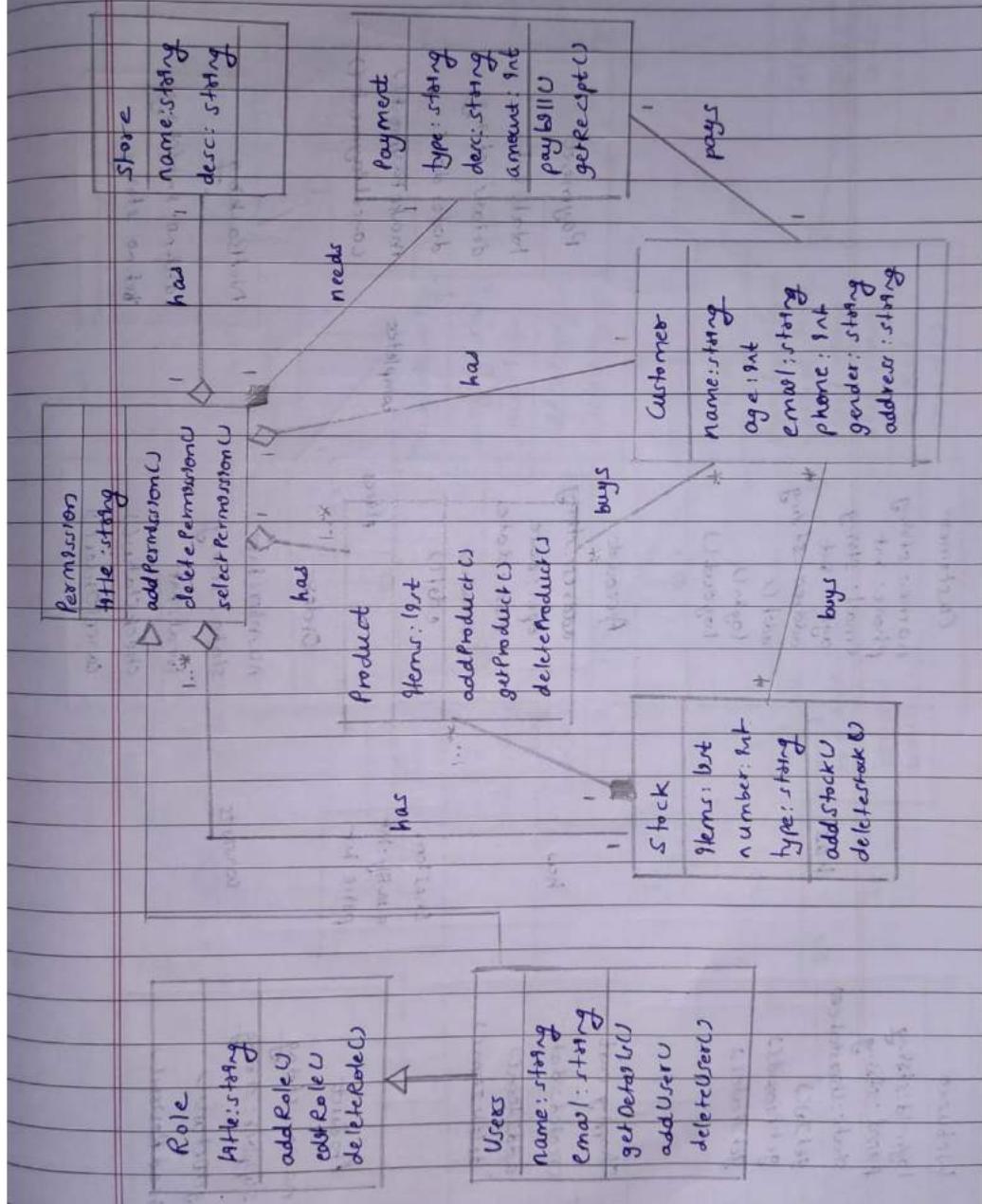
3.3 Class Diagram



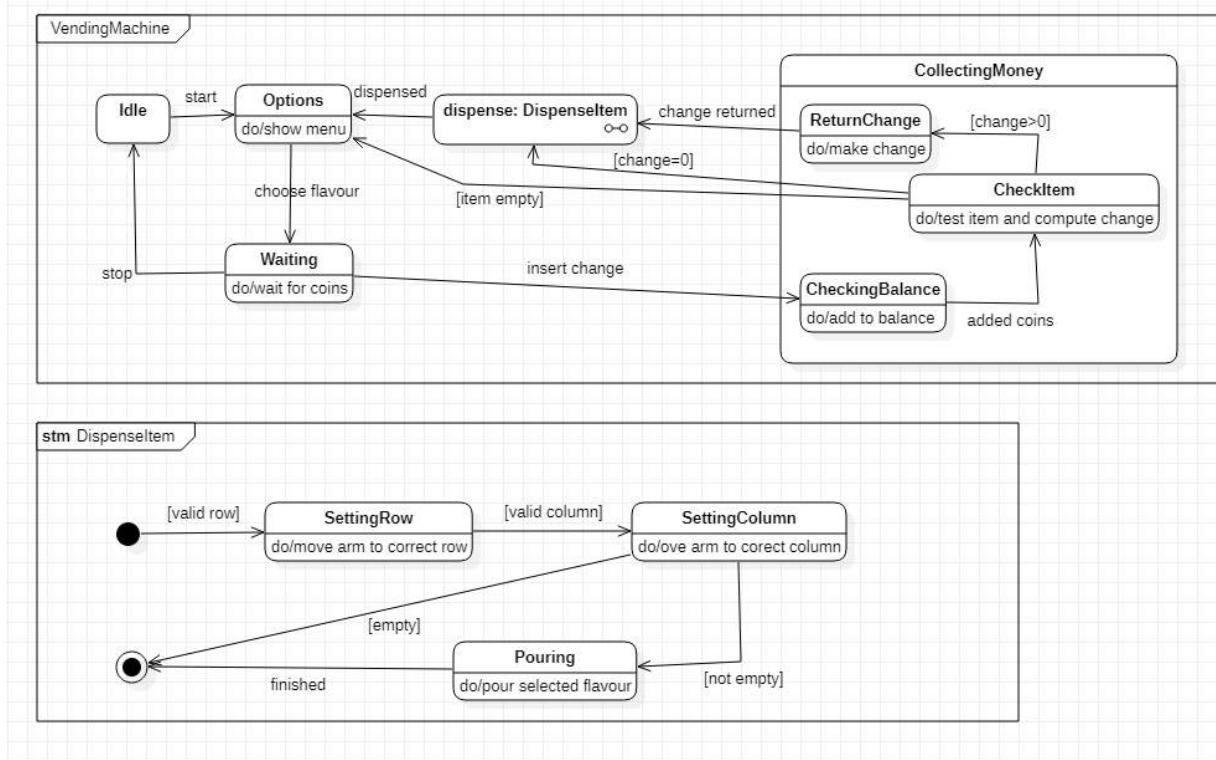
Description

The products are displayed in stores across the city or world. All the information regarding the store are used to locate any product. The stores can be of many types. Some of them are departmental stores, super markets, and ware houses where the products are kept for display. The vendor deals with the information about the details of the suppliers giving product to the organization. The stock of the products is maintained separately. The stock deals with information about the details of the product that the concern handling.

Stock Management System.

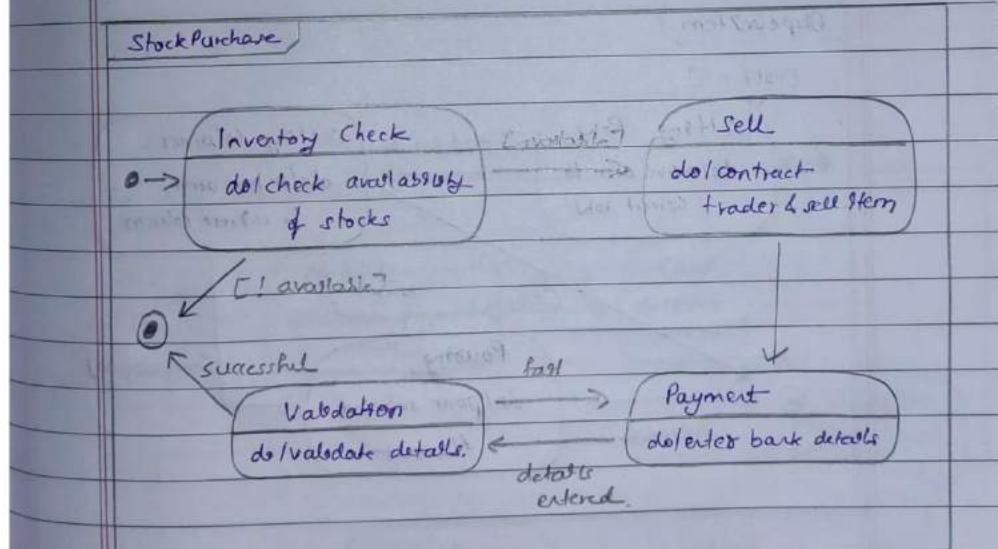
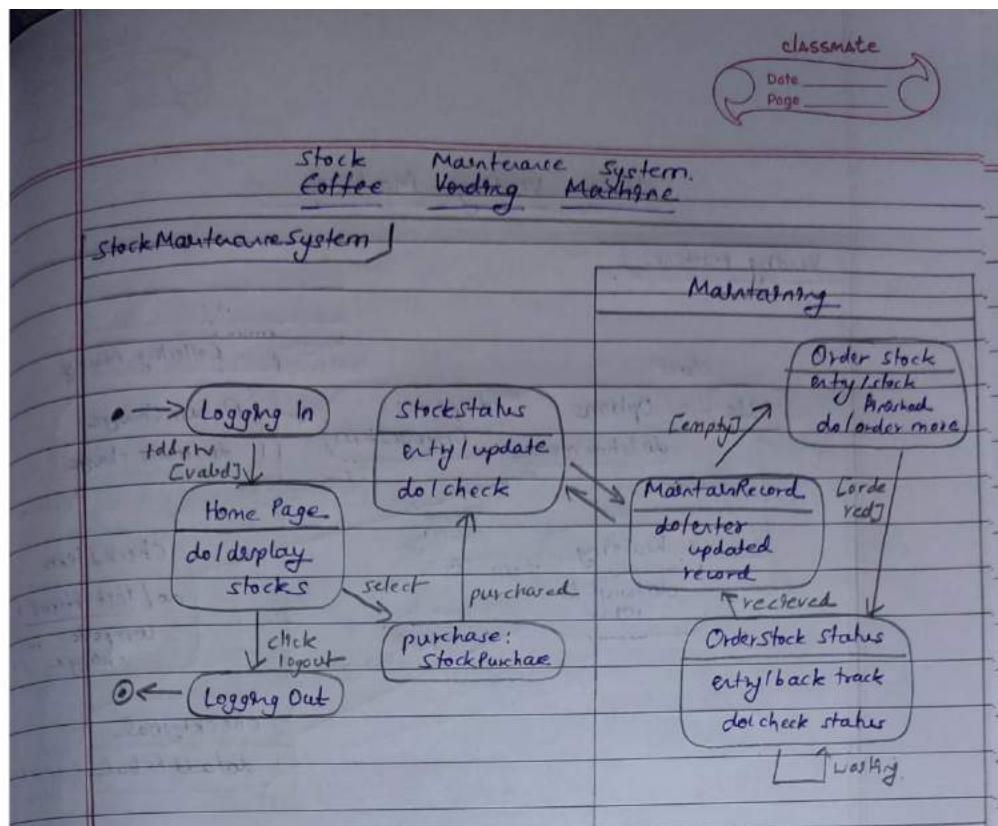


3.4 State Diagram

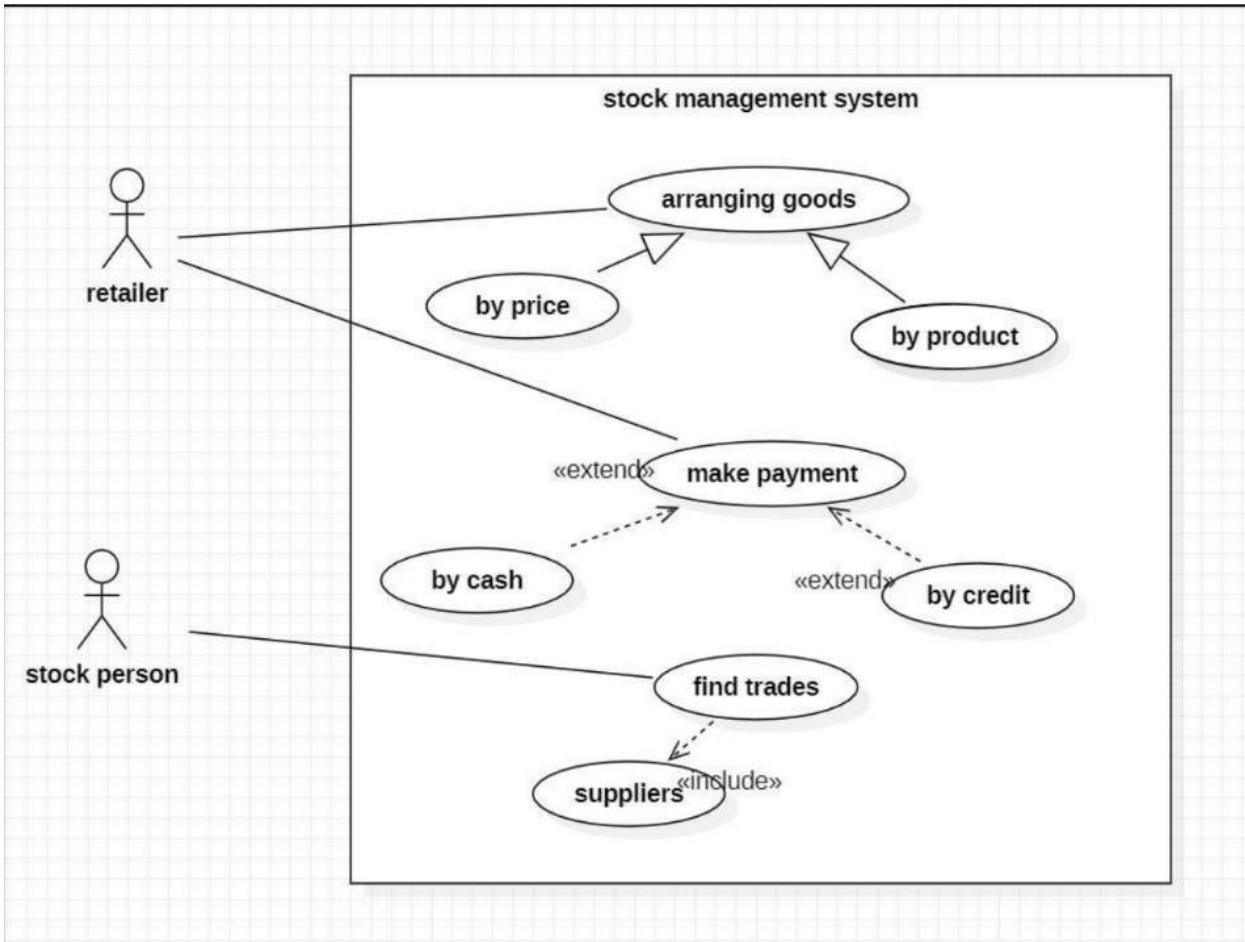


Description

The state diagram above gives us the states involved in purchasing a product and placing the order for the same. There is first an inventory check, where the stock of products is noted and if the stock is less than minimum an order is placed by first searching for suitable trader. If a suitable trader is found, the order is placed and verified by the accountant. After the accountant has verified a payment is made for the products purchased.



3.5 Use Case Diagram



Actors:

Customer: a person who purchases the products

Retailer: a person who sells the products

Use Cases:

Purchase item: allows a user to purchase any product

Make payment: accepts the payment

Supply stock: keeps track of the stock supplied

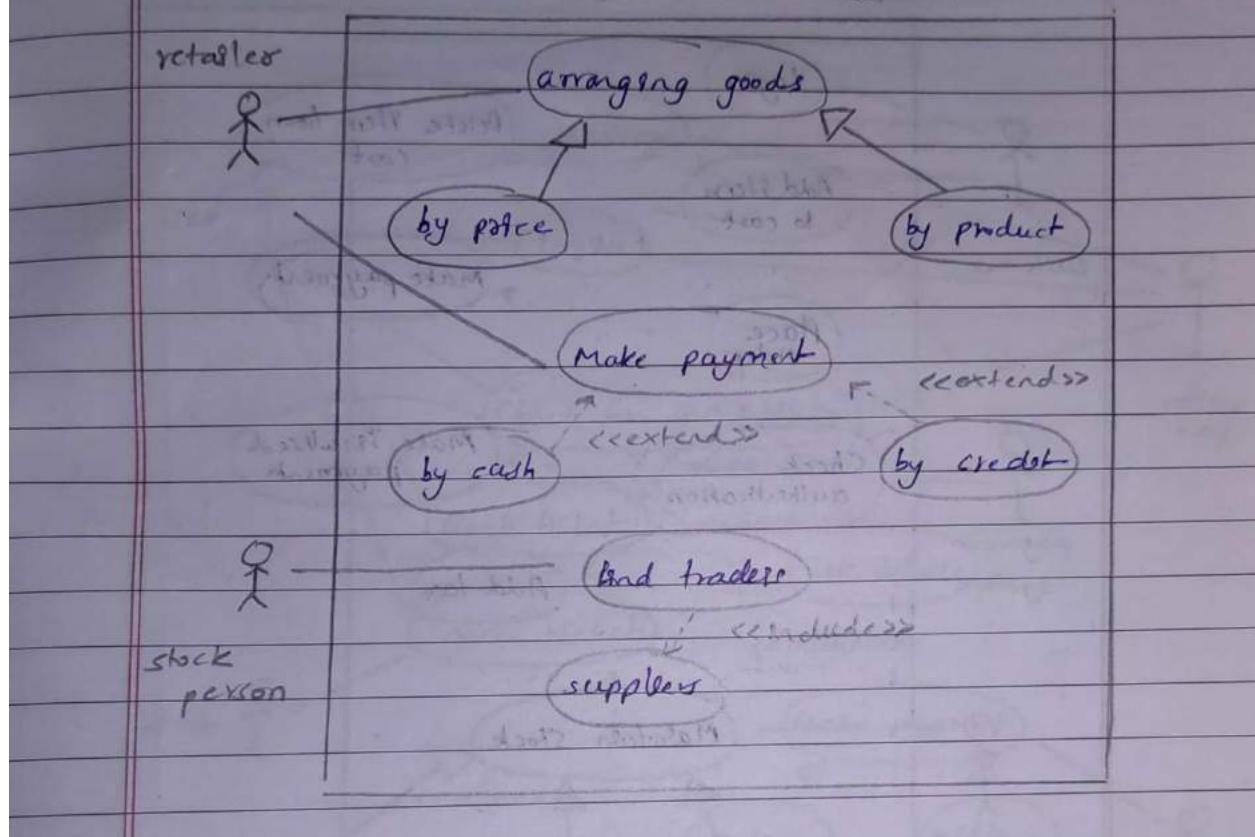
Find traders: provides a list of traders

Update stock: the stock list is updated by the stock person

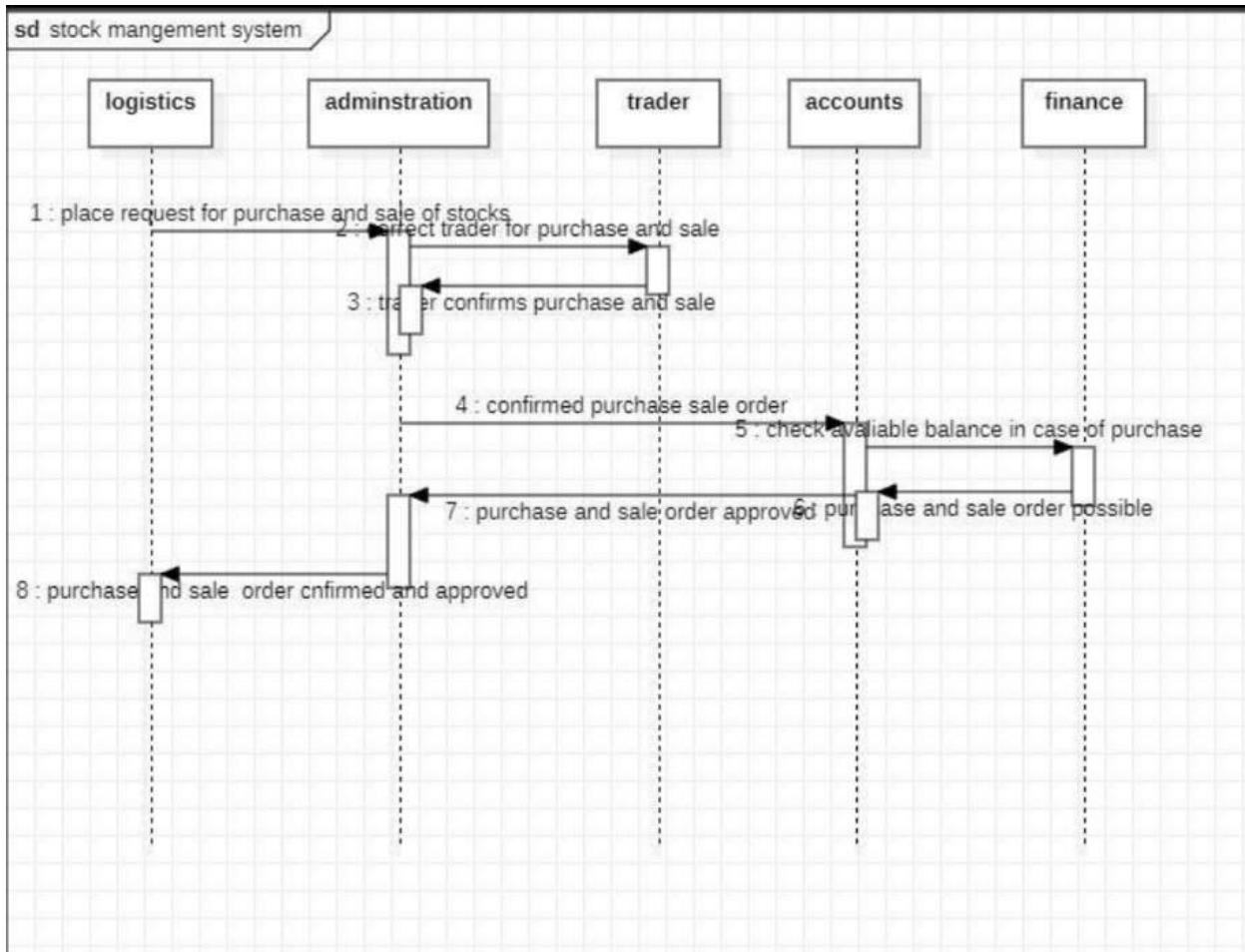
Order goods: the products coming to an end are ordered

Prepare bill:a bill for products purchased is made

Stock Maintenance System



3.6 Sequence Diagram



Description

Place request for purchase/sale of stock

Contact seller for purchase/sale

Seller confirms purchase/sale

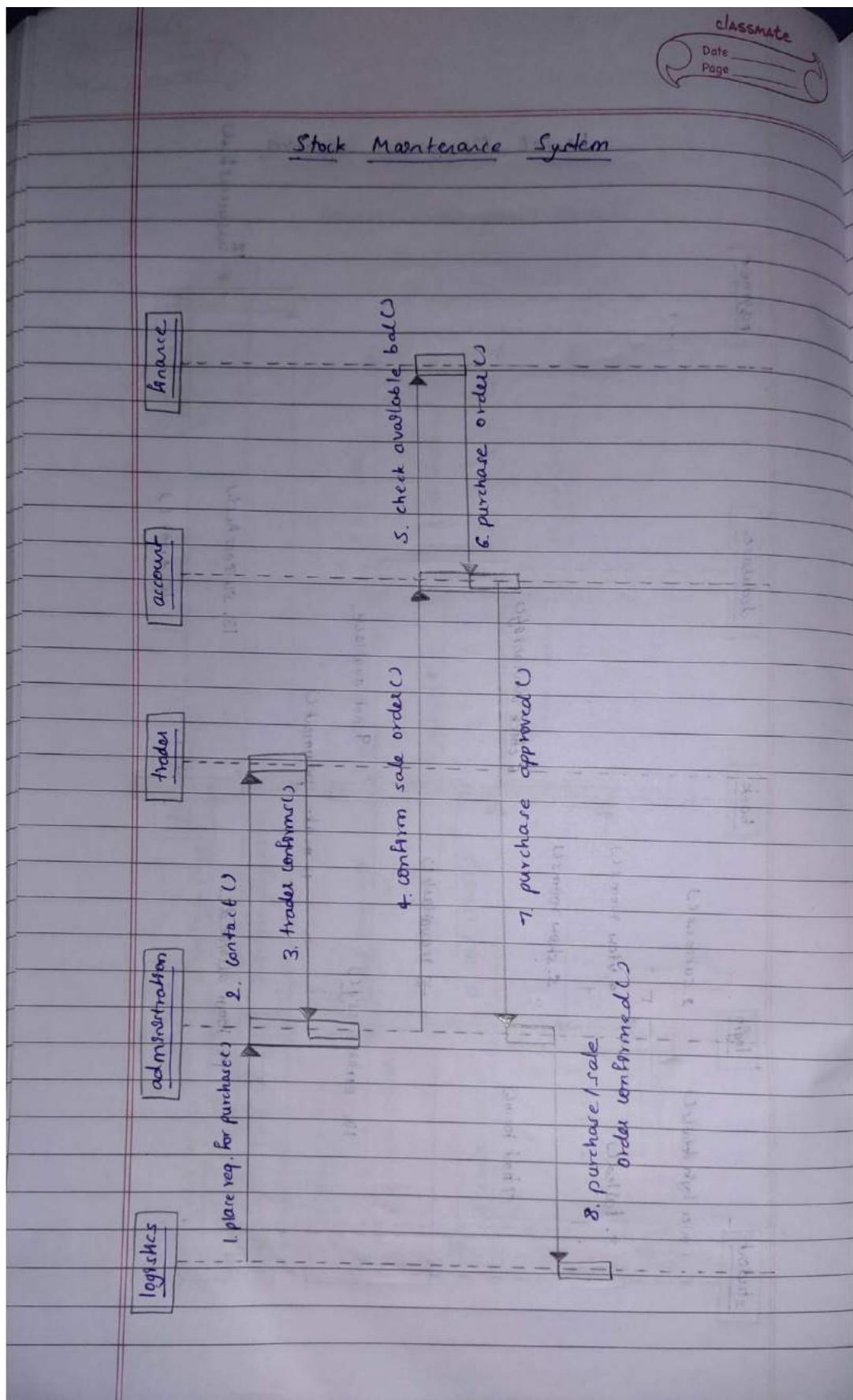
Confirmed purchase/sale order

Check available balance in case of purchase order

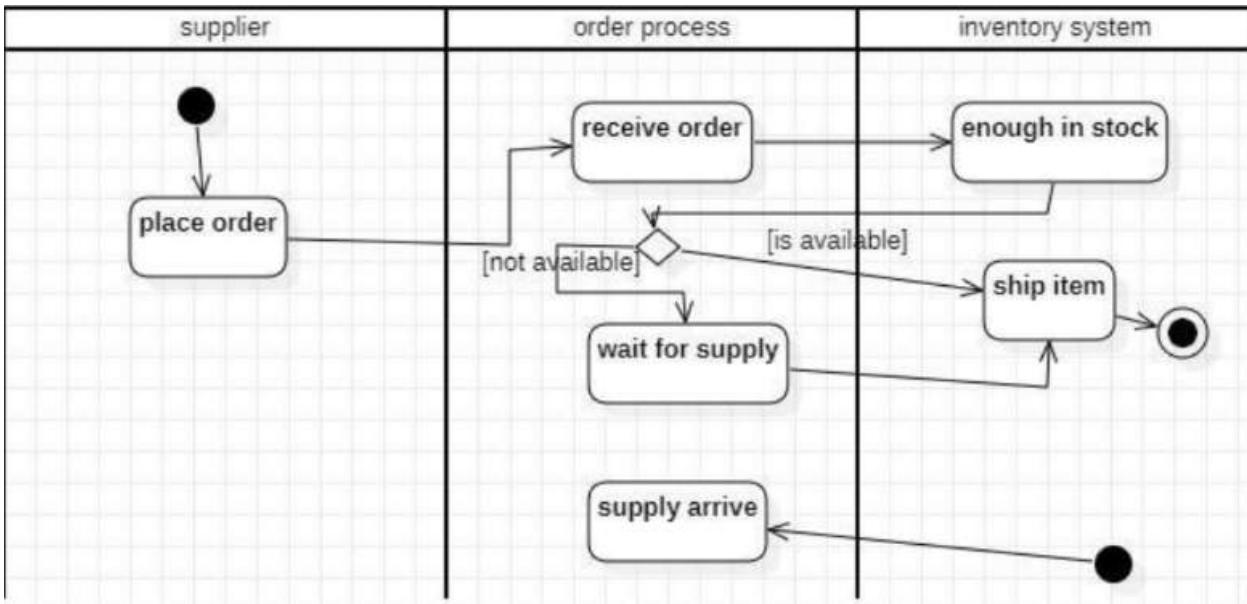
Purchase/sale order possible

Purchase/sale order approved

Purchase/sale of stock confirmed and approved.

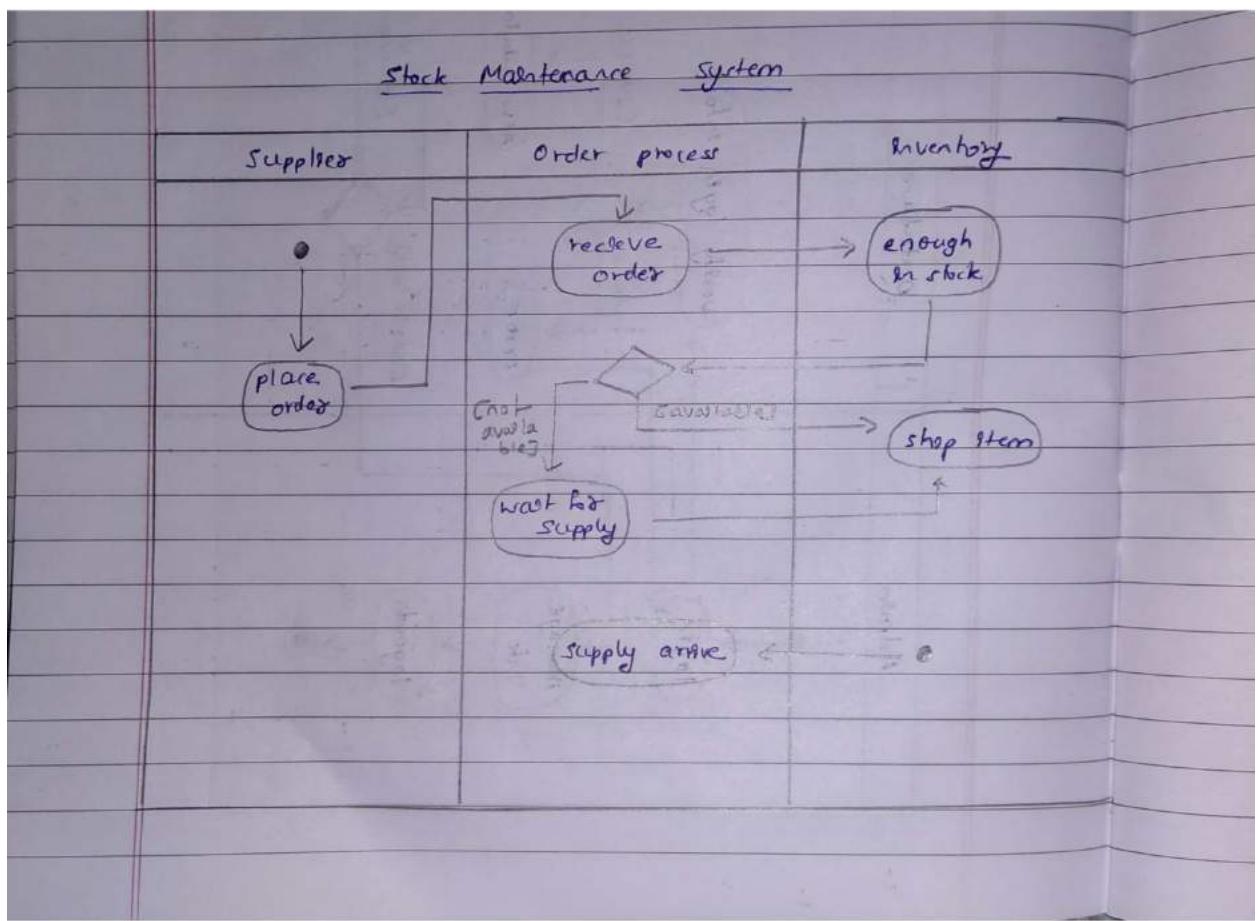


3.7 Activity Diagram



Description

The above-advanced activity diagram gives us the activities involved with each swim lane. There are three swimlanes I.e supplier, order process, and inventory system which have the activities of placing orders, receiving orders and checking for stock, and shipping the item respectively.



4. COFFEE VENDING MACHINE

4.1 Problem statement

There is a need for a machine which & automated doerat require manual operating to despere coffee. The contents used should be unhim and the acceptance of payment needs to be handled. It should be extensible, reusable, and modular.

4.2 Software Requirement Specification

- The vending machine must have a money box, coin slot, display screen, and products i.e coffee for the machine to be used.
- The user on selecting a coffee, the coffee machine must be able to dispense the selected coffee to the user.
- There must be buttons(start, pause, stop, coffee, tea, milk) for users to interact with the system.
- The user shall be able to quit the dispense of any beverage at any time during the dispensing. The system(machine) shall check for properly inserted coins.
- The system shall be able to dispense coffee(or selected beverage) after a coin has been inserted.
- The system must accept coins of different amount and the system must compare the item cost with entered coin.
- The system shall be able to detect the low amount of ingredients and low number of cups and indicate with an indicator(small LED).

LAB-4

Coffee Vending Machine

Problem statement

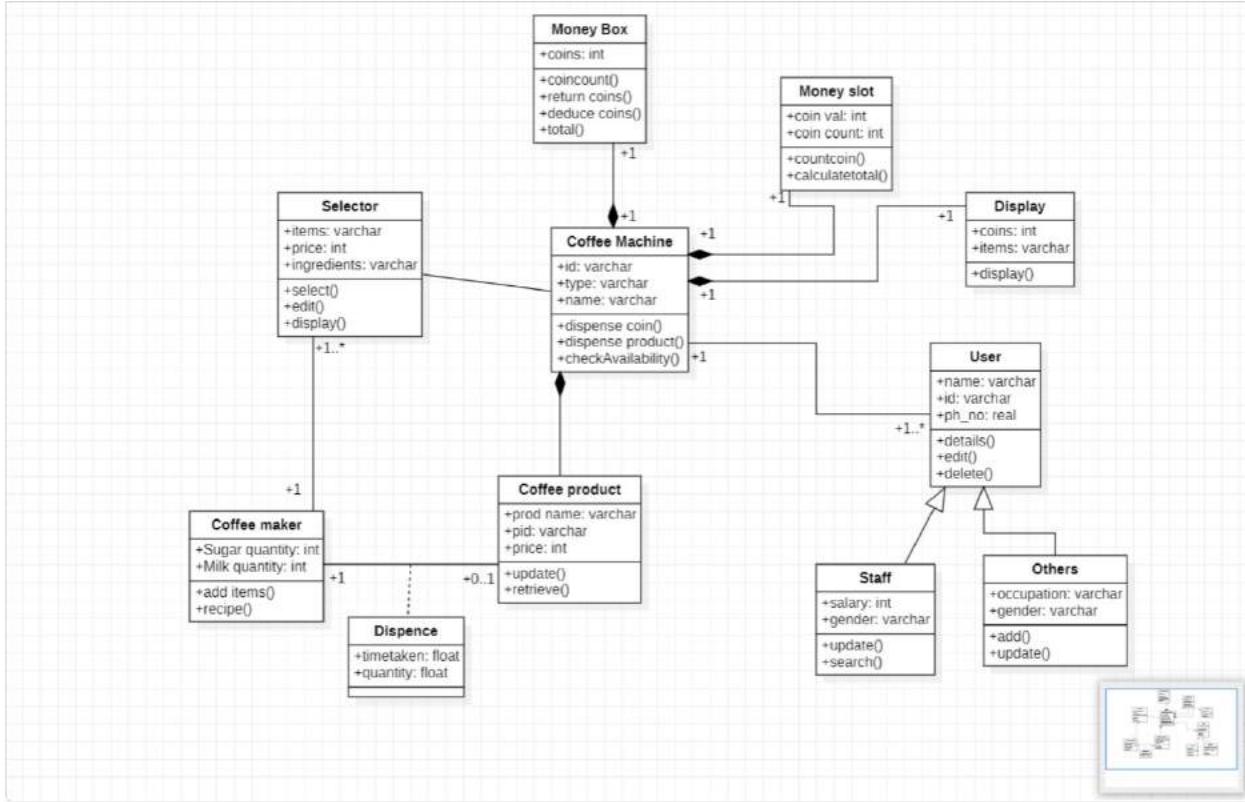
There is a need for a machine which is automated doesn't require manual operating to dispense coffee. The contents used should be uniform and the acceptance of payment needs to be handled. It should be extensible, reusable, and modular.

SRS

- The vending machine must have money box, coin slot, display screen and products
- The user on selecting a coffee, machine should be able to dispense it.
- The user places empty cup below filter. He shall be able to choose his preferred beverage
- There must be buttons for the user to interact with the system.
- User should be able to make changes by adding extra money. He should be able to quit dispensing at any time during the process.
- The system shall check for properly inserted coins.
- Coffee needs to be dispensed after a coin is inserted.

- System must accept coins of different amount and validate them.
- System shall be able to detect low amount of ingredients and low no. of cups and indicate with an LED.

4.3 Class Diagram

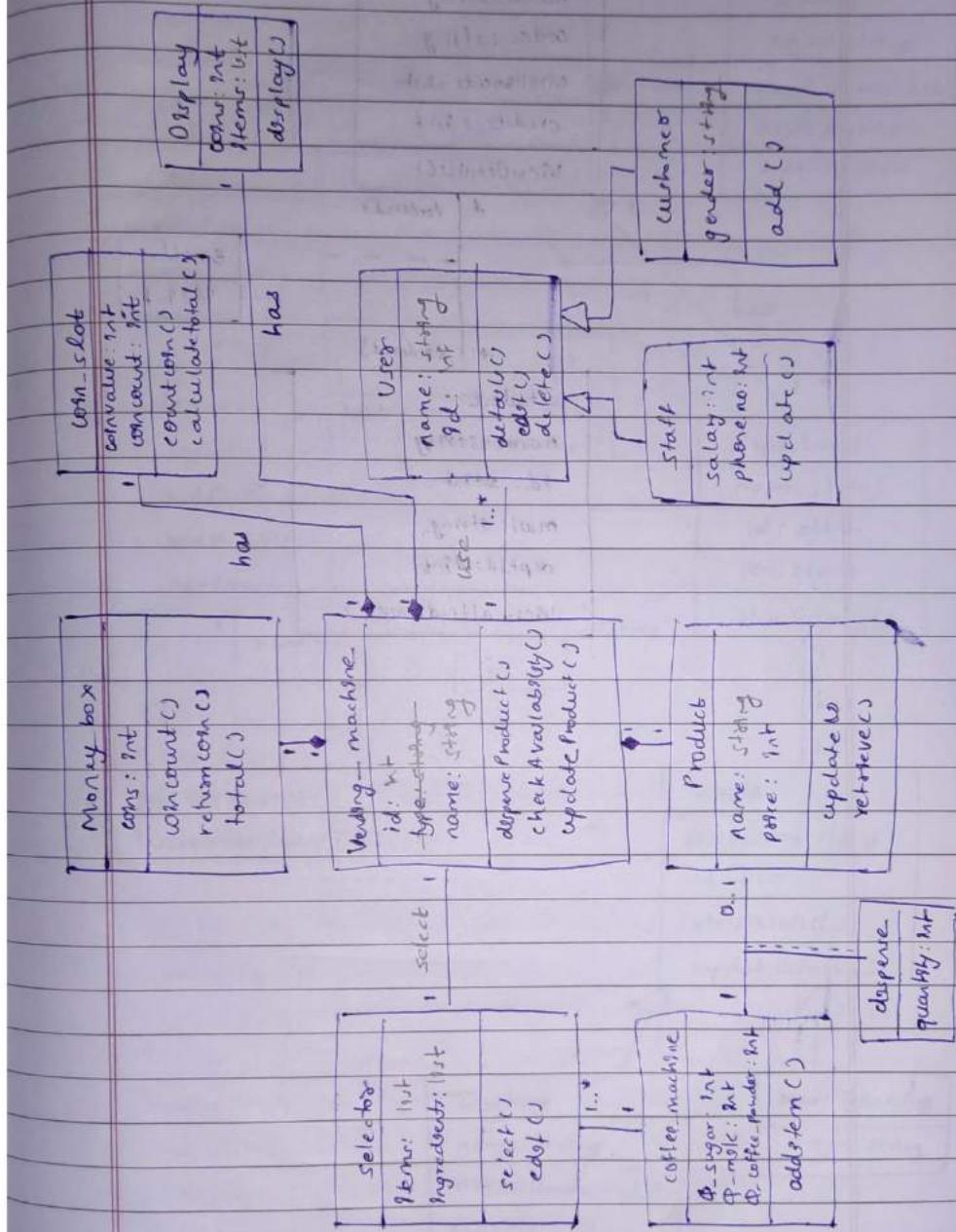


Description

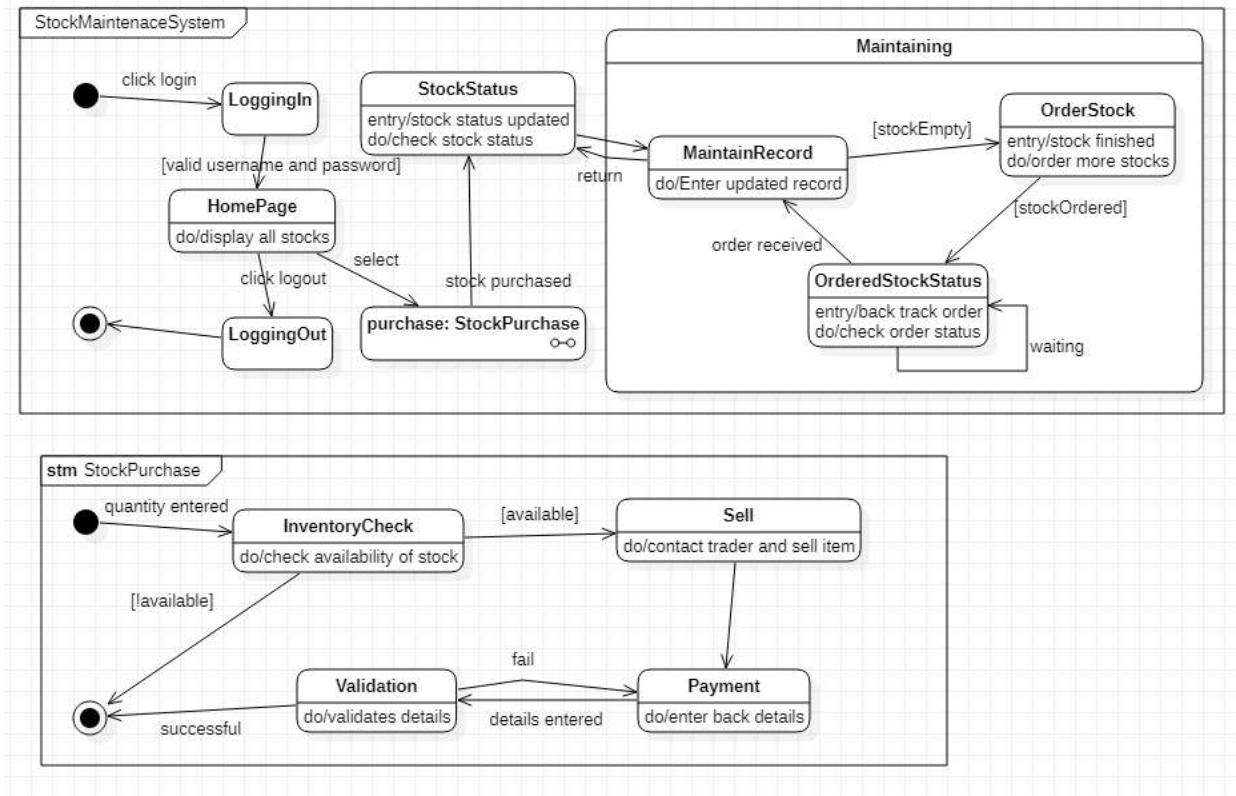
The vending machine must have a money box, coin slot, display screen and products i.e coffee for the machine to be used. The user on selecting a coffee, the coffee machine must be able to dispense the selected coffee to the user. The user shall get an empty cup placed right below the filter. The user shall be able to choose his preferred beverage from the list of options. There are different types of coffee such as cappuccino, black coffee, cold coffee, and latte. Each type of coffee has a price and a name. A customer can buy their choice of coffee by selecting the button of their coffee and paying for the same through the coin box.

Coffee Vending Machine

Class Diagram



4.4 State Diagram



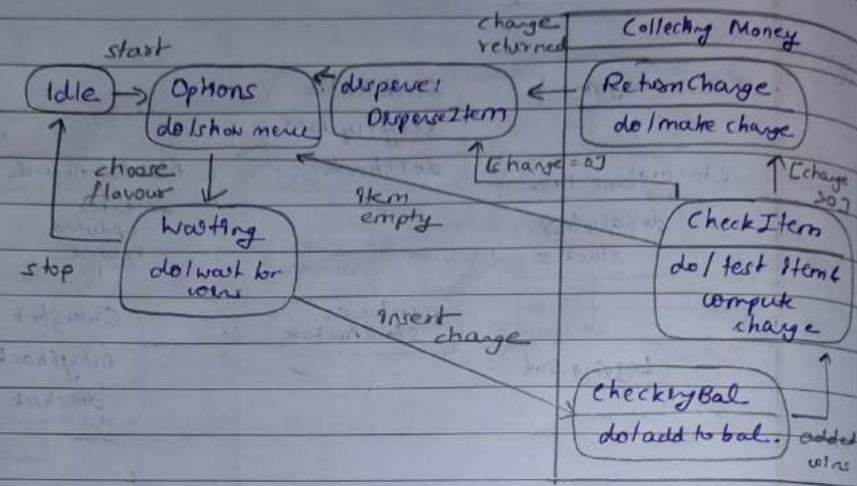
Description

Initially the vending machine is in the waiting state. The machine displays the selected item selected by the user. When the person inserts a coin the machine adds the amount to the cumulative balance. After adding some coins, a person can select any item. If item is empty or the balance is insufficient, the machine waits for another selection.

Otherwise, the machine dispenses the item and returns the appropriate change. The state diagram for coffee vending machine has a submachine called dispense Item, which has the states for dispensing an item from the vending machine. The arm of the machine first moves to an appropriate row, when ready, moves to an appropriate column and when the arm is ready it finally dispenses the item from the machine.

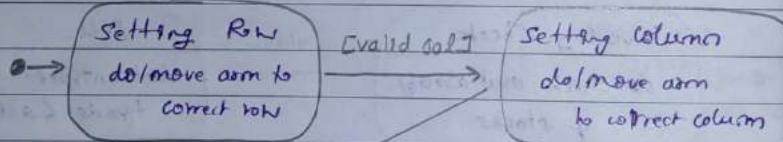
Coffee Vending Machine

Vending Machine



DispenseItem

[Valid row]



[Empty]

Pouring

do/pour selected flavour

[Not empty]

① ← finished

① ← finished

[Empty]

Pouring

do/pour selected flavour

[Not empty]

① ← finished

[Empty]

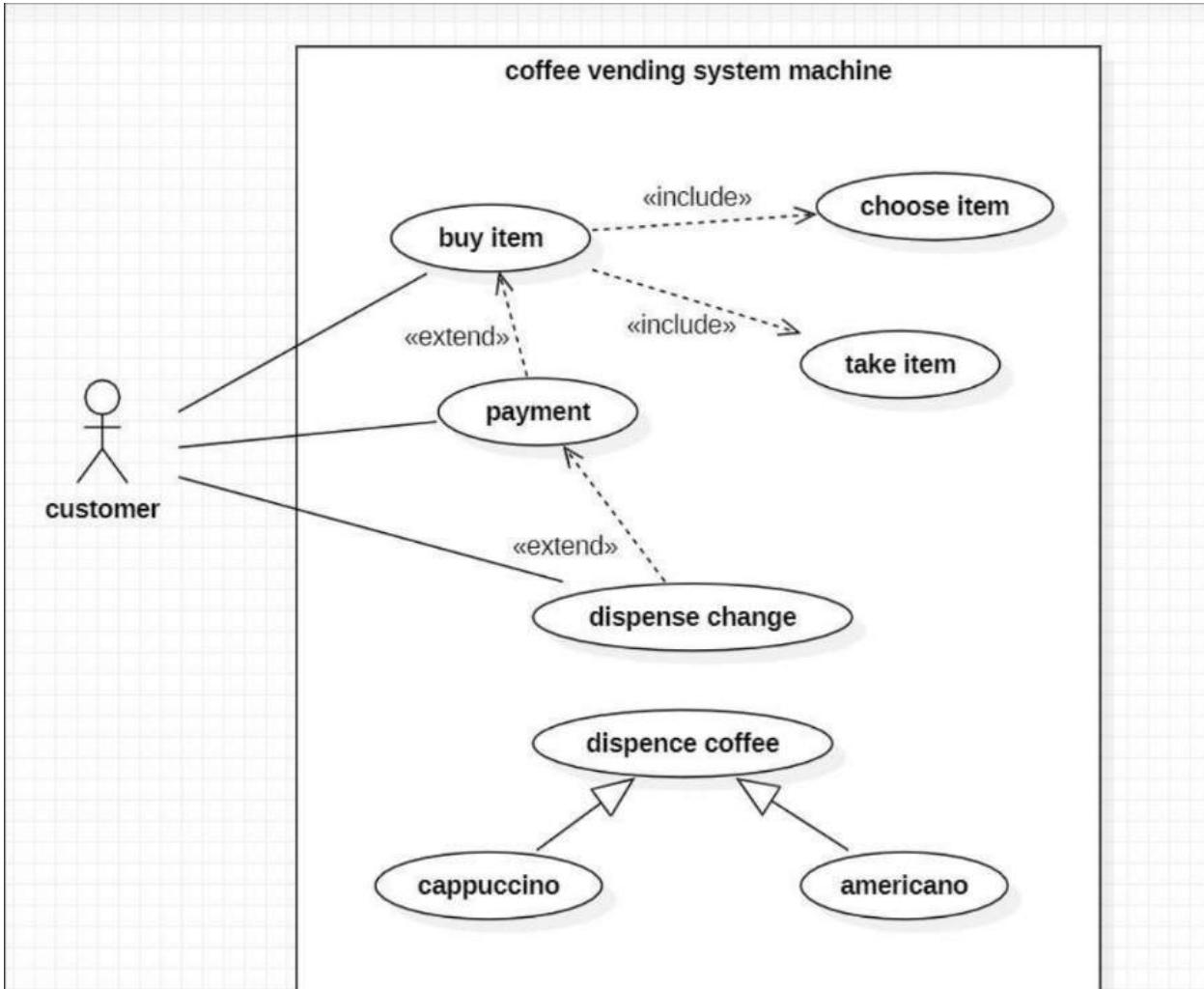
Pouring

do/pour selected flavour

[Not empty]

① ← finished

4.5 Use Case Diagram



Actors:

Customer :a person who uses the coffee vending machine

Use Case:

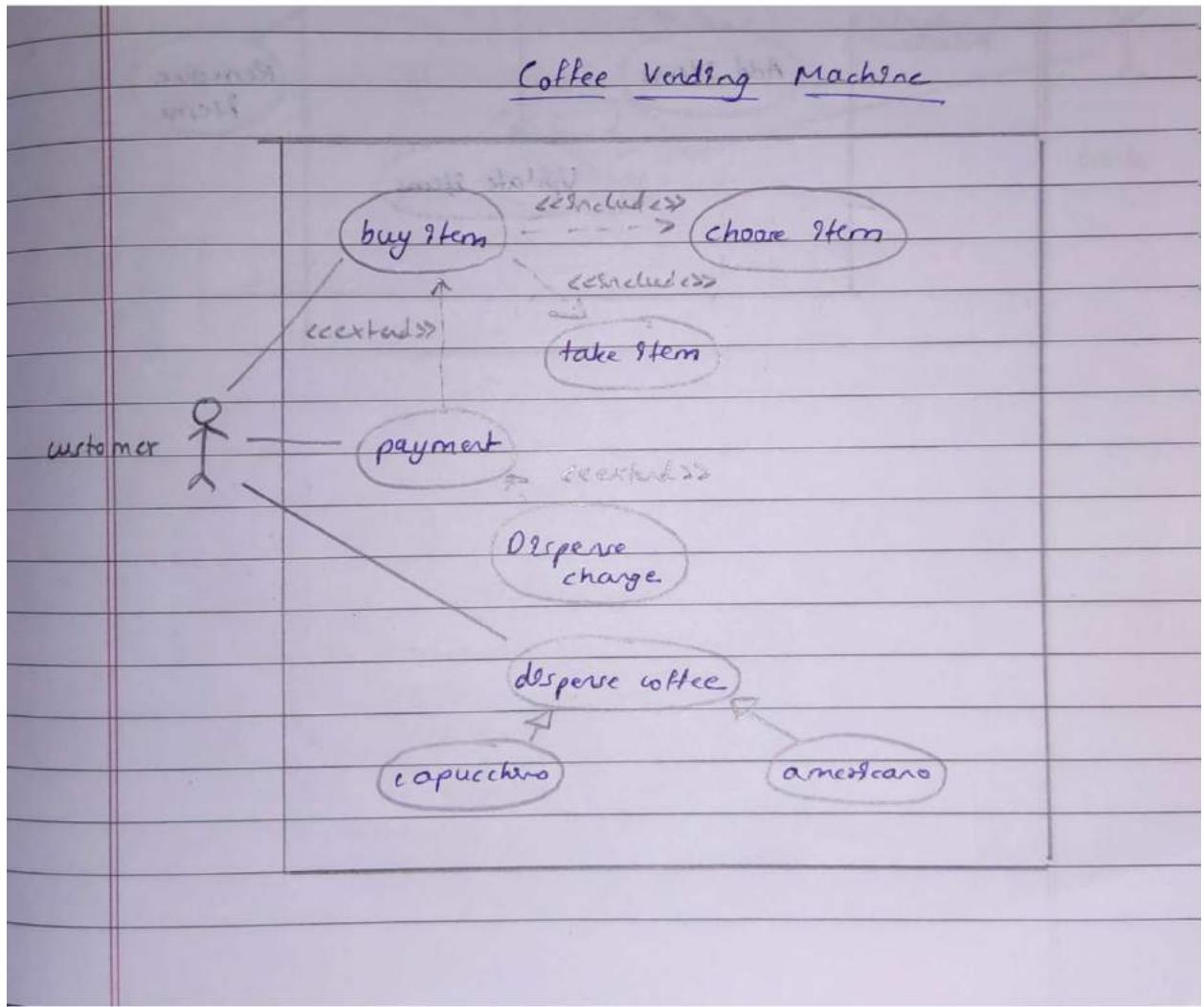
Display payment details : displays the payment details

Request coffee : allows user to order their coffee

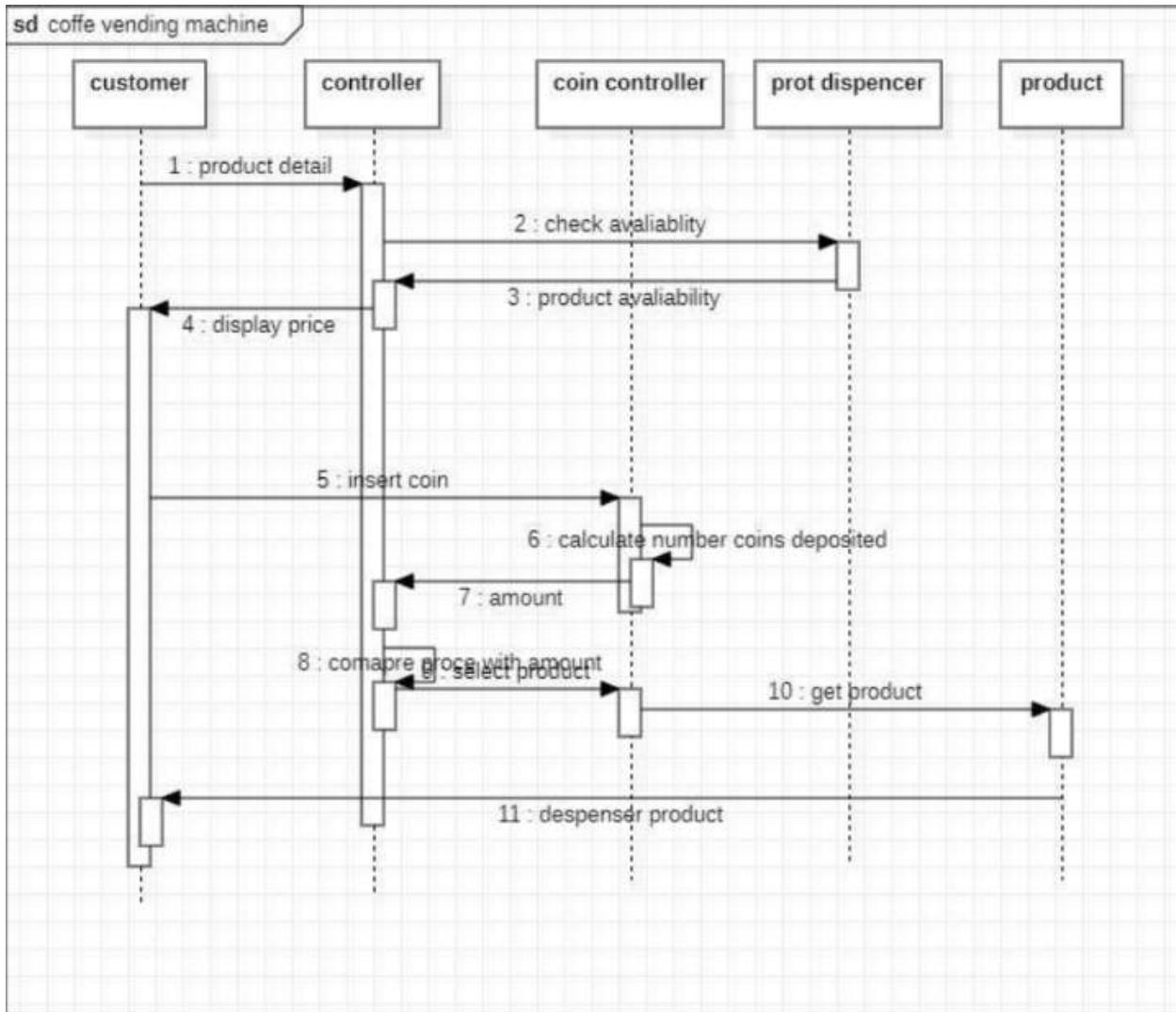
Make payment : accepts money for the coffee

Load ingredients : is the use case where the operator fills themachine
with ingredients

Dispense coffee : the coffee ordered is prepared and given

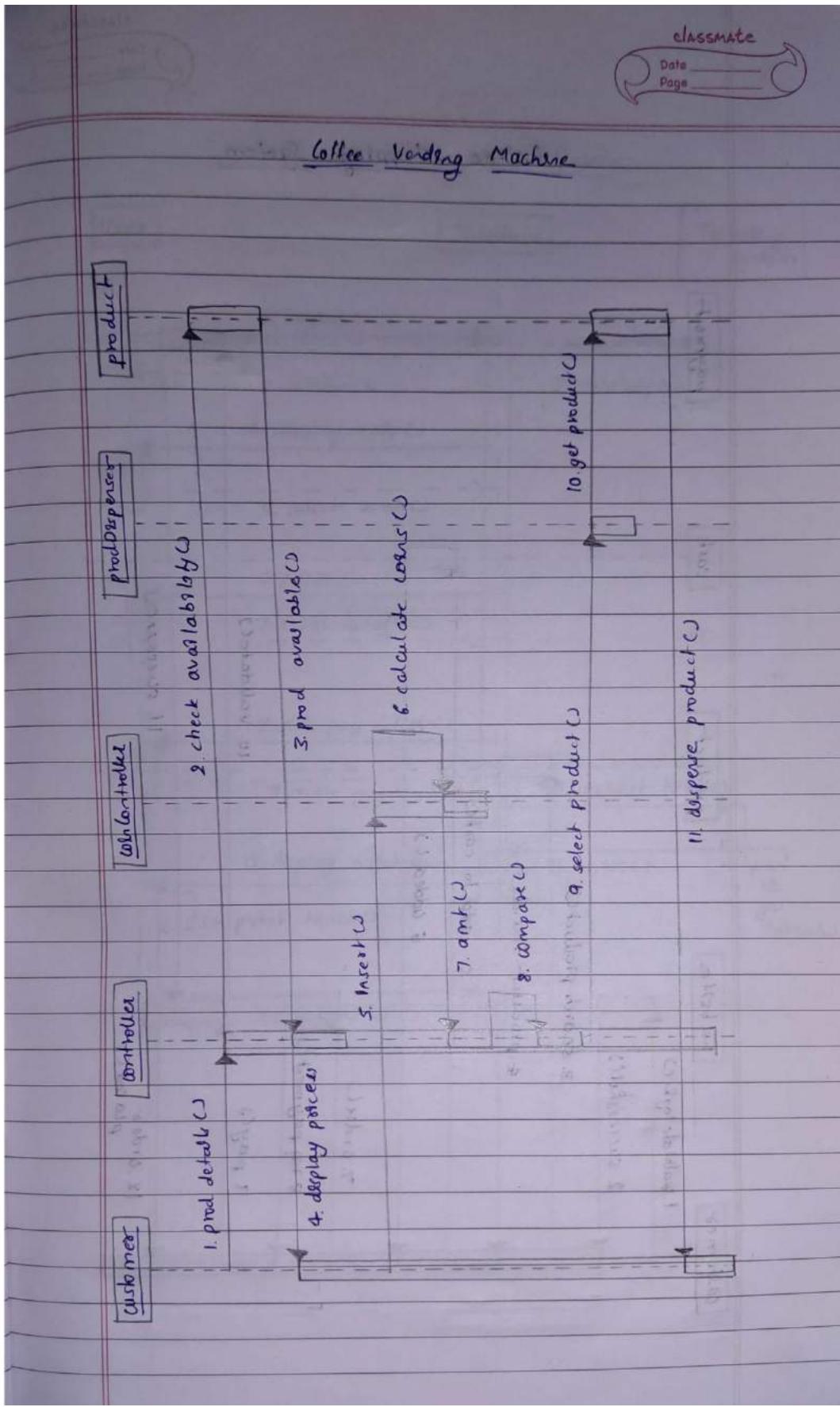


4.6 Sequence Diagram

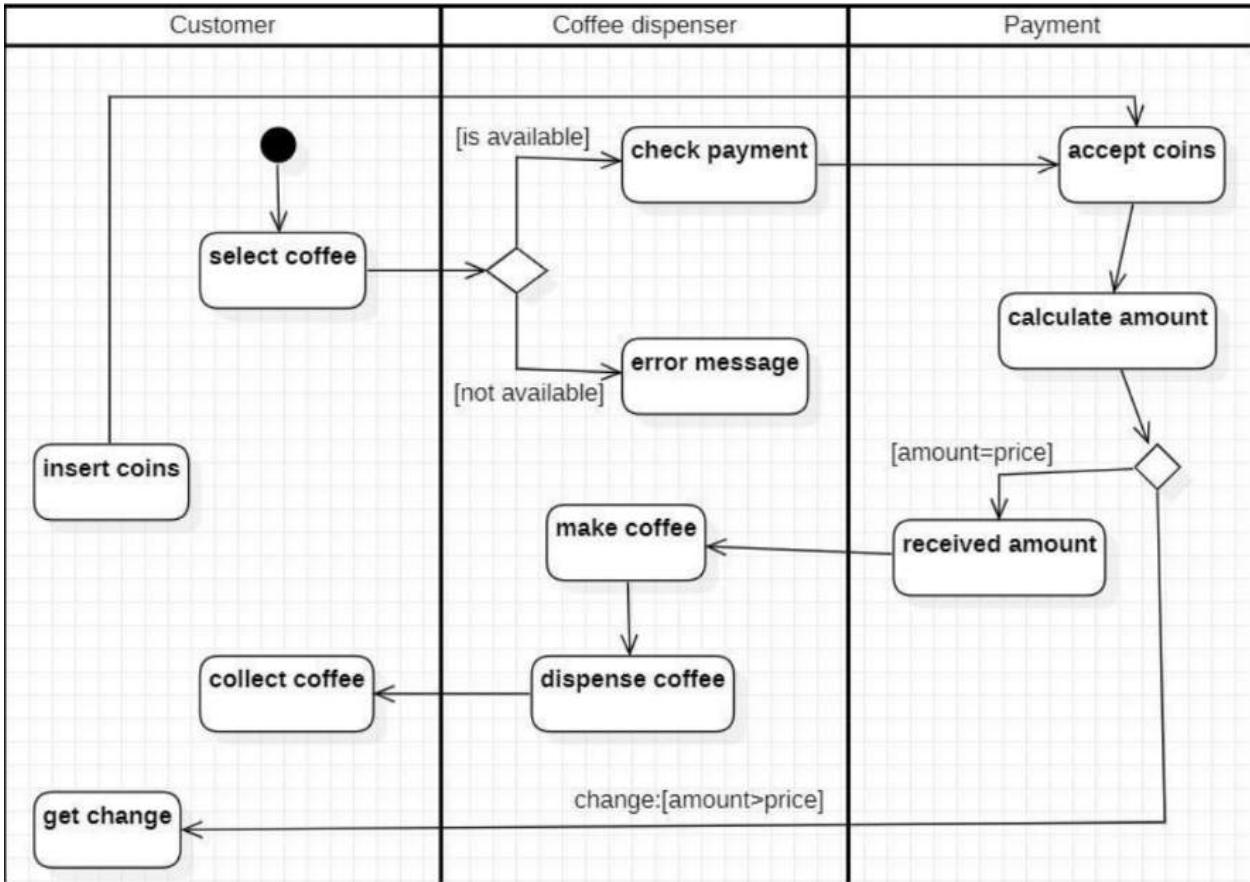


Description

The above sequence diagram gives us the steps involved in dispensing a product from the coffee machine. First an enquiry for the product is made and if available the coins are inserted and calculated ,if correct the product is dispensed .

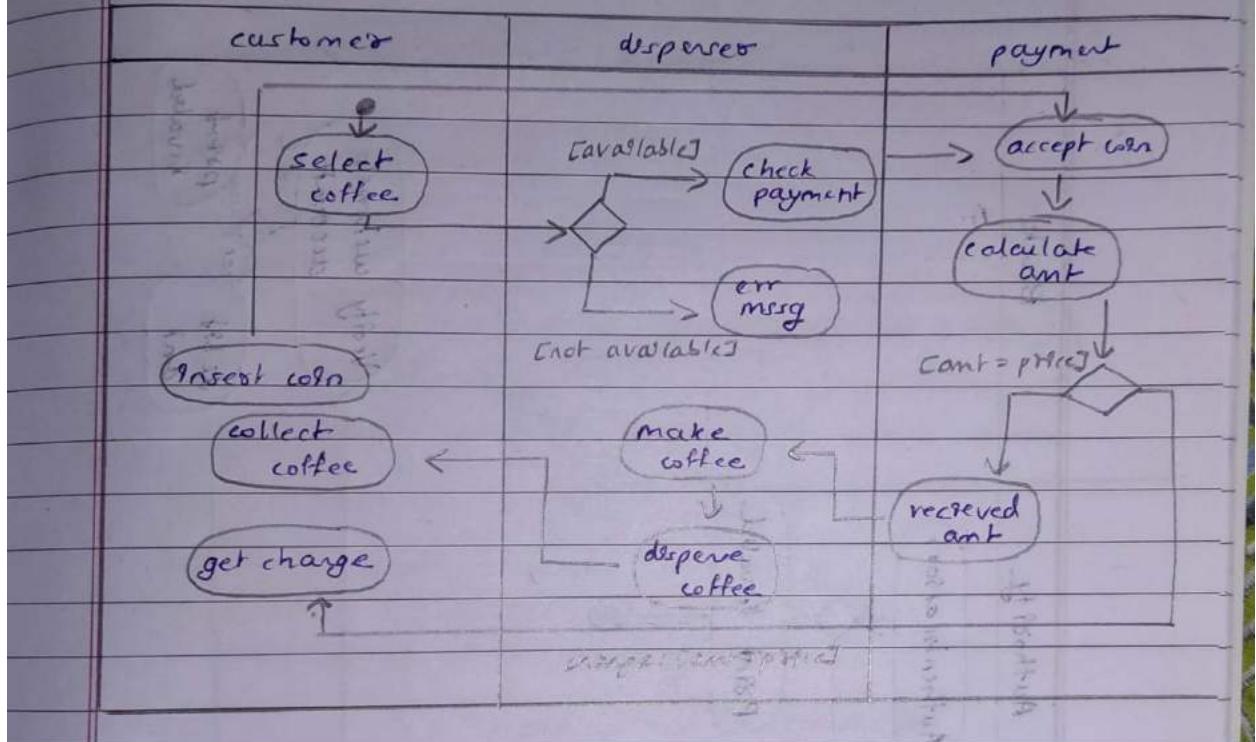


4.7 Activity Diagram



Description

The advanced activity diagram has three swimlanes i.e customer, coffee dispenser and payment. The customer can select coffee ,insert coins, get change and collect coffee. The coffee dispenser checks for payment and makes ,dispenses the coffee. The payment lane accepts coins, calculates the amount and gives back the change.

Coffee Vending Machine

5. ONLINE SHOPPING SYSTEM

5.1 Problem statement

With more and more people using the Internet. they prefer to shop for their required Items online at the comfort of sitting at home and getting it delivered there. All the gour of maintaining inventory, billing and delivery needs to be handled by a central system. It is less convert for people to worst different outlet for a different product.

5.2 Software Requirement Specification

- The customer must have an account in the online website where he/she can purchase products.
- If the customer wants to buy the product then he/she must be registered, unregistered users can't go to the shopping cart.
- Changes to cart means the customer after login or registration can make an order or cancel the order of the product from the shopping cart.
- Customers can view all available products, compare them and make a choice for purchasing the products.
- For customers there are many type of secure billing that will be prepaid as debit or credit card, post paid as after shipping, check or bank draft.
- The security will provide by a third party like Pay-Pal etc. After the payment or surfing the product, the customer will log out.

LAB-5

Online Shopping System.

Problem statement

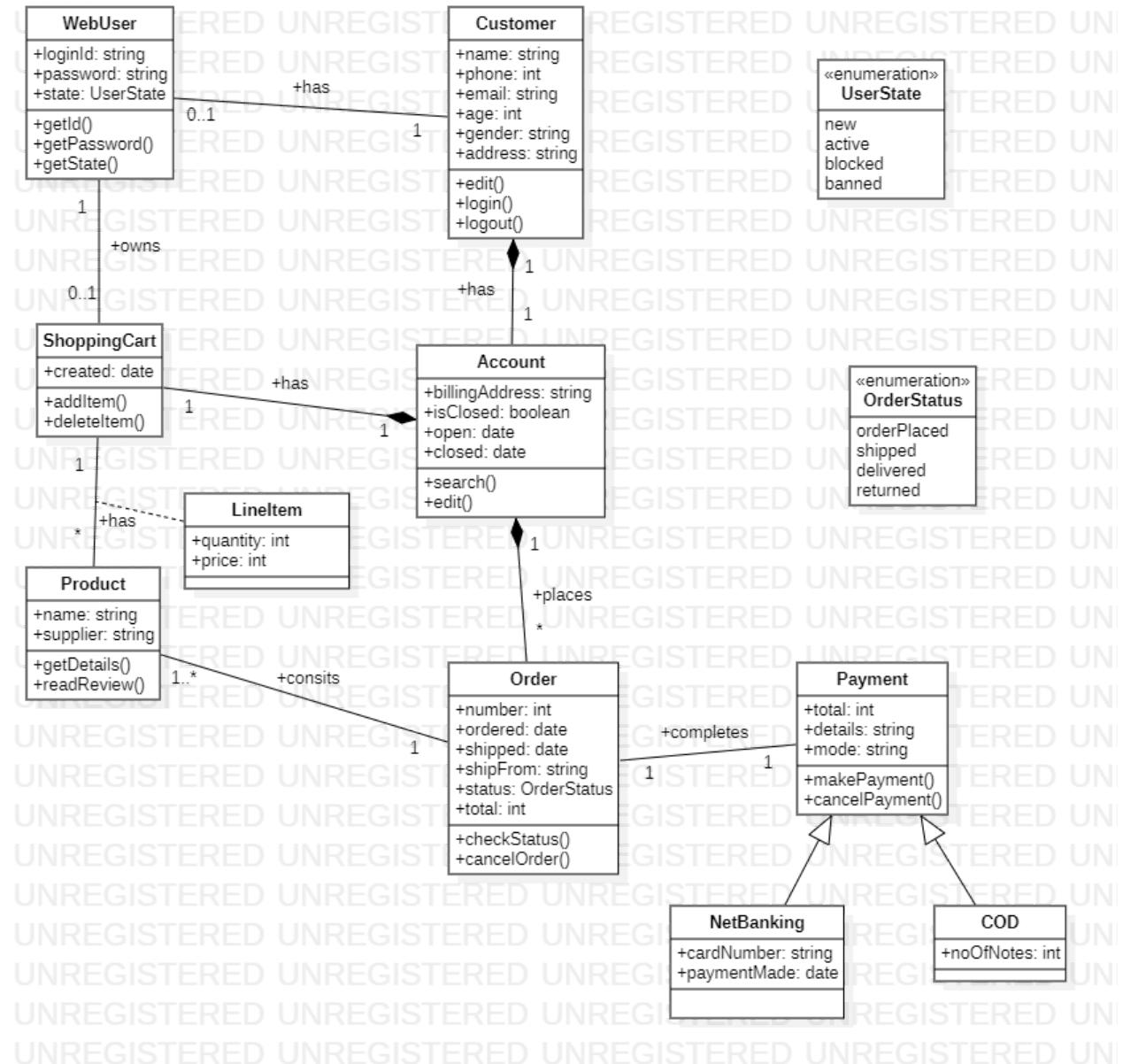
With more and more people using Internet, they prefer to shop for their required items online at the comfort of sitting at home and getting it delivered there. All the job of maintaining inventory, billing and delivery needs to be handled by a central system. It is less convenient for people to visit different outlet for different products.

SRS

- The customer must have an account in the online website where they purchase products.
- Unregistered user can't buy products.
- Customers login to the system by entering valid user id and password.
- After login, customer can make changes to the cart or order items.
- Different variety of products are listed for men, women and kids.
- Customers can view all available products, make comparisons between them and make a choice for their purchase.

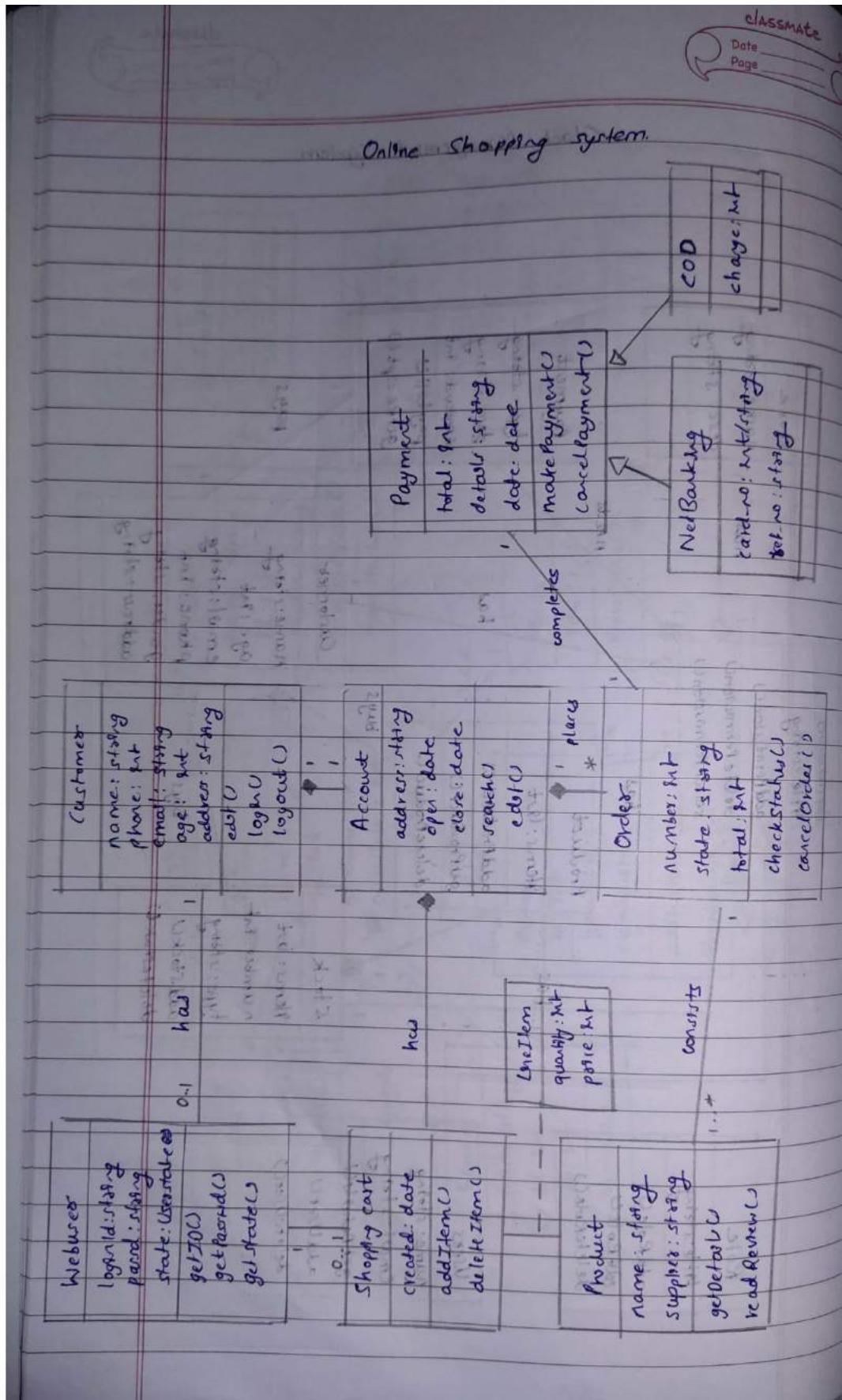
- Customers should be able to return defective products and rate them.
- Many types of secure billing will be available like debit or credit card, Internet banking or COD. Third party payment sites like Pay Pal will also be integrated.
- After payment, customer will logout and product will be delivered to his address.

5.3 Class Diagram

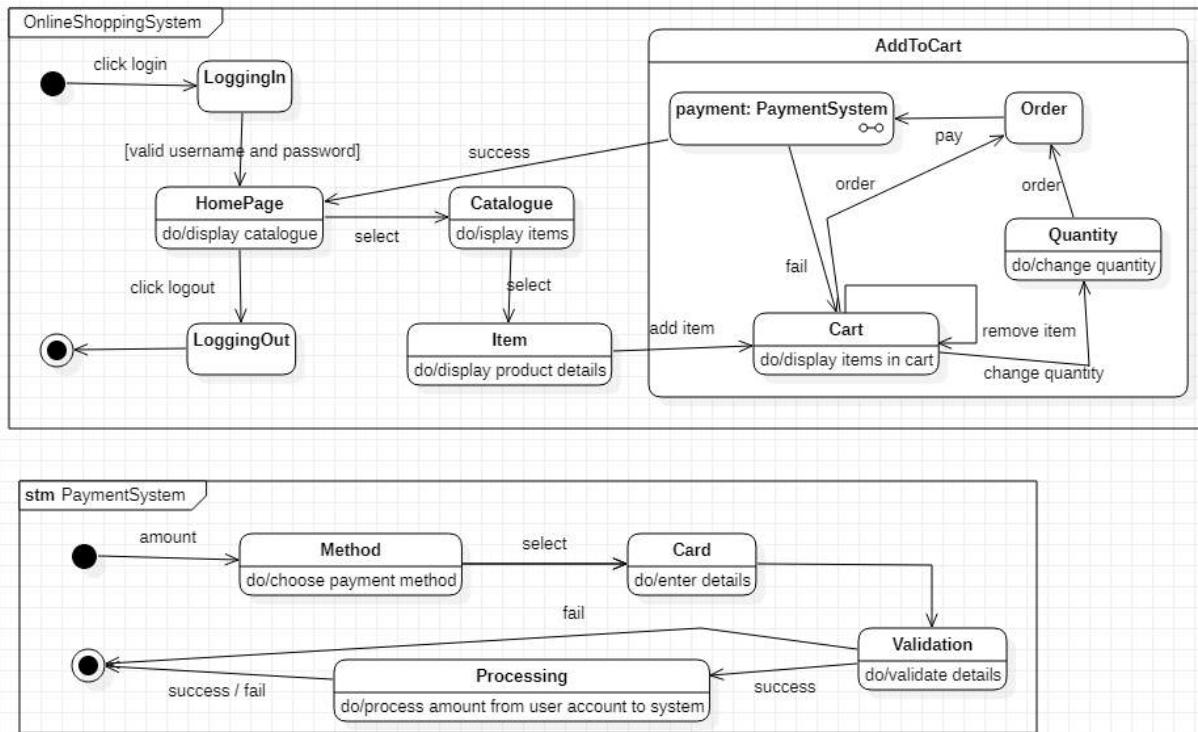


Description

The online shopping system has customers who must have an account in the online website wherehe/she can purchase products.If customer wants to buy the product then he/she must be registered, unregistered user can't go to the shopping cart.T he products sold for customers are sold for various categories.After the payment or surf the product thecustomer will logged out.



5.4 State Diagram



Description

The advanced state chart diagram has states explaining the product purchase and payment. It has two sub machines i.e product selection and checkout product. Product selection allows users to select products and add them to cart. Checkout product has states explaining the payment methods and validating the methods.

Online shopping SystemOnlineshoppingSystem

clock login
→ Logging In

[Pd & pw
valid]

success

HomePage
display catalogue

Catalogue
display items

AddToCart

(payment:PaySystem)

pay

Order

order

Quantity

docharge

quantity

clock
layout

Logging Out



select

Item
display prod. details

fail

order

add

Cart

display cart items

change

remove

PaySystem

amt

dochoose payment

Method

select

Card

doenter

details

Validations
dovalidate
details

Processing

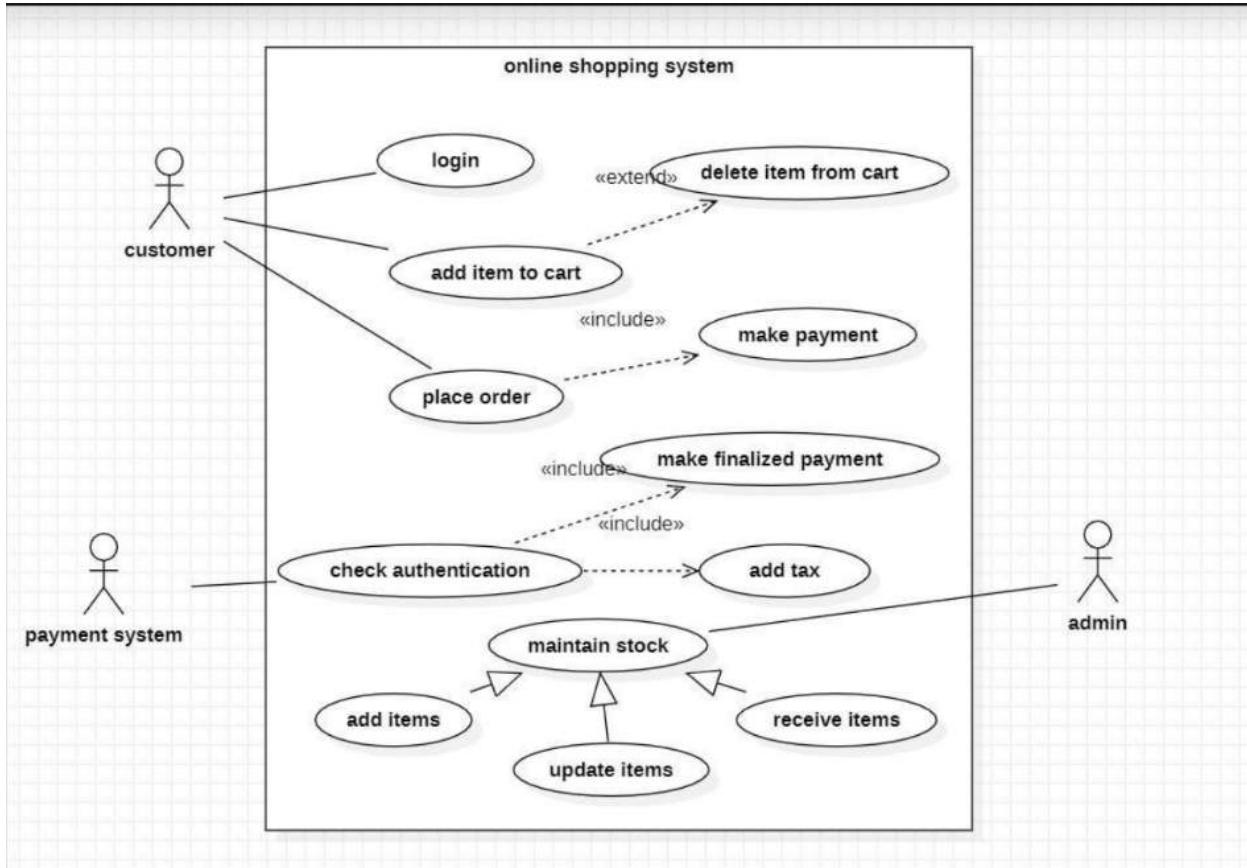
doProcess amount
from user acc.

success

fail

success

5.5 Use Case Diagram



Actors:

Customer: a person who uses the online shopping system

Supplier : person who supplies products

Use Case:

view product details : displays all product details

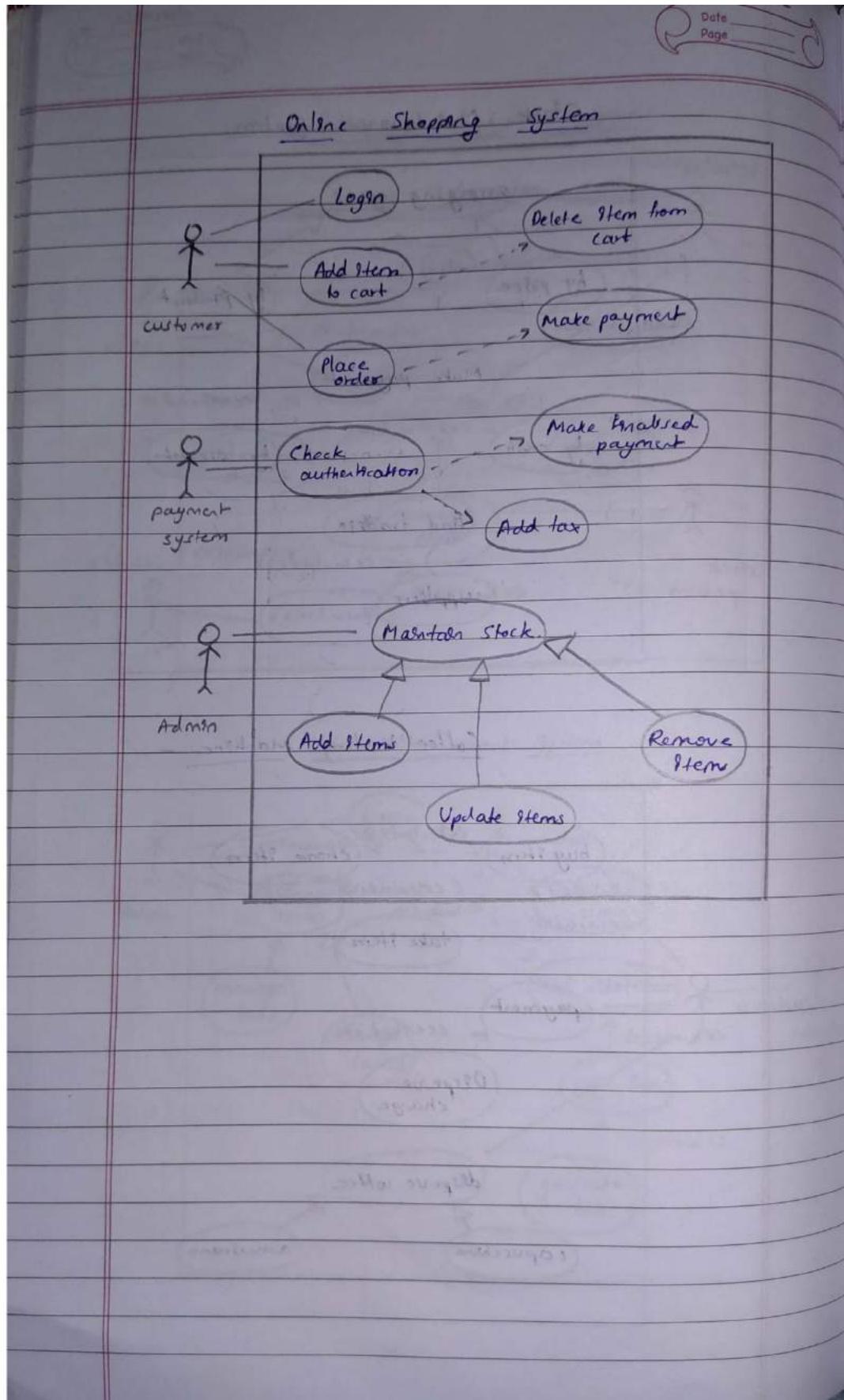
Place order : order the items present in the cart

Make payment : accepts payment for the products purchased

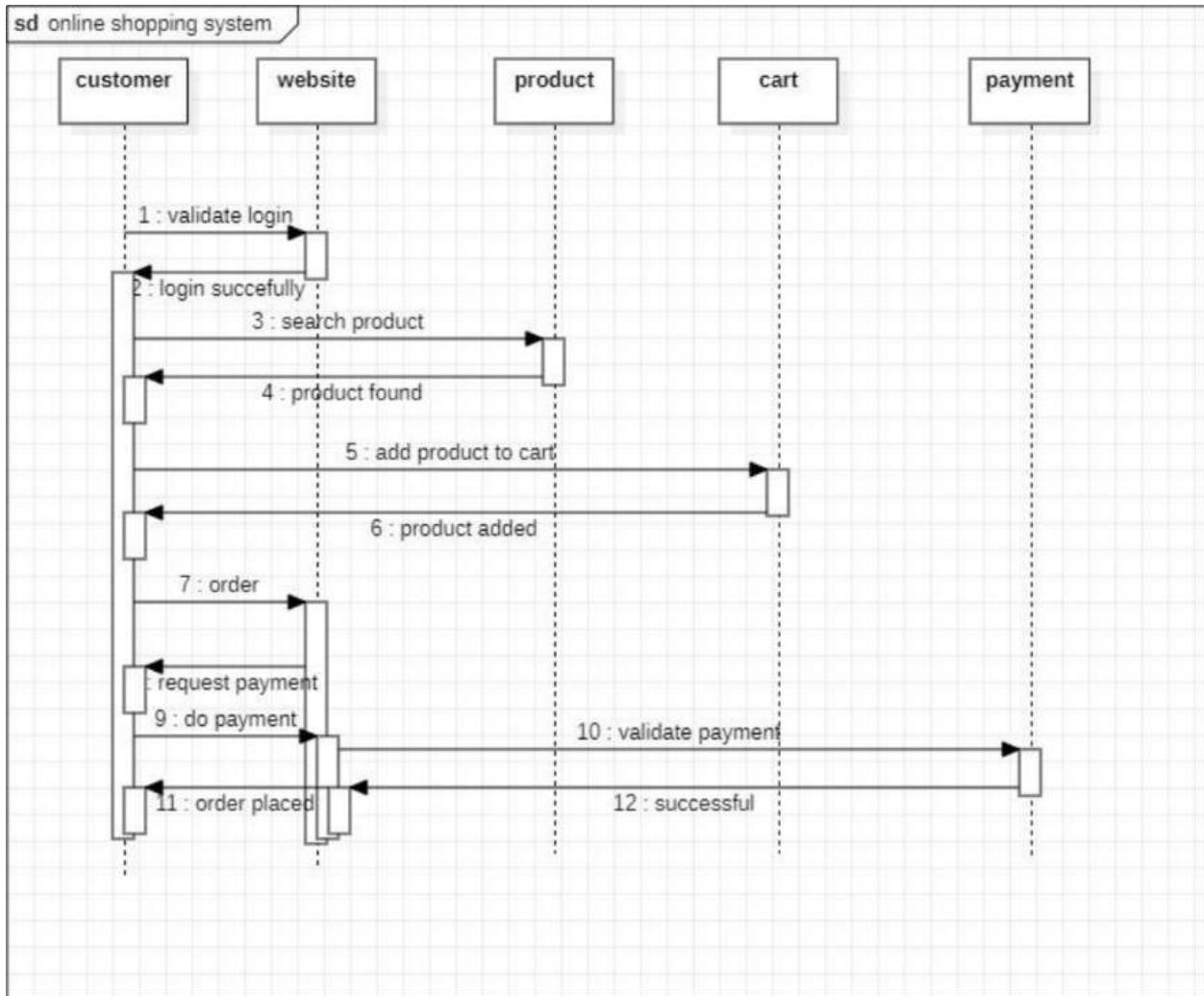
Deliver product : delivery of the product is handled

Supply Product : product supply is maintained

Maintain Stock : stock availability is checked



5.6 Sequence Diagram

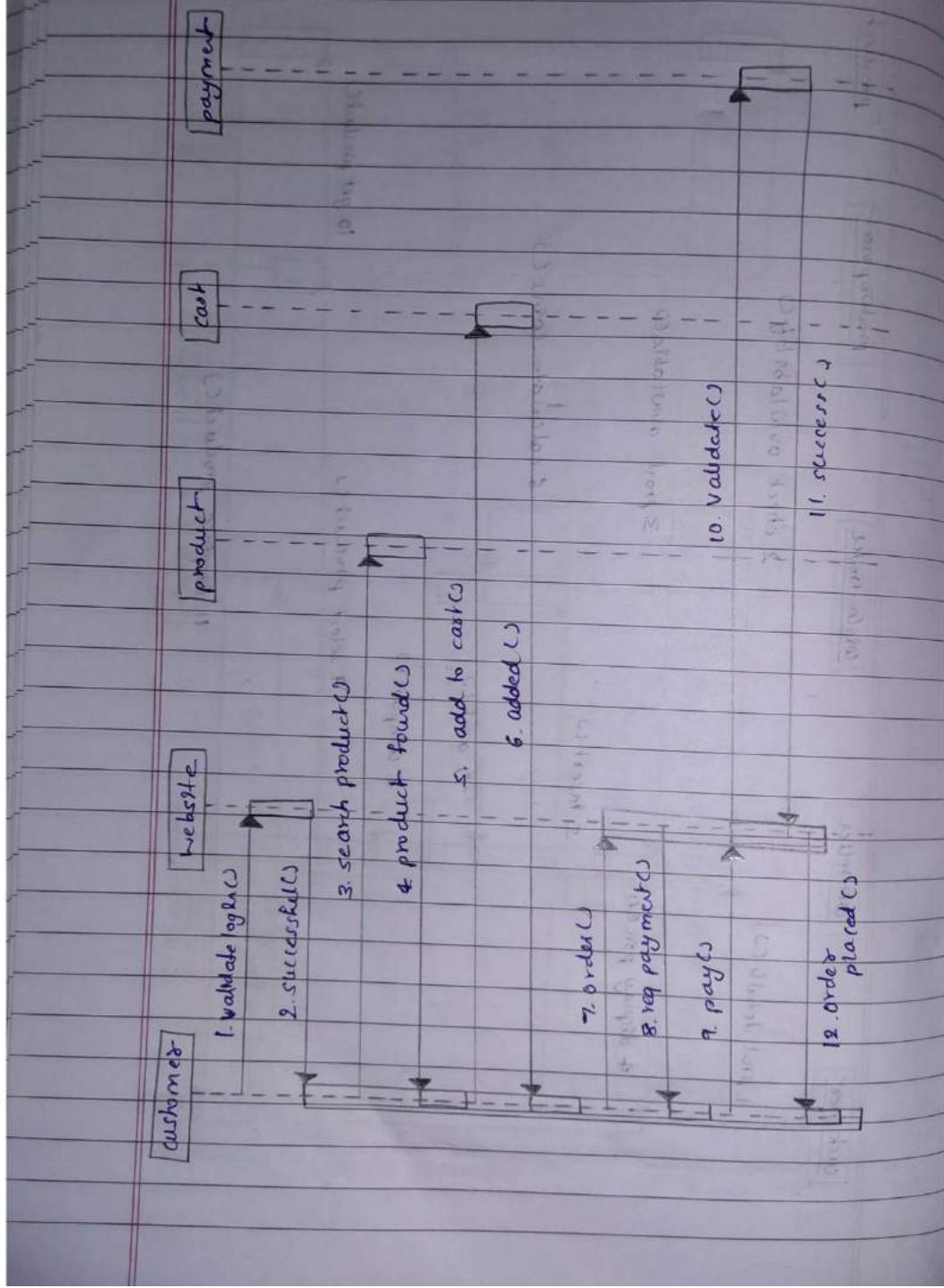


Description

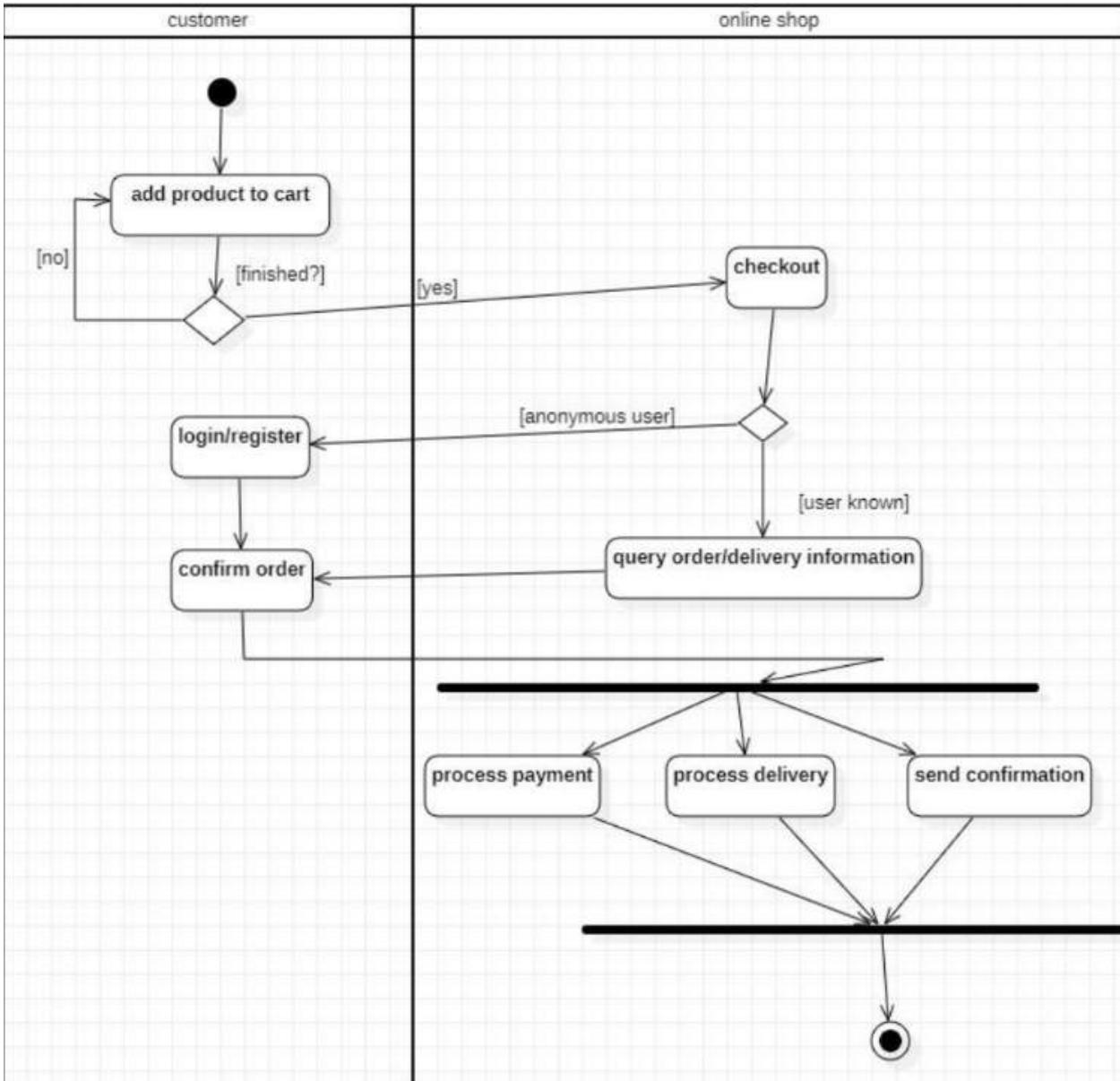
the customer logins into the online interface. The items are displayed. The customer adds items into cart and reply from interface is sent. The customer places the order. The online interface requests for payment. The customer provides details and confirmation is sent. The customer logs out. The logout confirmation is sent to the customer.

Online shopping System.

classmate
Date _____
Page _____

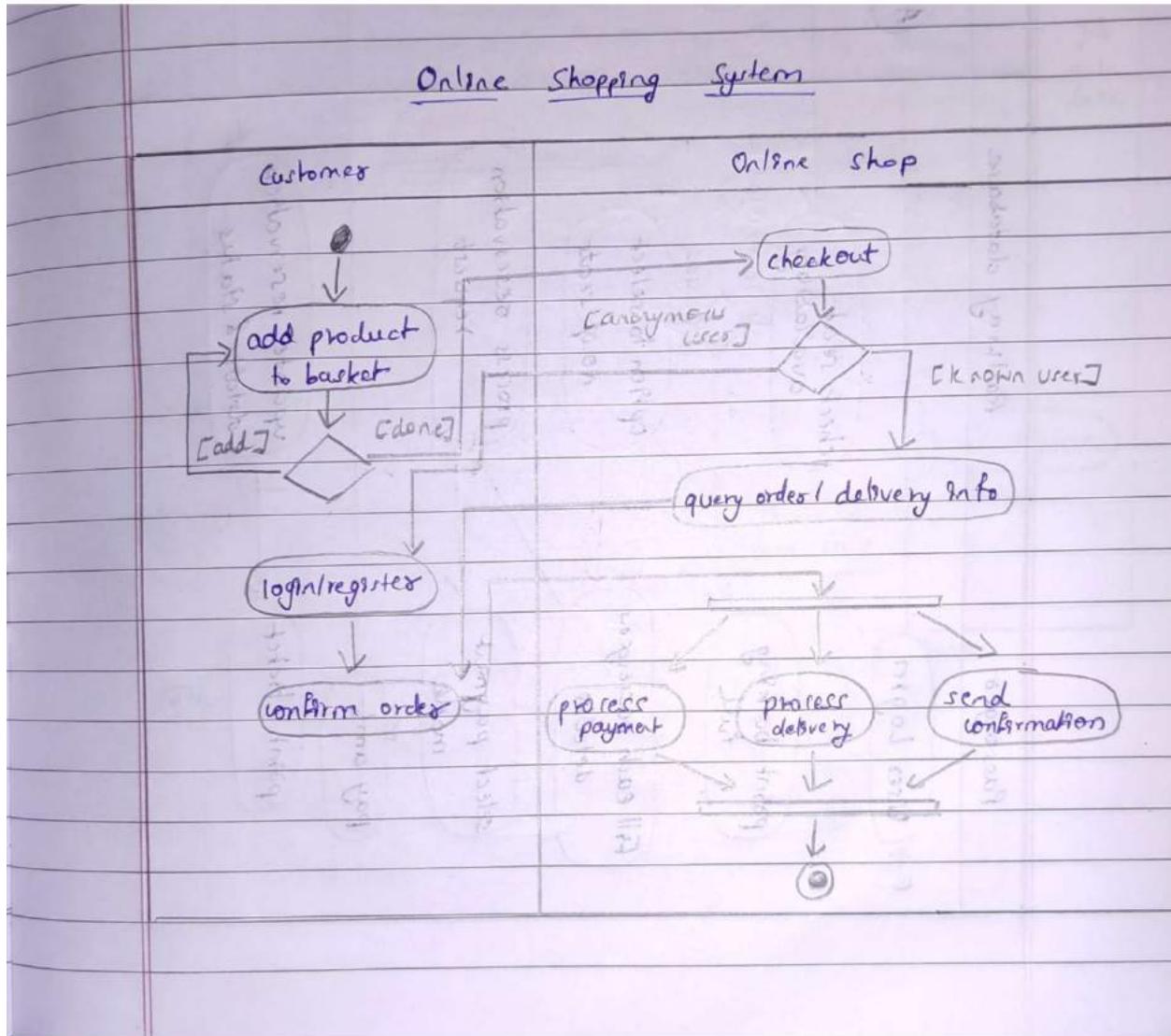


5.7 Activity Diagram



Description

the advanced activity diagram has two swimlanes i.e customer and online shop. The customer can add the product to the basket and login/register and confirm the order. The online shop can checkout the products, deliver, process payment and send confirmation to customer



6. RAILWAY RESERVATION SYSTEM

6.1 Problem statement

Parengers frequently need to know about reservations, and get difficult status. ticket variability, etc. getting which during peak hours. The no of reservation counter are very less wasting time the quiver on the box during booking. Call centers queries of passengers.

6.2 Software Requirement Specification

- Each user should have a user id and a password. Records of the users of the system should be kept in the log file.
- Provision should be made for full backup of the system. The customers can view the trains available at any day, the cost and number of tickets available for any train.
- Customer can book a ticket only if the tickets are available.
- Tickets can be booked in two ways by i-ticket or by e-ticket booking. In case of i-ticket booking customer can book the tickets online and the tickets are couriered to Particular customer at their address
- For cancellation of ticket the customer has to go to reservation office than fill cancellation form and ask the clerk to cancel the ticket than the refund is transferred to customer account.
- After booking ticket the customer has to checkout by paying fare amount to clerk.
- The information is saved and the corresponding updating take place in the database.

LAB-6

Railway Reservation System

Problem statement

Passengers frequently need to know about reservation, status, ticket availability etc. getting which gets difficult during peak hours. The no. of reservation counter are very less. Waiting time in queues is more during booking. Call centers are unaffordable to solve the queries of passengers.

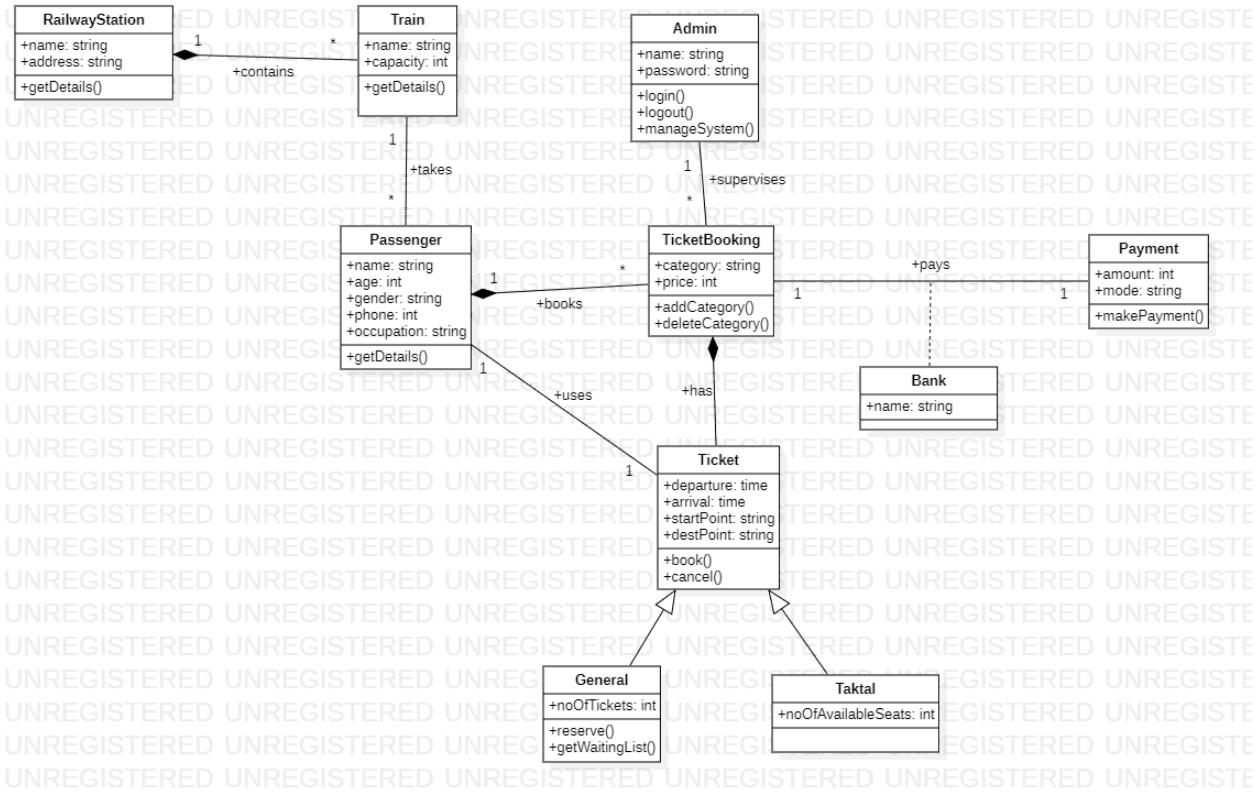
SRS

- Each user should have user id, password, Records of users should be kept in a logfile.
- Provision for backup of data should be ready.
- Customer should be able to view tickets available on any day, cart and no. of seats.
- Customers can book tickets only if they are available by filling the form.
- Tickets can be booked by e-ticket or e-tickets.
- In case of e-tickets, the tickets are couriered to customers on their address. In case of e-ticket, the ticket will be mailed to the user and he has to take print out of the same.
- For cancelling of tickets, customers have to contact reservation office. All forms and the refund will be

transferred to their account.

- After booking, customer has to checkout by paying the required amount.
- After booking, the database needs to be updated and other users should be informed.

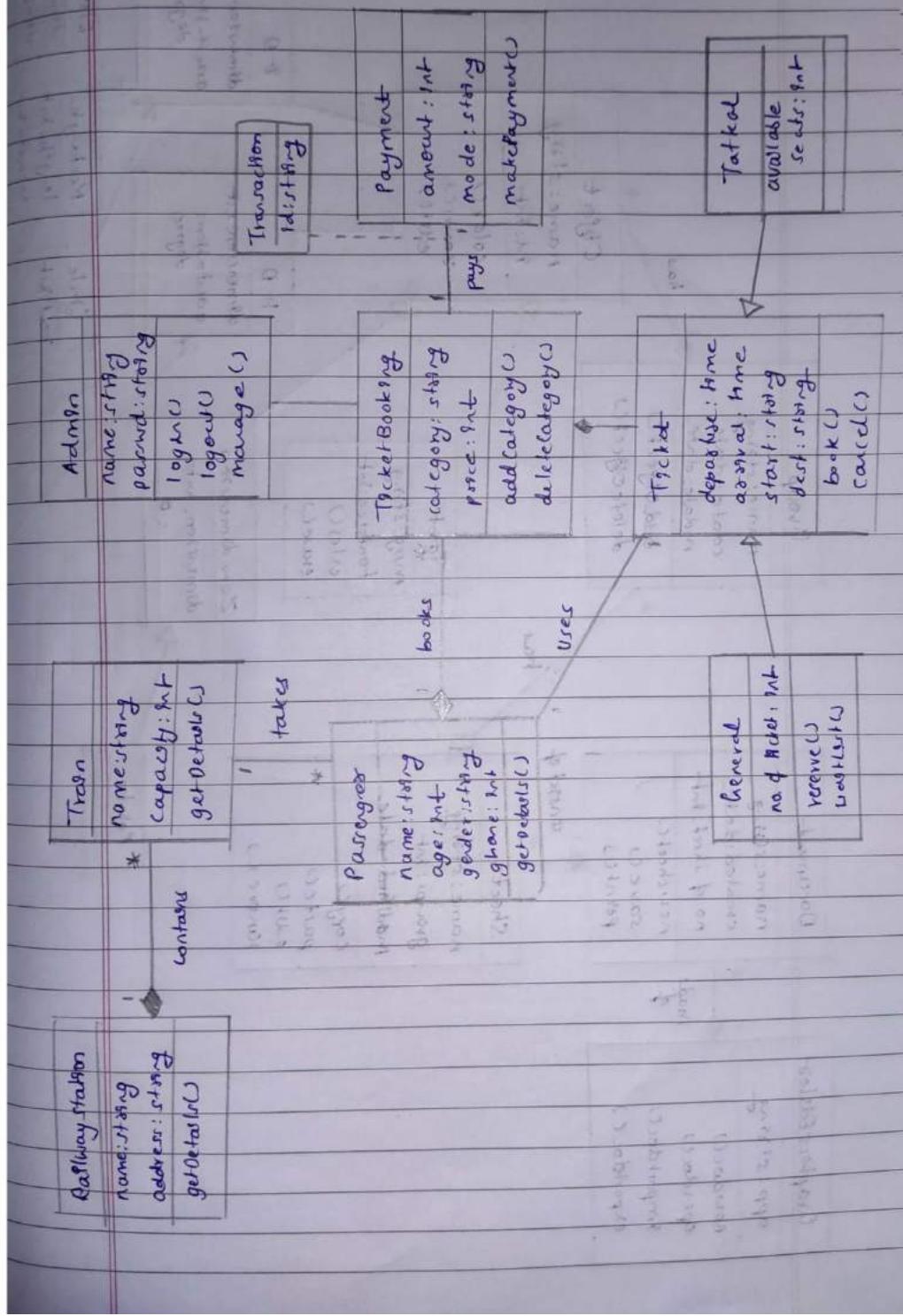
6.3 Class Diagram



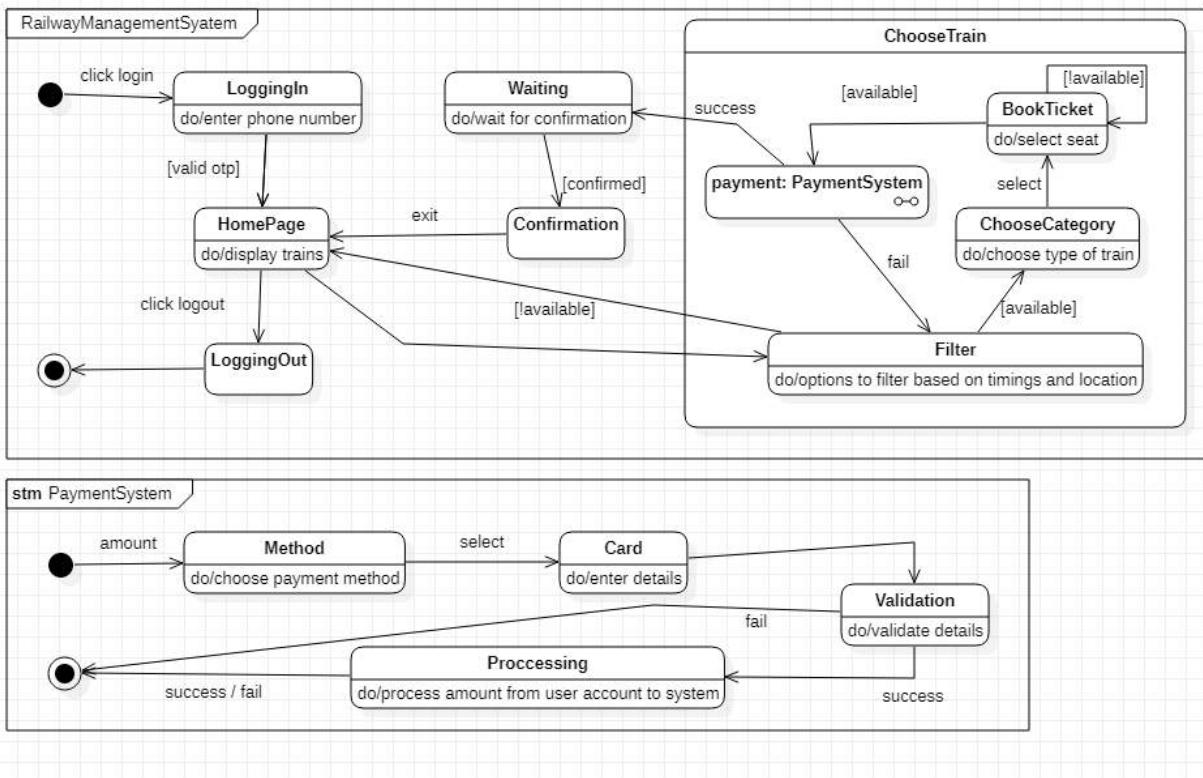
Description

The admin manages the trains and reservation related to railway reservation system. There are three types of reservation, I.e RAC,waiting and confirmed. The passengers with a reservation goes to one or the other reservation. A train consists of coaches and engine. A passenger pays for the ticket booked . Tickets can be booked in two ways by i-ticket or by e-ticket booking.

Railway management system



6.4 State Diagram

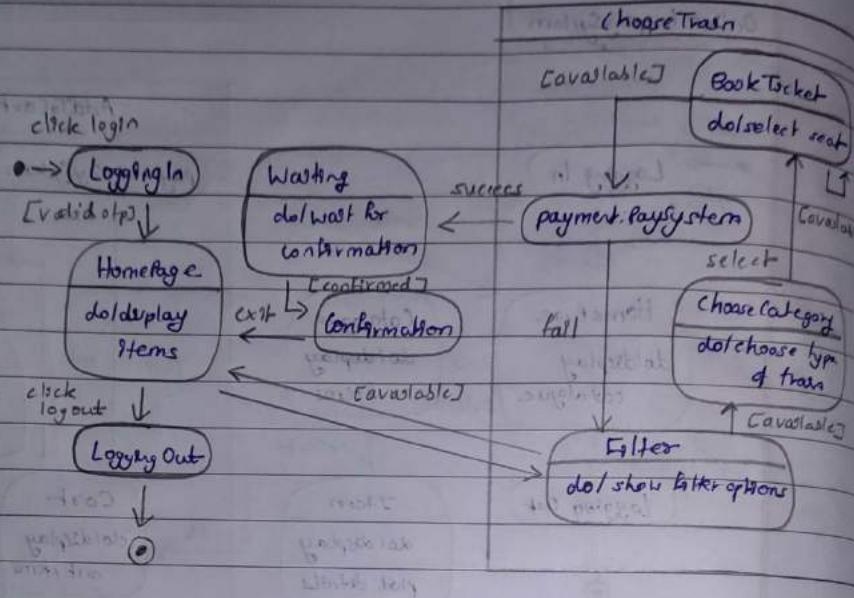


Description

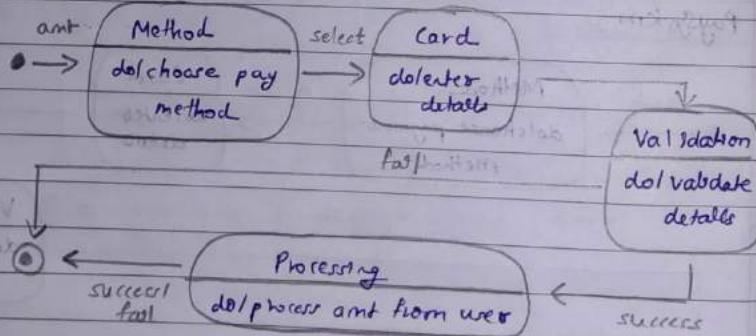
The advanced state diagram has states for paying the ticket. From the ready state the user goes to payment initiation after which the card details are accepted and an OTP is sent to the registered mobile number. On verification the money is deducted and ticket is sent to the customer.

Railway Reservation System

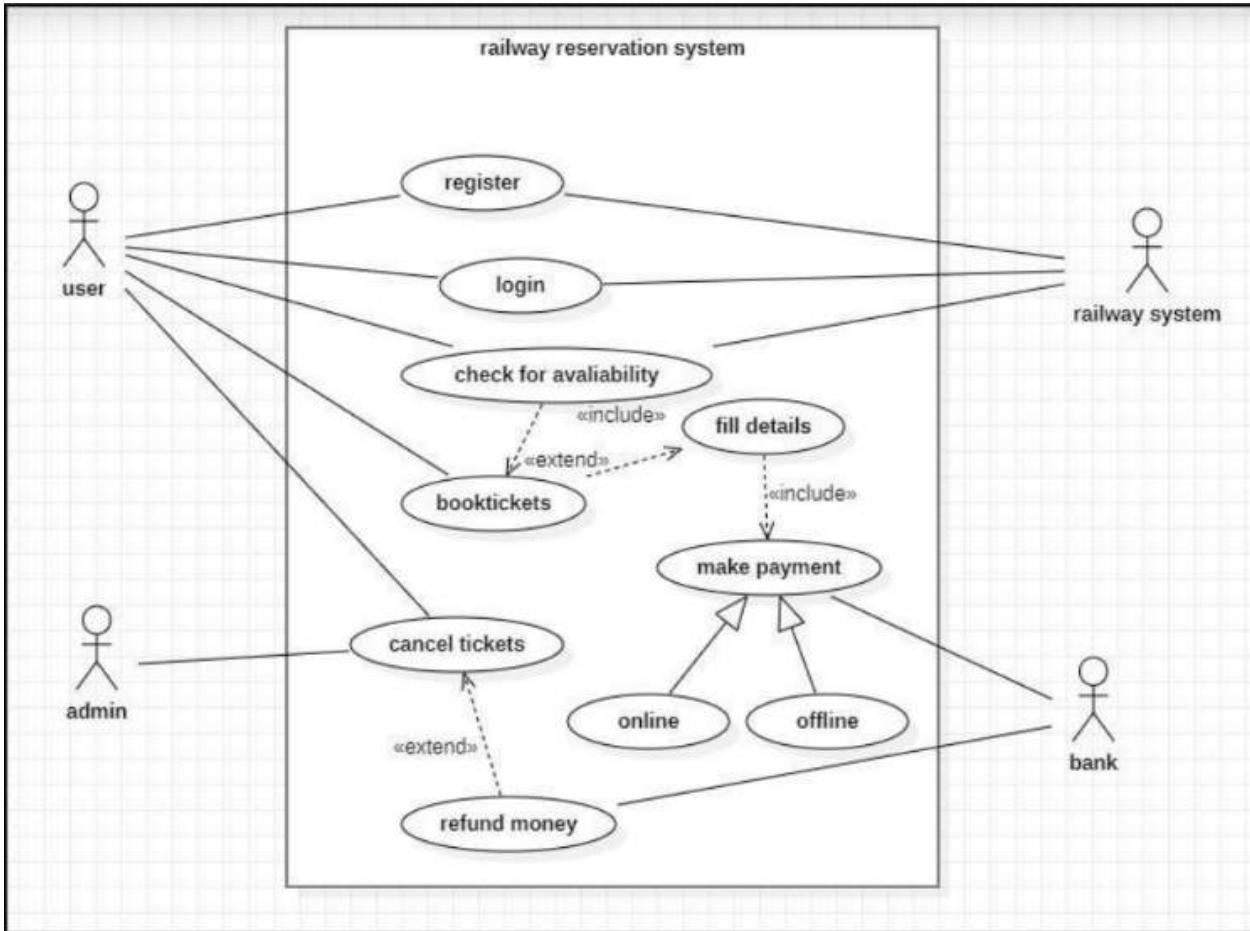
Railway Reservation System



Paysystem



6.5 Use Case Diagram



Actors:

User: uses the railway reservation system.

Admin: manages all information

Railway System: System that is used for train ticket reservation.

Use Case:

Register: The first time a user has to create an account in the railway system.

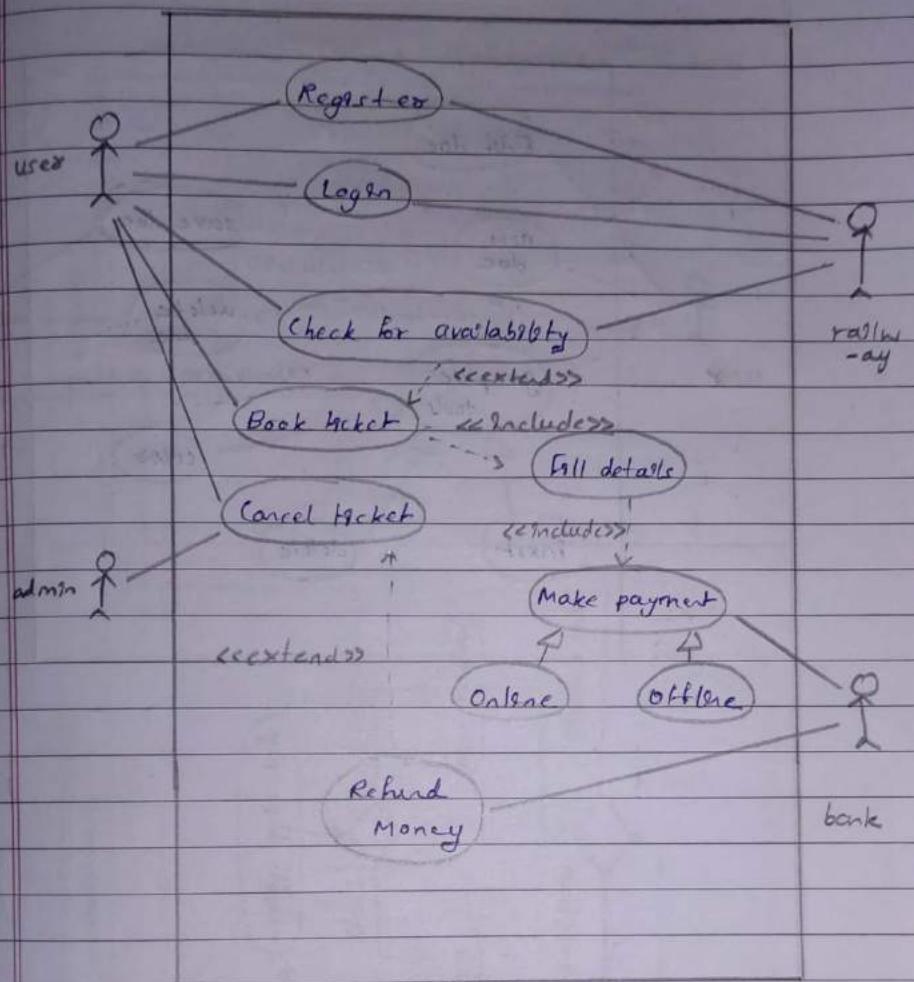
Book Ticket: Users can select the type of coach and no of seats and book the ticket.

Make payment: System displays the payment details. User can make his payment.

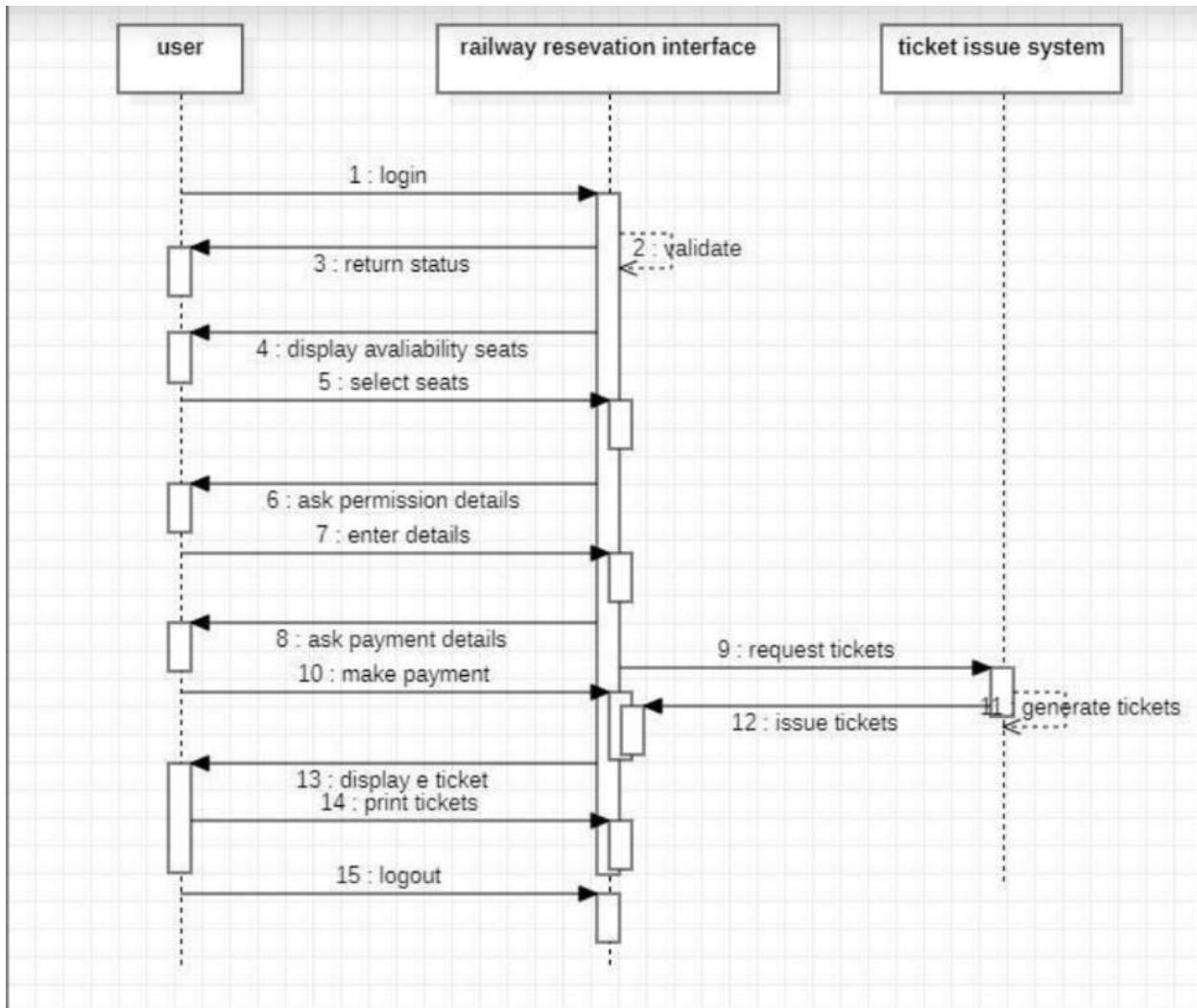
Cancel Ticket: Users can cancel the ticket . The amount will be refunded.

Verify login credentials: The admin verifies the user details, if it matches with the details in the database then he allows access to the system.

Railway reservation system

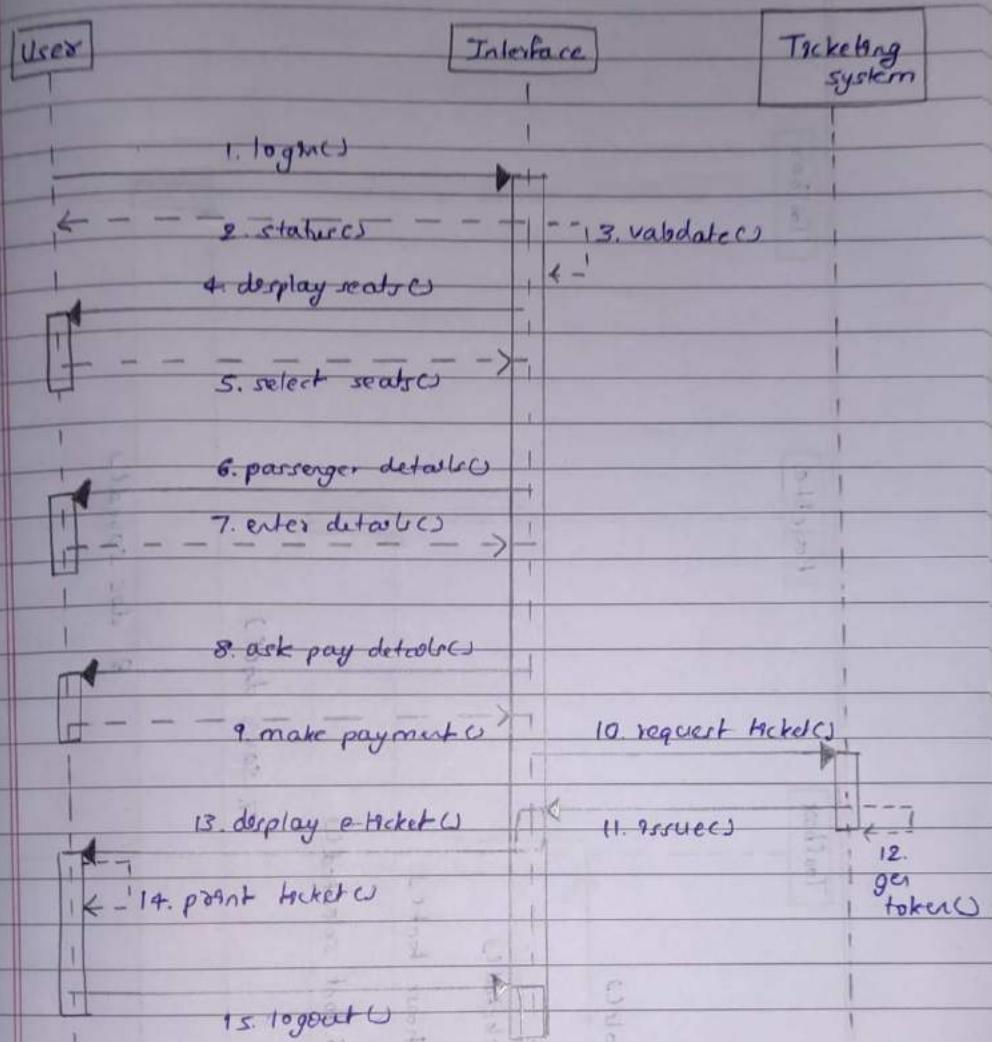


6.6 Sequence Diagram

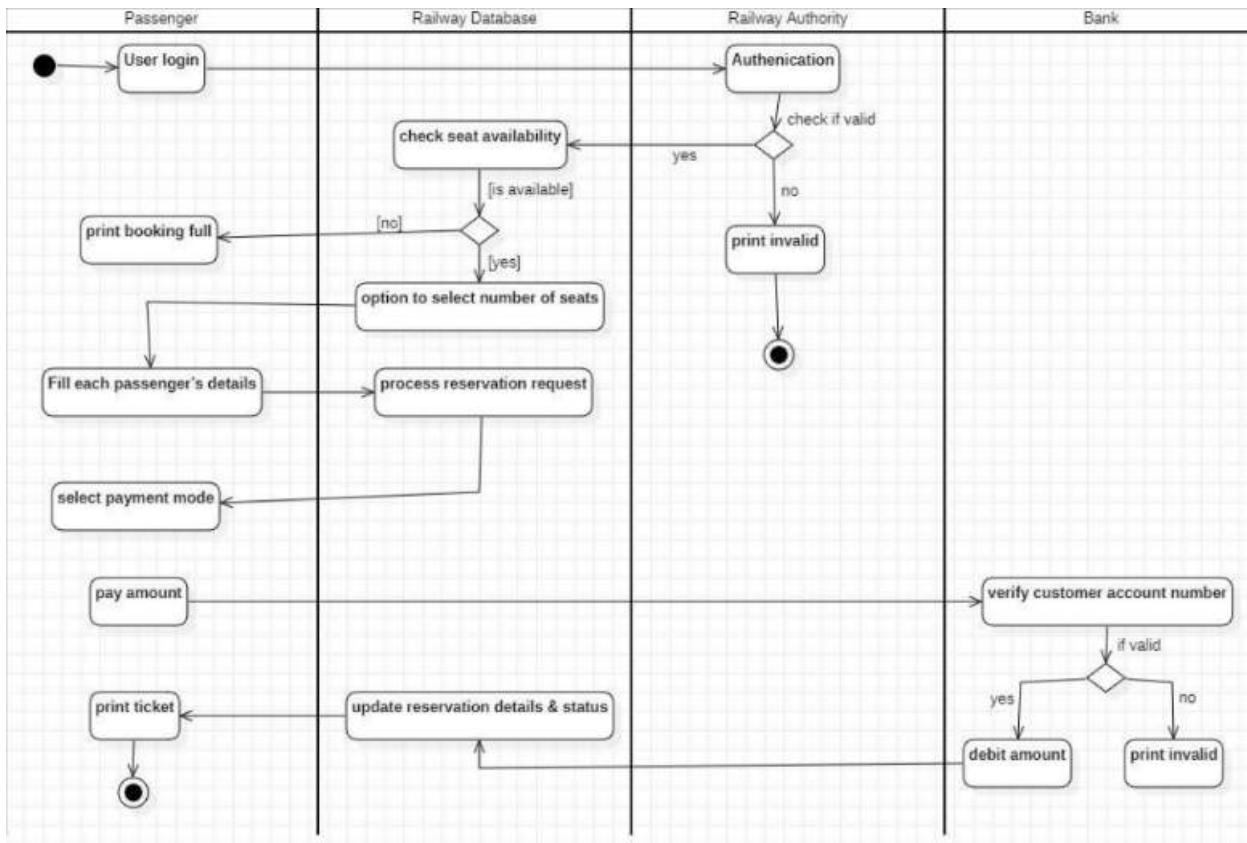


Description

Users log into the railway reservation system. Admin verifies the login details. System establishes secure communication. User checks for availability of trains. Admin updates the train details. System displays the train details. Users book tickets. System displays payment details. User makes the payment. System issues the e-ticket. User logs out.

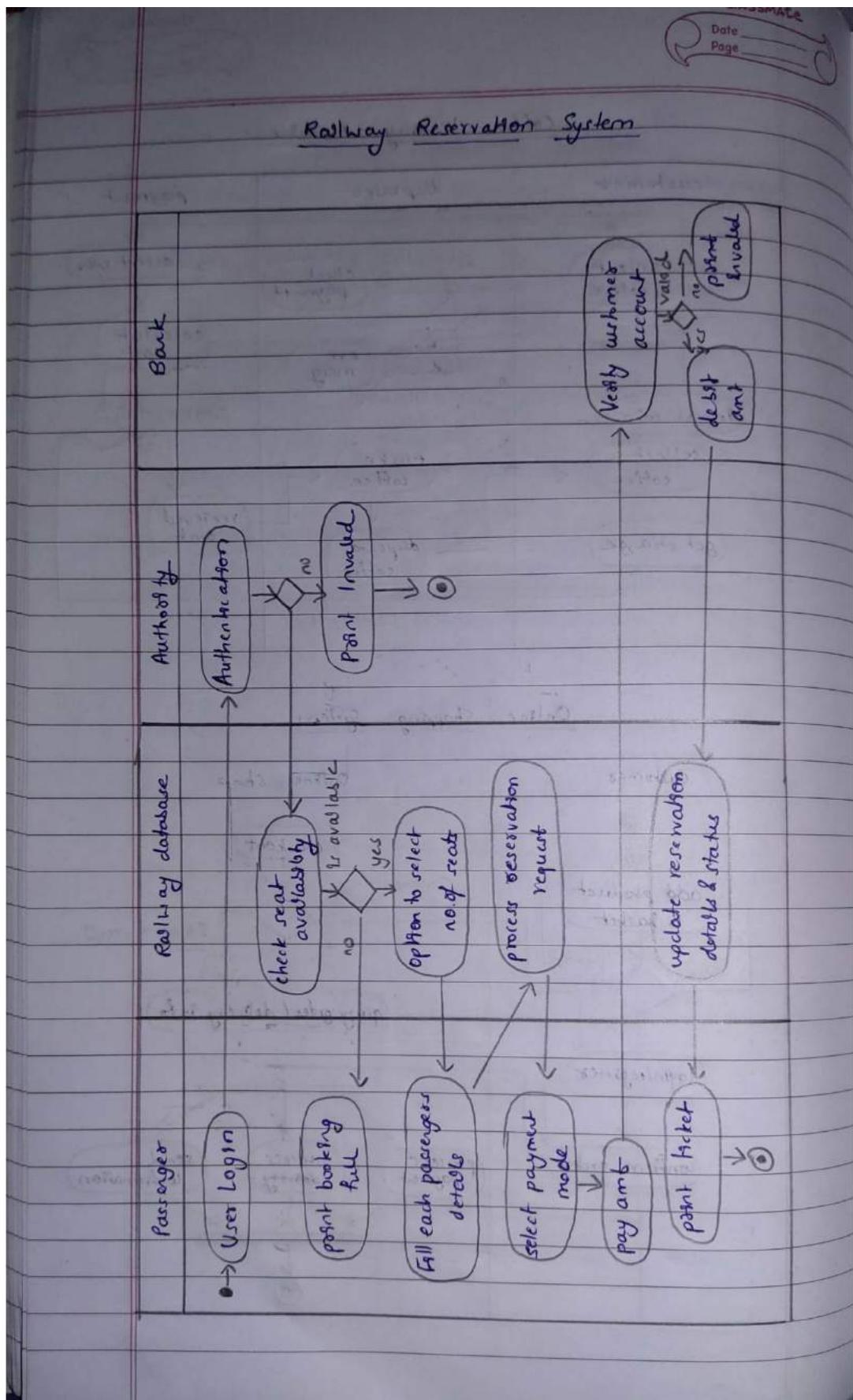
Railway Reservation System

6.7 Activity Diagram



Description

The scenario considered for the reservation of a seat in a train. Here the user can login with correct credentials and check for the seats available. Once the user selects a seat, he can select a payment option if the seat is available. After payment, he can print the tickets.



7. GRAPHICS EDITOR

7.1 Problem statement

As of today, animation in movies had been skyrocketed. There & is a need for software with UI which is power. Phil and enabled a user to develop Wilher own model. The s/w must be easy to use and should provide both coding and drag and drop options. We need to choose the best underlying framework upon which this UI can be built.

7.2 Software Requirement Specification

- The graphical editor consists of a graphical document editor which can be used to createnewdocument, delete documents, update or view the document.
- The graphical document editor consists of many documents, where each document can be saved, opened, printed or create a new one. A document is made up of many sheets which can have graphics included in them.
- Sheets have multiple number of drawing objects, which can be created, grouped or formatted.
- The user can also add and remove connections between these objects as needed using the palette supplied, thus modifying the underlying model.
- A geometrical object includes a circle, ellipses, rectangles, lines and squares, and trapeziums which are identified by their respective constraints.

LAB-7

Graphical Editor

Problem Statement

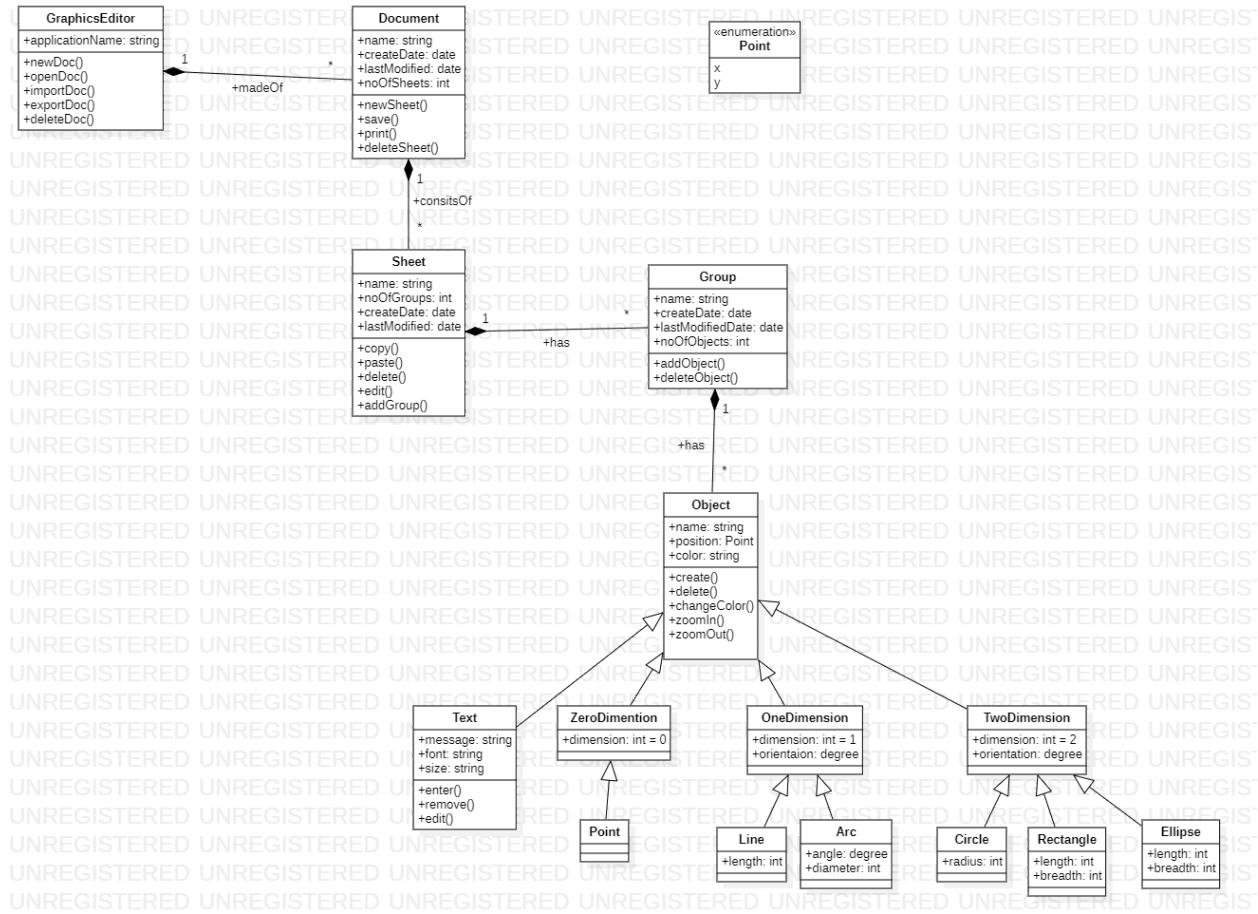
As of today, the use of animation in movies has been skyrocketed. There is a need for a software with UI which is powerful and enables a user to develop his/her own model. The SW must be easy to use and should provide both coding and drag and drop options. We need to choose the best underlying framework upon which this UI can be built.

SRS

- It consists of a graphical document editor which can be used to create new document, delete or update.
- Editor consists of many documents each of which can be saved, opened or printed.
- A document is made of many sheets which have graphics included in them.
- Sheet has multiple objects which can be created grouped or formatted.
- Functions are implemented to draw objects and their connections as well as functions to add and remove connections, using event listener, so that any changes in model will be reflected in diagram.

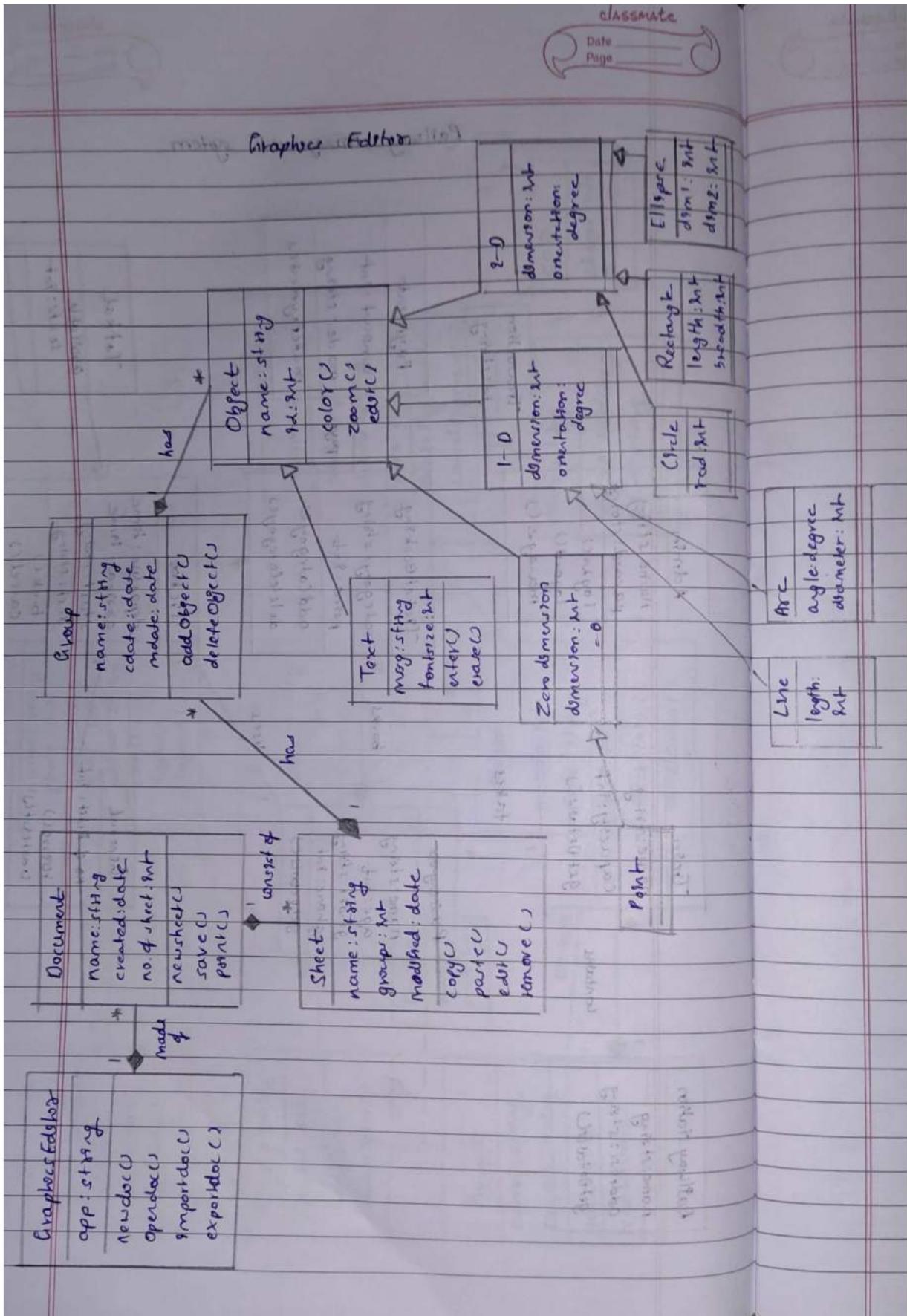
- Editing is done using palette supplied, thus modifying underlying model.
- Each sheet contains drawing objects, text, geometric objects and groups.
- Geometric objects include circle, rectangle, ellipse, square etc with respective constraints.

7.3 Class Diagram

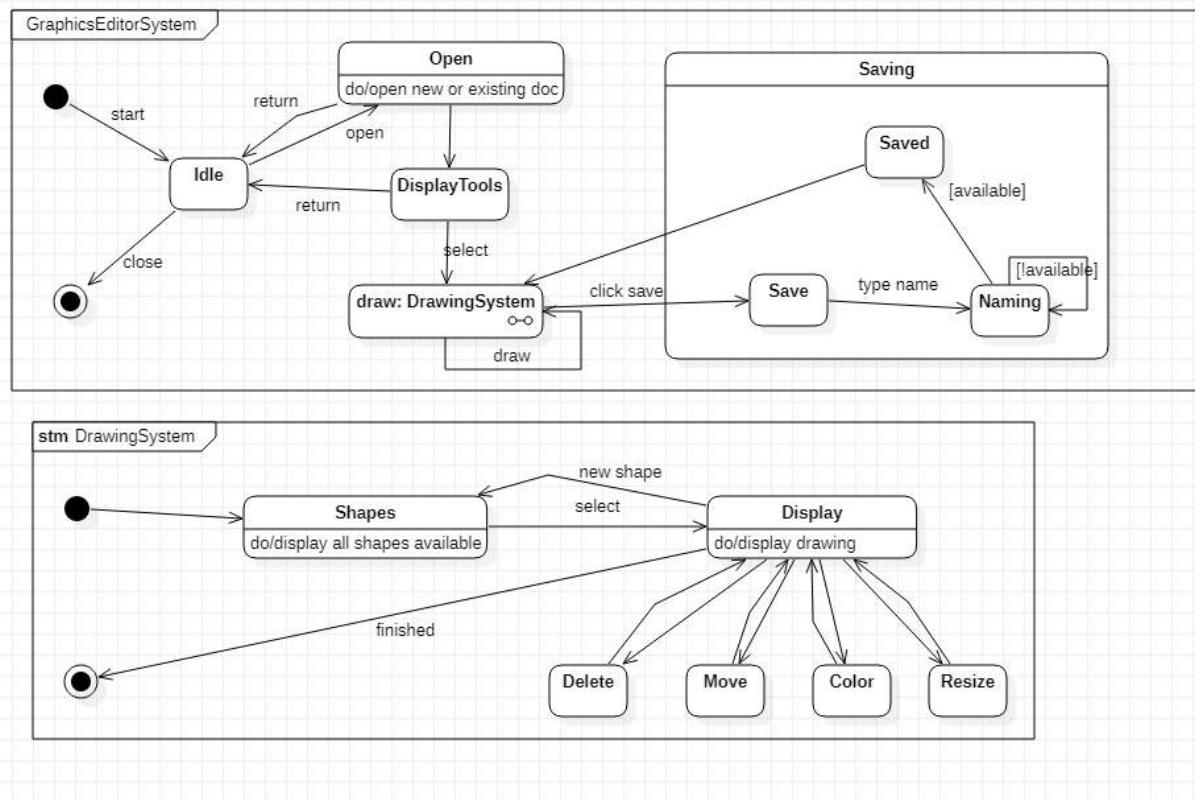


Description

The graphical editor has documents consisting of several sheets. Each sheet contains drawing objects, including text, geometrical objects and groups. A group is simply a set of drawing objects. A geometrical object includes circle, ellipse, rectangles, lines and squares.

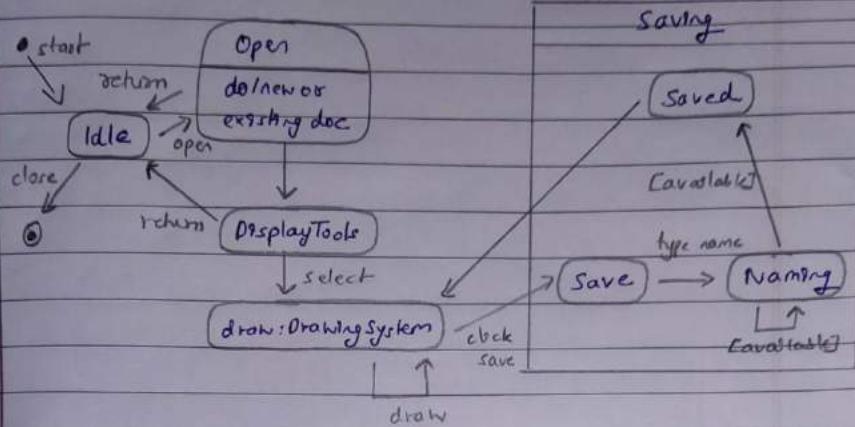
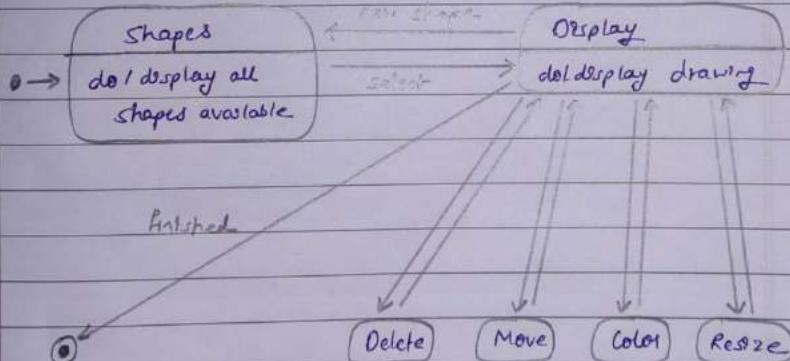


7.4 State Diagram

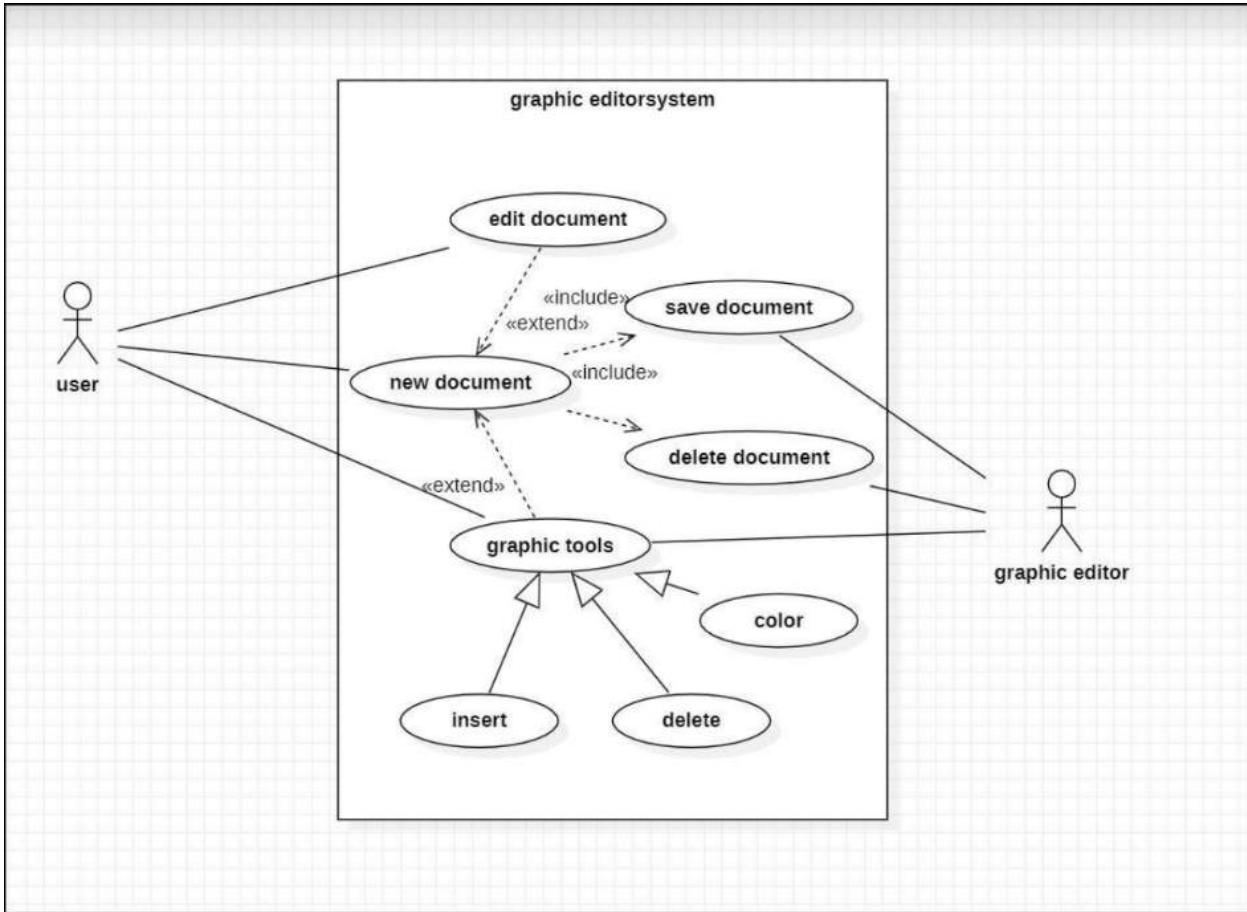


Description

The advanced state diagram had a composite state called saving where the user can save the file in their desired location.

Graphtor EditorGraphtor EditorDrawingSystem

7.5 Use Case Diagram



Actors :

User: the person who uses the graphic system

Graphics system: manages the system

Use case:

Create document : performs creation of new document

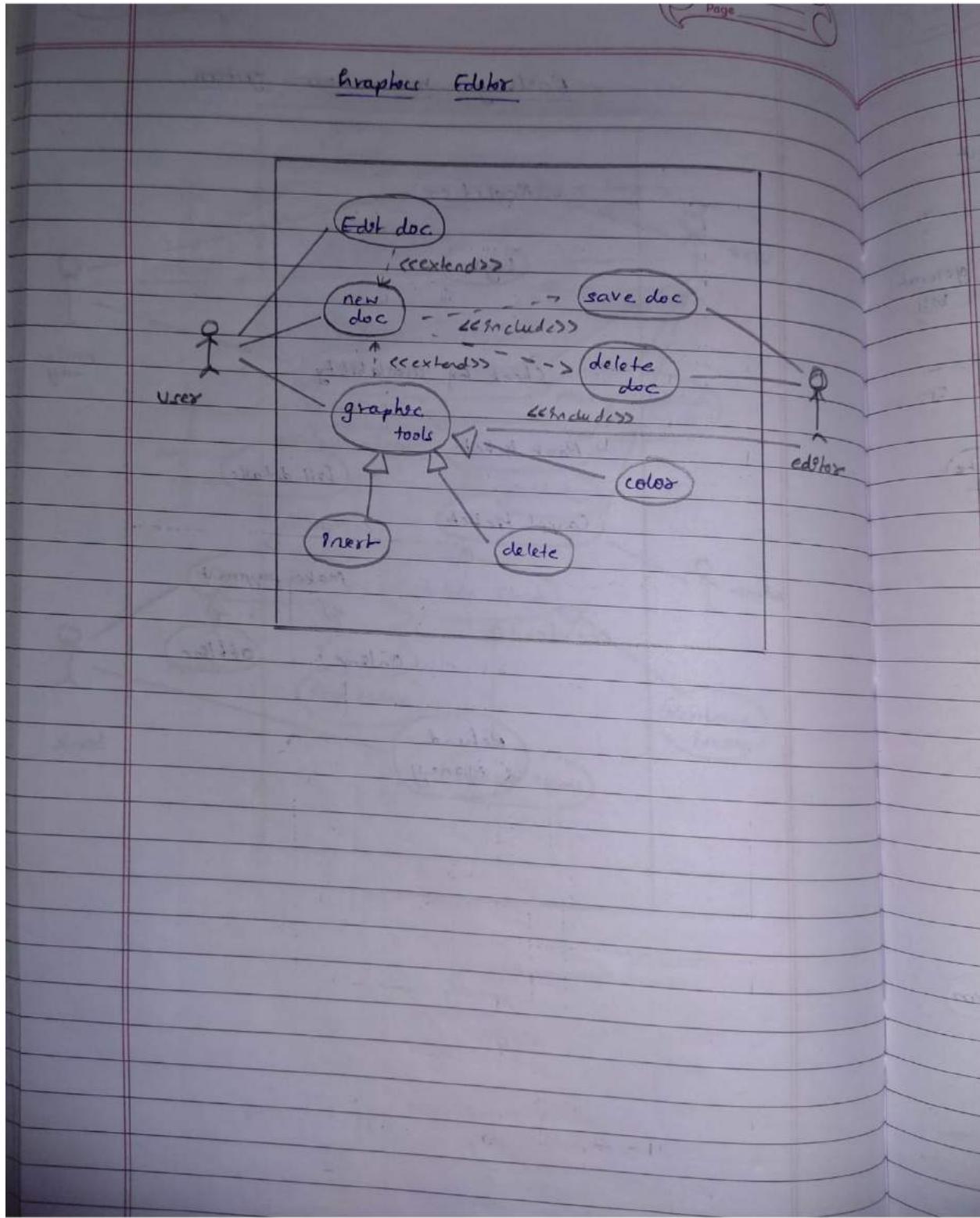
Edit document: performs editing of document

Display toolbox: displays the available tools

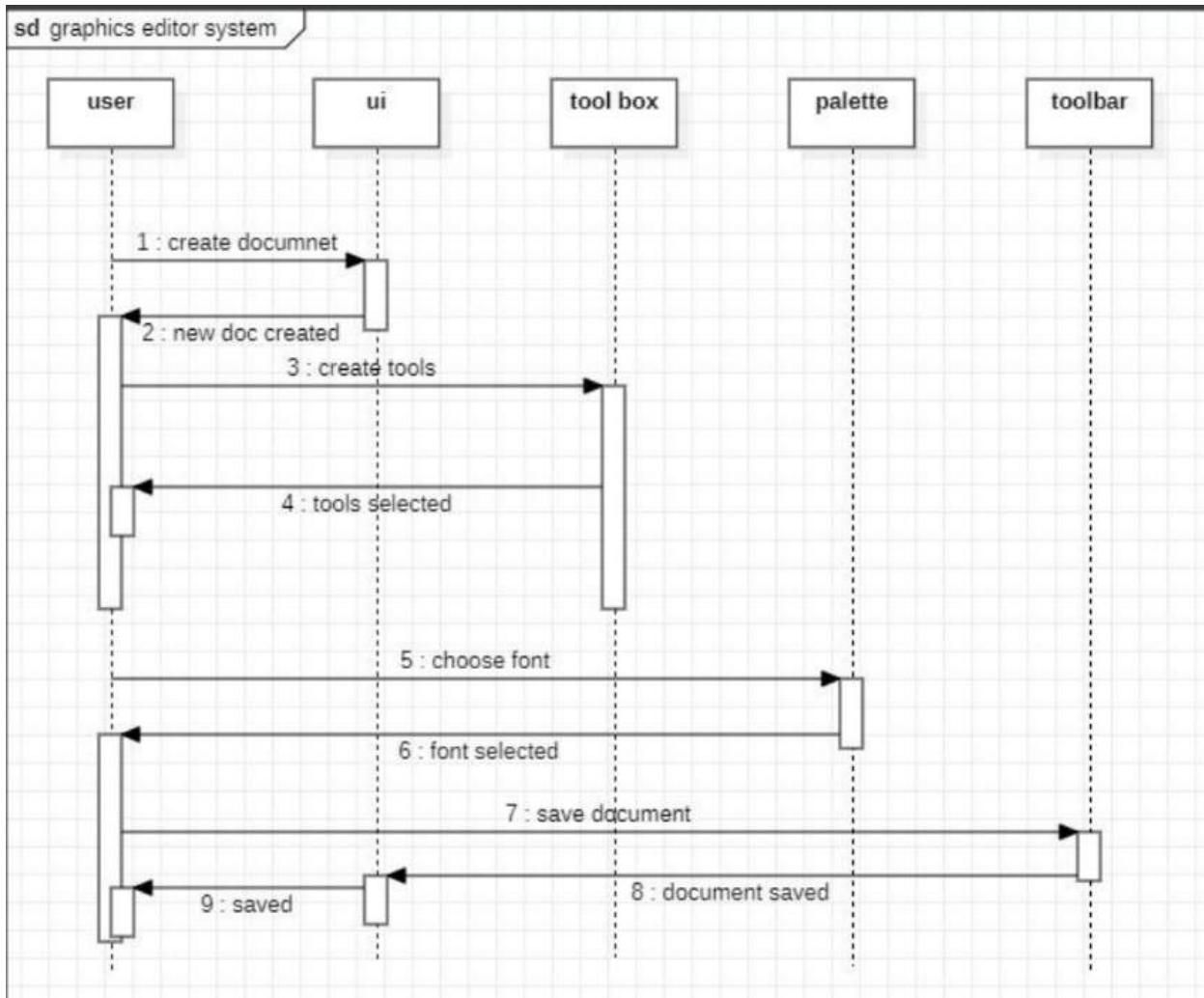
Add graphic object : insert a new graphic object

Choose tools from toolbox : allows user to choose tools

Delete document : Permanently deletes the document

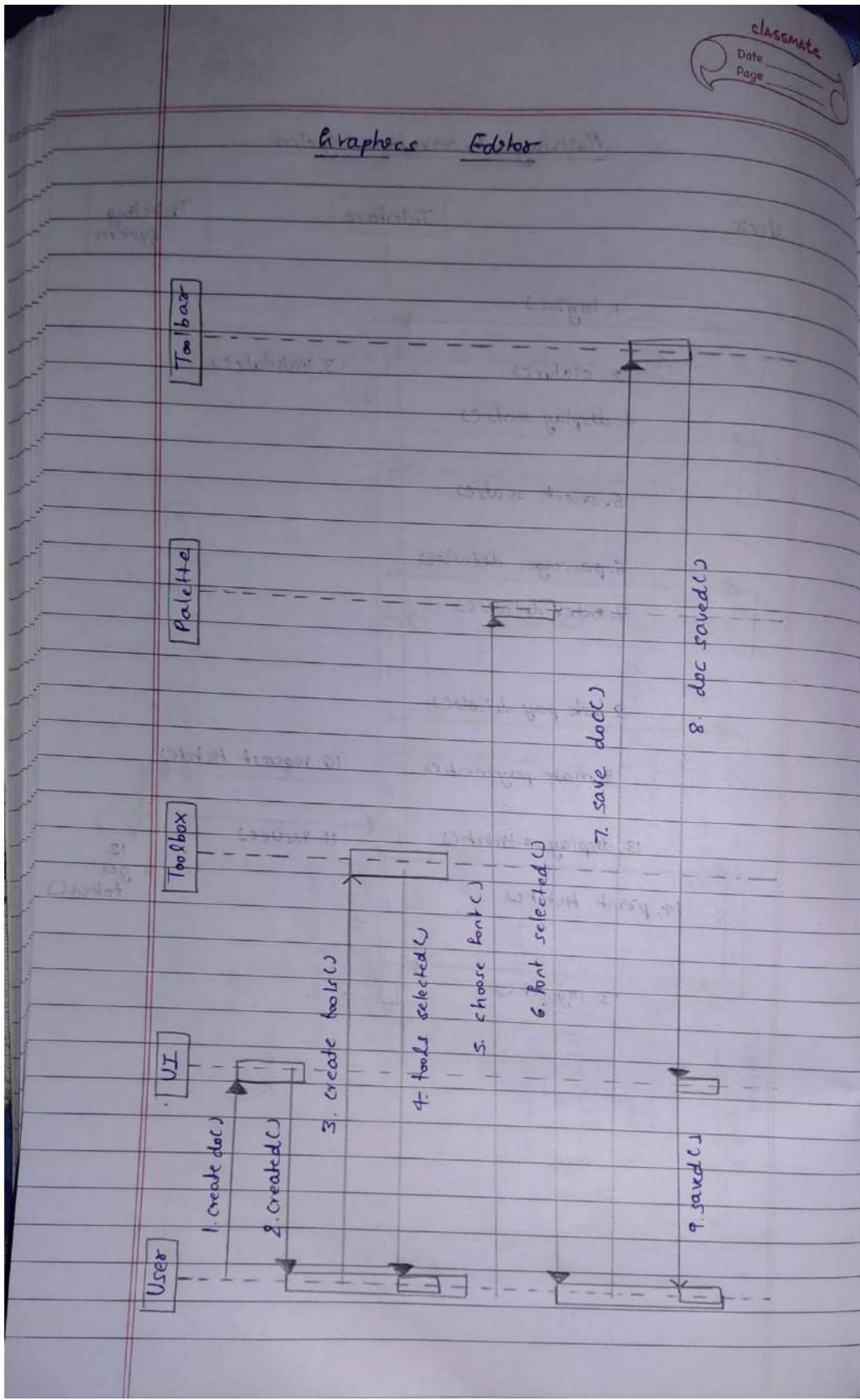


7.6 Sequence Diagram

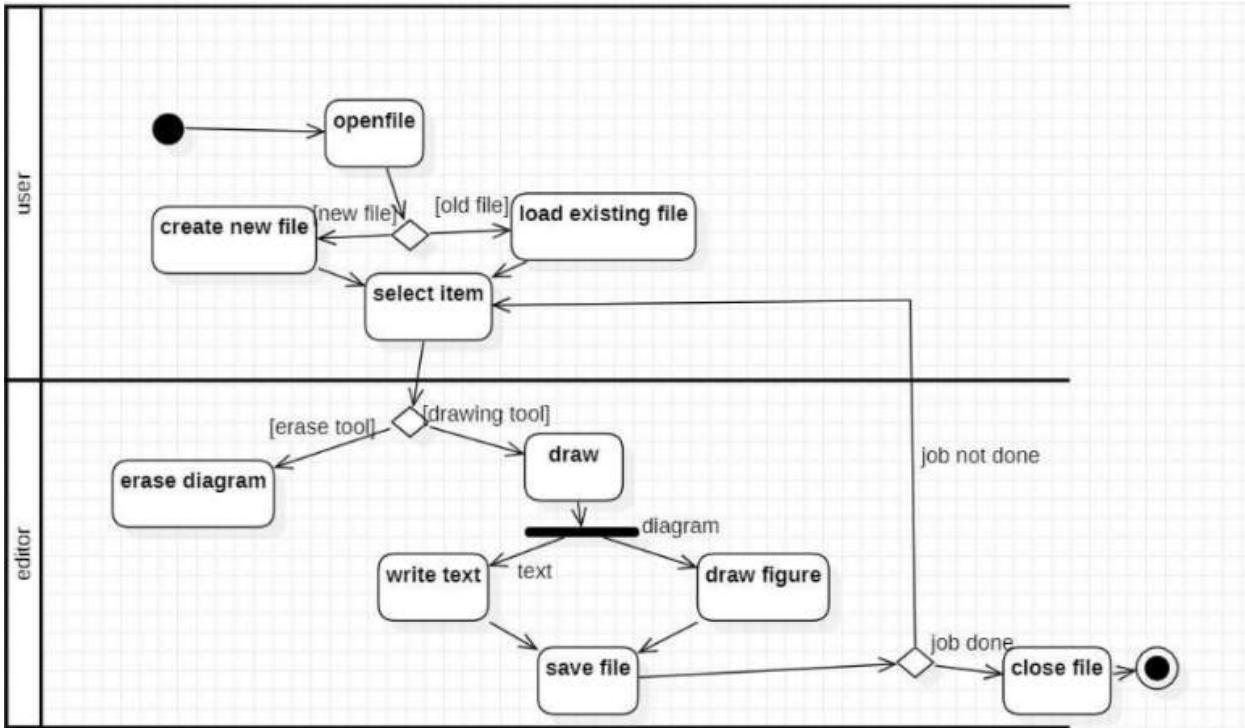


Description

The above scenario depicts how a user creates a new document and also creates a new tool along with selecting it. The user has the facility to change the font and select it. Later after use he can save the document, and the saved message is sent.



7.7 Activity Diagram



Description

The advanced activity diagram gives the states involved in making and saving a graphic file. The user selects a new document and draws graphics, saves the file and closes it.

