

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
“JnanaSangama”, Belgaum -590014, Karnataka.



LAB REPORT
on
Object Oriented Analysis and Design

Submitted by

MANJULA (1BM20CS408)

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
April-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 Analysis and Design**” carried out by **MANJULA (1BM20CS408)**, 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 academic year 2021-2022. The Lab report has been approved as it satisfies the academic requirements in respect of an **Object Oriented Analysis and Design - (20CS6PCOMD)** work prescribed for the said degree.

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Index Sheet

Sl. No.	Experiment Title	Page No.
1	College Information System	4-15
2	Hostel Management System	16-27
3	Stock Maintenance System	28-39
4	Coffee Vending Machine	40-51
5	Online Shopping System	52=62
6	Railway reservation System	63-75
7	Graphics Editor	75-87

Course Outcome

CO4	Ability to conduct practical experiment to solve a given problem using Unified Modeling language.
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1. College Information System -

a) SRS:

1) SRS - COLLEGE INFORMATION SYSTEM:

problem statement

The college information system is a system that maintains students, staff and dept information. It maintains the courses taught by teachers and students enrolled in them. admission records of students and examination details and other important information related to college management is maintained.

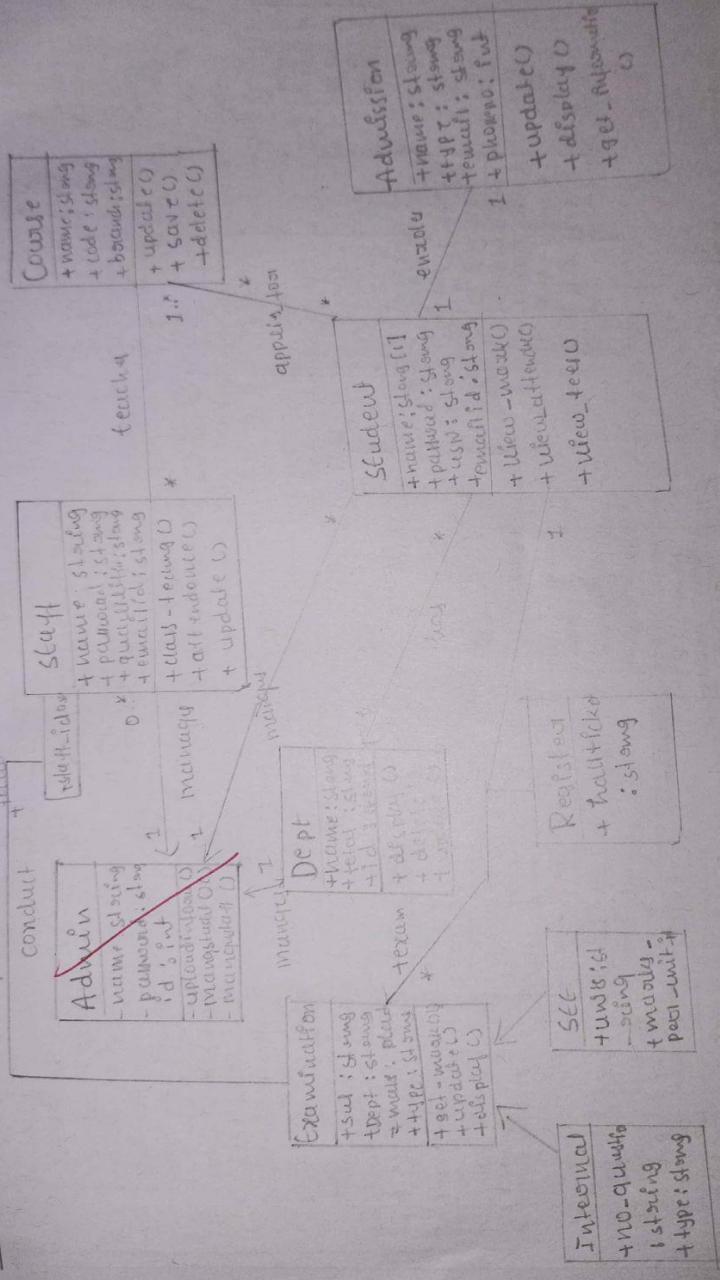
Software Requirement Specification :-

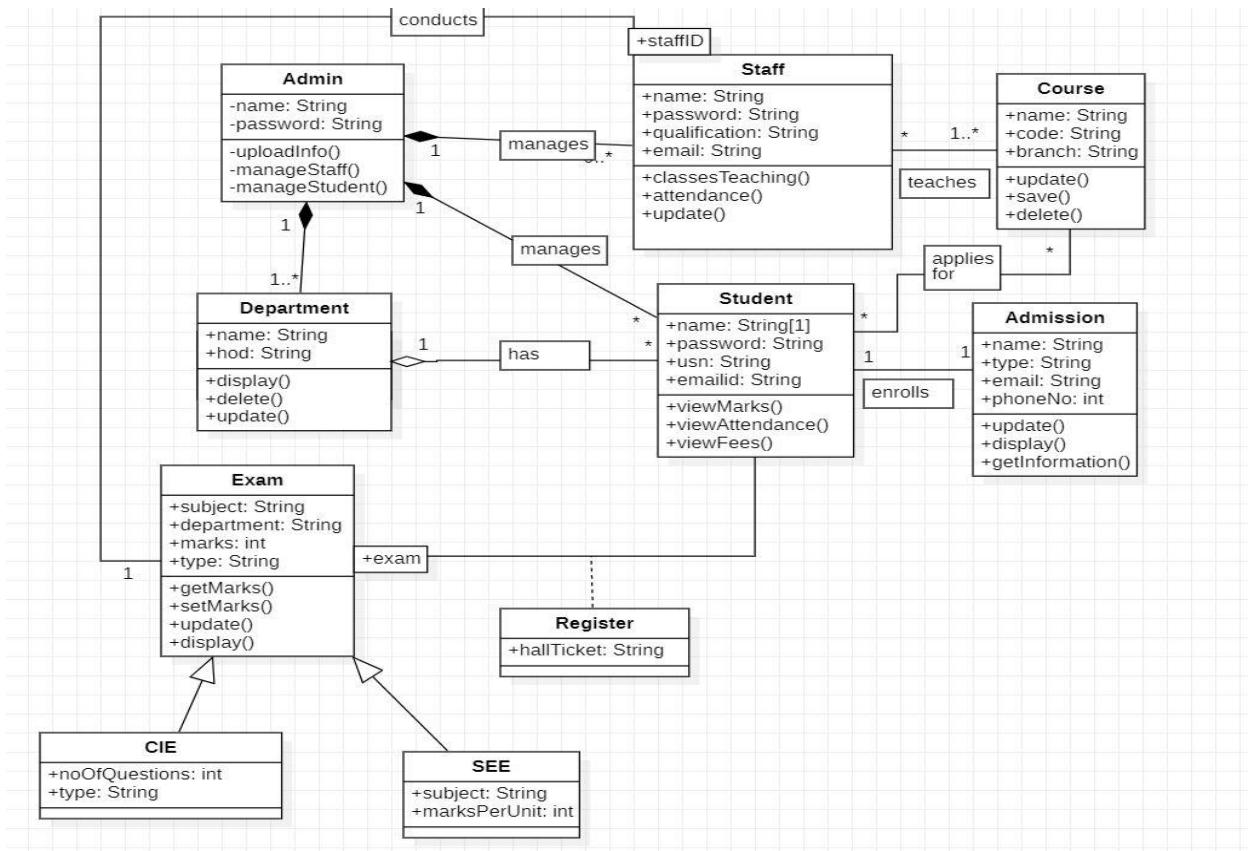
- College information system has one admin who manages the staff and dept
- admin can view and modify the student's records like students profile, attendance, fee, result, and details of teachers and other employees in college, their personal information and their attendance for their salaries,
- In this system, user authentication will be done by login 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 the college.
- the students of the college register themselves in the dept and for the course they are interested in and join the college by taking admission and following all the admission procedures.
- there are different types of examination conducted by the college for the students are the of them
- Every course has a name & its unique name. every course has diff subject & every sub has its own unique name
- Dept will provide the details about dept within college with their name & every dept name is dept name.

b) Advance Class Diagram:

I. Class Diagram : College Information System :

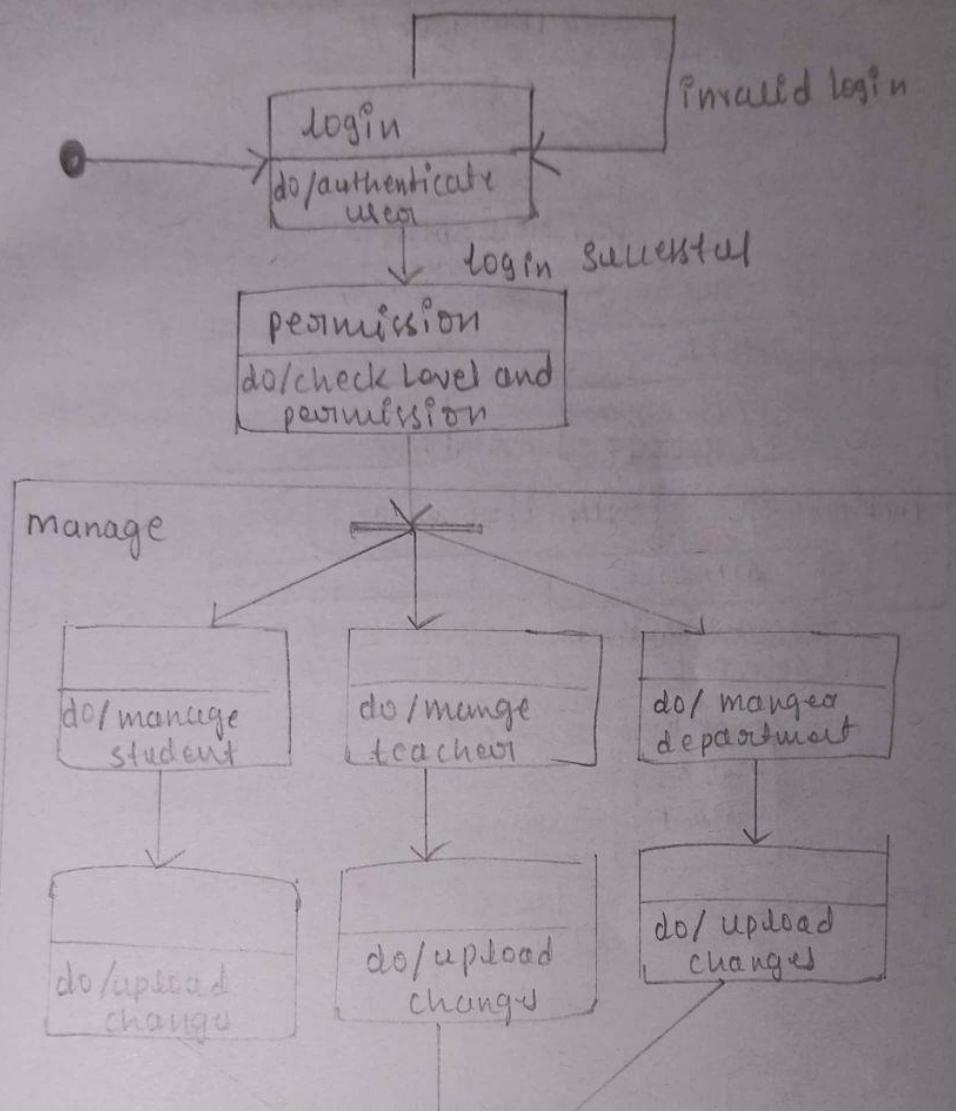


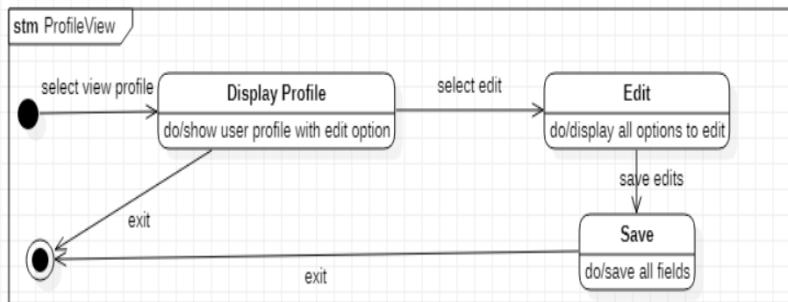
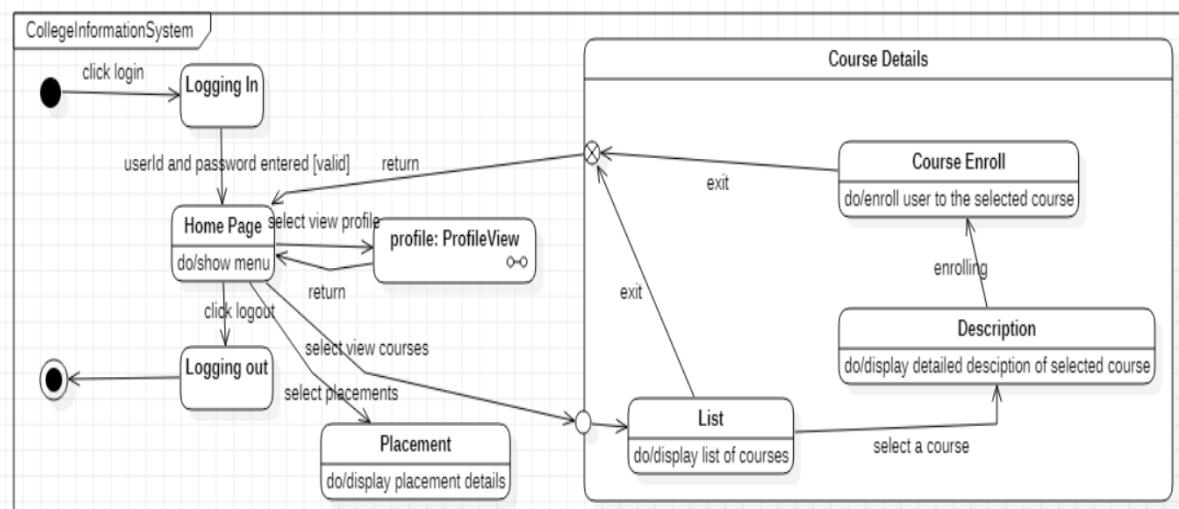


c) Advance State Diagram:

Advanced State diagram:

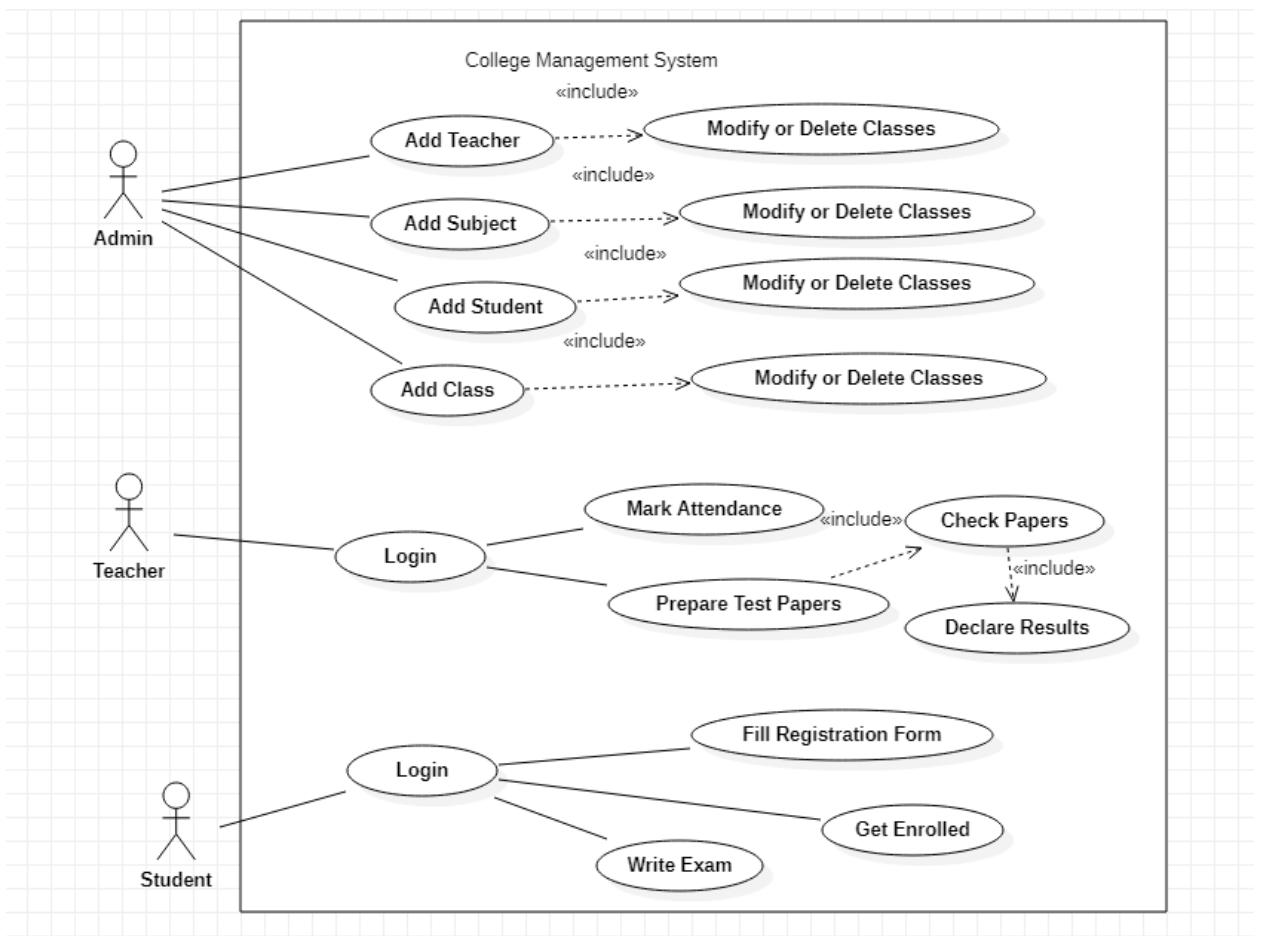
1. College Information System :





d) Advance Use Case Diagram:

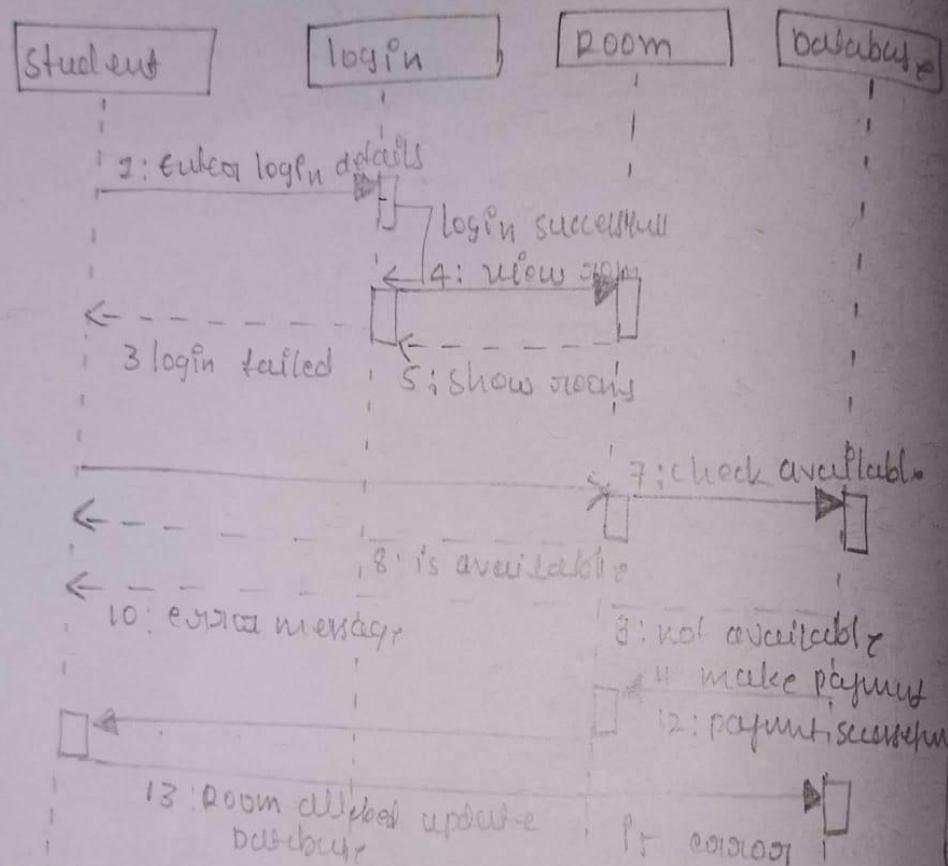
Advance use case

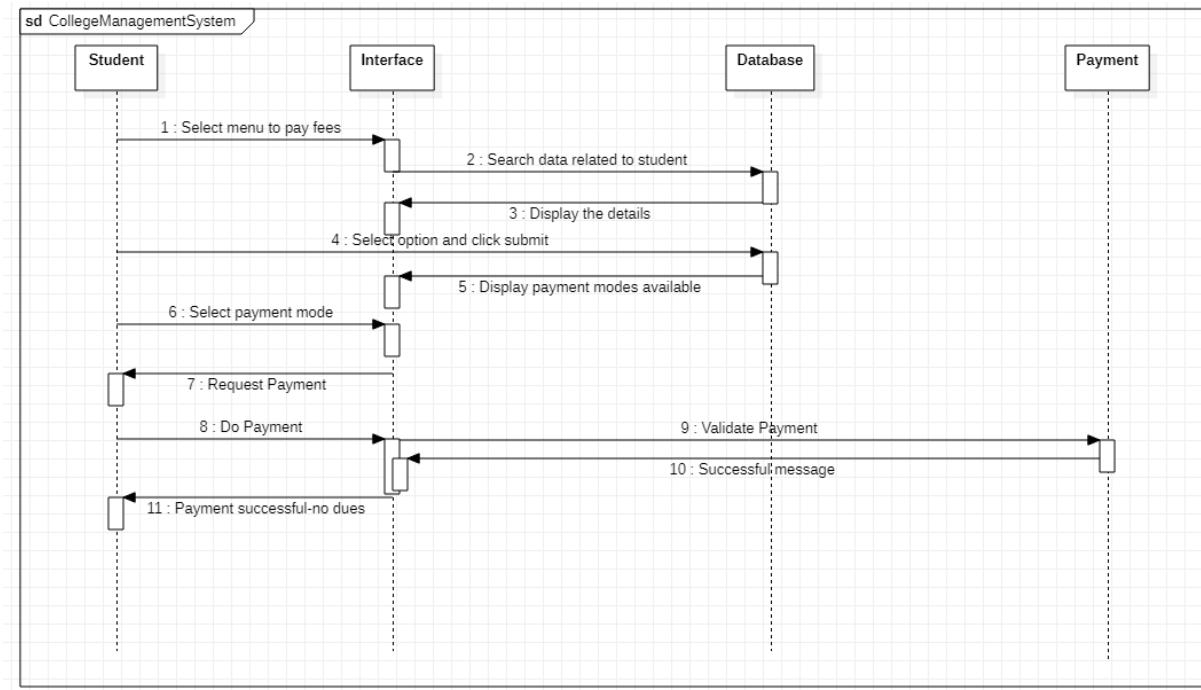


e) Sequence Diagram:

Advance Sequence diagram.

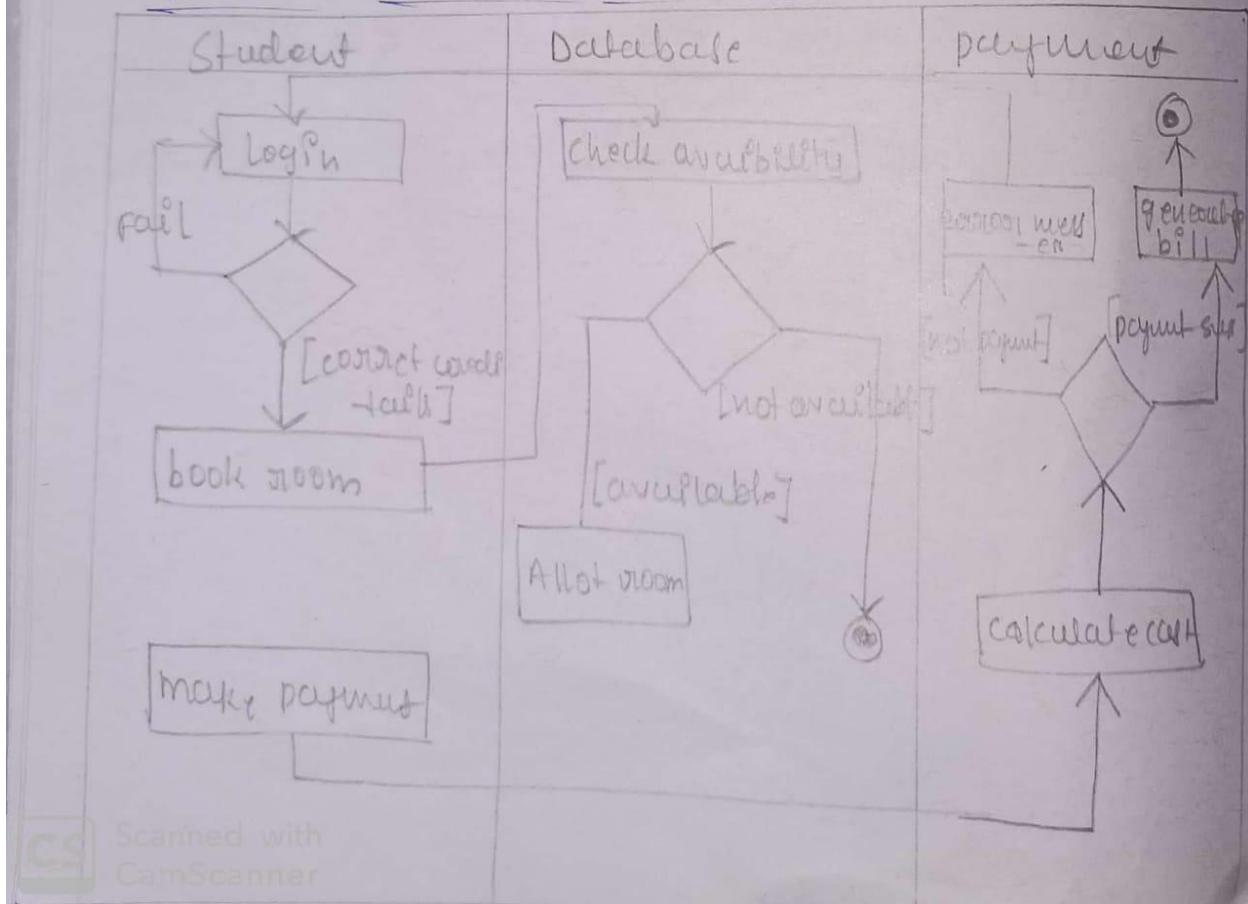
Sd hostel management system

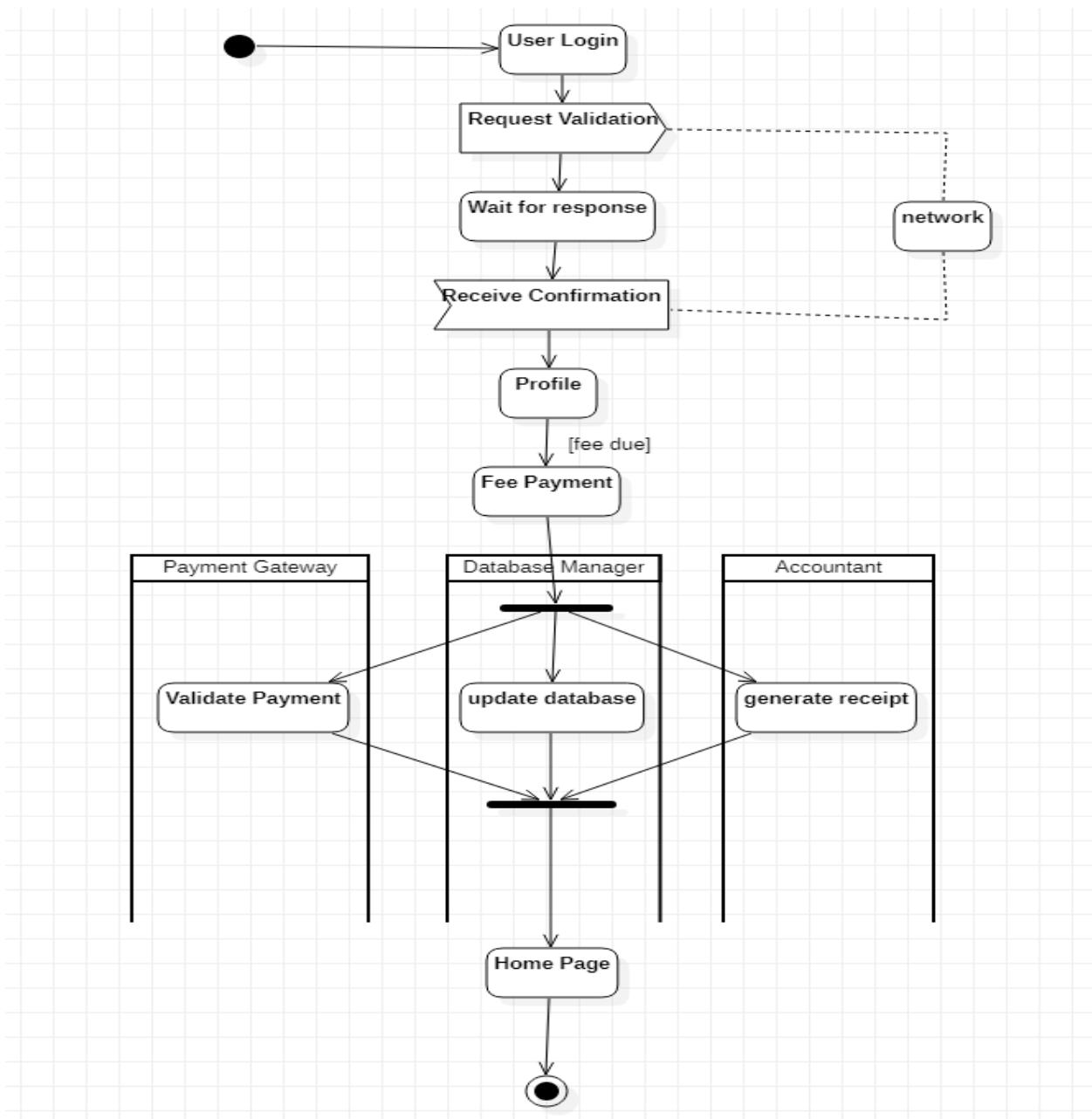




f) Activity Diagram:

Advance Activity diagram





2. Hostel Management System-

a) SRS:

B. HOSTEL MANAGEMENT SYSTEM :

Problem Statement

The HMS is to provide college students accommodation to the university hostel more efficiently. This project also keeps details of the hostellers and applied students. It is handled by warden. He will be the administrator. This document is intended to user for human words & make hostel allocation an easier job. Student and allocation an authority by providing application for hostel.

SRS

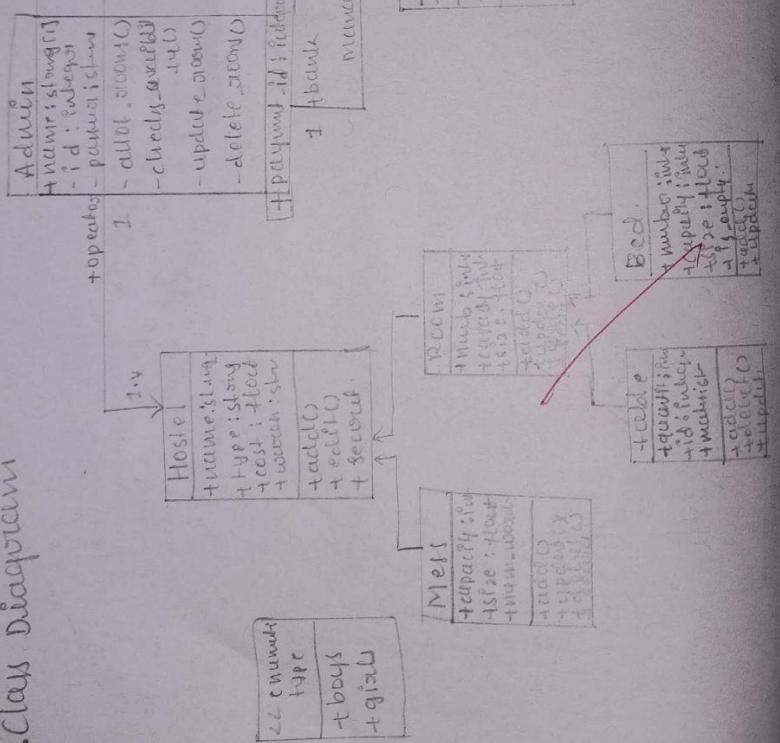
- HMS has admin who manages the hostel, allots and payment method. The admin will allocate a room to ~~student~~ according to the section or class. The admin will also keep track of the payment made by the student / allot - es.
- As the students come in over they will vacate their rooms. So it is required for the admin to remove from the details & tables.

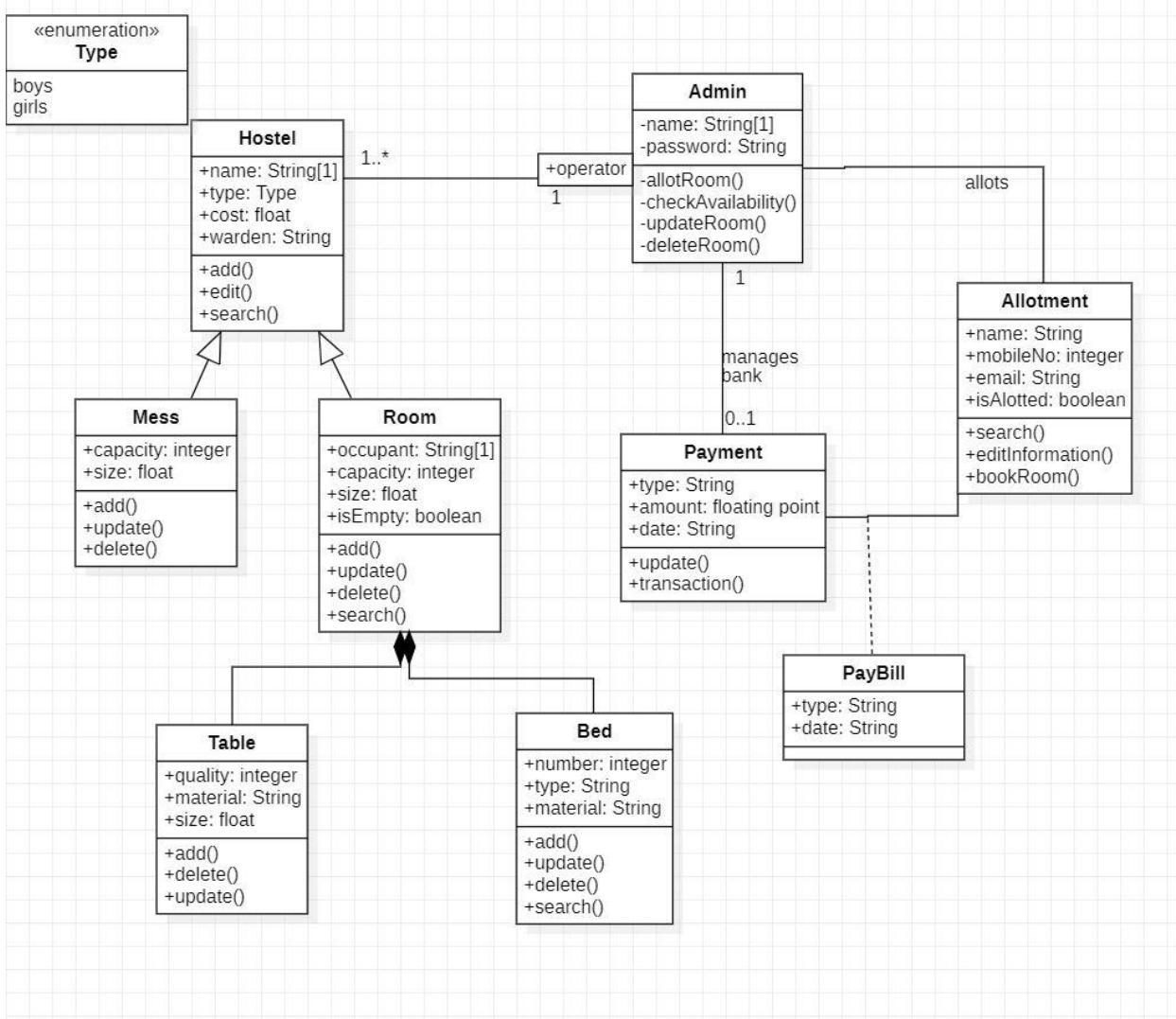
- the allotees makes payment according to the bill generated which have the attributed bill no/type and date.
- the details of the students staying in the hostel like name, place, address, contact details is maintained in the
- the hostel is categorized into 2 types . boys and girls hostel. each hostel type has different cost, wooden and name,
- A hostel is made up of mess of rooms a mess account will also generate, this account keeping the mess status of the whole month on the base of this account monthly charges of mess of a student will be defined.
- the HMS will allow streamlining the students registration every year.

b) Advance Class Diagram:

2. Class Diagram

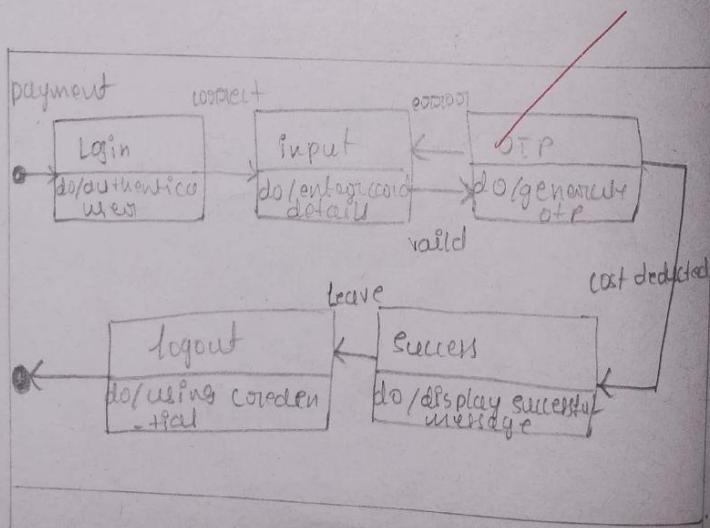
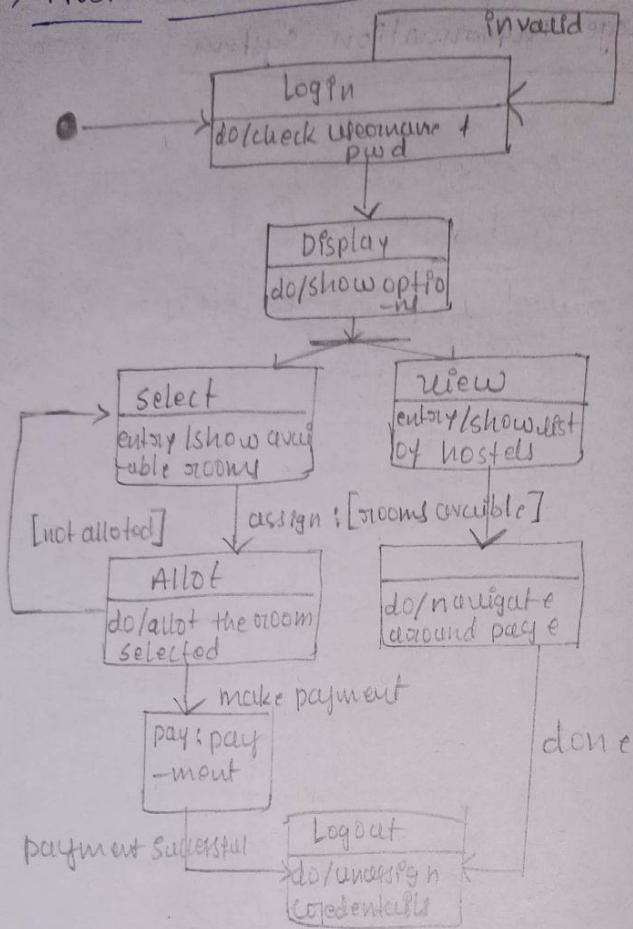
Hostel Management System

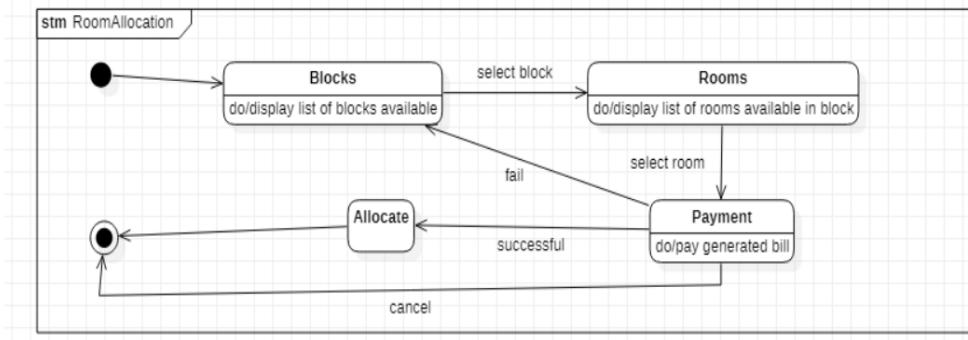
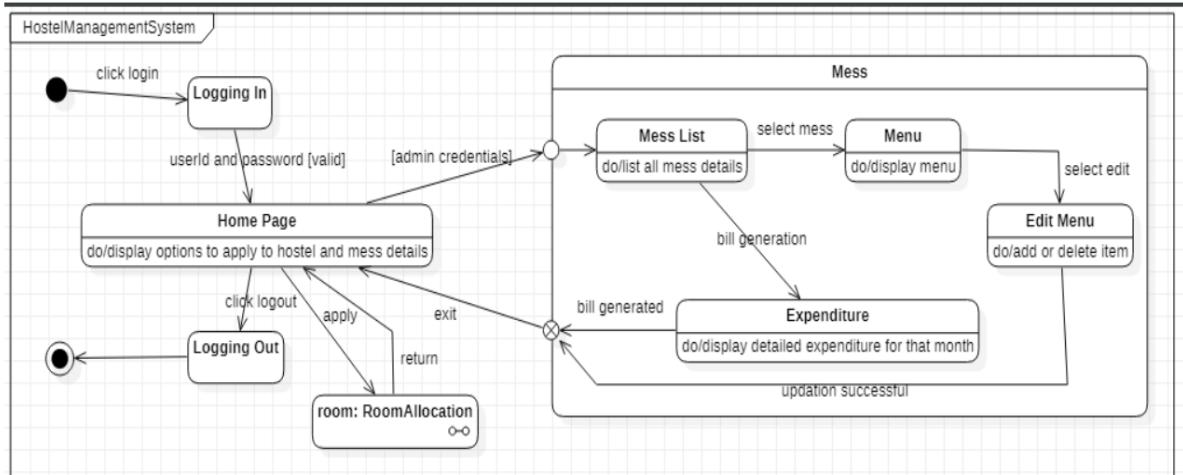




c) Advance State Diagram:

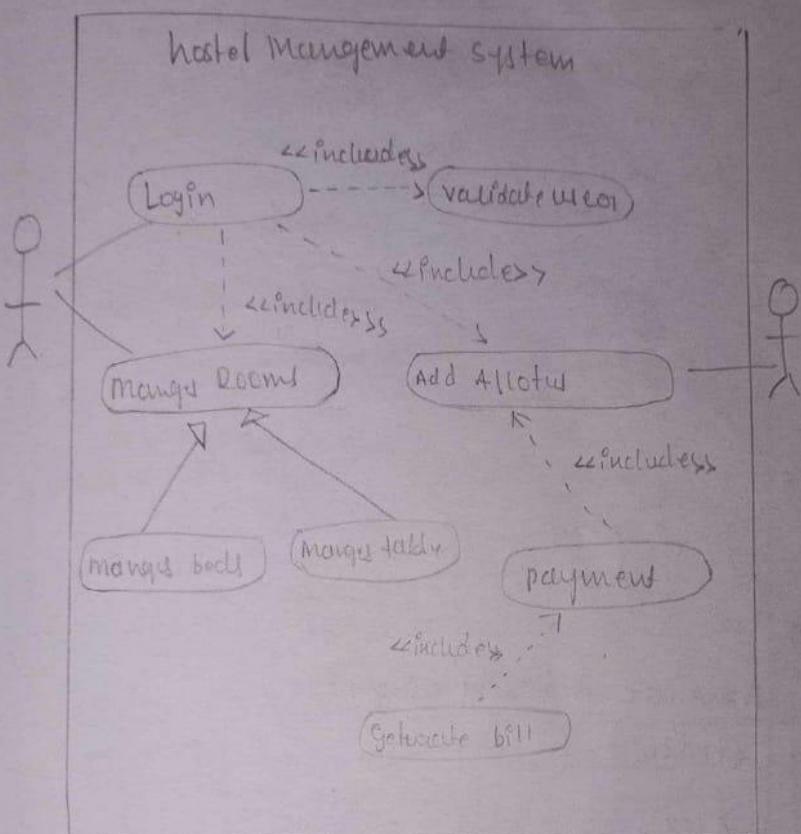
2) Hostel Management system :

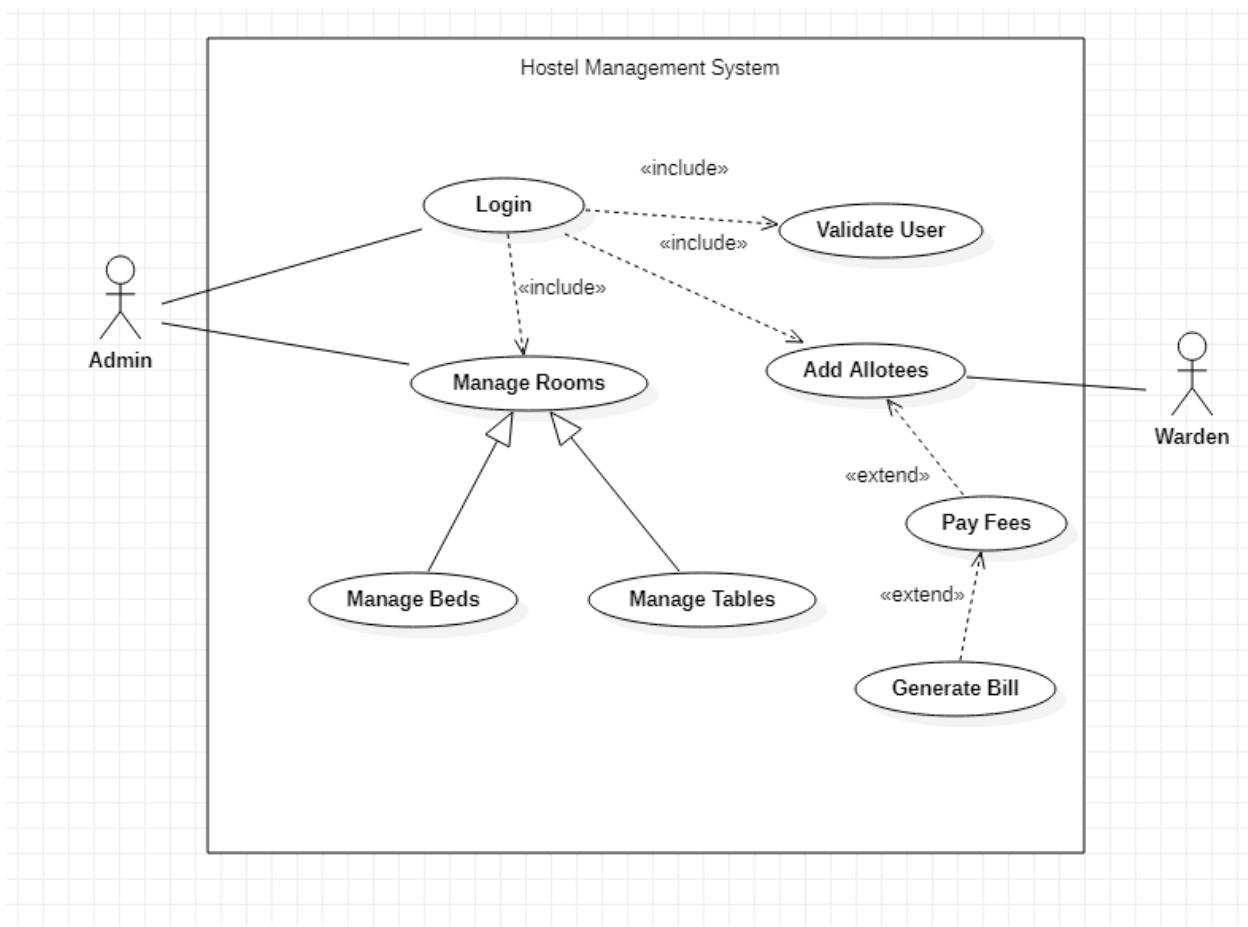




d) Advance Use Case Diagram:

2) Hostel Management System:

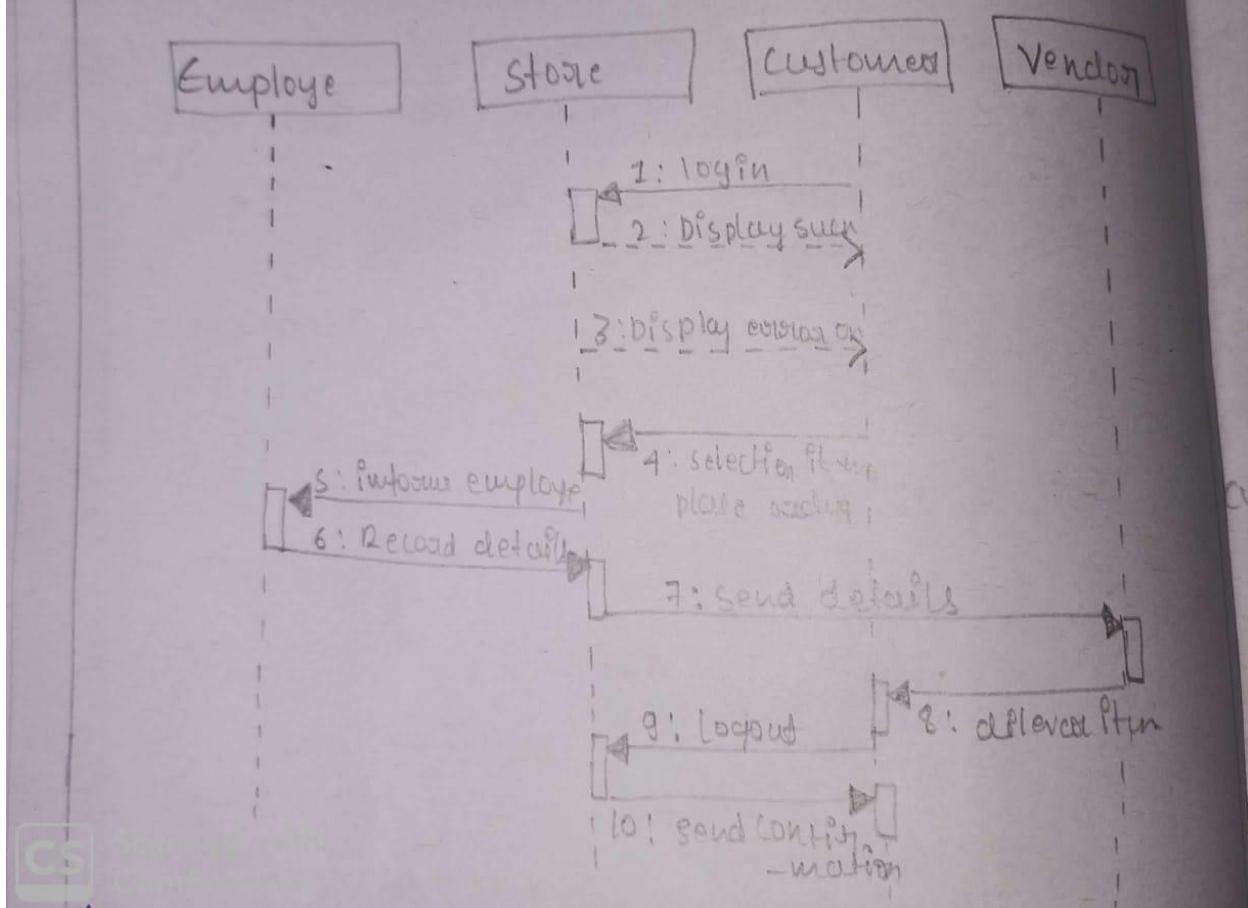


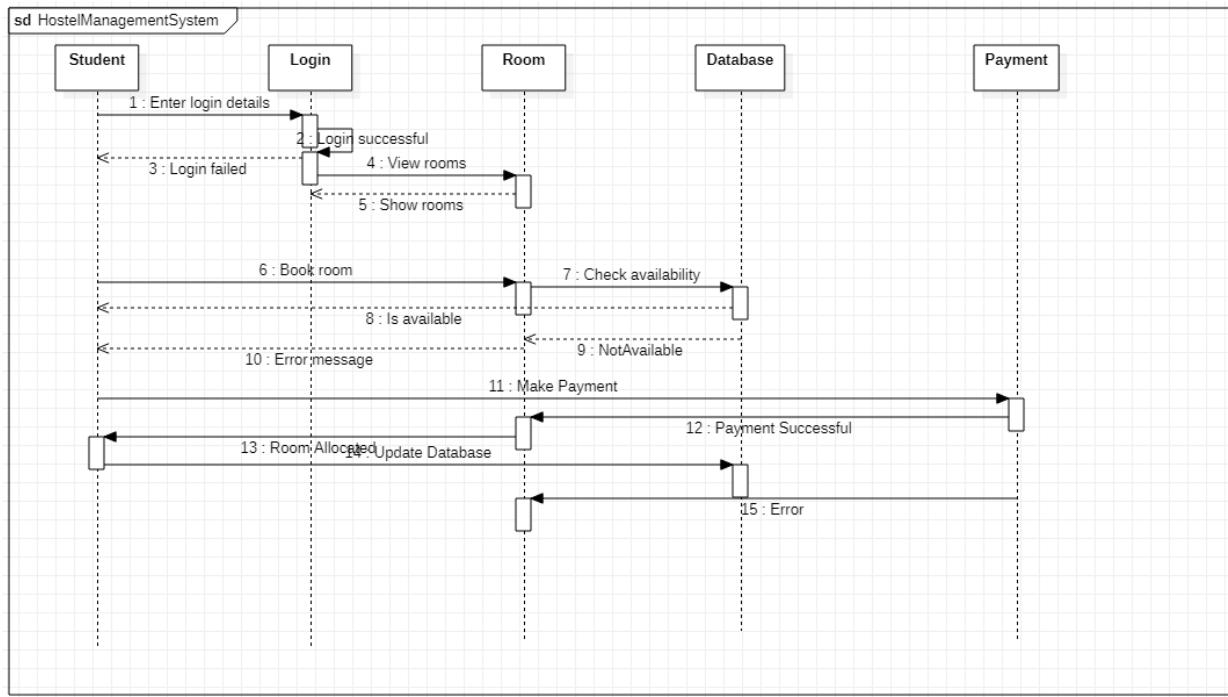


e) Sequence Diagram:

Advanced - Sequence - diagram

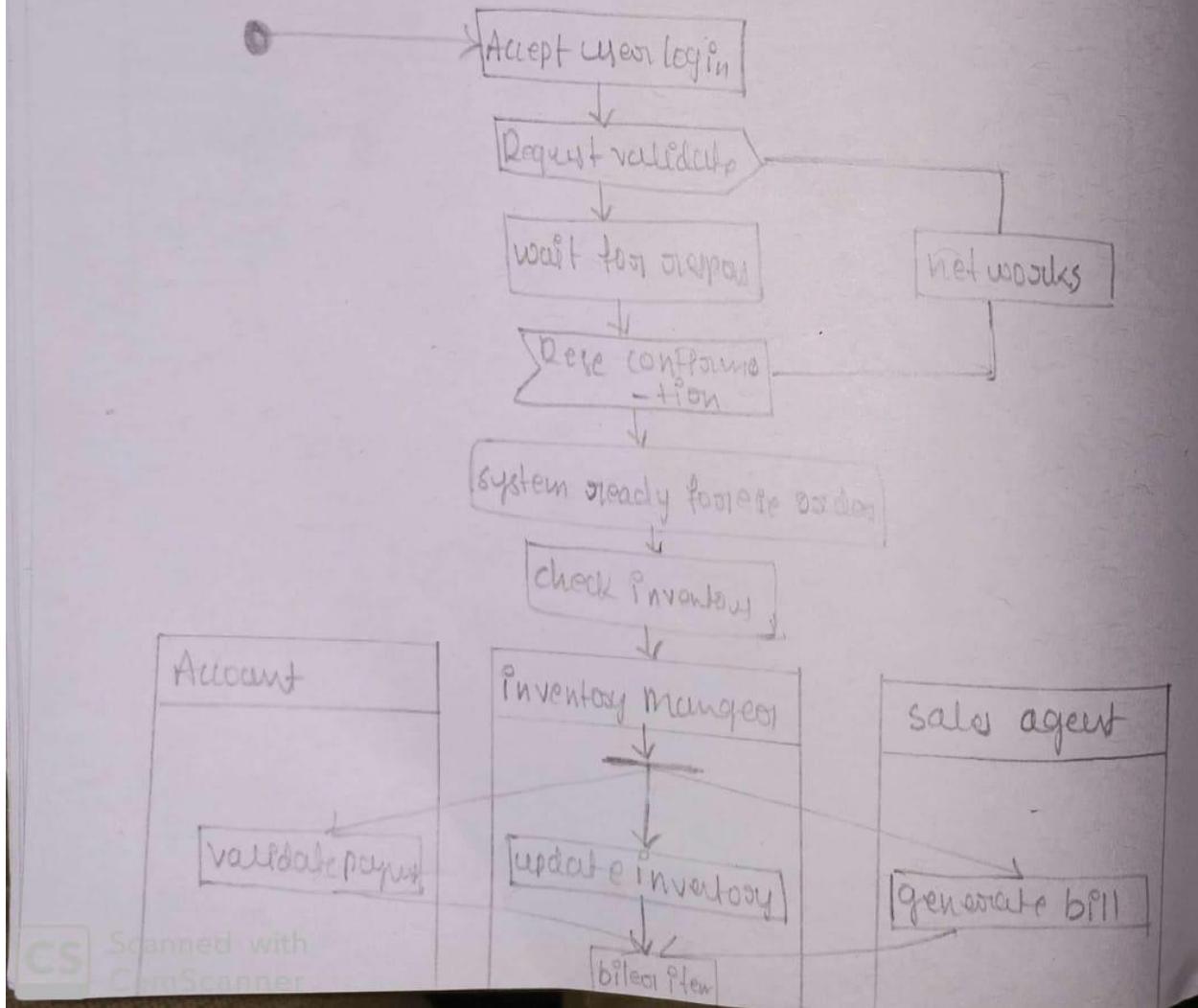
Sd Stock Management System }



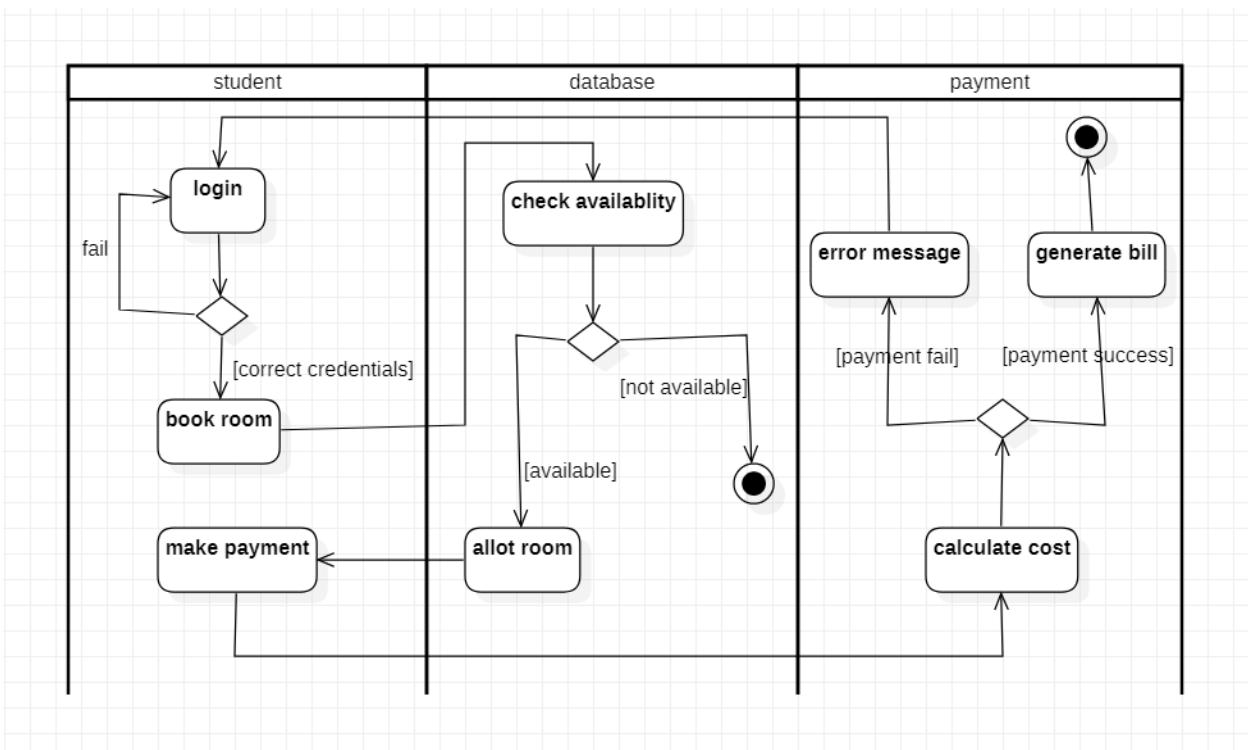


f) Activity Diagram:

Advance Activity - diagram



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3. Stock Maintenance System-

a) SRS:

3. STOCK MANAGEMENT SYSTEM :

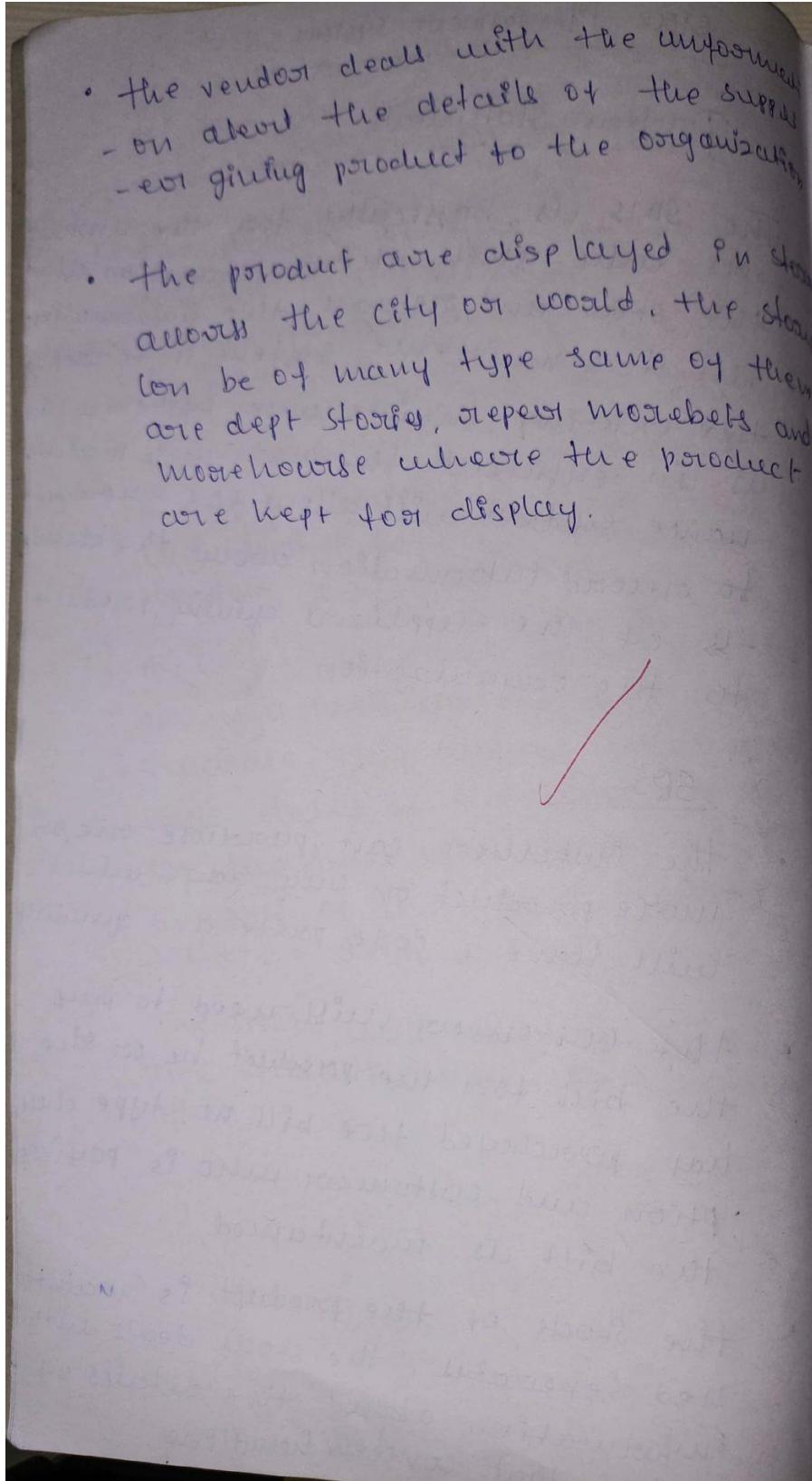
Problem Statements

The SMS is basically for the customers who access the information about the stock and returns the information. The stock maintenance system is to replace the existing maintenance system which is inefficient. The new stock maintenance system will allow the employer to record information about the details of the supplier giving products to the organization.

SRS :

- the customer can purchase one or more product on any day, which will have a code price and quantity.
- the customer will need to pay the bill for the product he or she has purchased. the bill no, type description and customer who is paying the bill is maintained.
- the stock of the product is maintained separately. the stock deals with information about the details of product that concern handling.

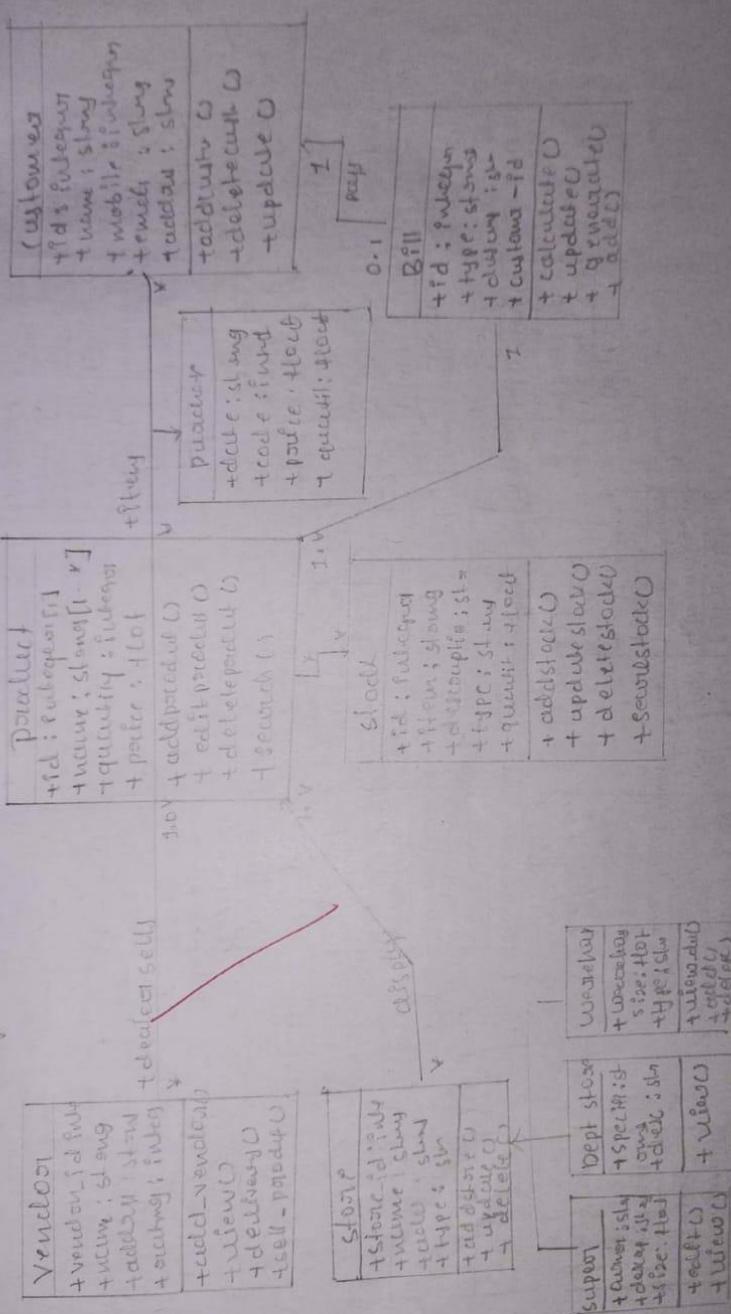
- the vendor deals with the unformmed
- on about the details of the supply
- for giving product to the organization
- the product are displayed in stores
across the city or world, the stores
can be of many type some of them
are dept stores, repeat marts and
warehouses where the products
are kept for display.

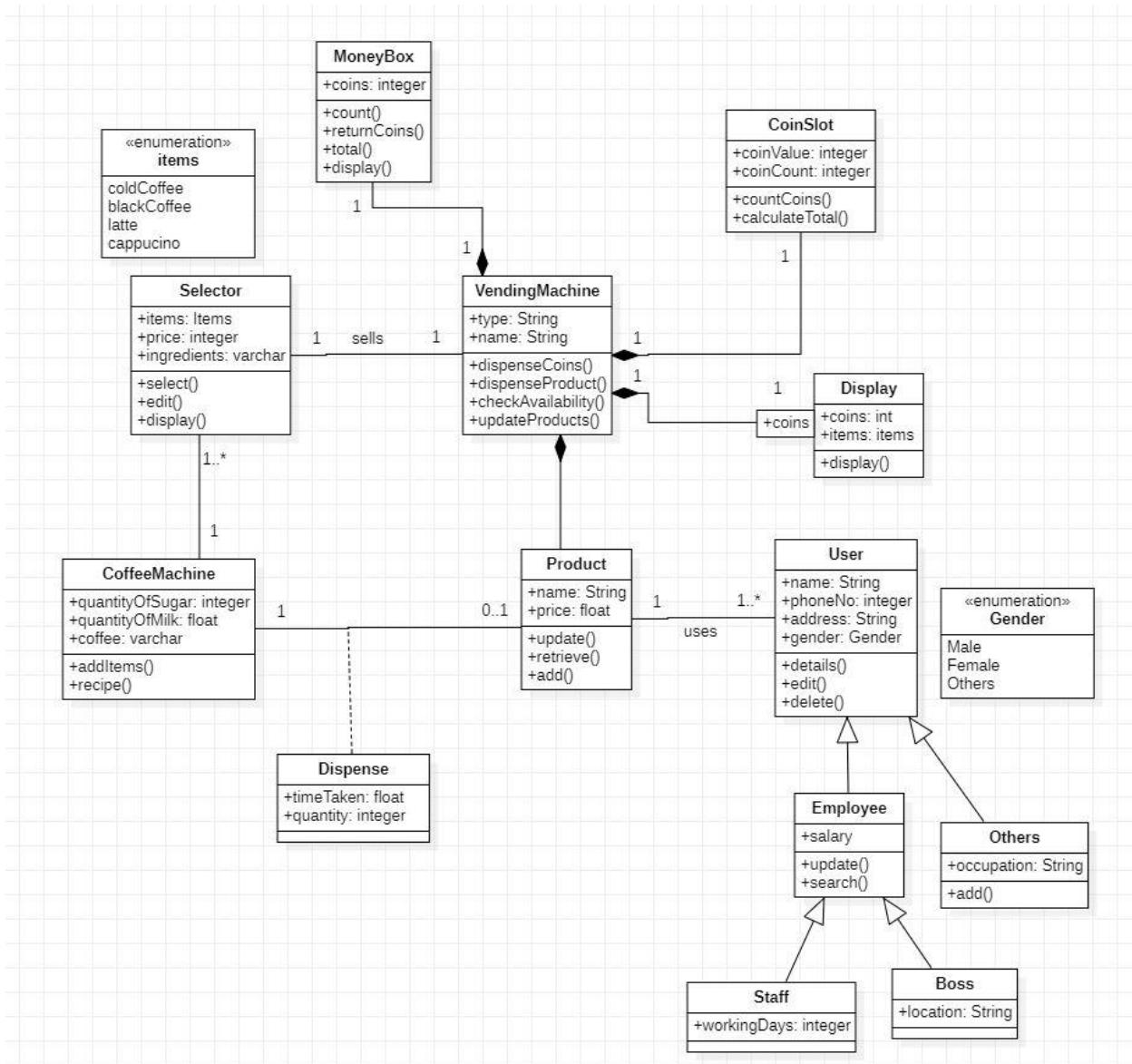


b) Advance Class Diagram:

3. Class Diagram

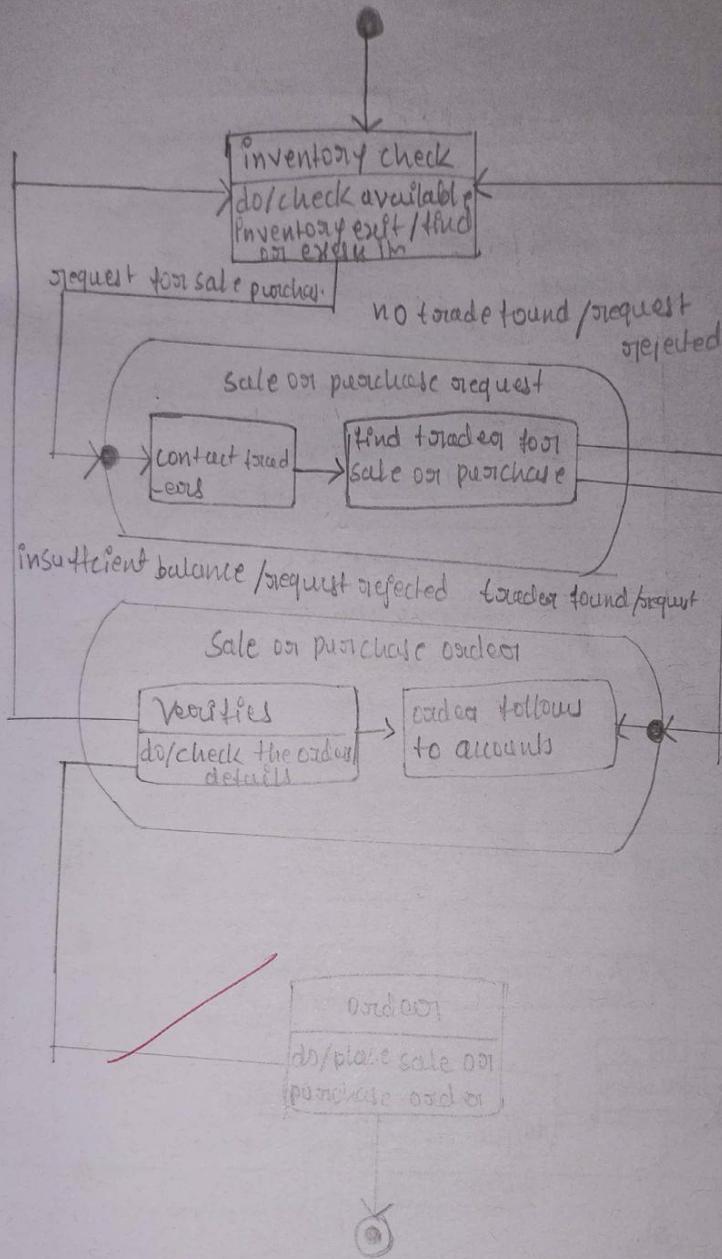
Stock Maintenance System

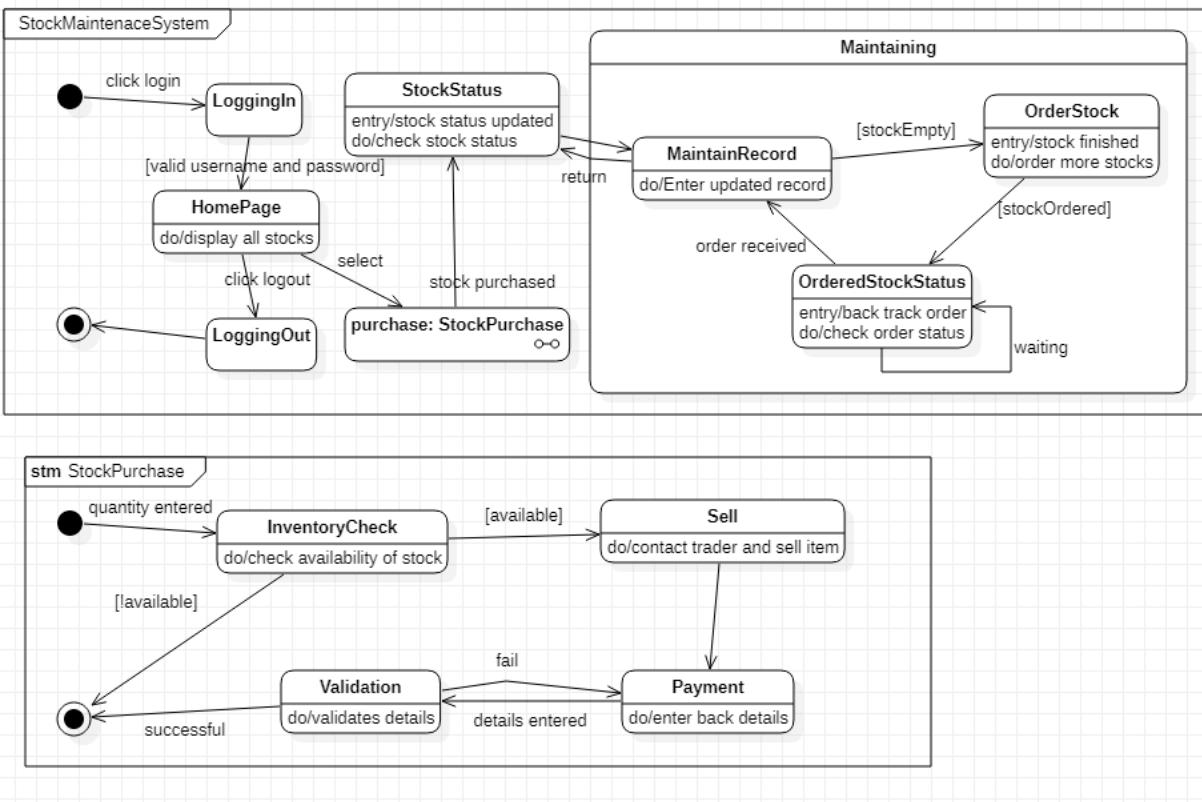




c) Advance State Diagram:

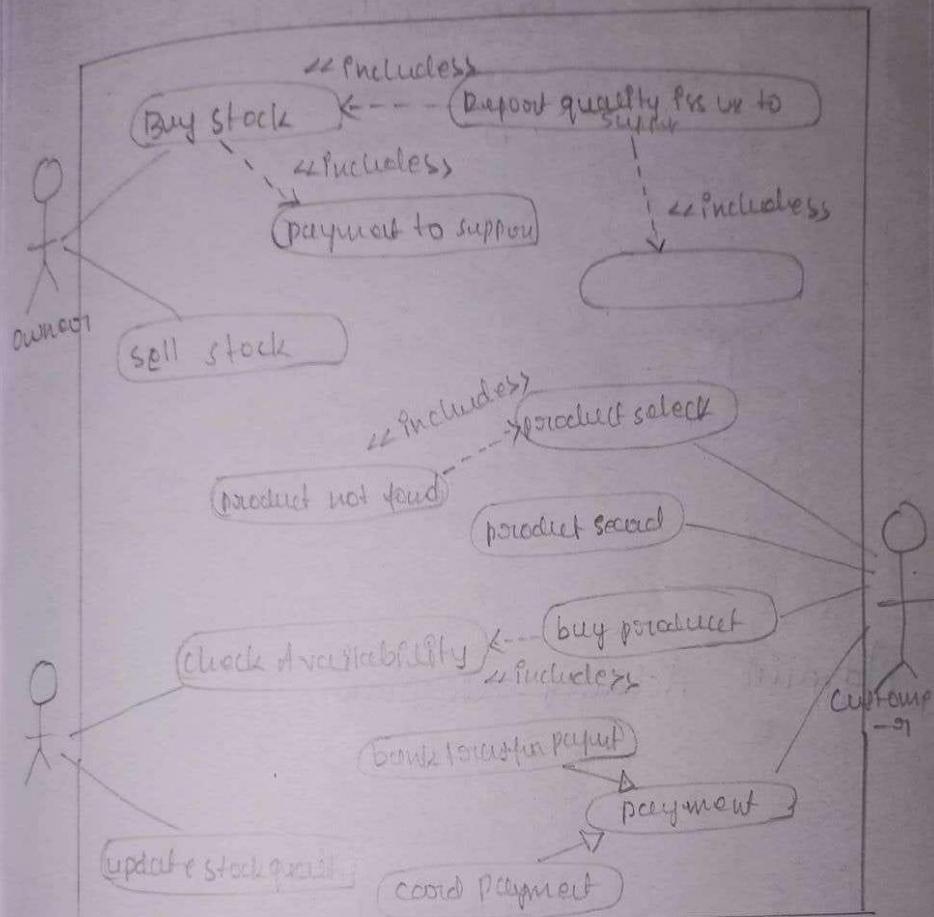
3) Stock Maintenance System :





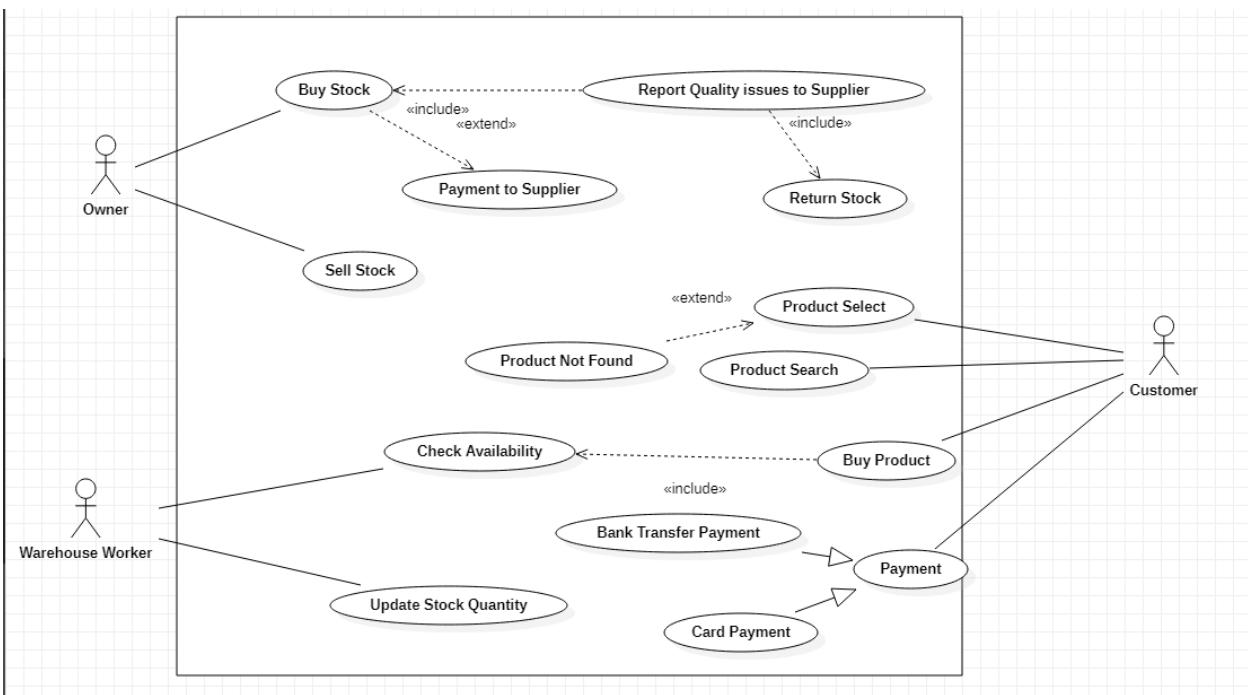
d) Advance Use Case Diagram:

3. Stock Management-system: use case



CS

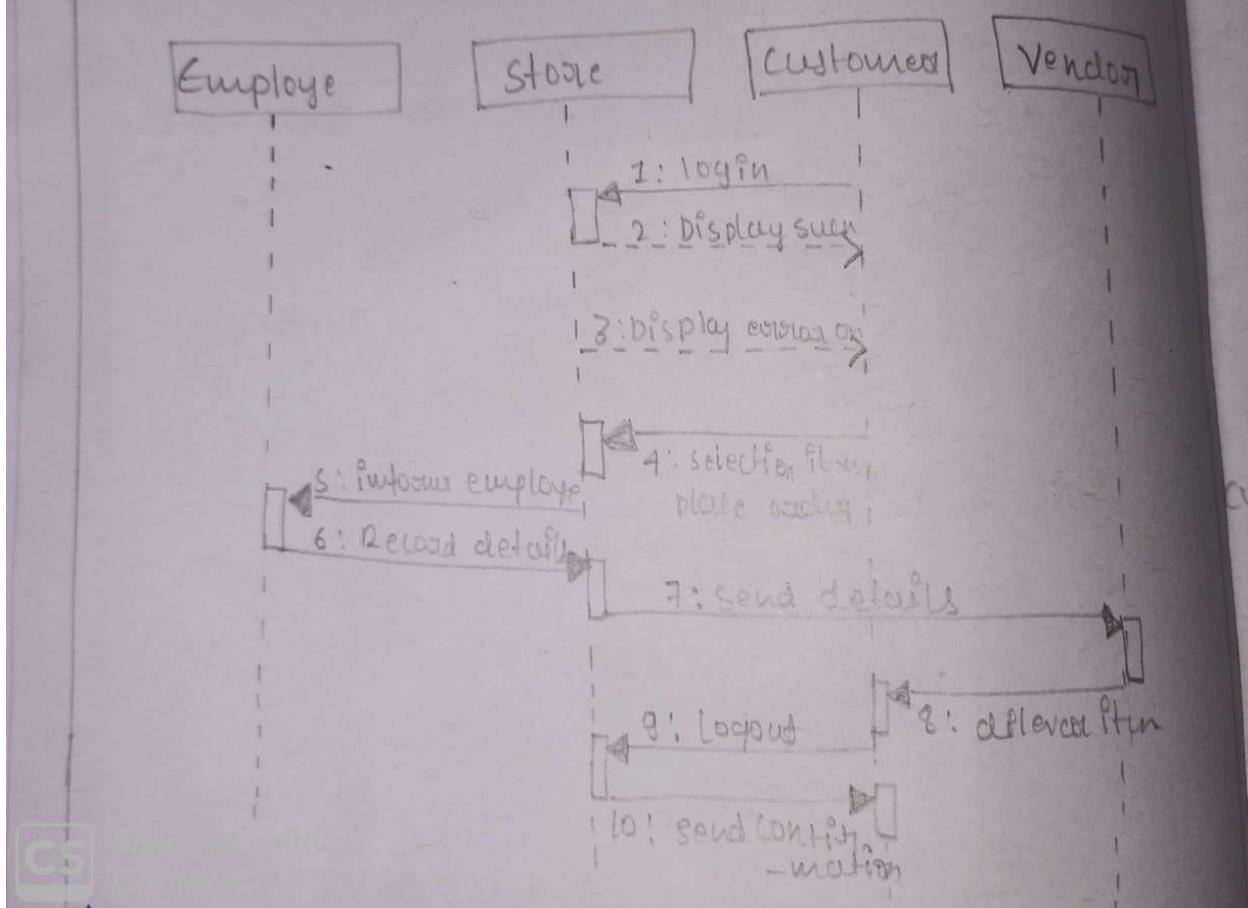
with
center

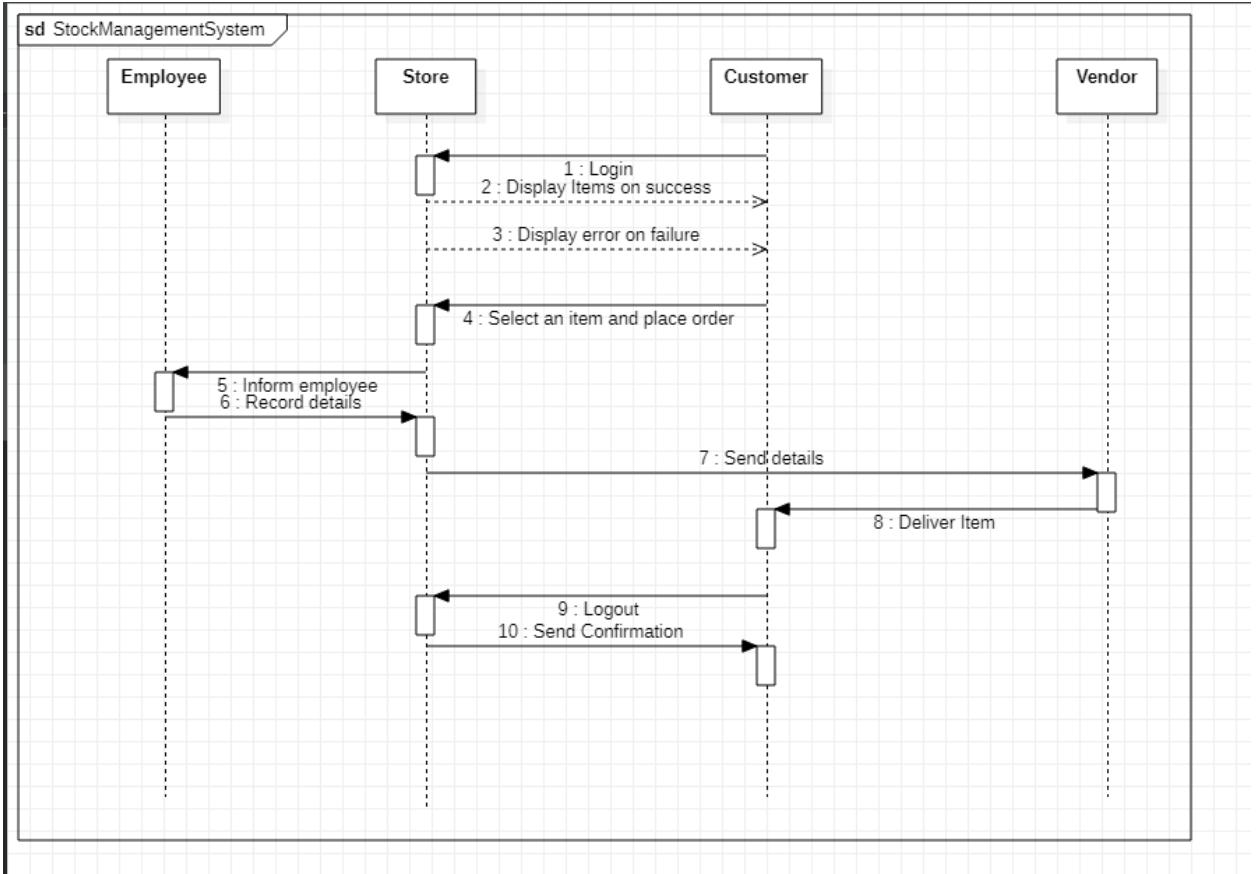


e) Sequence Diagram:

Advanced - Sequence - diagram

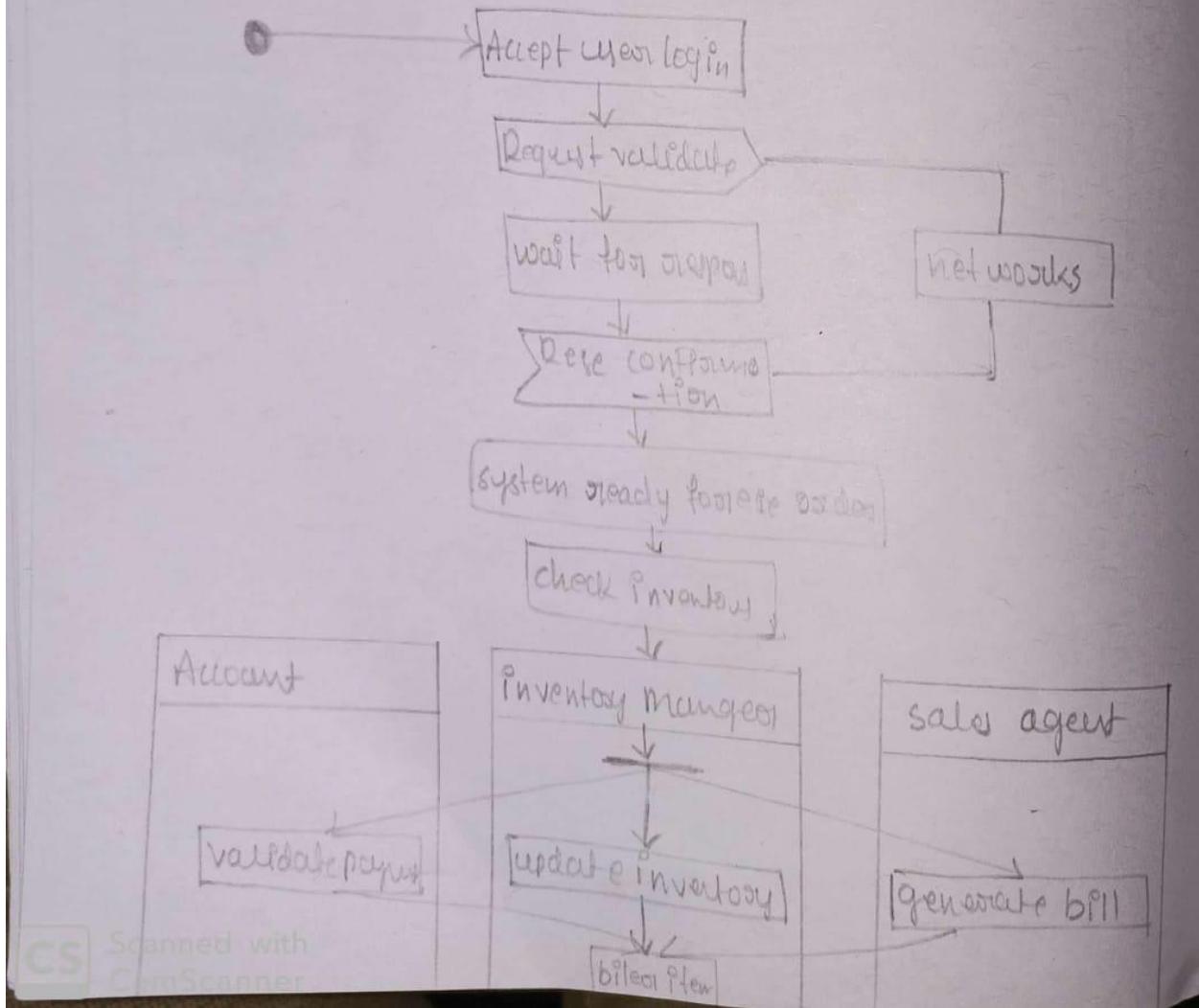
Sd Stock Management System }



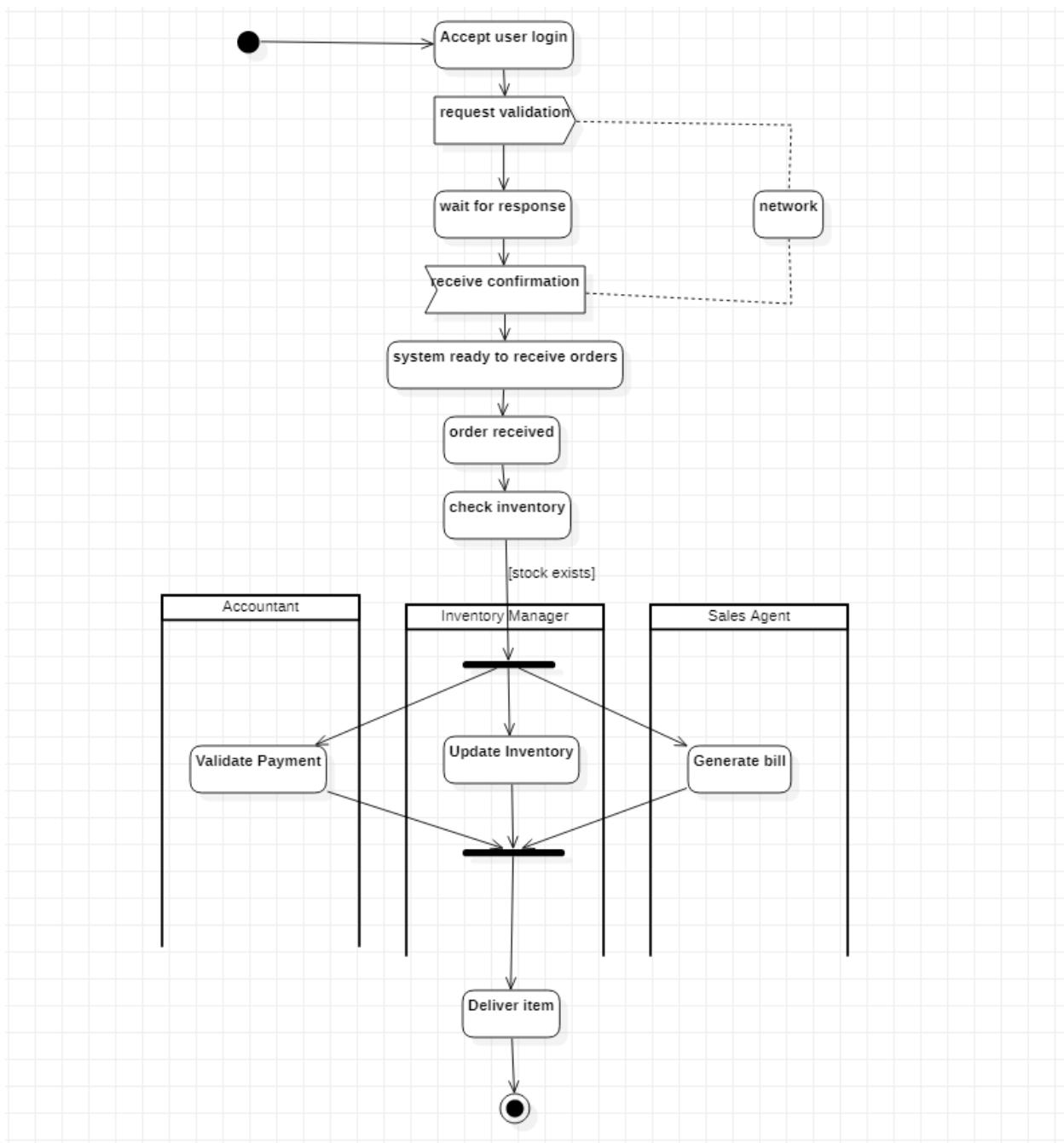


f) Activity Diagram:

Advance Activity - diagram



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4. Coffee Vending Machine-

a) SRS:

4. COFFEE VENDING MACHINE

problem statement:

The CVM is basically for the customers to buy coffee by themselves without any third person being involved. A CVM sells 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 the coffee and paying for the same through the coin box.

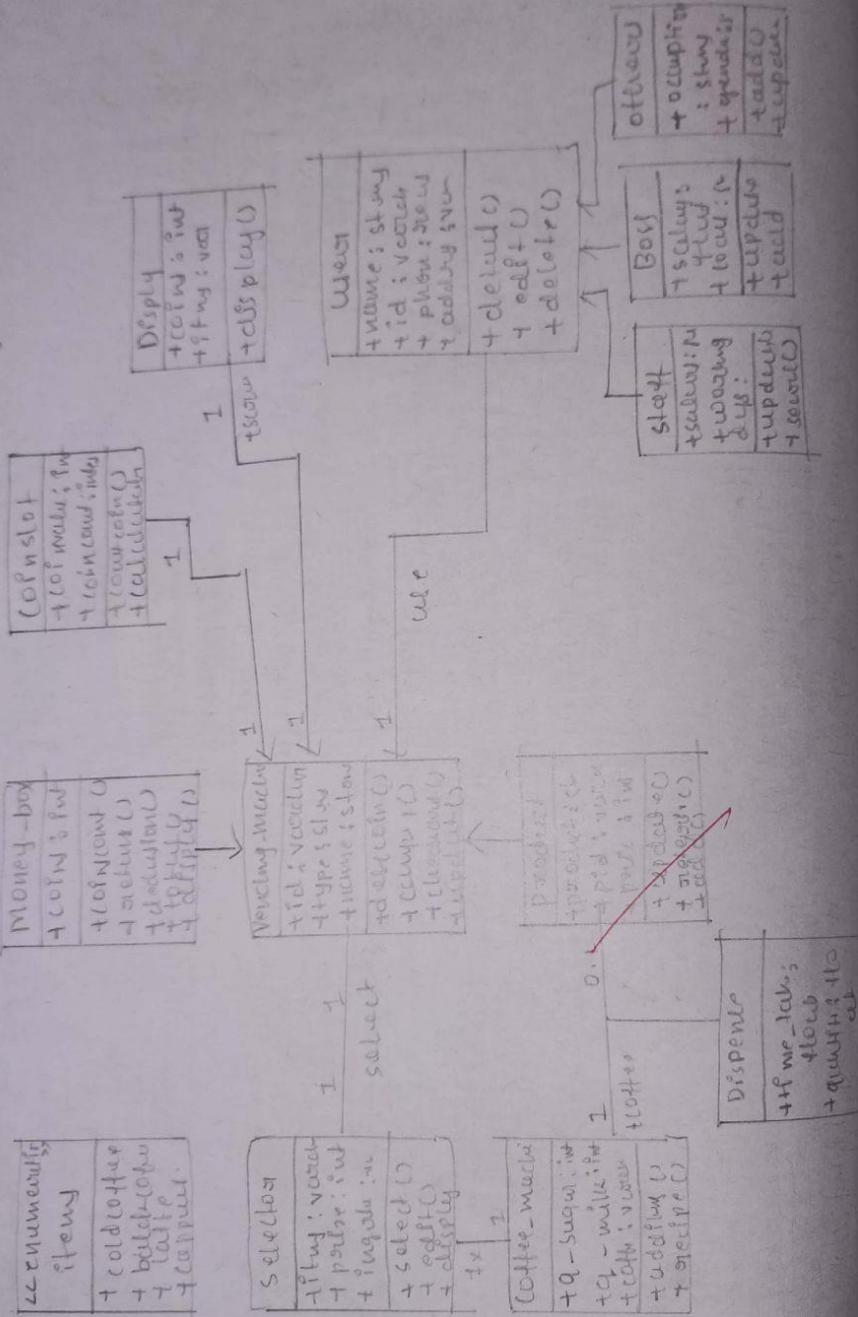
SRS:

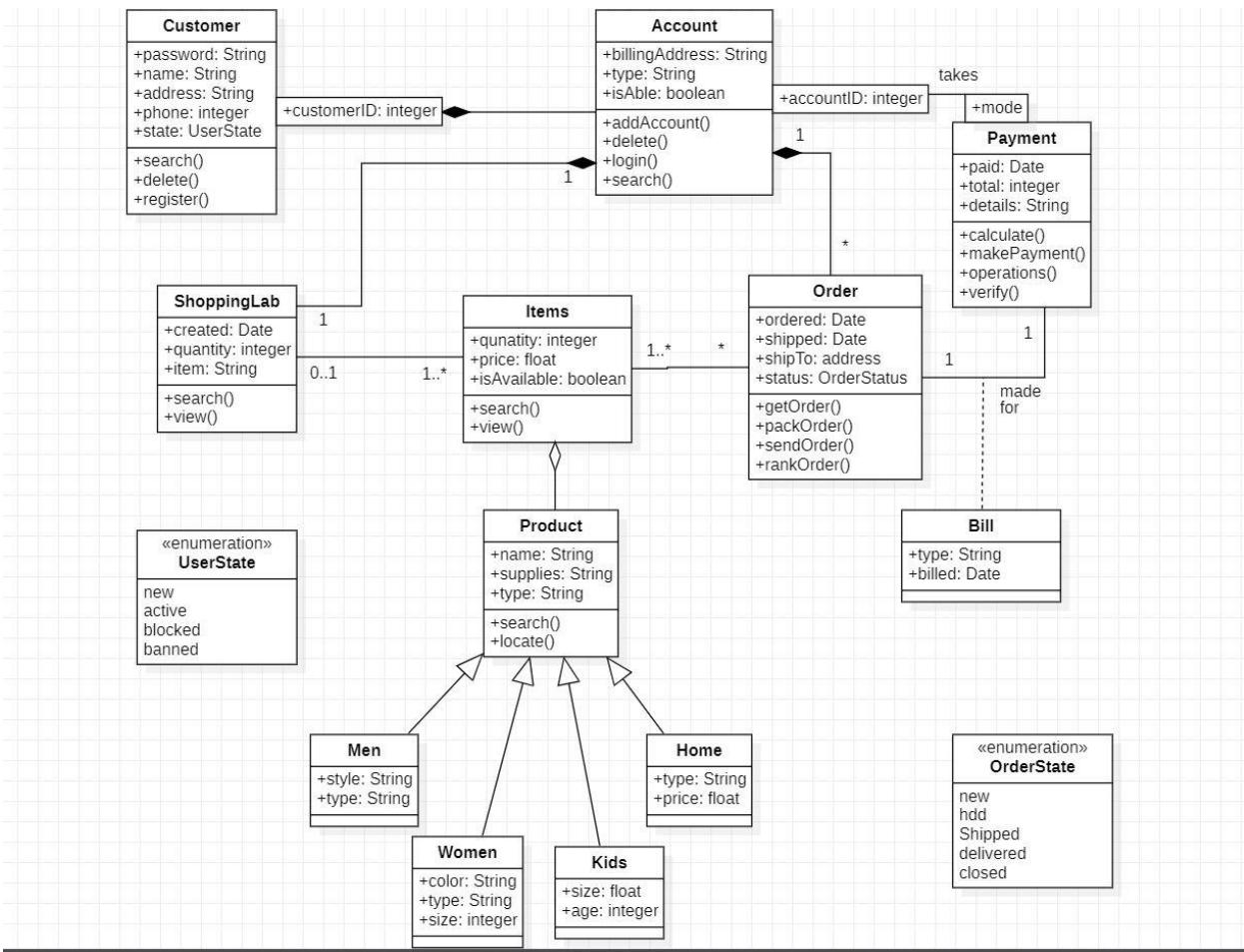
- The vending machine must have money box, slot, display screen and product that is, coffee, for the machine to be used.
- The user on selecting a coffee the machine must be able to dispense the selected coffee to the user.
- The user shall get empty cup placed below the filter. The user shall be able to choose his preferred beverage from the list.

- the user must be buttons (start, please, stop) user to interact with the system
- the user shall be able to purchase one kind of drinkable juice at a time and get back the exact change if the puts extra money. the user shall be able to quit the dispensing of any beverage at any time and time during dispensing.
- the system shall check for properly inserted coins
- the system shall be able to dispense coffee after a coin has been inserted
- the system must check the validity of coins.
- the system shall be able to detect the low amount of ingredient and low no of cups and indicate with an indicator (small LED)

b) Advance Class Diagram:

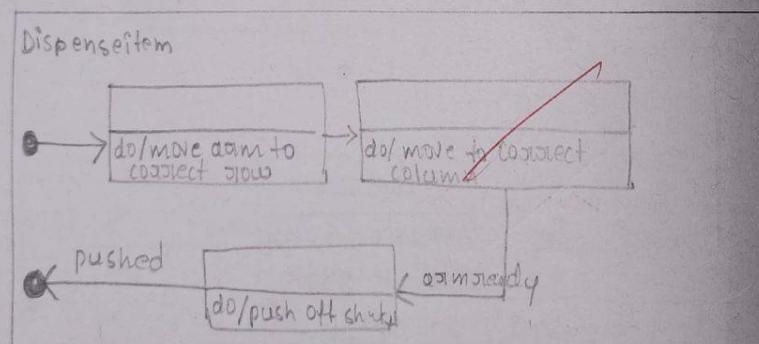
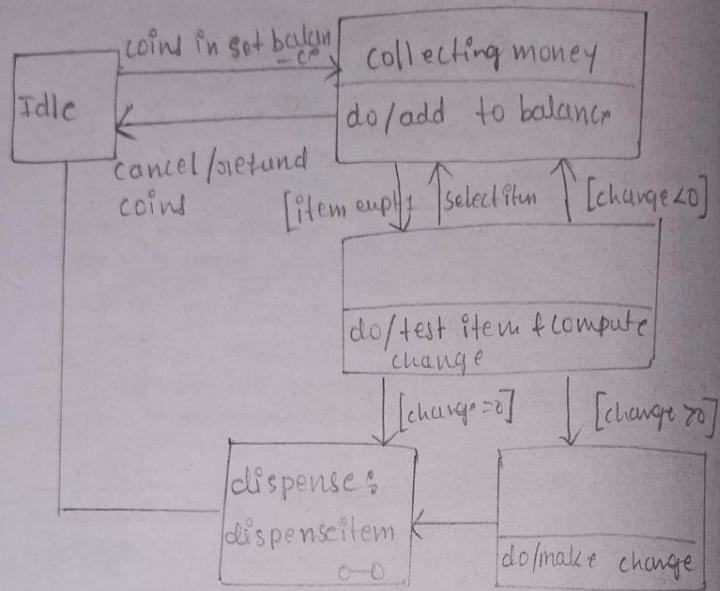
4. Class Diagram - Copple Vending Machine.

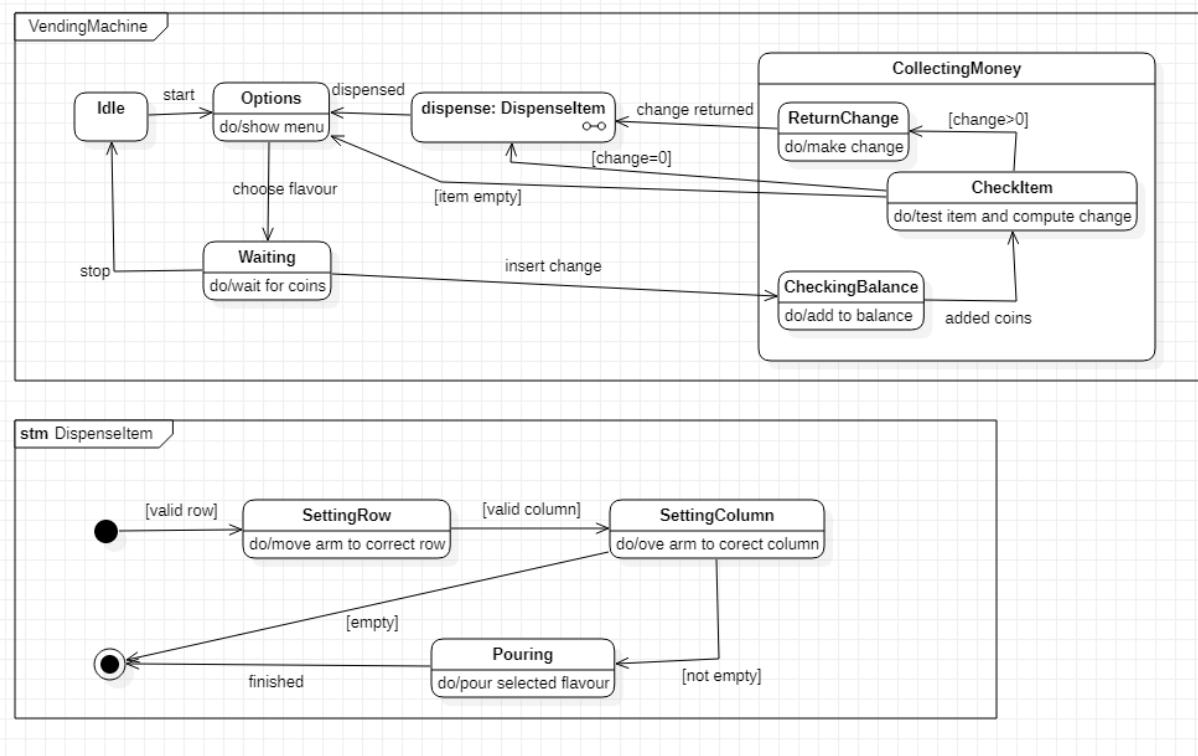




c) Advance State Diagram:

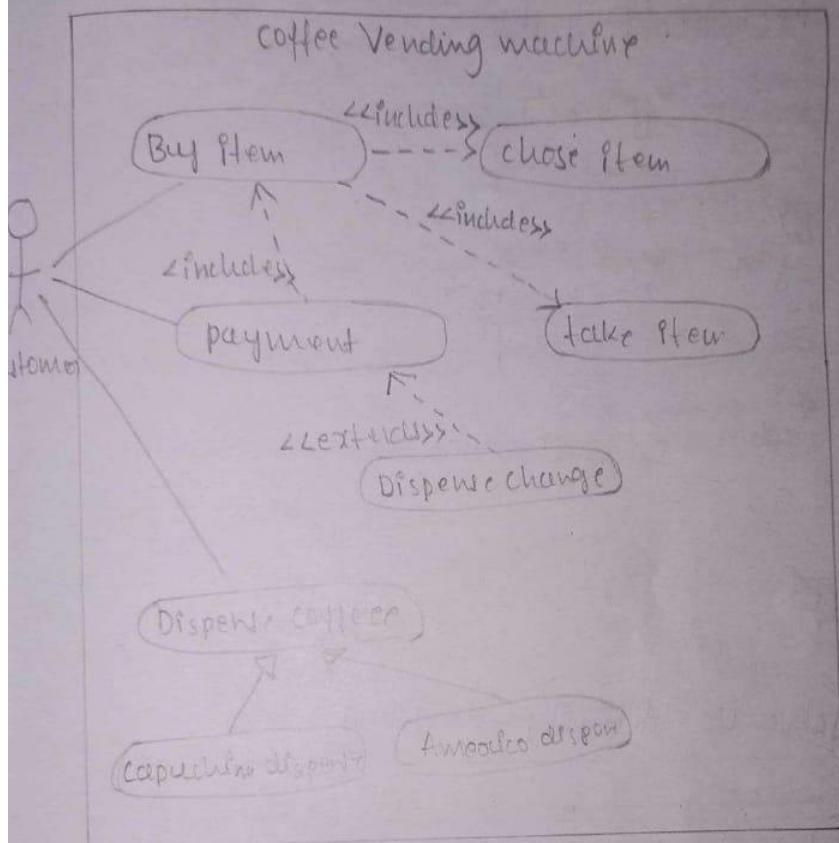
4) Coffee vending machine



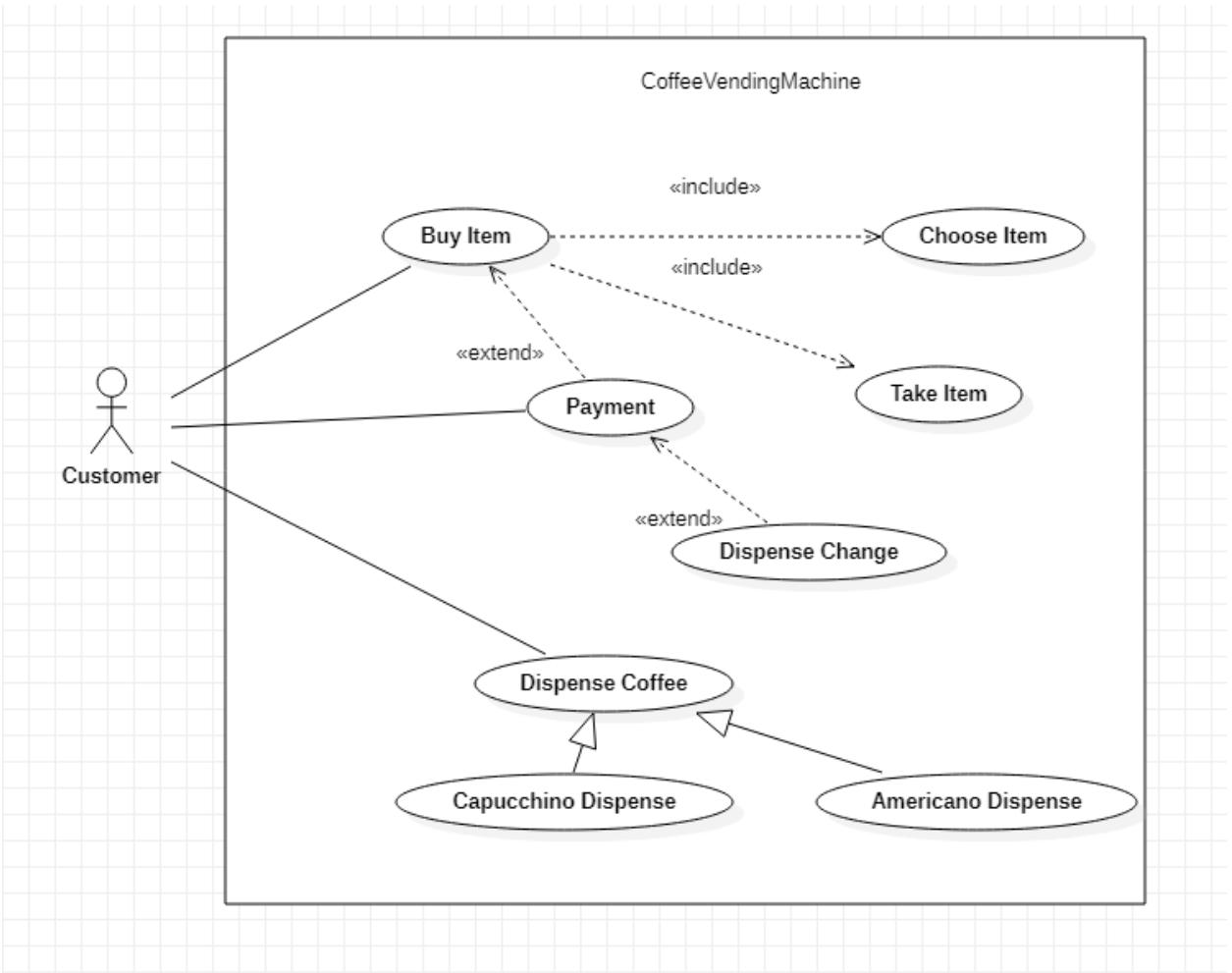


d) Advance Use Case Diagram:

04 Coffee-Vending-system use case



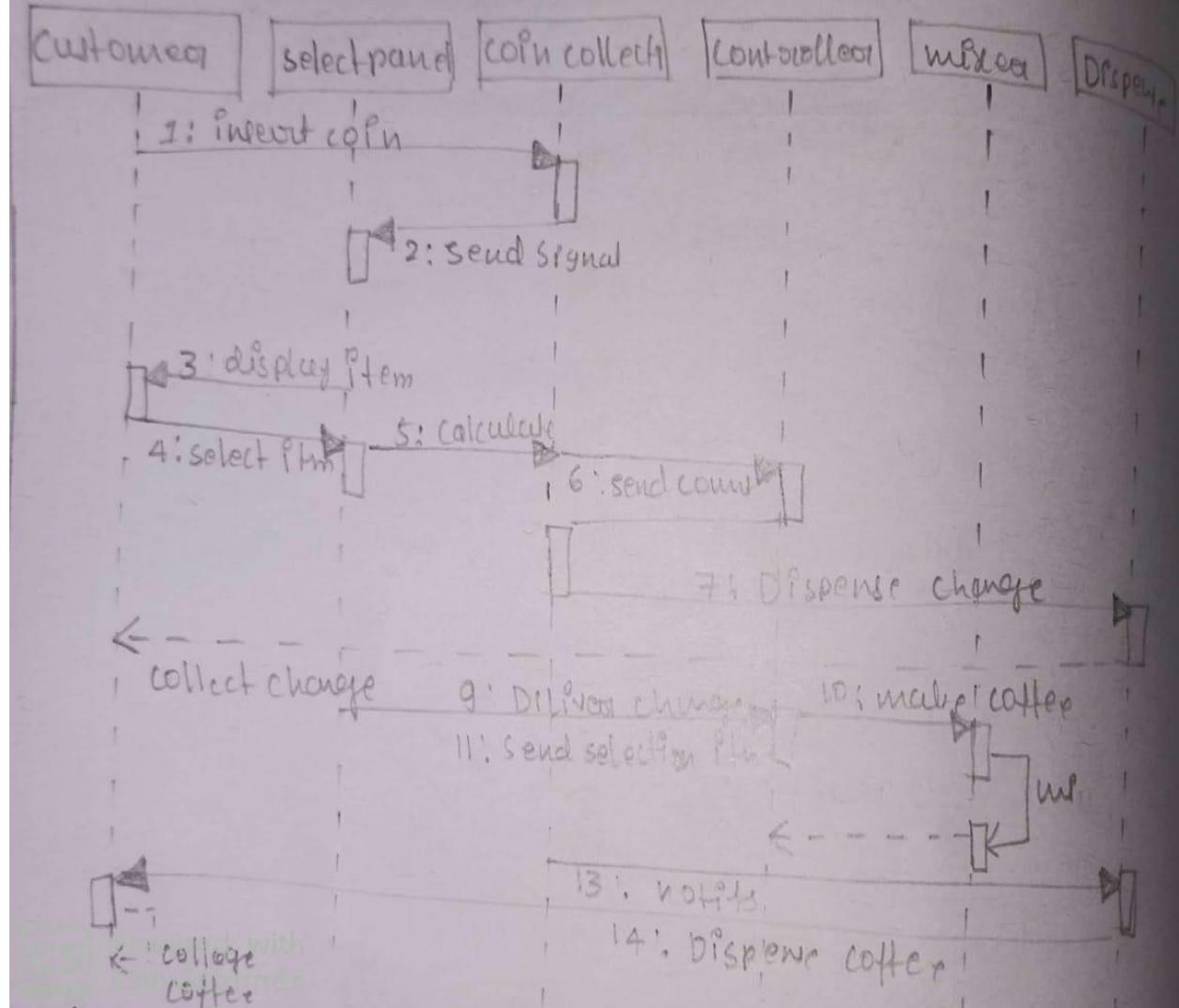
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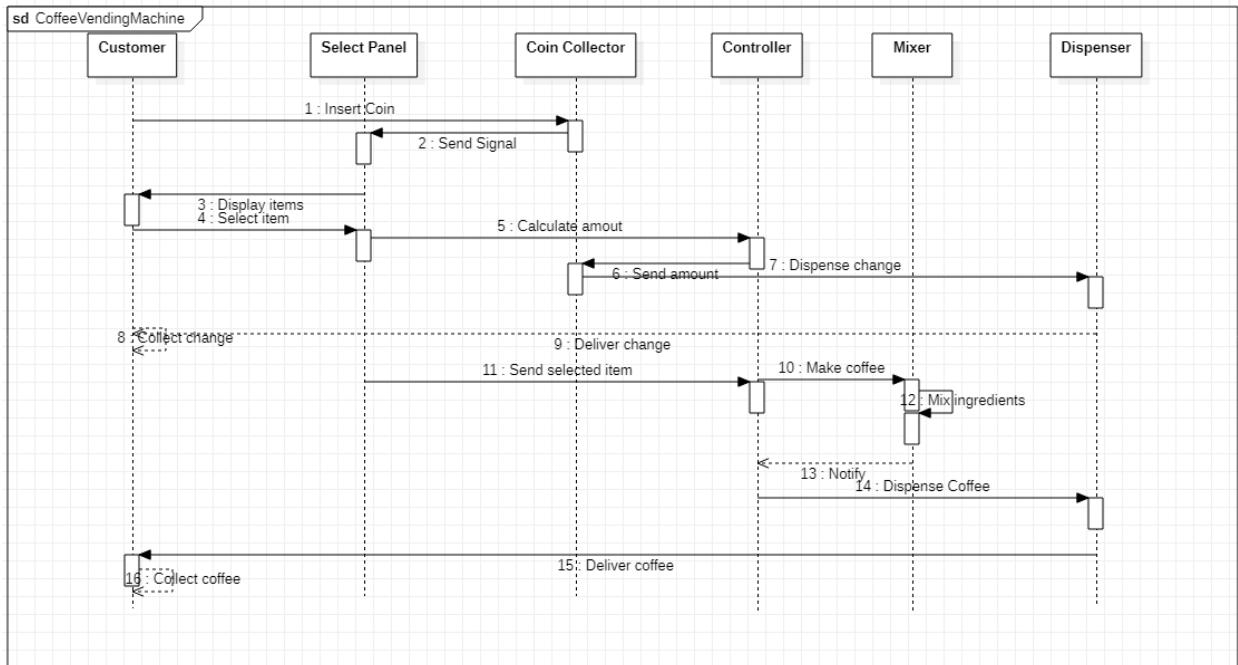


e) Sequence Diagram:

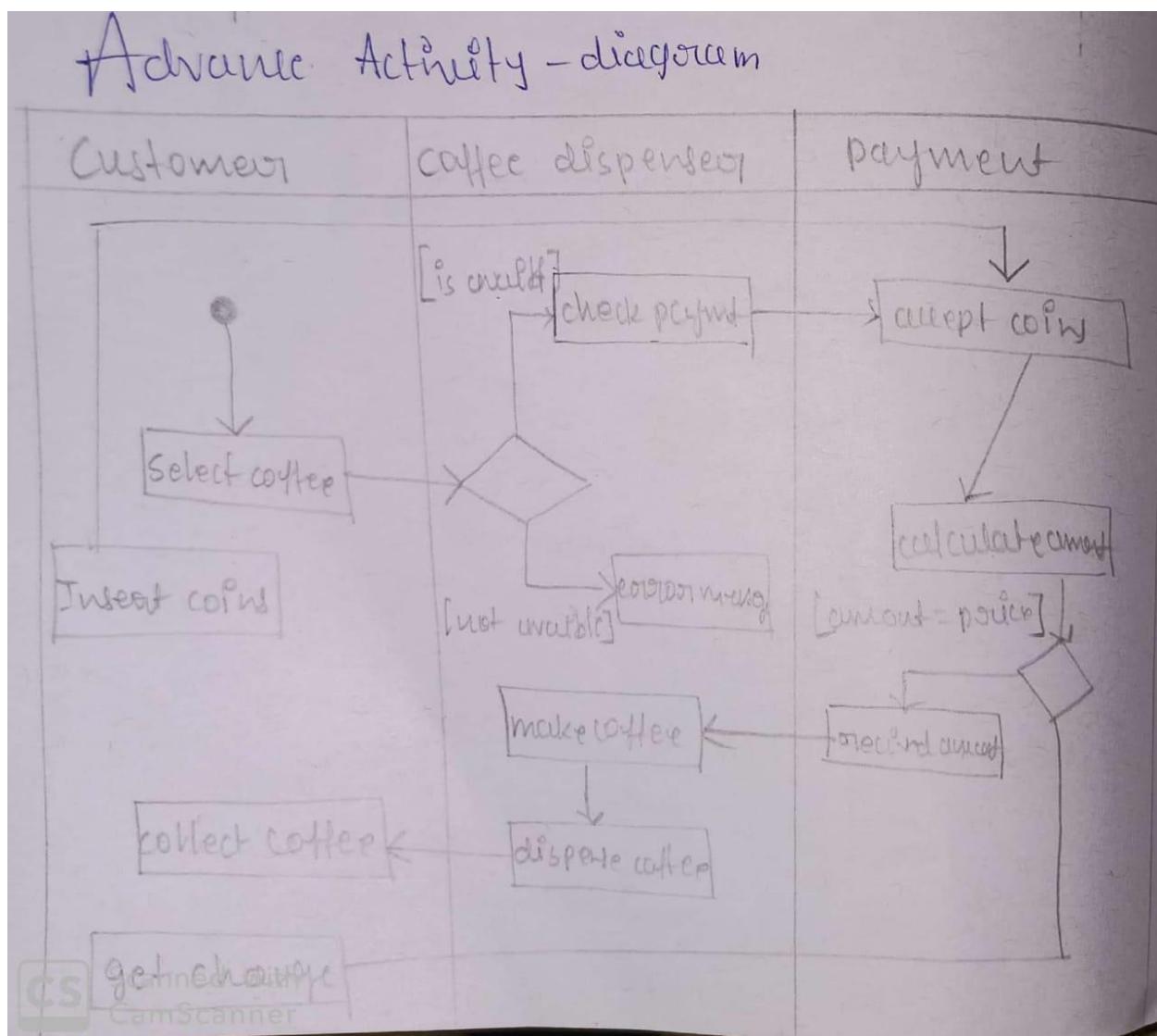
Advanced - Sequence-diagram

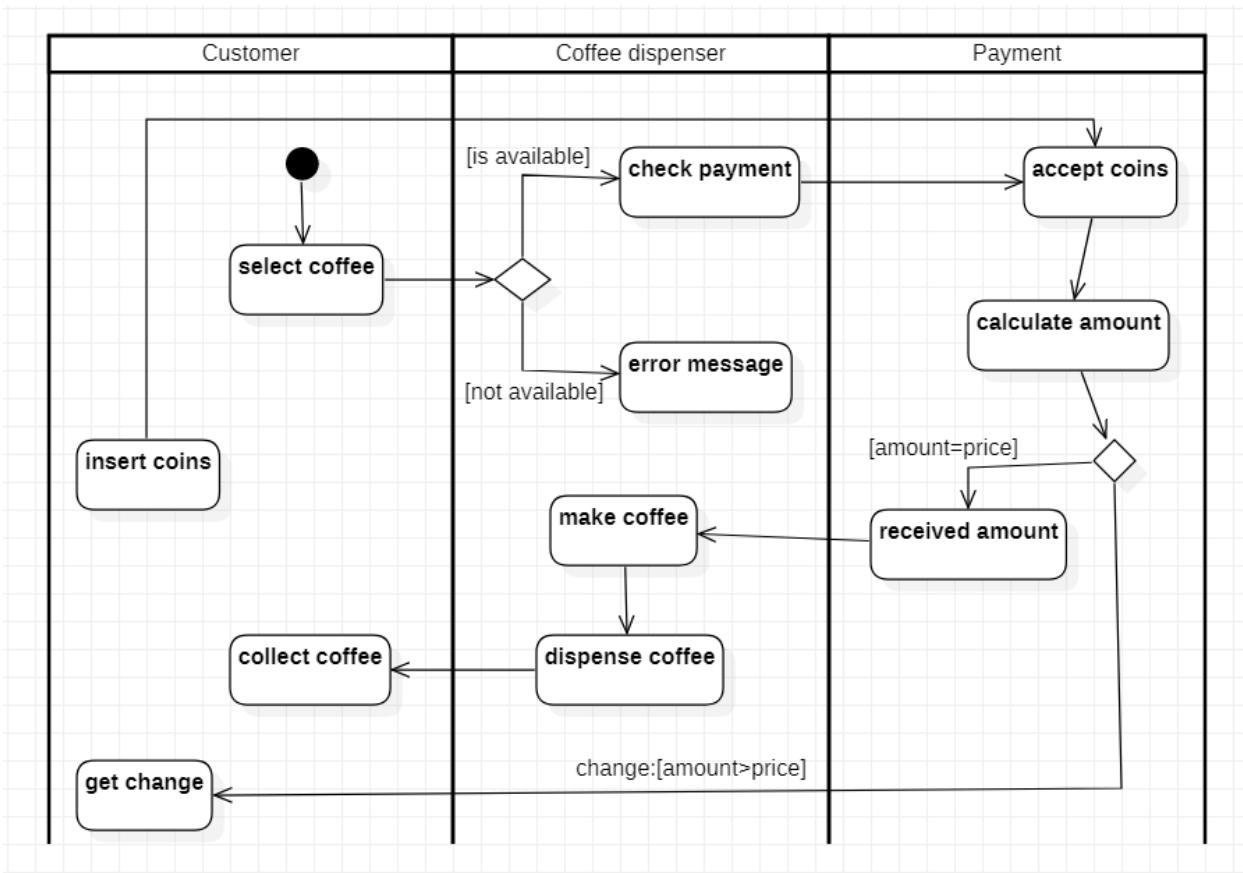
sd coffee Vending machine





f) Activity Diagram:





5. Online Shopping System-

a) SRS:

5. ONLINE SHOPPING SYSTEM:

problem statements:-

The OSS for all kind of product web app is intended to provide complete solutions for vendors as well as customer through a single get way using the internet it will enable vendor to setup online shop, customer to buy -wise setup in, shape and purchase them online without having to visit the shop physically . the admin module will enable a system admin to maintain various list of shop category this system allow the customers to maintain their cart for adding or removing the product over the internet.

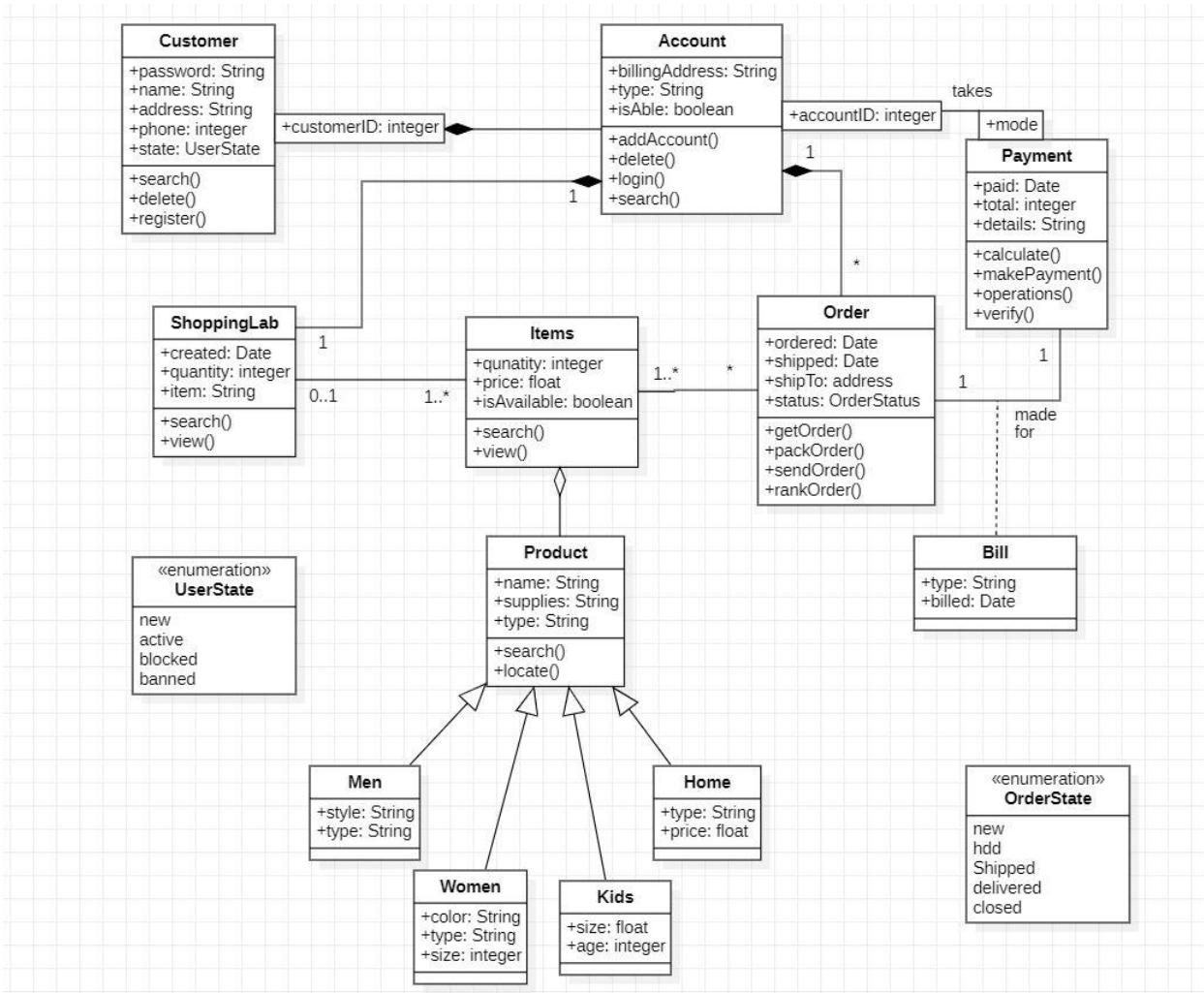
SRS :-

- the customer must have an account in the online where he/she can purchase product
- if customer wants to buy the product then he/she must be registered unregistered user can't go to the shopping cart

- changes to cart means the user after login or registration can make order / cancel order or the product from the shopping cart
- the products sold for customers are sold for various categories like men women kids and home products.
- customers can view all available product compare them & make a choice for purchasing the product.
- for customer there are many types of secure killing will be provided as debit docket paid as offer will provide by the third party like pay - pal - etc
- after the payment for buying the product the customer will tag-out

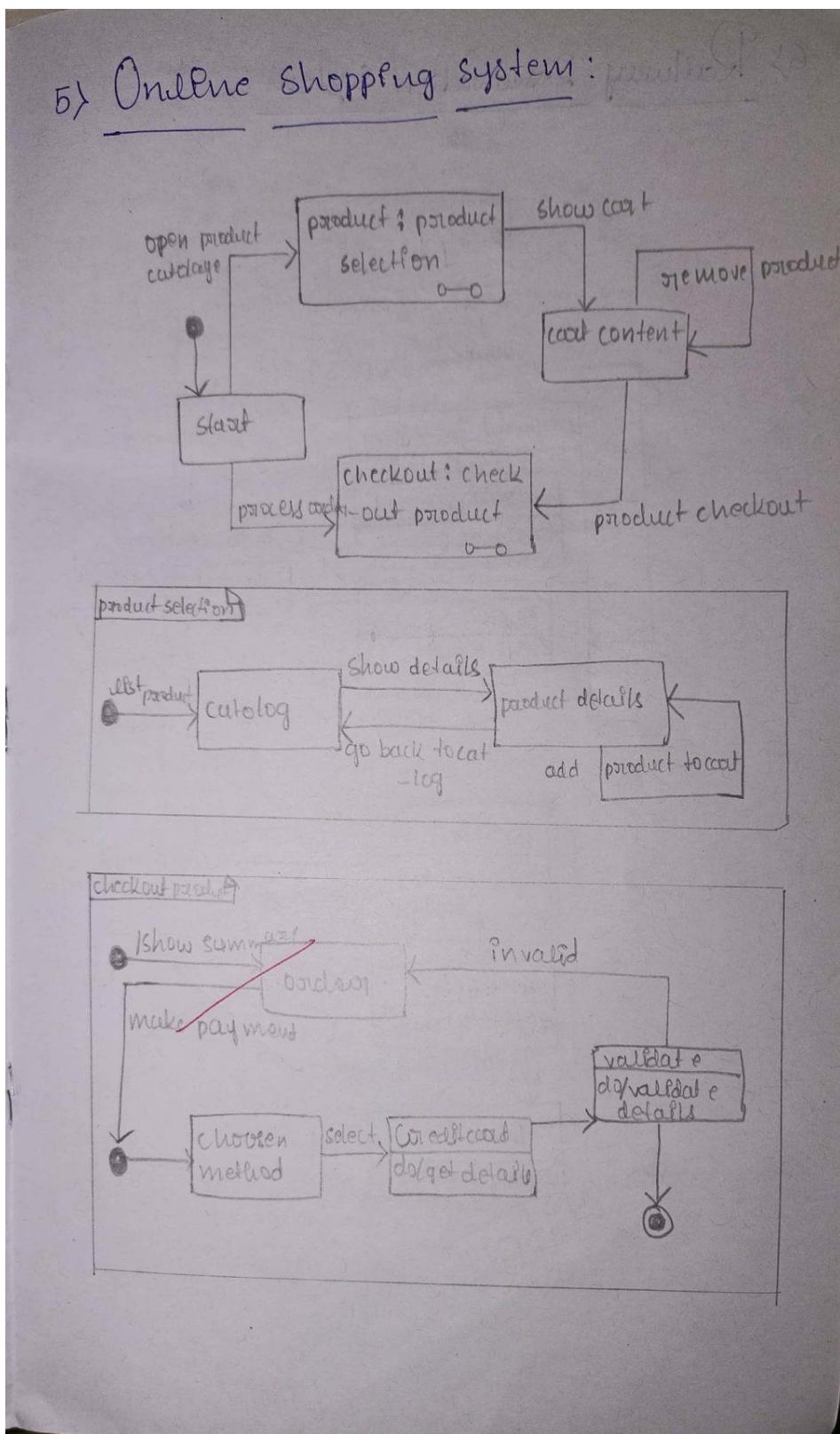
b) Advance Class Diagram:

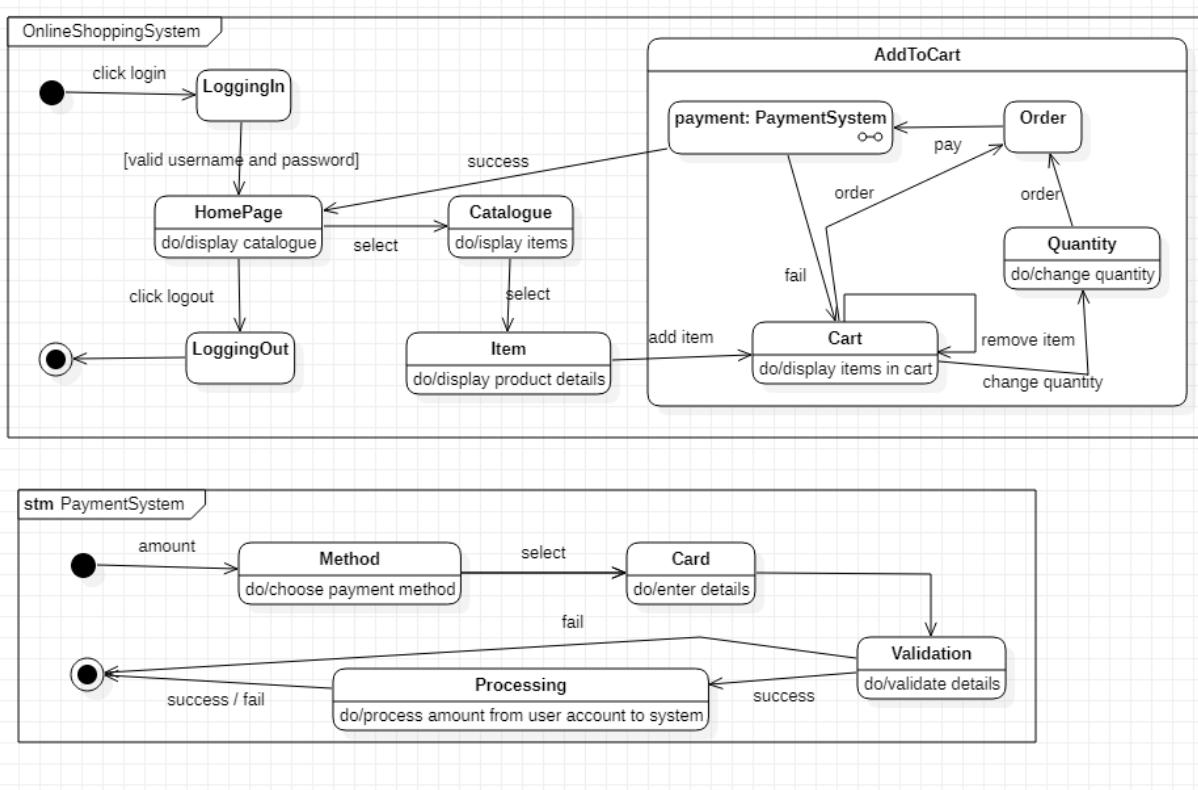
Fig. class Diagram Reservation System



5) Every customer is linked with an account using id, whose account cannot exist without a customer, so its composition. Every account has a shopping cart & order & order is associated to items which are placed in the shopping cart. Items are aggregated with products which is generalised into various classifications. The account, payment for the order to the bill is linked by association.

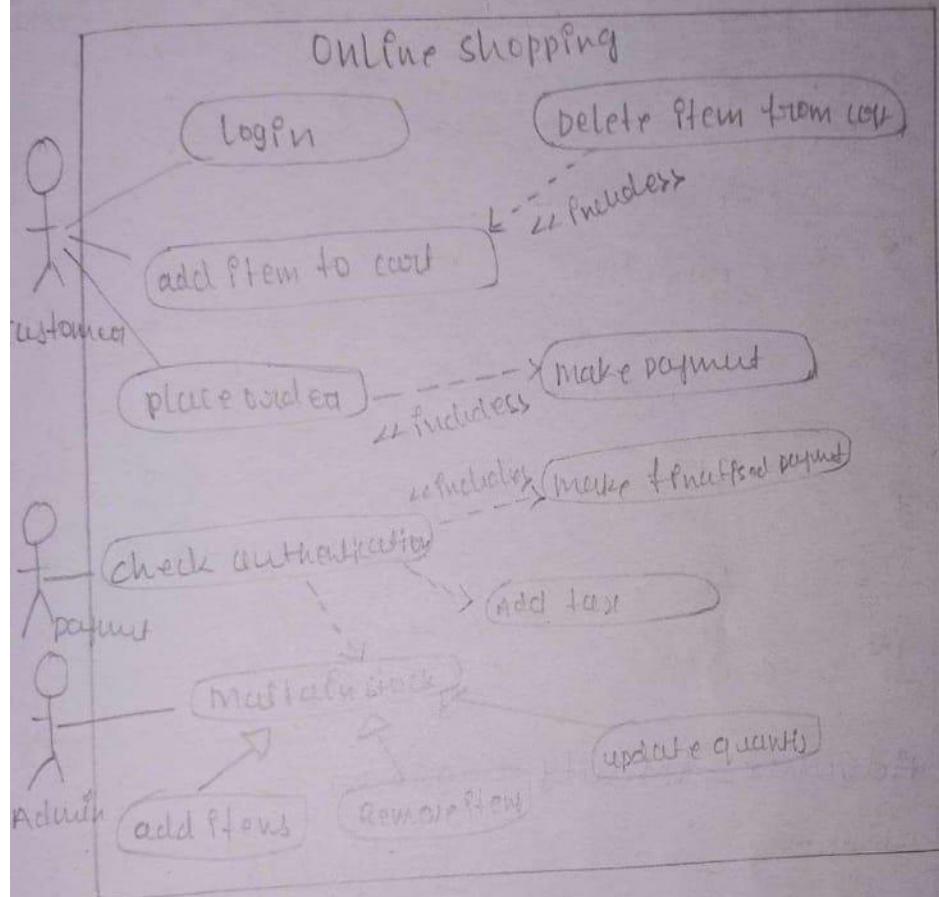
c) Advance State Diagram:



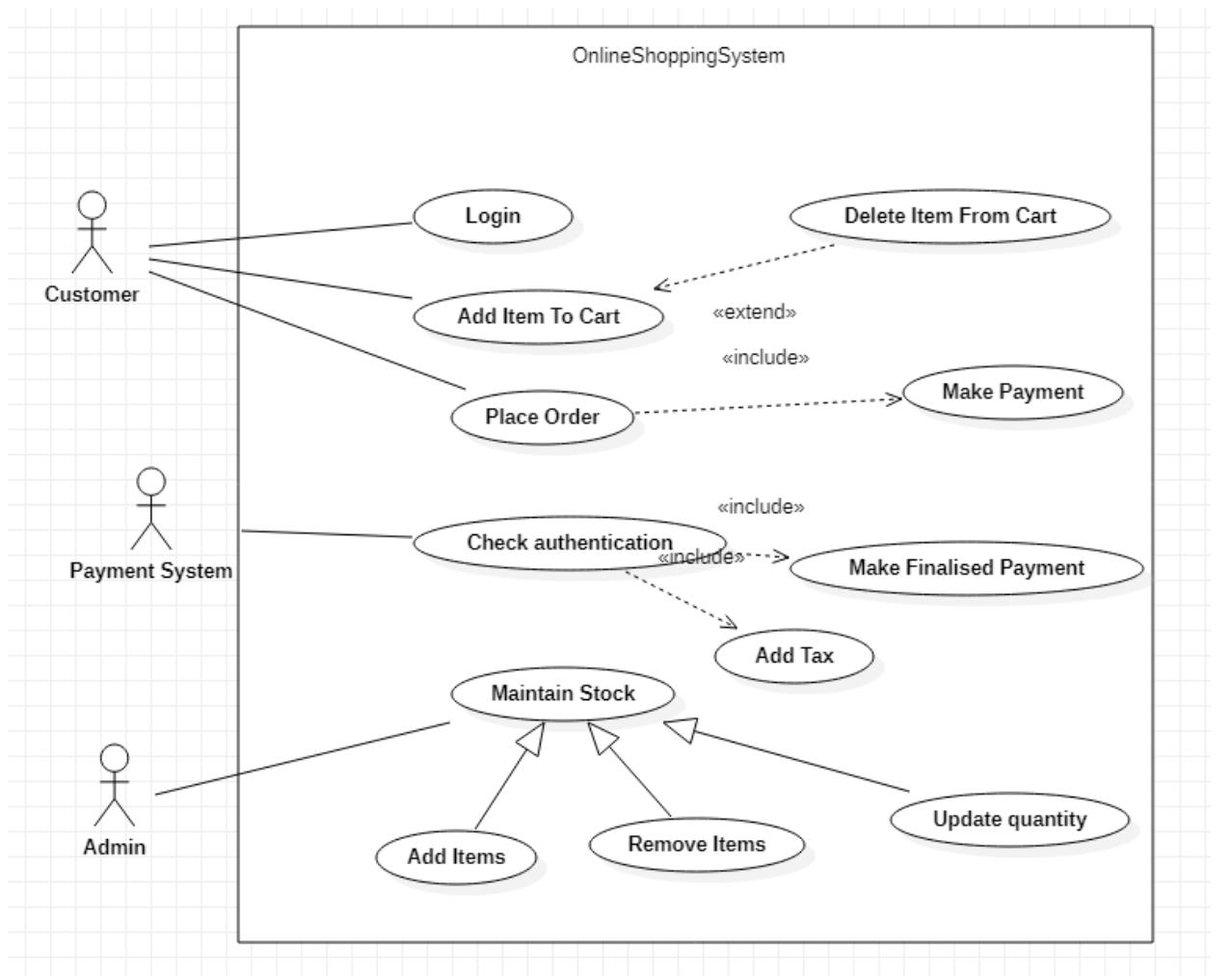


d) Advance Use Case Diagram:

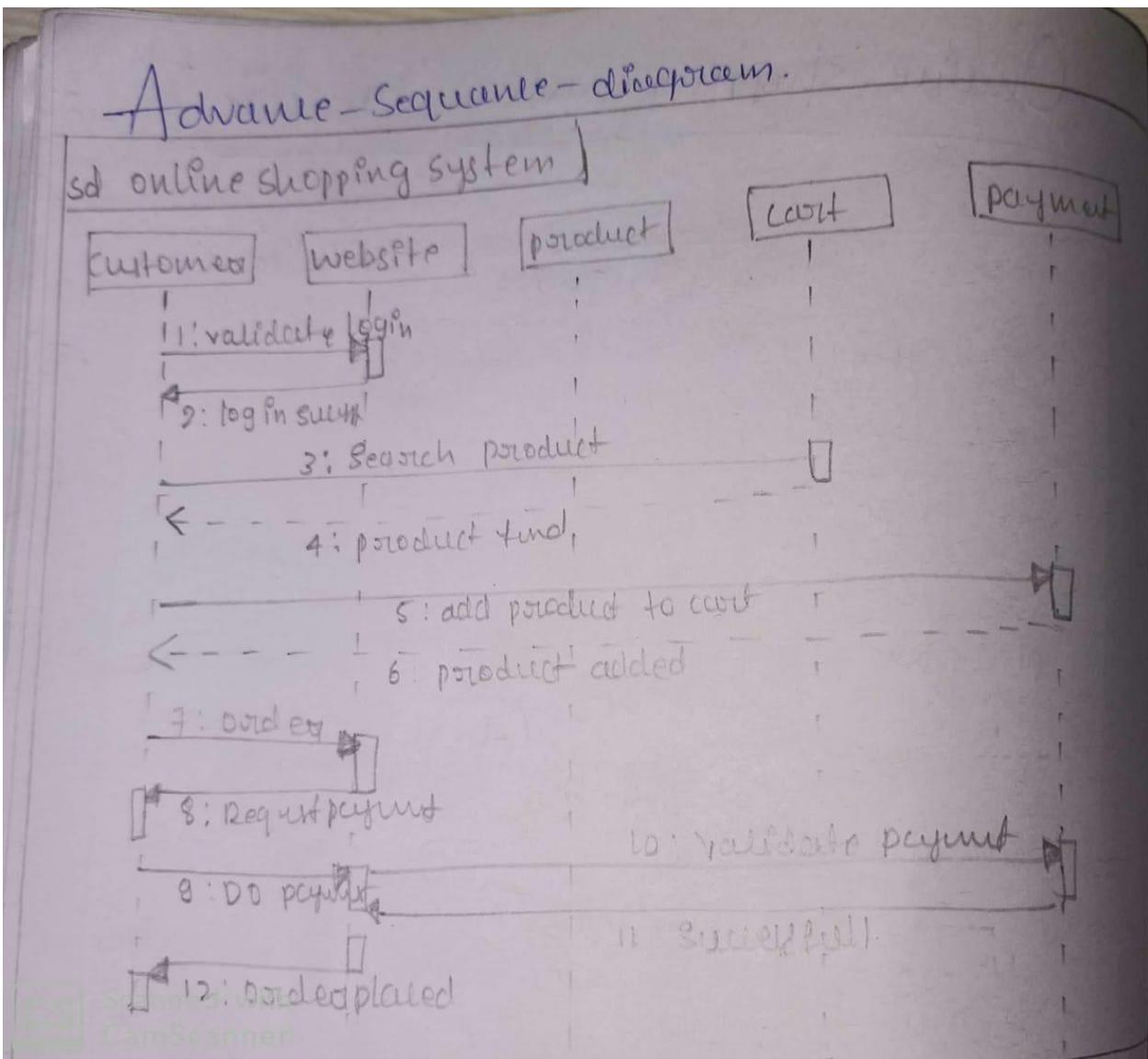
5: Online-shopping-system Use-case

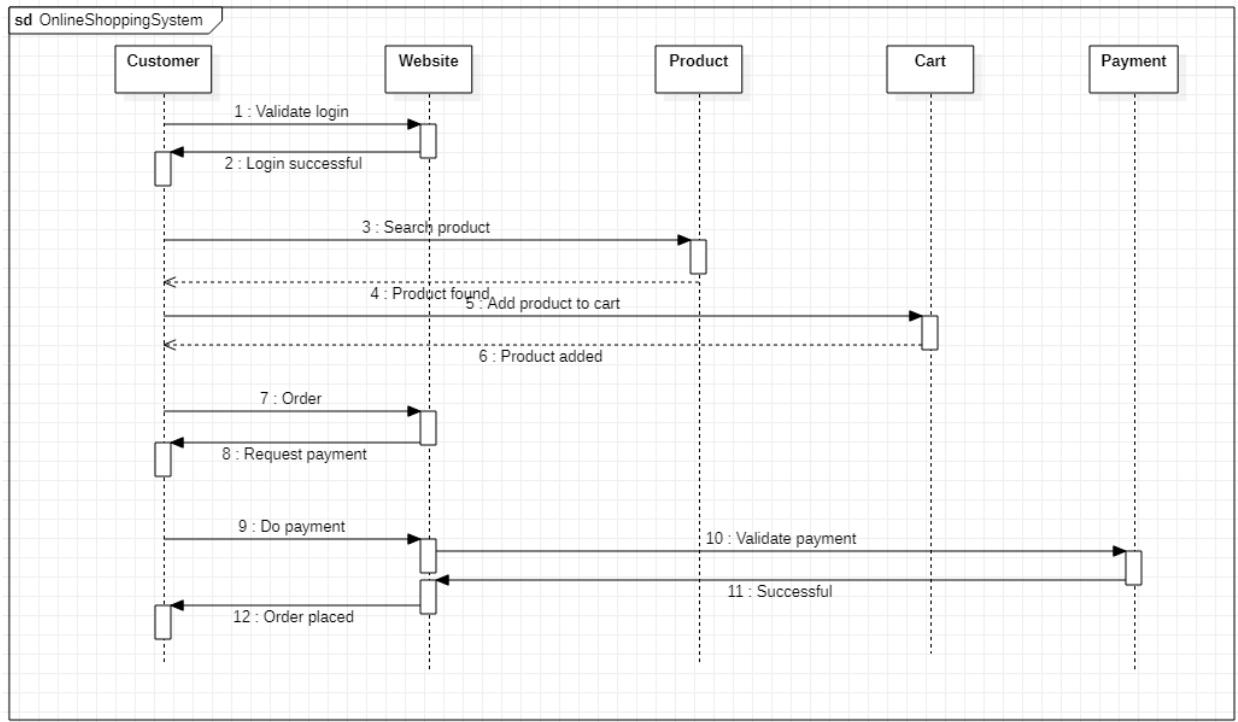


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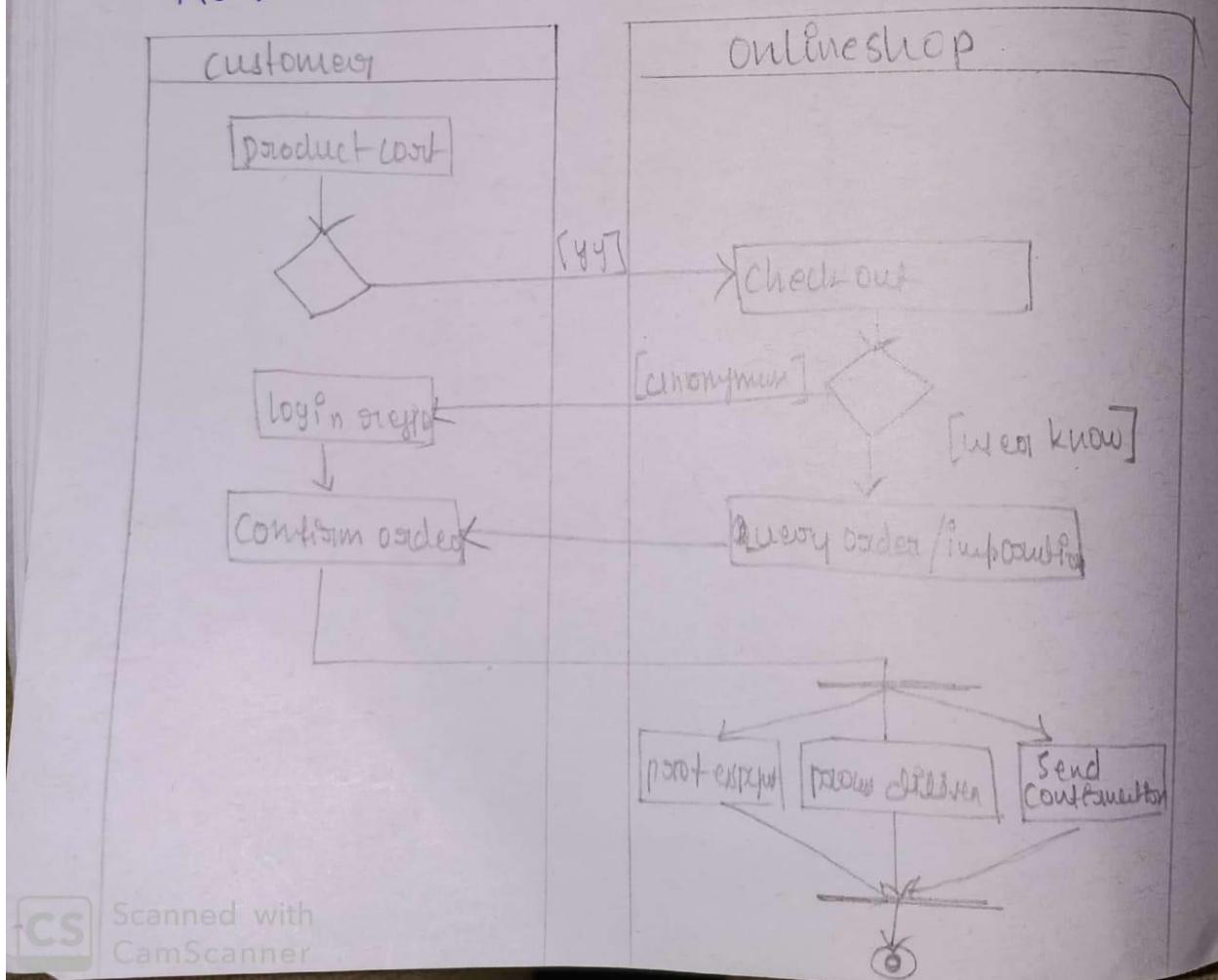
e) Sequence Diagram:



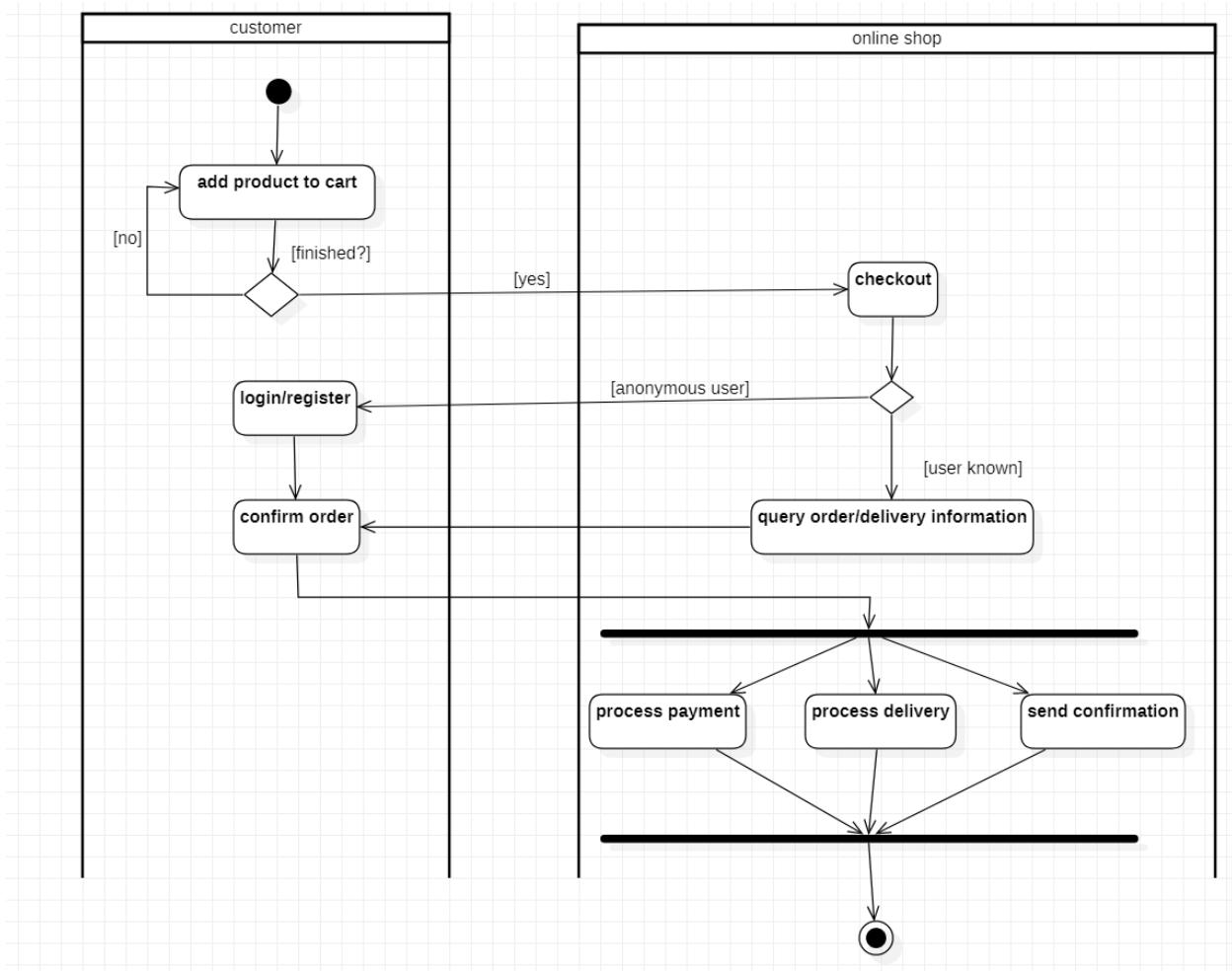


f) Activity Diagram:

Advance_Activity_diagram

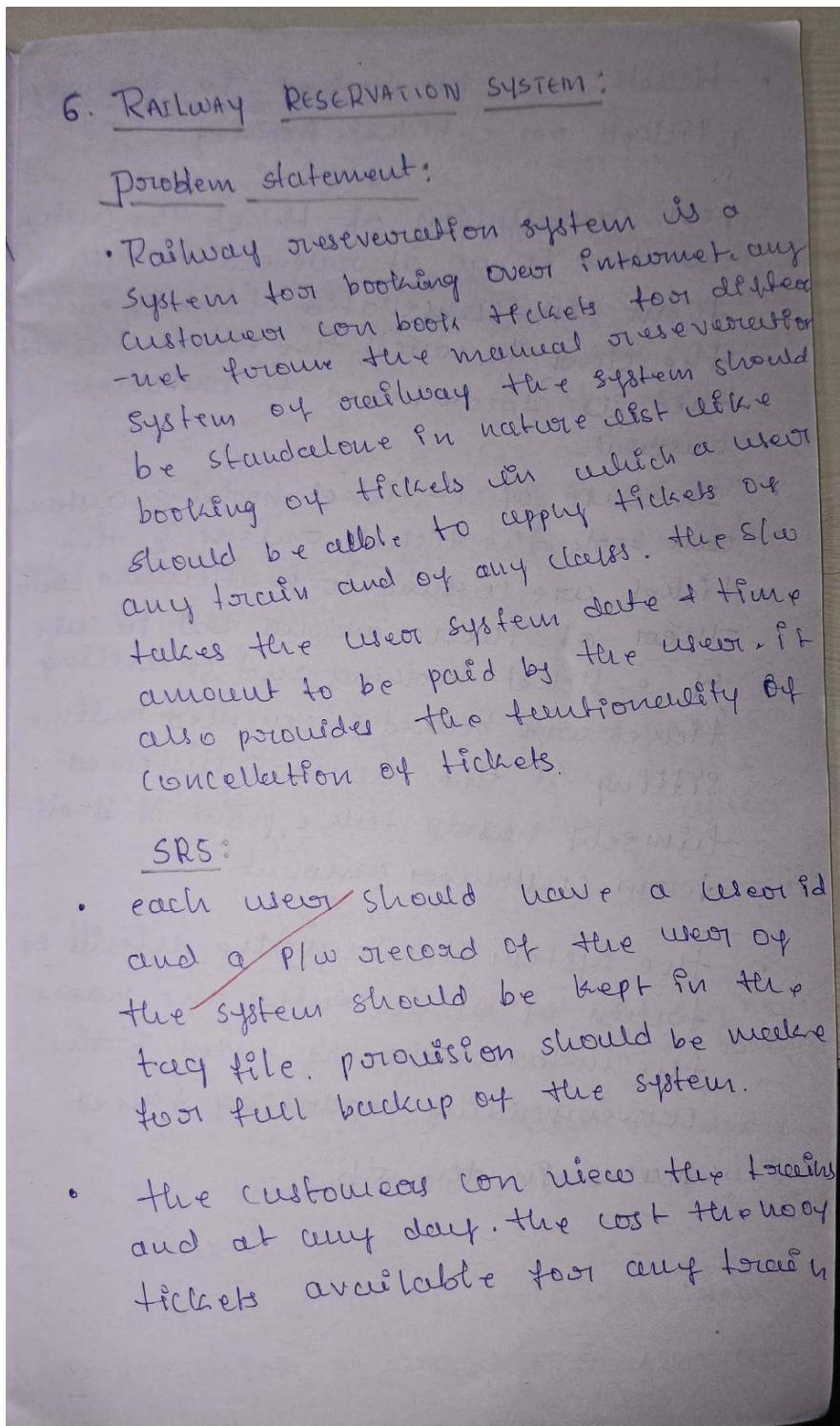


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6. Railway reservation system-

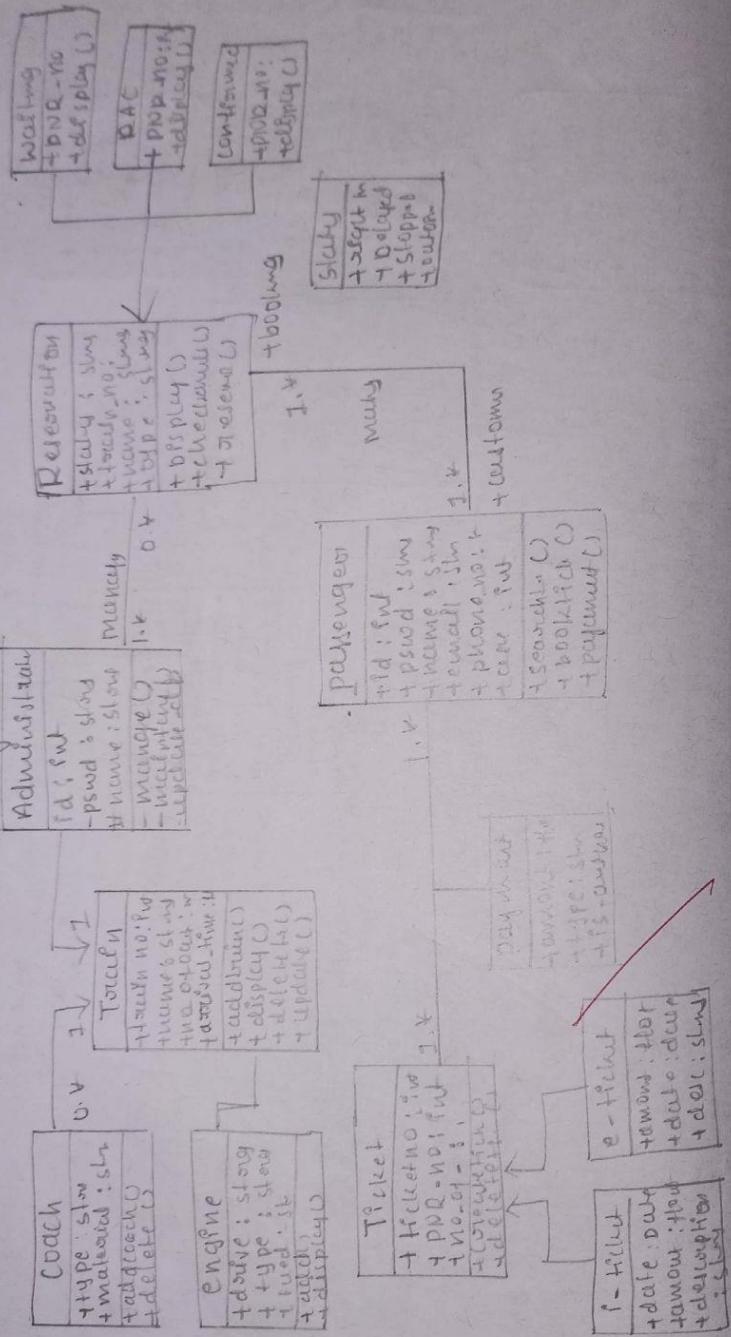
a) SRS:

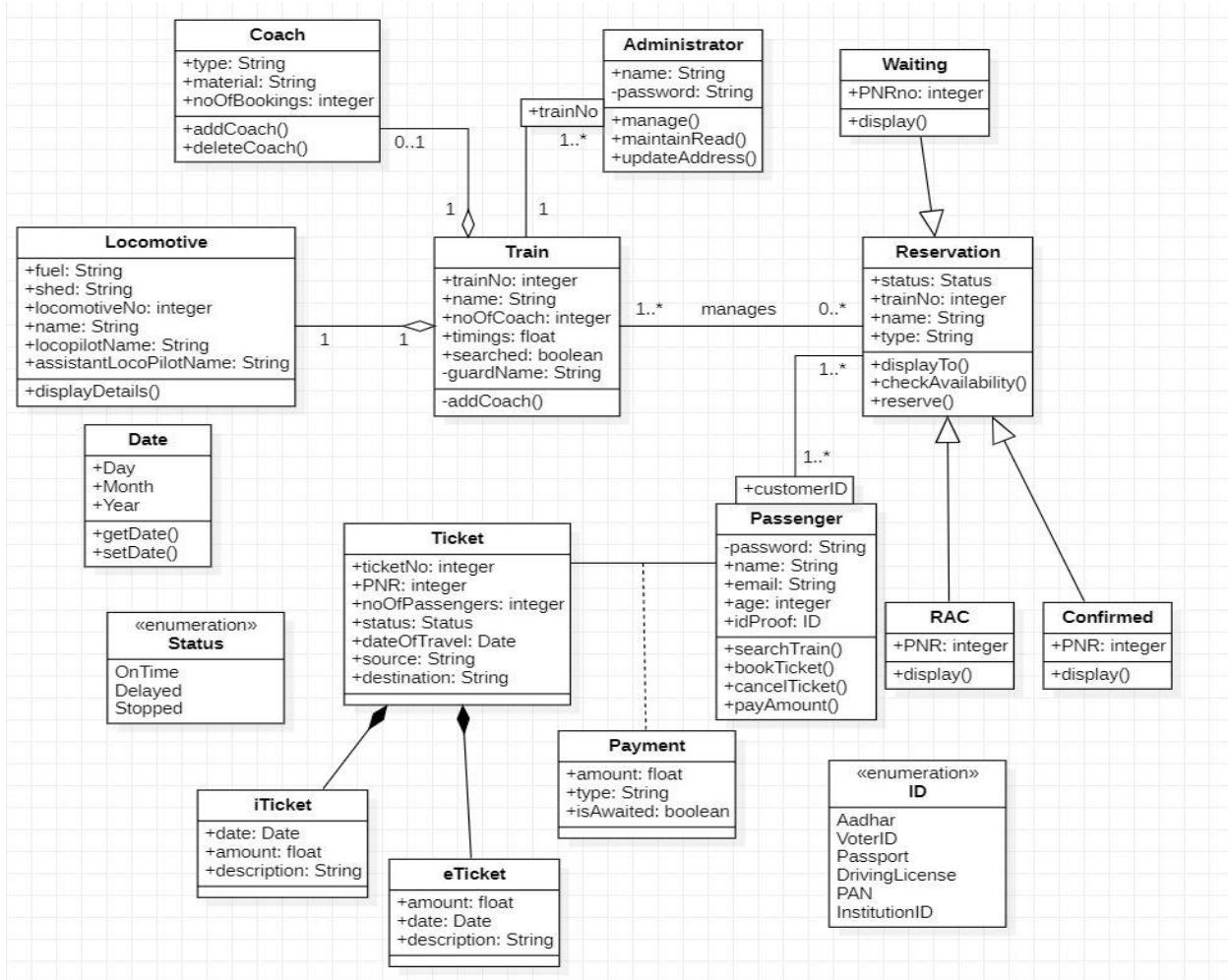


- tickets can be booked in two-way p-ticket or e-ticket booking
- for cancellation of ticket the customer has to go at reservation office then fill cancellation form & each the clever to cancel the ticket the amount is transferred to customer account.
- In-case of p-ticket booking customer can book the tickets online & the ticket are issued to particular customer at there address. but in case of e-ticket booking and cancelling ticket are booked & cancelled online sitting at the home & customer himself has to take point of ticket from customer account.
- the system displays the details of train of which enter the name the information is saved & the corresponding updating takes places in the db,

b) Advance Class Diagram:

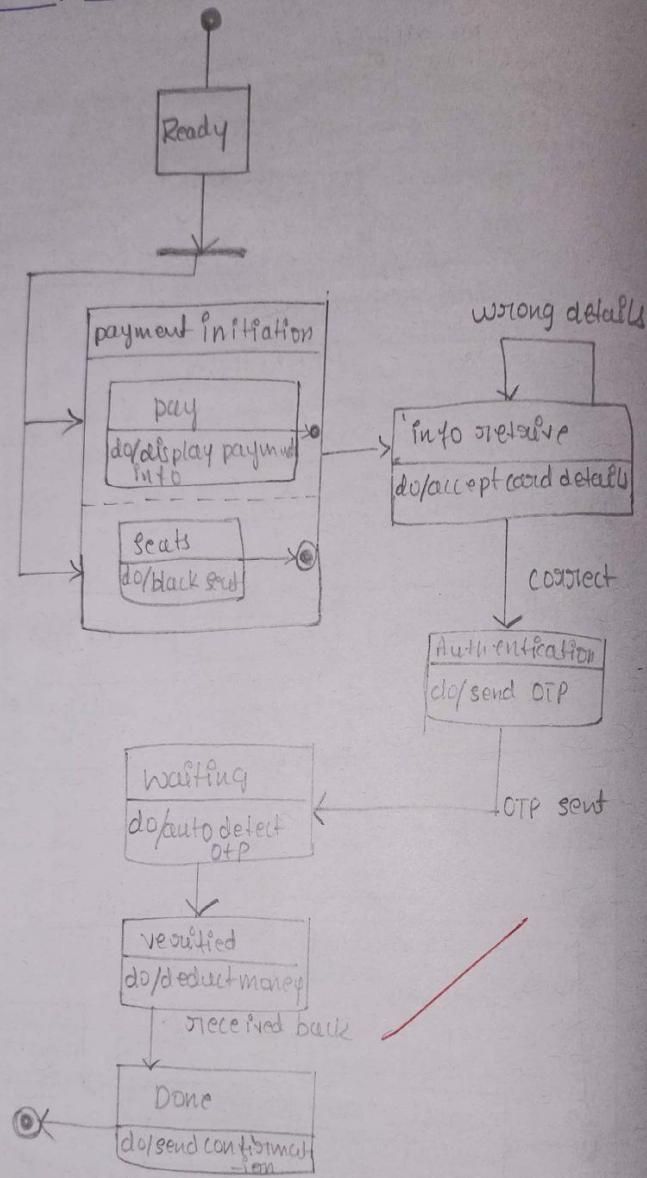
6. Class Diagram Railways Reservation System

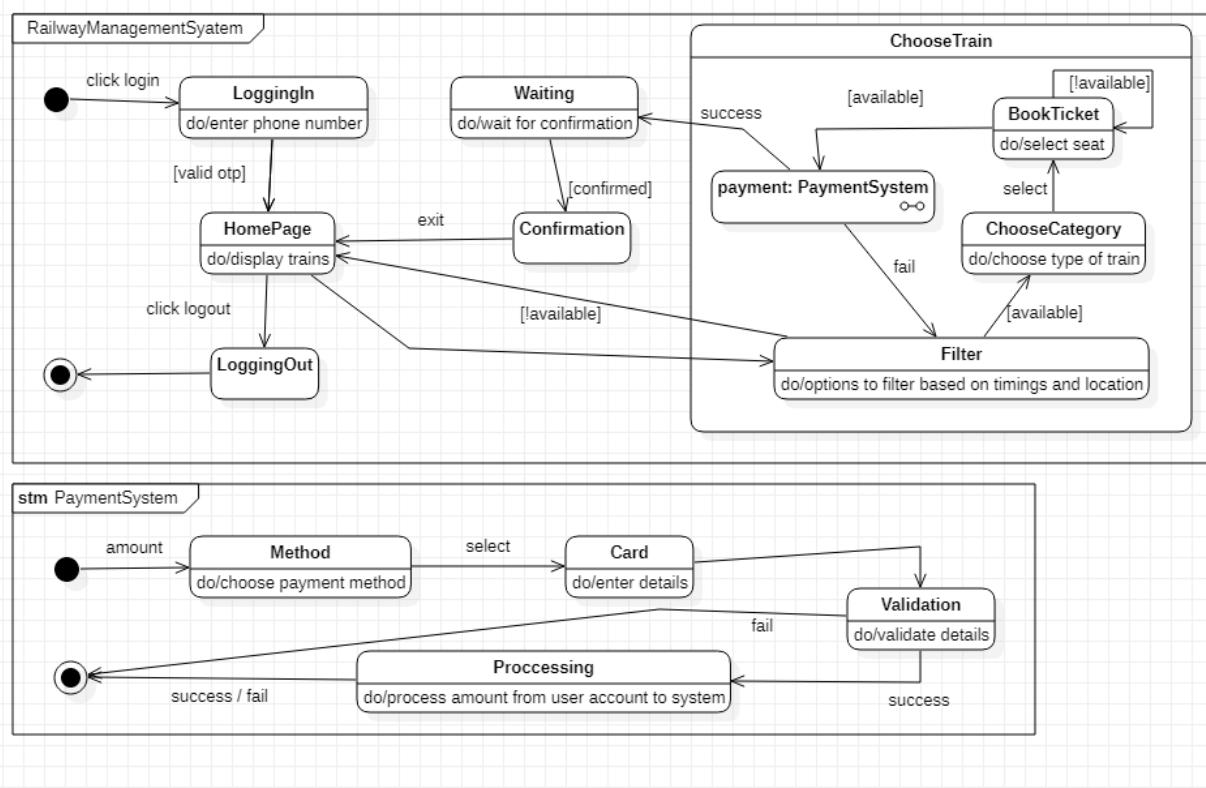




c) Advance State Diagram:

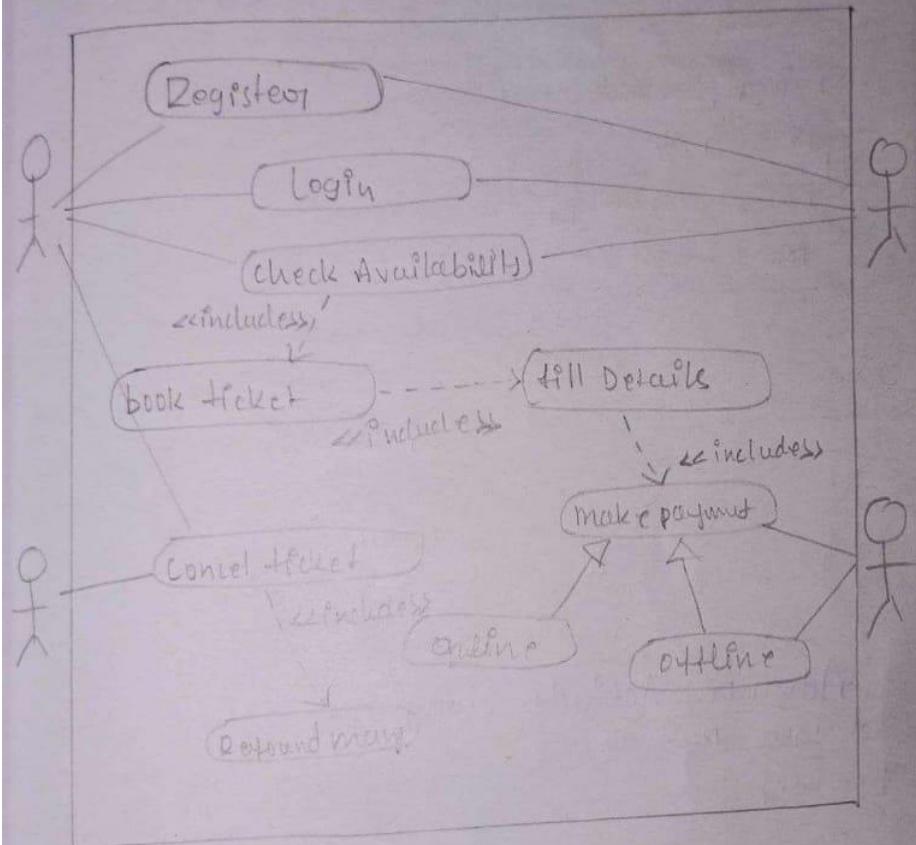
6) Railway Reservation System

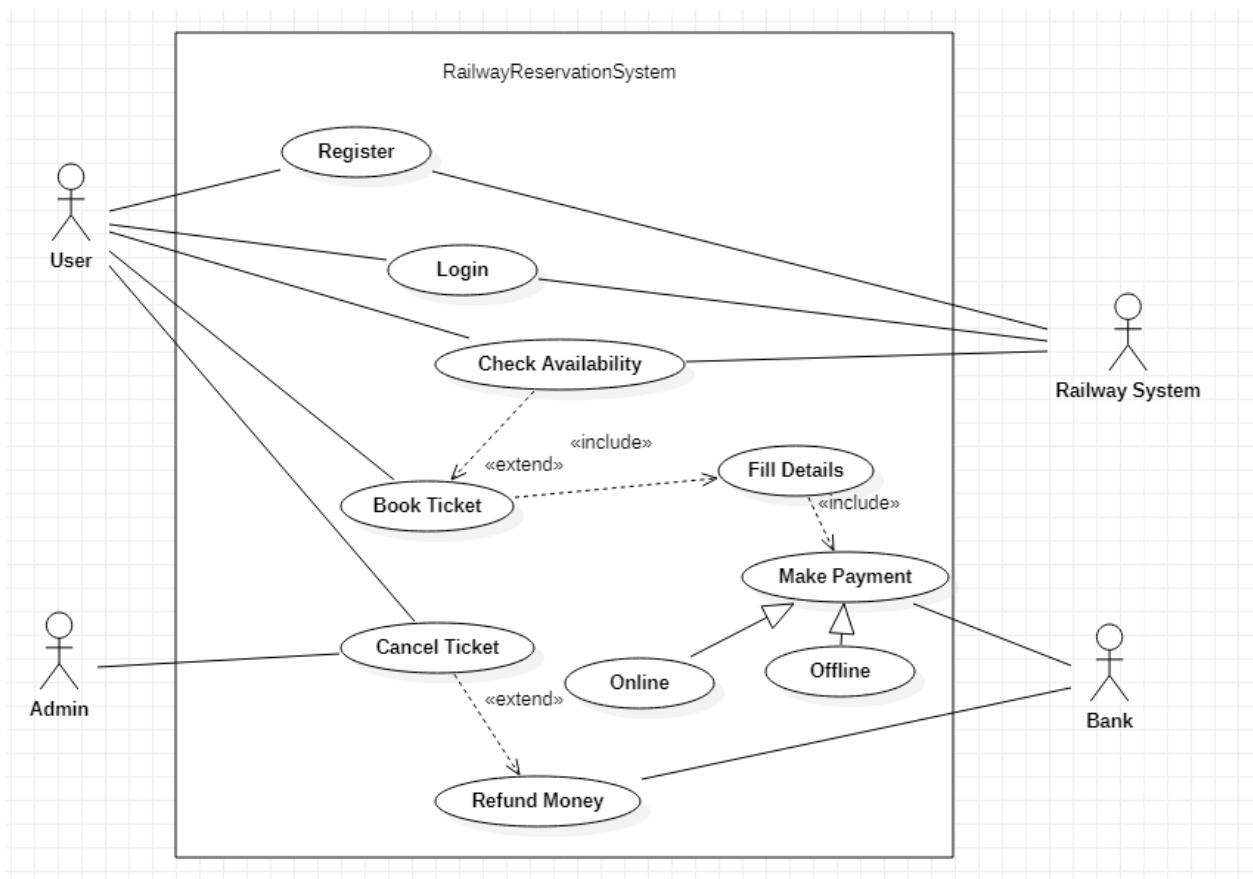




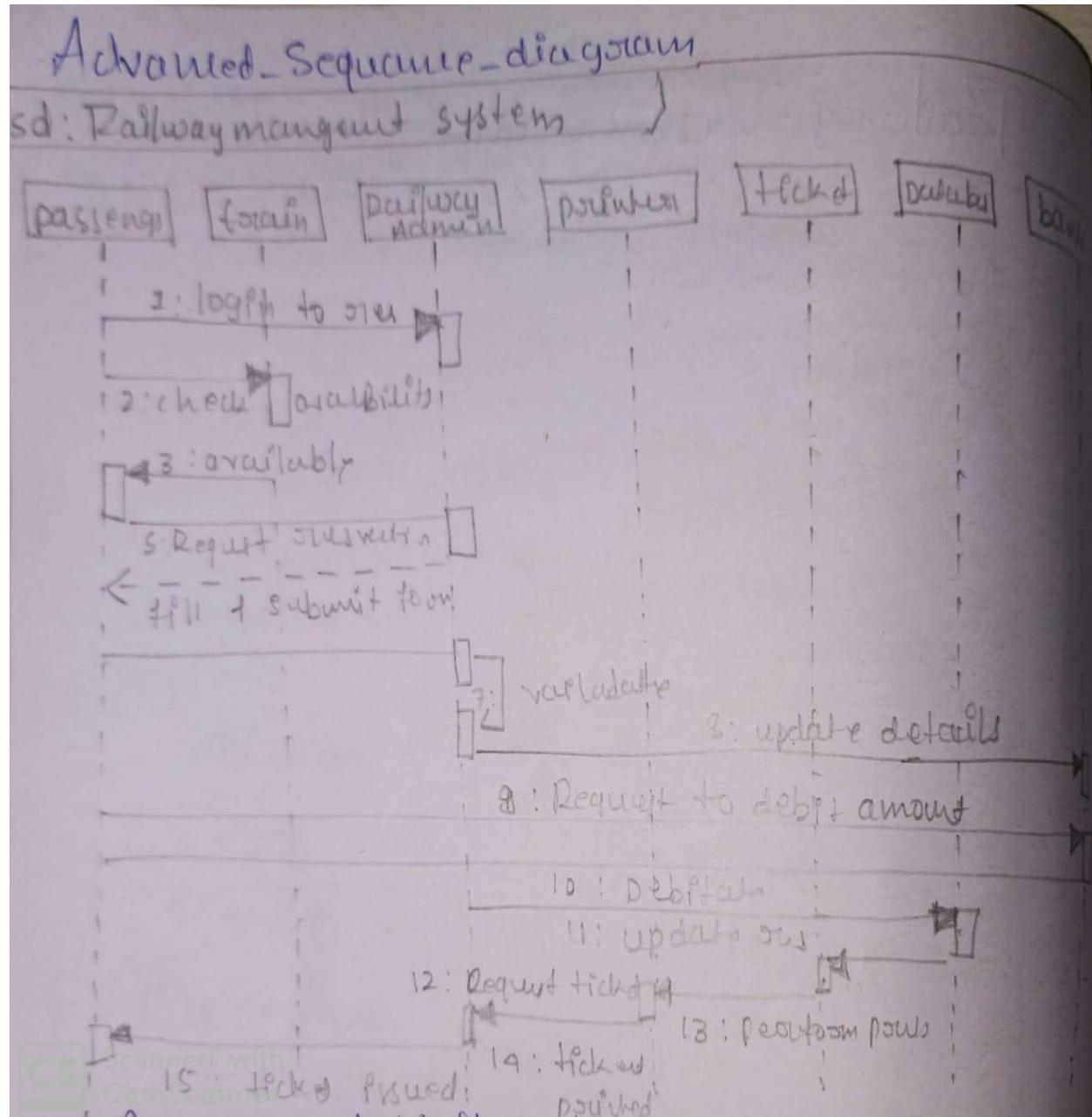
d) Advance Use Case Diagram:

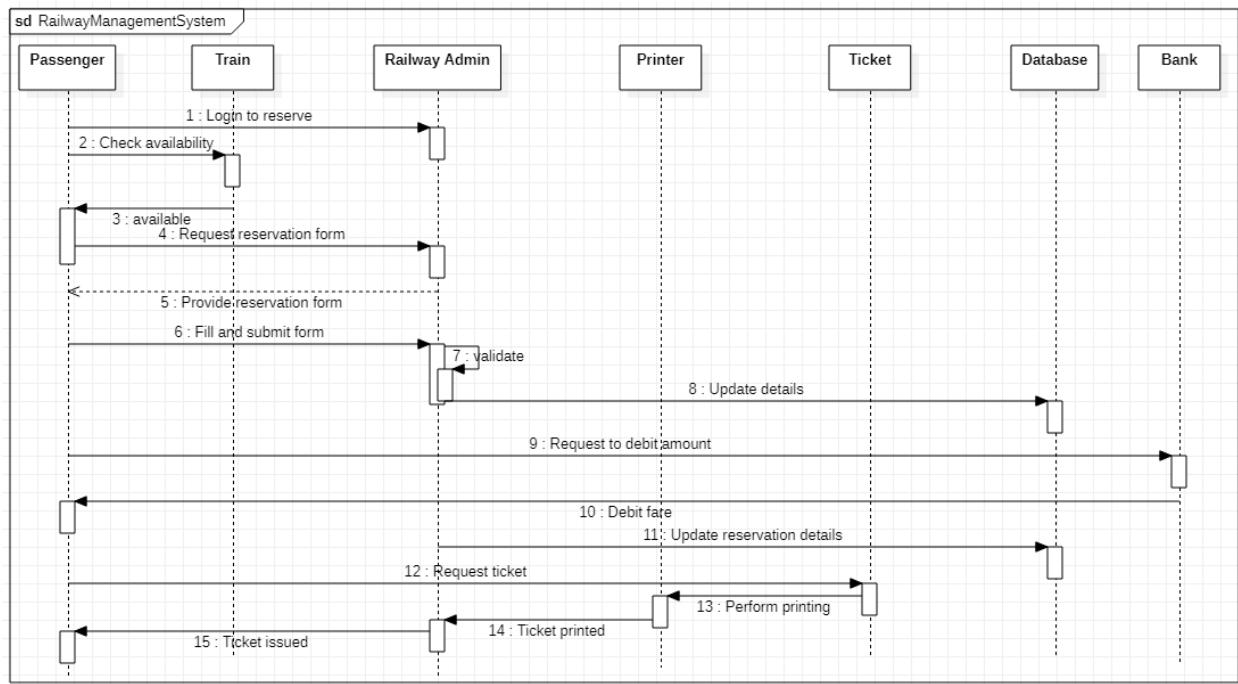
06: Railway Reservation System Usecase





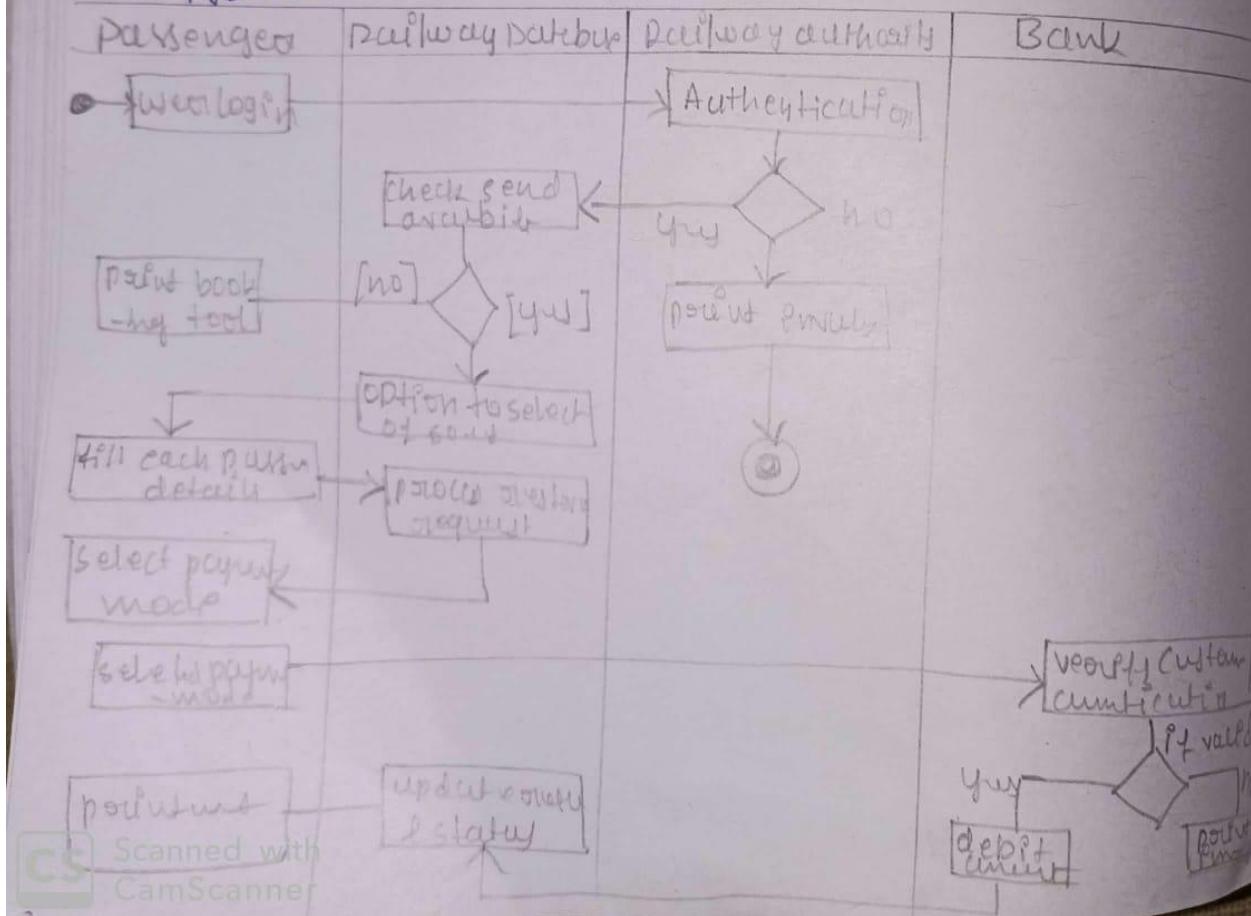
e) Sequence Diagram:

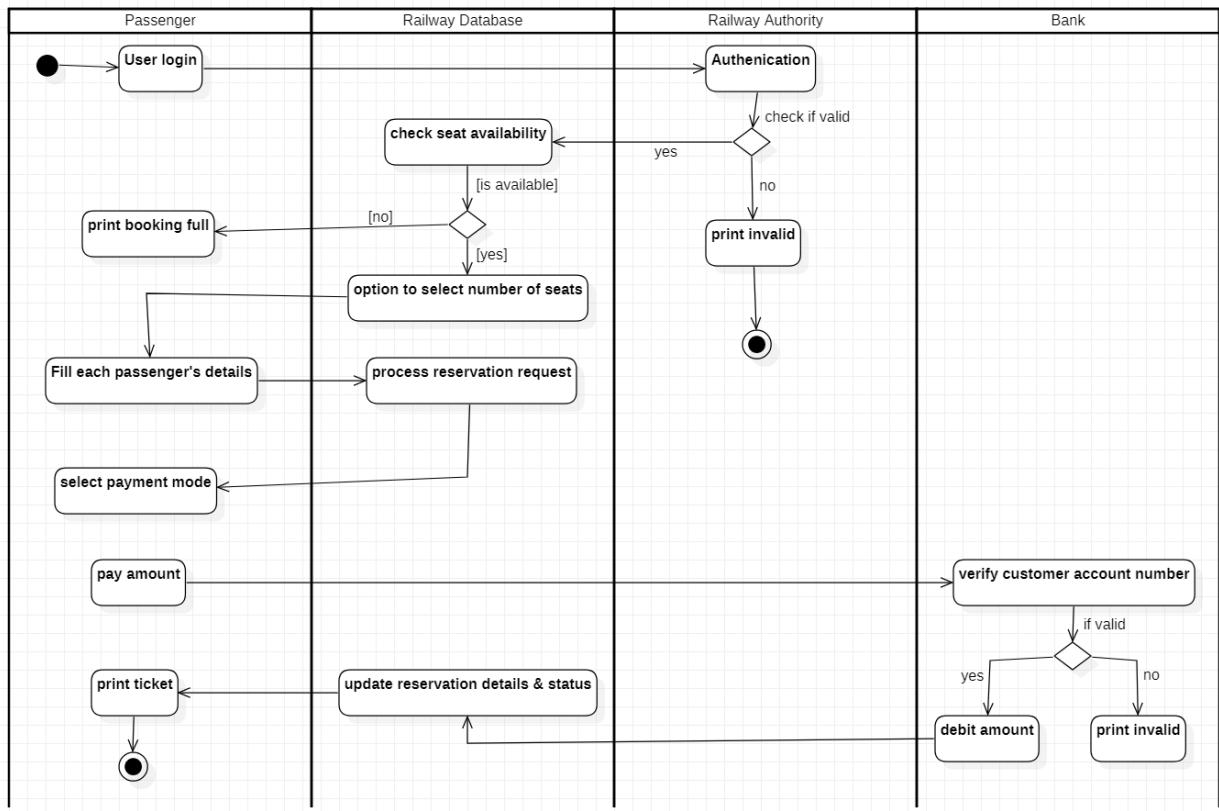




f) Activity Diagram:

IS : ticket issued: pointed
 Advance - Activity - diagram





7. Graphics Editor-

a) SRS:

J. GRAPHICS EDITOR SYSTEM

problem statement:

The GES provides an application program interface that enables a programmer to develop their own graphical model. The API it found relies on extending the eclipse graphical editing framework to provide an environment in which the editor a graphical editor & palette of shapes to modify an underlying model.

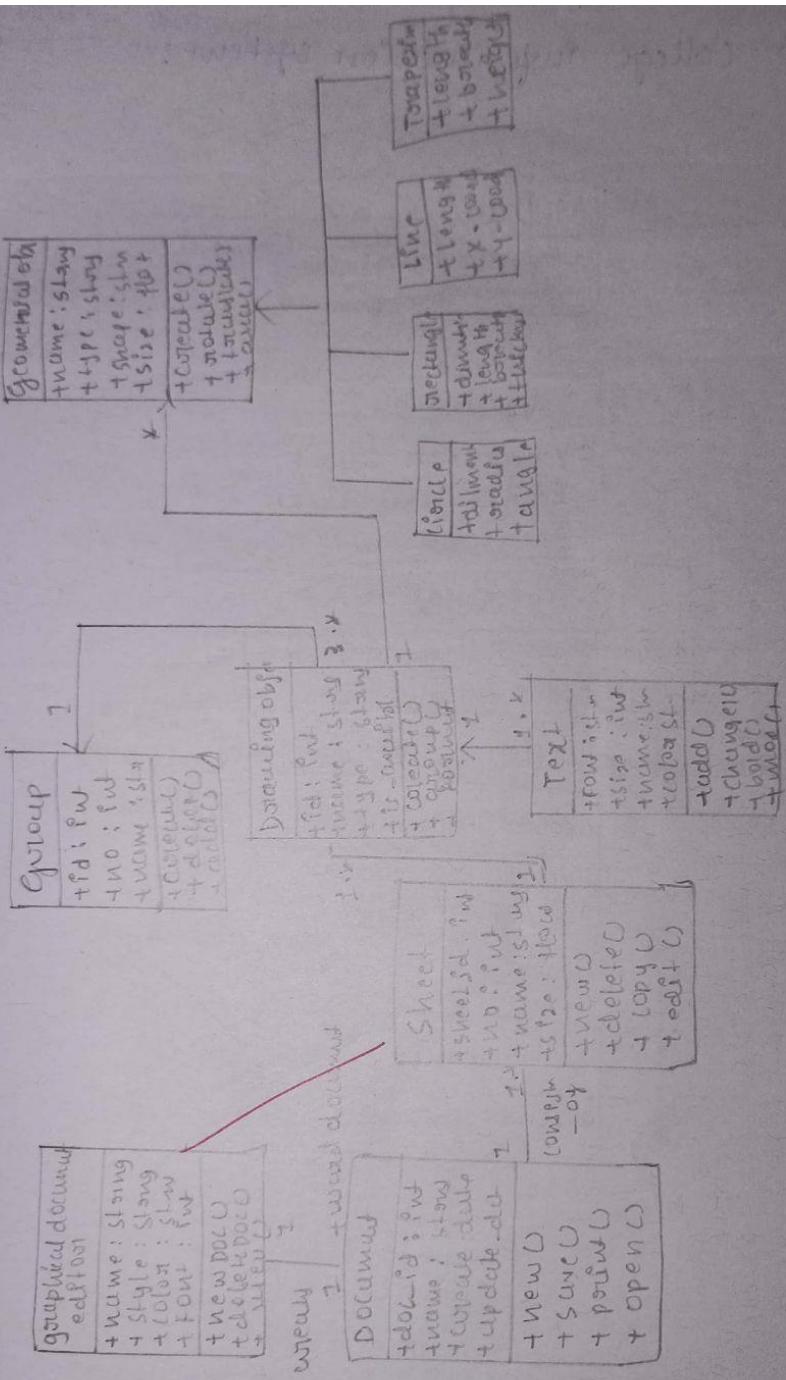
SRS:

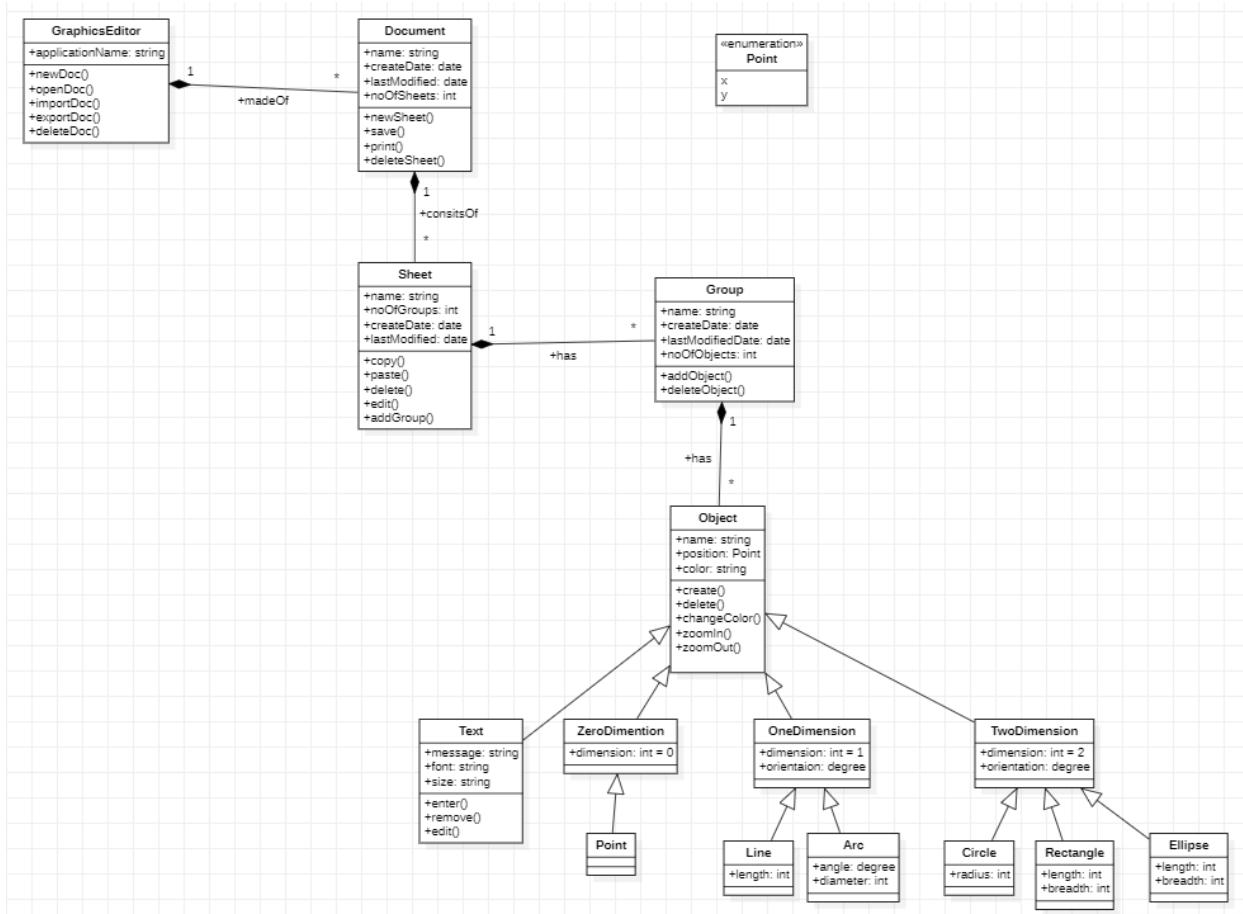
- It contains the tool box which contains tools like, line circle, rectangle and draw text.
- color box or palette must be ~~available~~.
- standard toolbar options for new open save, toolbox and text toolbox.
- one integrated view to user for toolbar, color box menu & graphic screen.
- easy handling of tools for user.
- provision of zoom-in & zoom-out.

- the programmer must provide implement action or function that draw effects and their connection as well as function to add & remove connection the latter function will be handled by a specific event listener any changes made in structure to the underlying model will also be updated in the diagram through a specific event listener.

b) Advance Class Diagram:

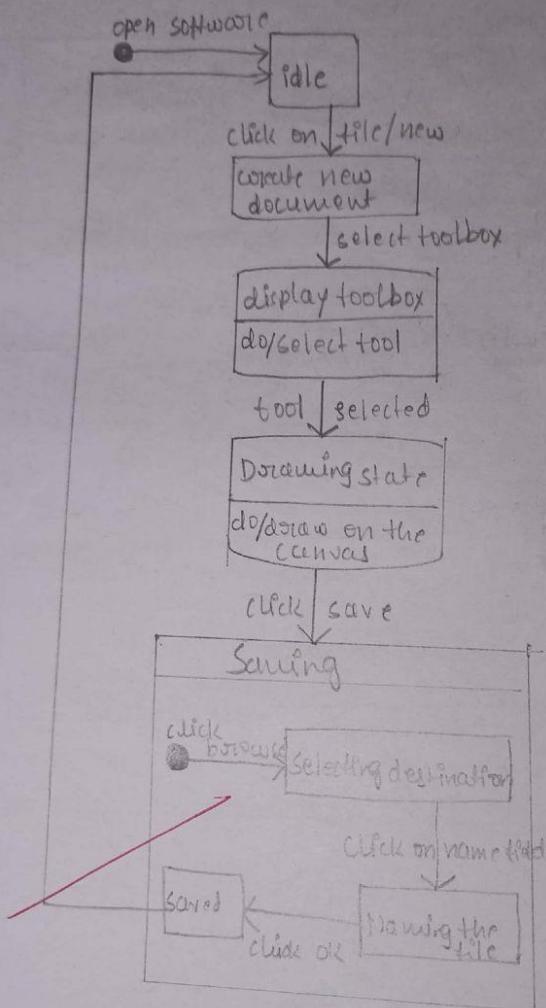
7. Class Diagrams Graphical Editors



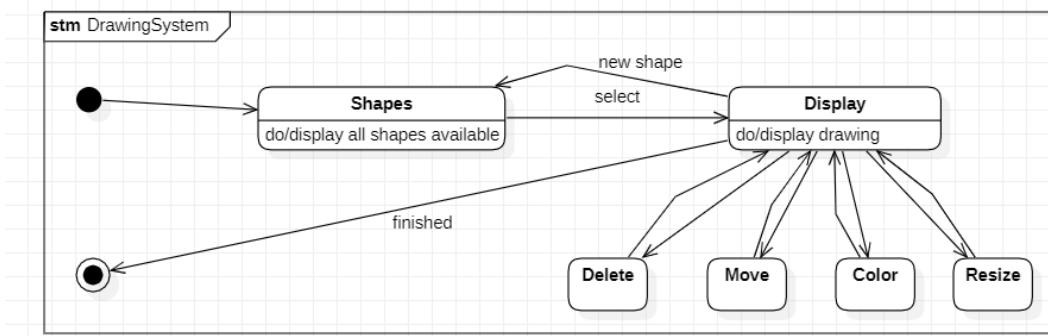
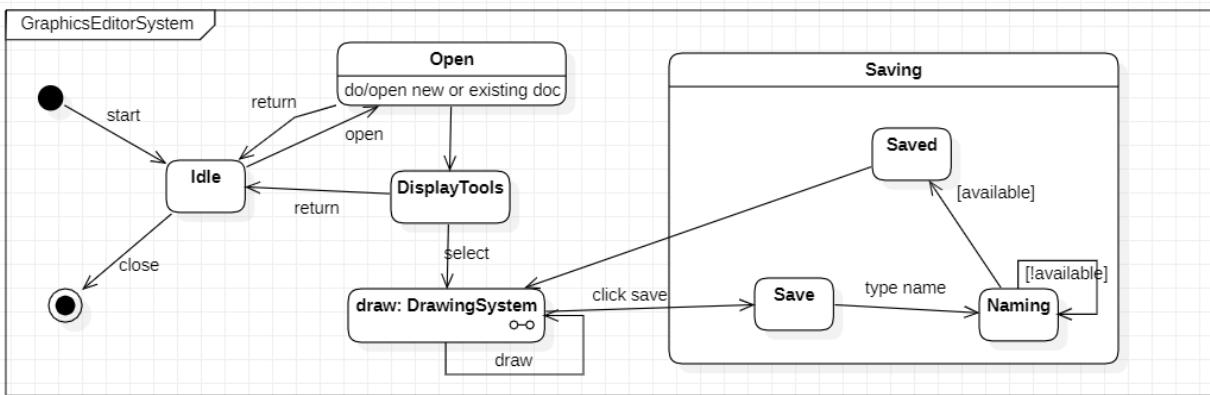


c) Advance State Diagram:

⇒ Graphics editor system:

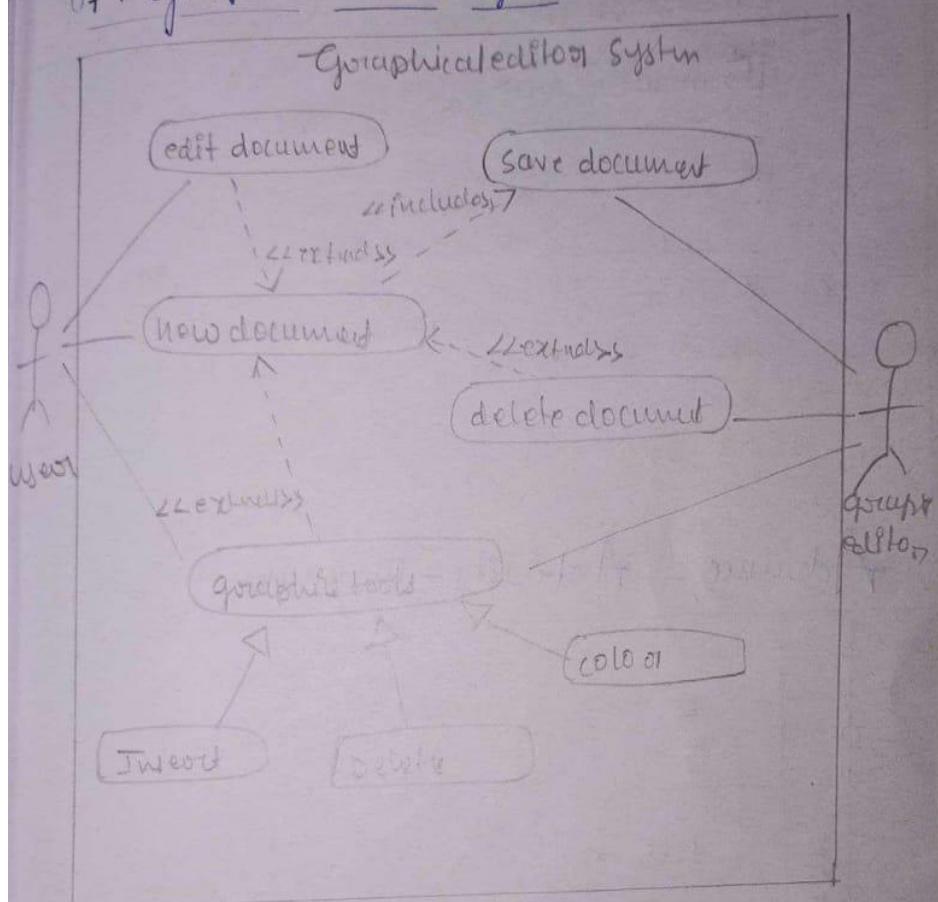


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17/6/22

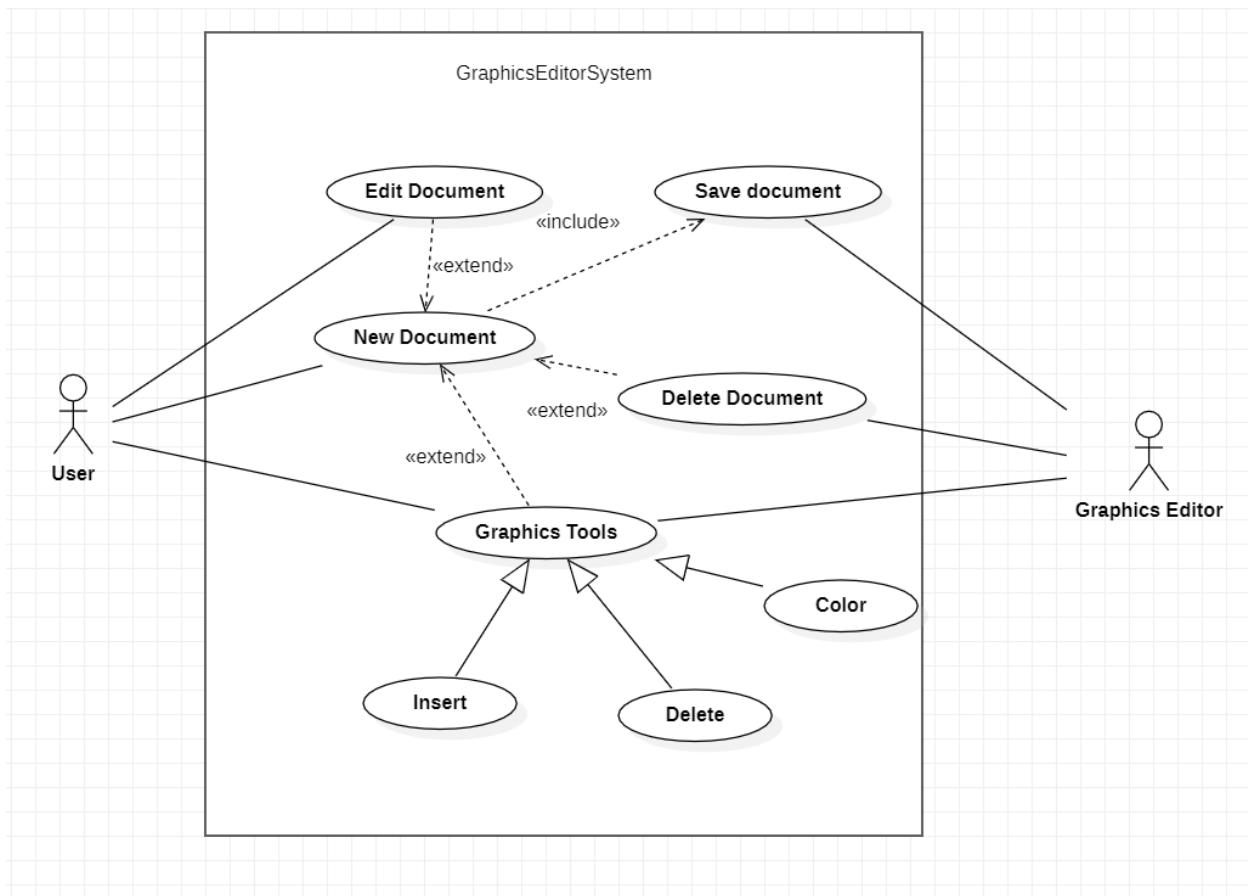


d) Advance Use Case Diagram:

07: Graphics editor System we can



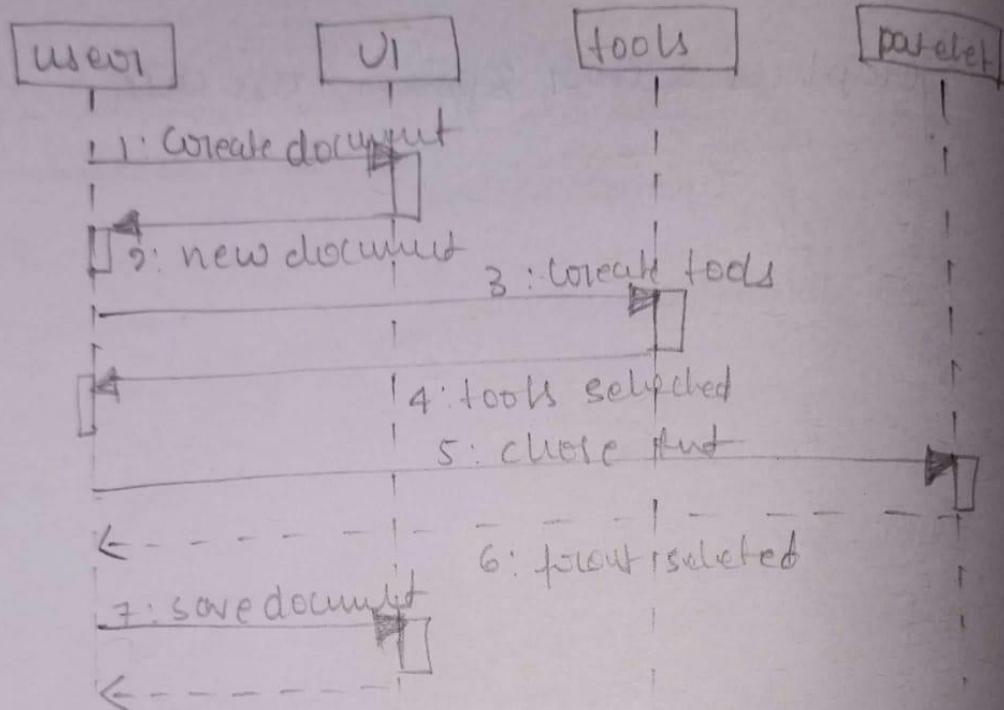
Scanned with
CamScanner



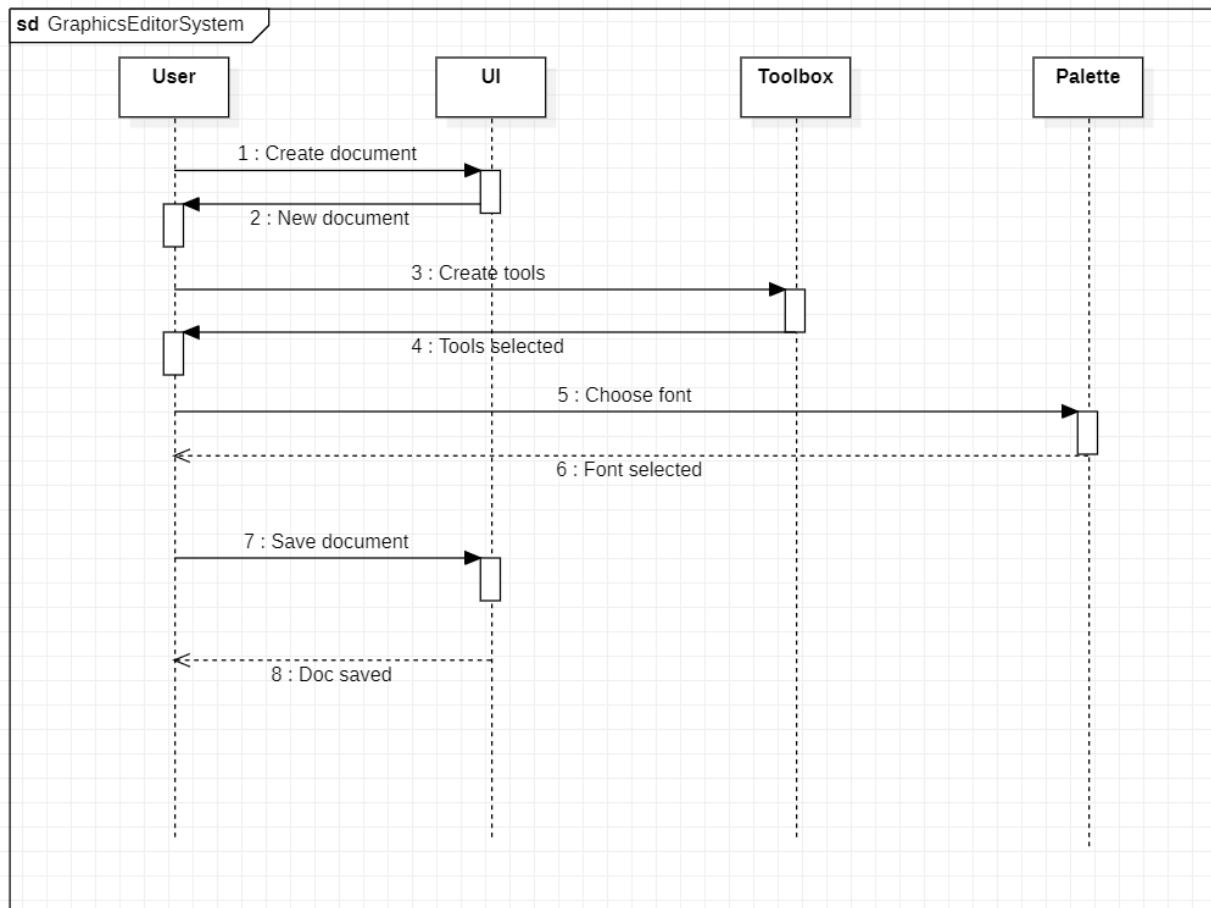
e) Sequence Diagram:

Advanced - Sequence - Diagram:

Sd: graph used for System



Scanned with
CamScanner



f) Activity Diagram:

Advance - Activity - Diagram

