

Software Engineering, CS385T- Project

Title: A plus

Section: 7C1

Group no. 6

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Second Semester 2022/2023

Write your name next to section(s) you worked on, or state you all shared the work by ticking on the following statement box. (You will still share responsibilities even if you state your contribution)

☐ **We all share the work and responsibility of the project.**

PLO	Student Name	FOR INSTRUCTOR'S USE ONLY		
		Max. Mark	Mark Obtain	Notes
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System Architecture	Ghida			
Total Score		9		

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1. Chapter 1

System descriptions

Application Containing Two Parties Student and private teacher.

And the private teacher must present the courses in the application and the student must choose the appropriate course for him.

Also the application aims to make it easier for university students to find teachers specializing in all subjects related to the university by providing the services of private teachers in the application with ease and high efficiency. And The application includes communication between university students and private teachers. Also the application includes many universities that you can choose one of them and then choose the course to find a private teacher for the course.

And specify the explanation of on-site or online, thus a lot of time and effort is saved .

The development Process model used

The Waterfall model because the requirements are complete and clear. And no need for urgent action.

System Requirements

Functional Requirements

User Requirements

1. The user shall be able to create an account in the system.
2. The user and Teacher shall be able to login into the system.
3. The user shall be able to select the university.
4. The user shall be able to view all teachers.
5. The user shall be able to communicate with the teacher.
6. The user shall be able to select the method of attendance.
7. System provide different payment processes for users.
8. The system shall be provided technical support for users.

System Requirements

- 1.1 The system must register using username and add a password of 8 numbers including at least one uppercase.
- 2.1 The user and teacher shall be enter username and password of a plus system to login successfully.
- 3.1 The system should display all universities to the user, so that the user can choose his university and view all subjects affiliated with his university.
- 4.1 The system should display all universities to the user, so that the user can choose his university and view all subjects affiliated with his university.

5.1 The Teacher can communicate with user from phone number , Email , chat in the system.

6.1 The system display of method attendance onsite or online.

7.1 The user shall be pay by different types of payment processes can pay from credit card, apple pay , transfer bank and user can choose which apropos way.

8.1 The user Shall be contact technical support team at any problems the user encounters Suggestions are received or for whether in the system, chat, email.

Non-Functional Requirements

1- Availability

1.1 The application should be available for all operating systems such as IOS and Android.

2- Security

1.1 The application should protect private information and only shows the name of the user and their gender and the name of The university they attend.

1.2 The username should be unique.

1.3 The password should be strong, must include one capital letter and one small letter, and does not allow consecutive numbers.

3- easy to use

1.1 The application should be easy to use and aesthetically pleasing and Follows gamification methodology for ease of use and enjoyment.

4- Performance

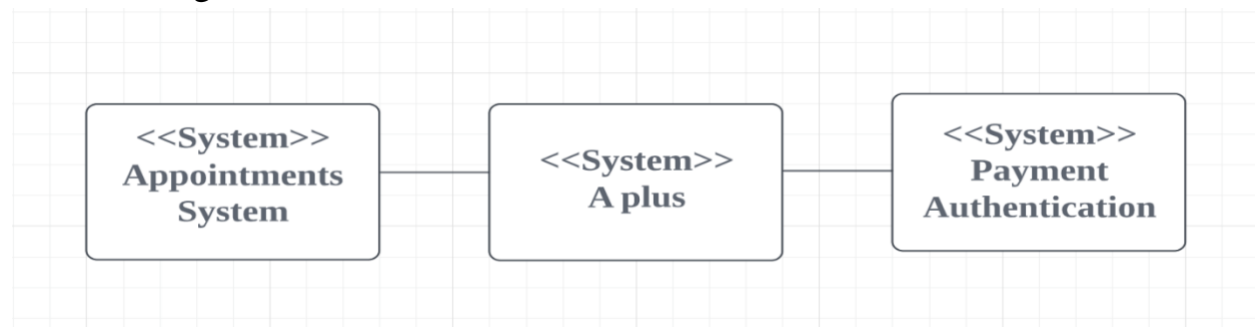
1.1 The System malfunction should not exceed five seconds on one day.

5- Robustness

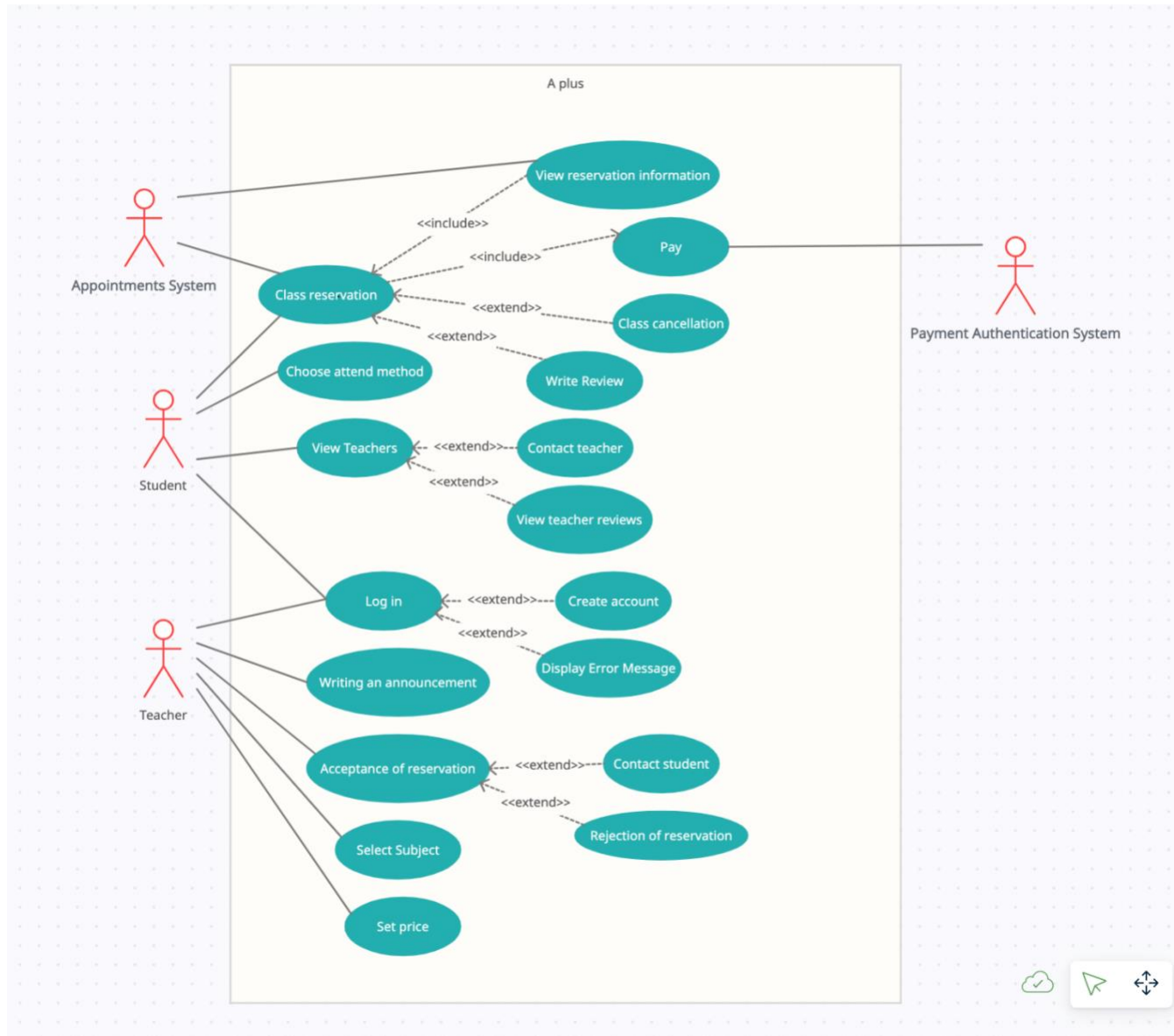
1.1 The application should be allowed for reservations 24/7. Any defect is not allowed to cancel any reservations, reject them, or not complete them.

2. Chapter 2

Context Diagram



System Use-case Diagram with description



Use case scenario (MSS +Extensions)

Use case 1 login

GOAL: To Enter the system

Actors: User

Precondition: The user has an account

- Main Success Scenario:

1. The user will choose a Student or Teacher
2. The user will enter their Username, and password
3. The system will verify whether the account is already registered in the application.

- Extensions:

2.a. The user Enter the wrong Username

1. The system will display a message showing that the Username is not found
2. User can press create account button

2.b. The user Enter the wrong password

1. The system will display a message showing that the password is incorrect
2. The user can press forget password button

Postcondition: Search for a Teacher

Use case 2 Class reservation

GOAL: Book a class for student

Actors: User , Appointment system, payment authentication system

Precondition: successful login

- Main Success Scenario:

1. The student chooses the university, subject and method of attendance
2. The system will display a list of teachers who teach this subject in order according to the required attendance method
3. After selecting the teacher, click on the Book a class button
4. Determine the number of students and the date and time.
5. Send a reservation request to the teacher
6. If the request is accepted, the system will show the payment method

- Extensions:

6.a.request has been rejected

1. The system will send a message to the user to inform him about the status of the request

Postcondition: contact the teacher

Use case 3 Cancel Reservation

GOAL: To cancel reservation for student

Actors: User ,Appointment system, payment authentication system

Precondition: User login to his account and has a class reservation.

- Main Success Scenario:

1. System displays the list of registered class.
2. User selects the class that he wants to cancel.
3. System confirm the request of cancel.
4. System returns the money to user.

- Extensions:

1a. user requests cancel the class after the cancellation time expires

1. The request will be rejected

Postcondition: Cancel reservation has completed

Use case 4 set the price

GOAL: teacher set the price of the class

Actors: User

Precondition: User login to his account, select subject, and method of attendance • Main Success

Scenario:

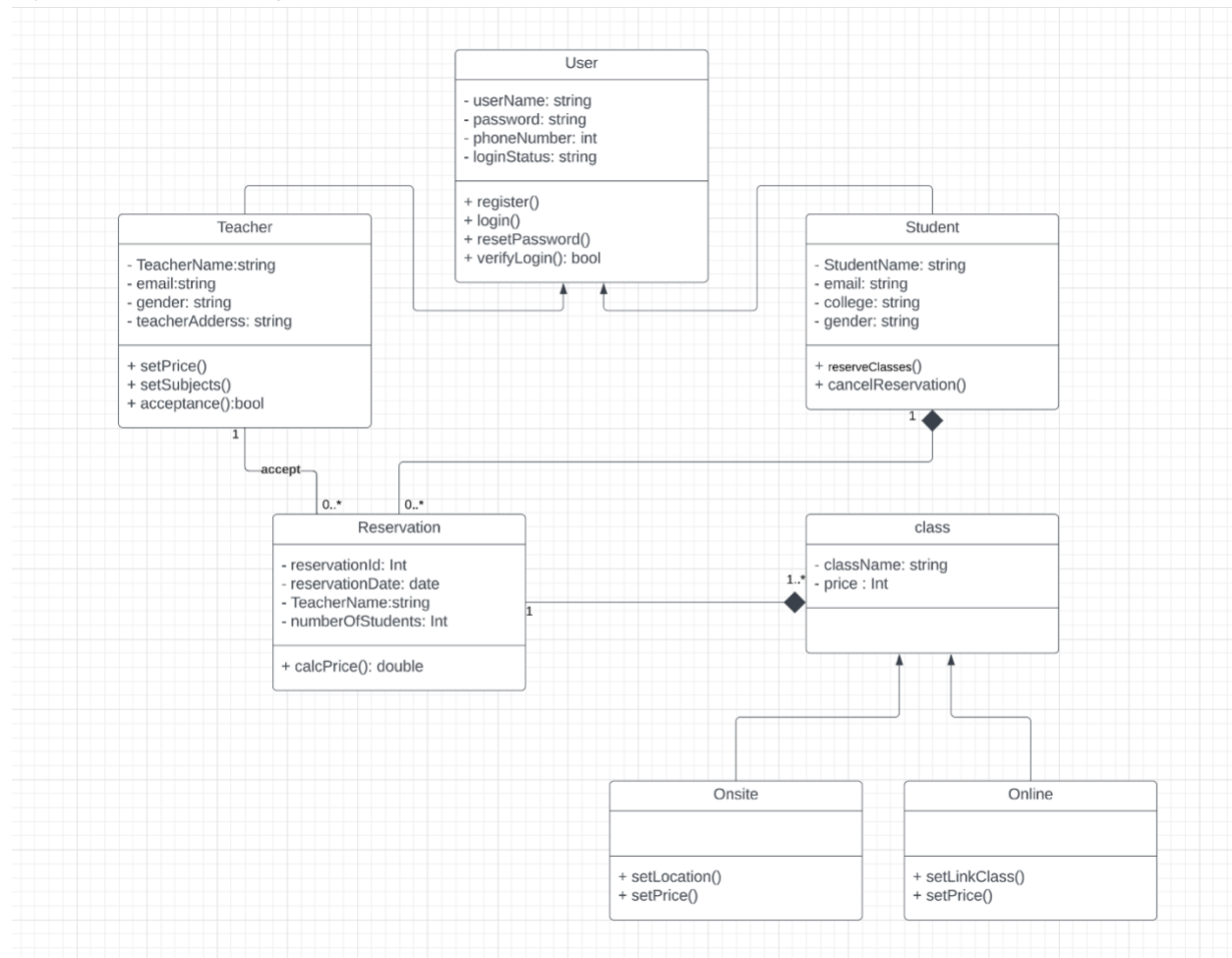
1. The teacher sets the price for one student.
2. Price will be set for each session either an online class or onsite
3. The teacher will locate the class for the students who choose to come to the site Postcondition:The teacher can start taking reservations

- Extensions:

1.a. If a group of more than 5 students, the system will give them a 5% discount.

3. Chapter 3

System Class Diagram



There are two types of users: teachers and students. Each user has a username, password, phone number, and login status. They can register, login, reset their passwords, and verify their logins.

each student has a name, email address, gender, and college associated with it. And every student can reserve or cancel one or more classes.

The teacher also has a name, email address, gender, and address associated with them and can set subjects, set prices for classes, and accept reservations.

every class has a class name and price. has many classes methods either onsite classes or online classes. For on-site classes, the teacher set the location and the price. and for online classes, the teacher set a link to the class and the price.

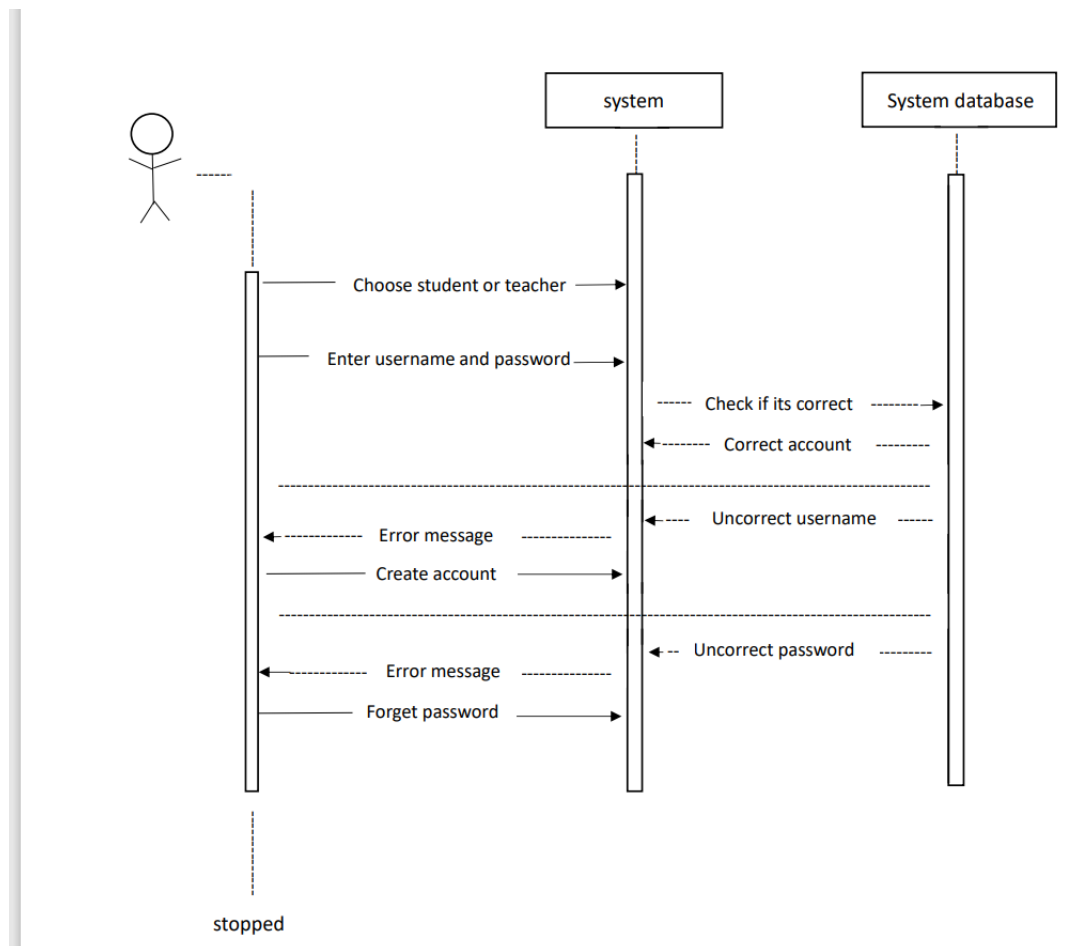
the reservations have reservation Id, reservation Date, Teacher Name, and the number of students. reservation can calculate the price.

the reservations must be for at least one class.

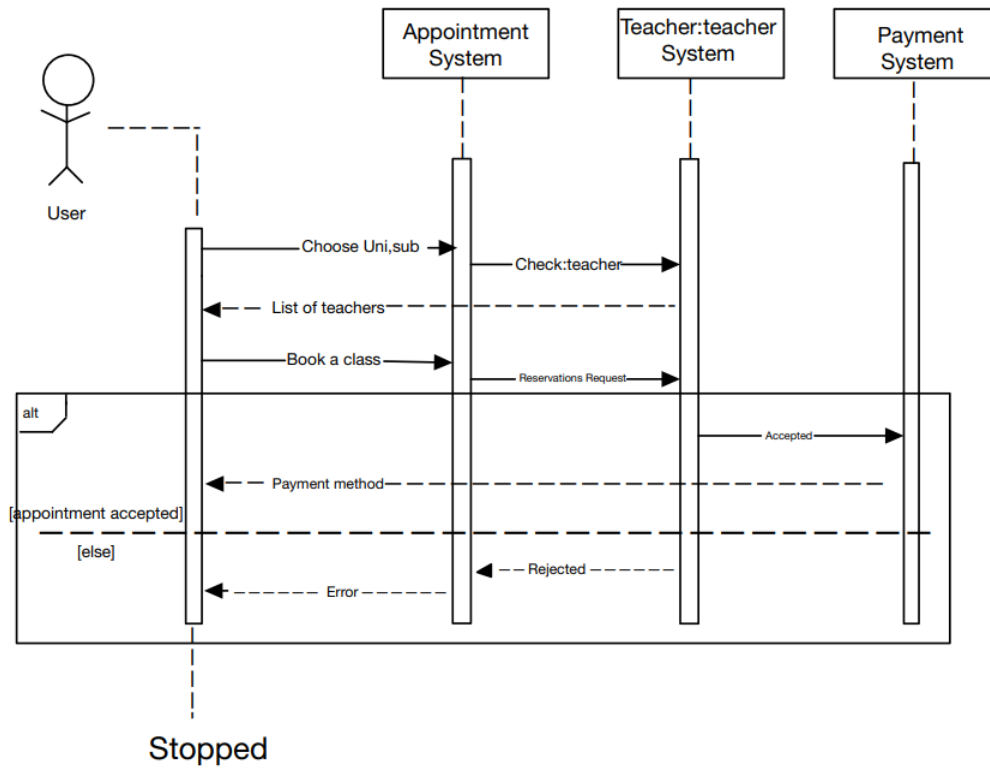
each teacher can accept zero to many reservations.

Sequence Diagrams

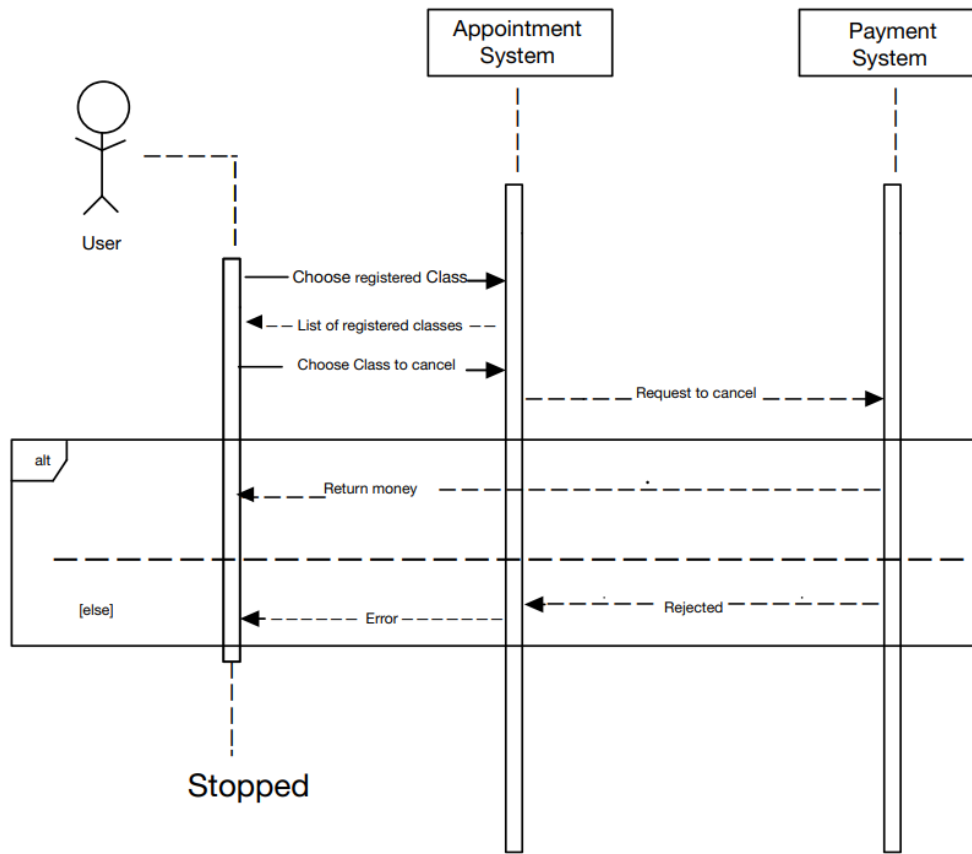
Sequence diagram for login



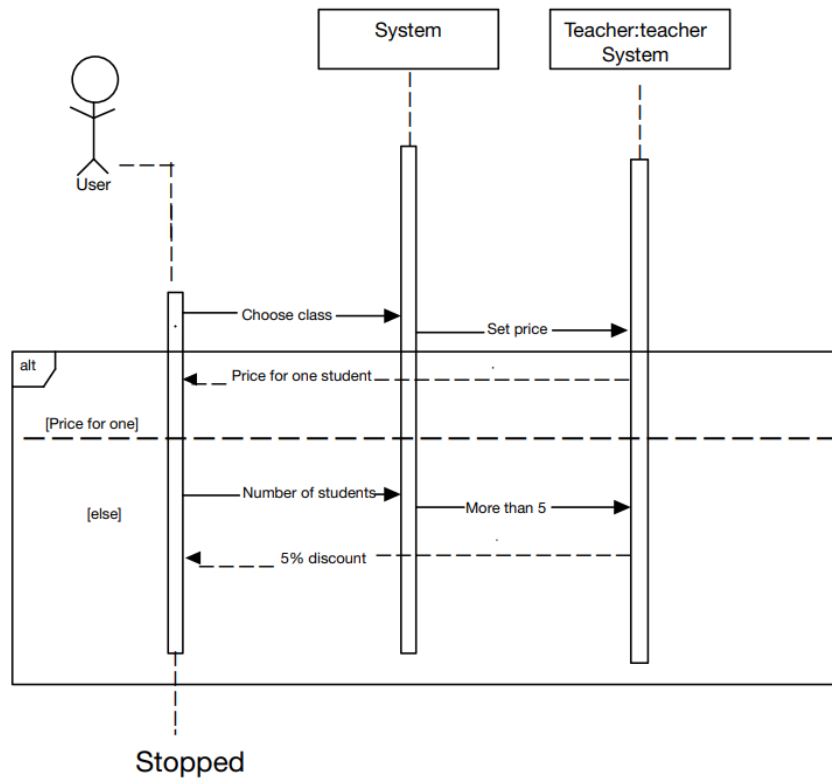
Sequence diagram for Class reservation



Sequence diagram for Cancel Reservation



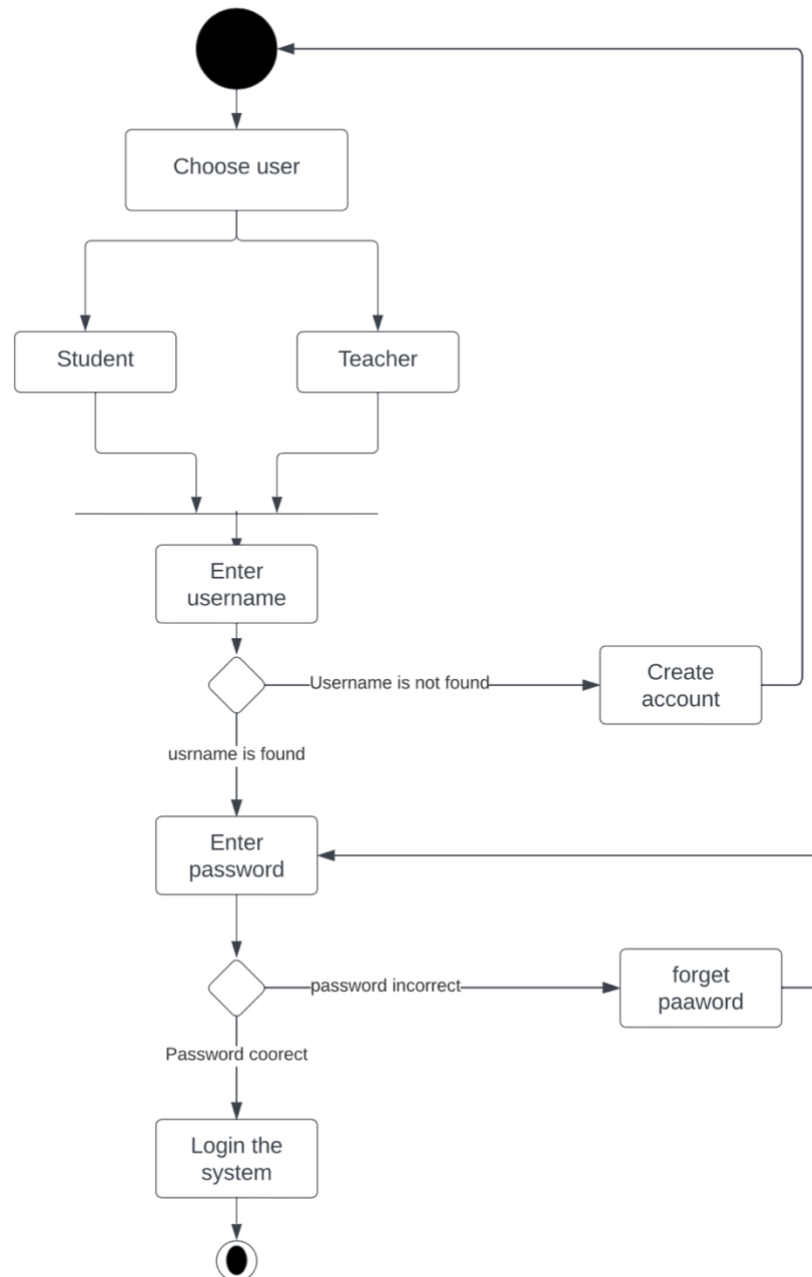
Sequence diagram for set the price



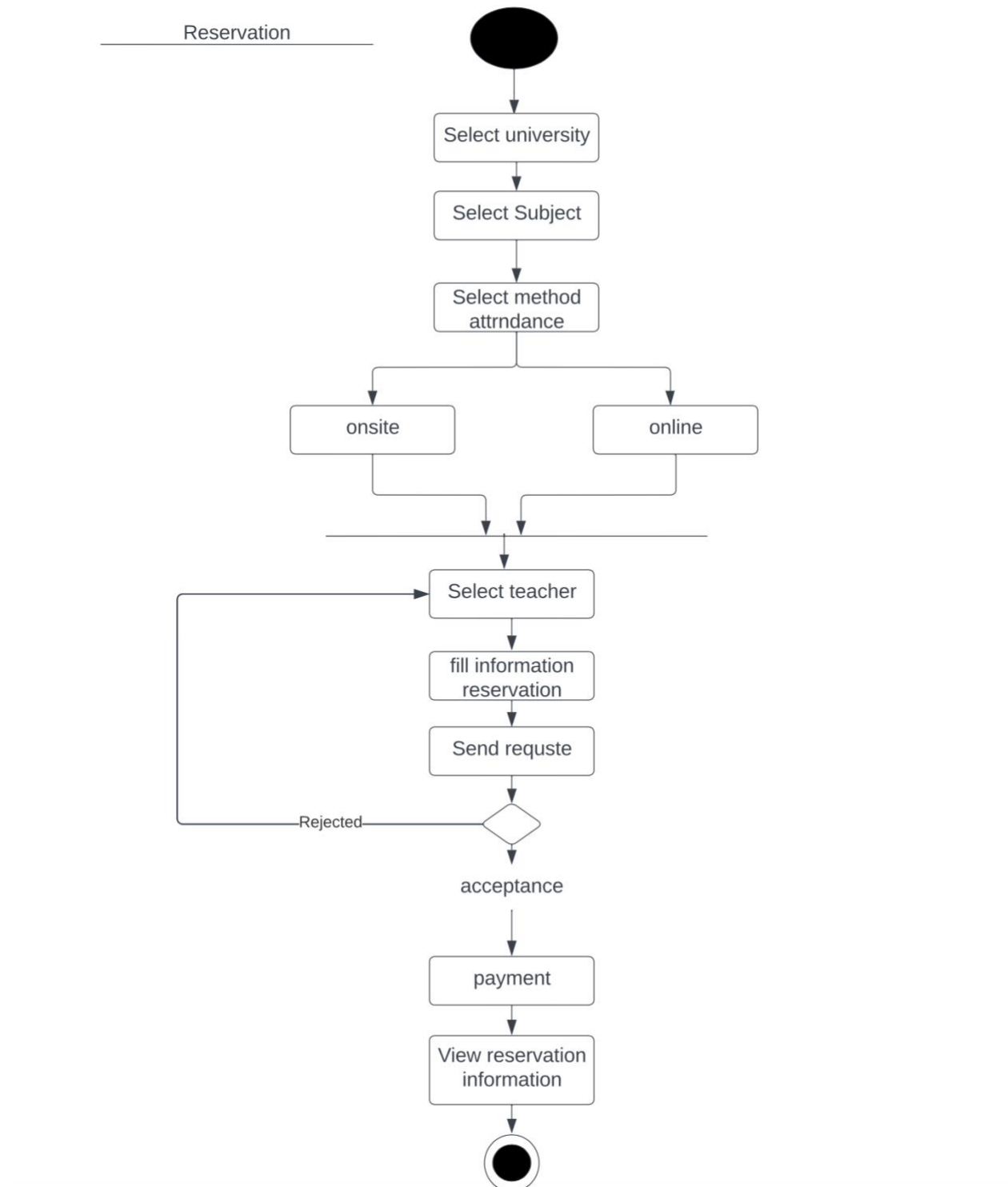
4. Chapter 4

Activity Diagram

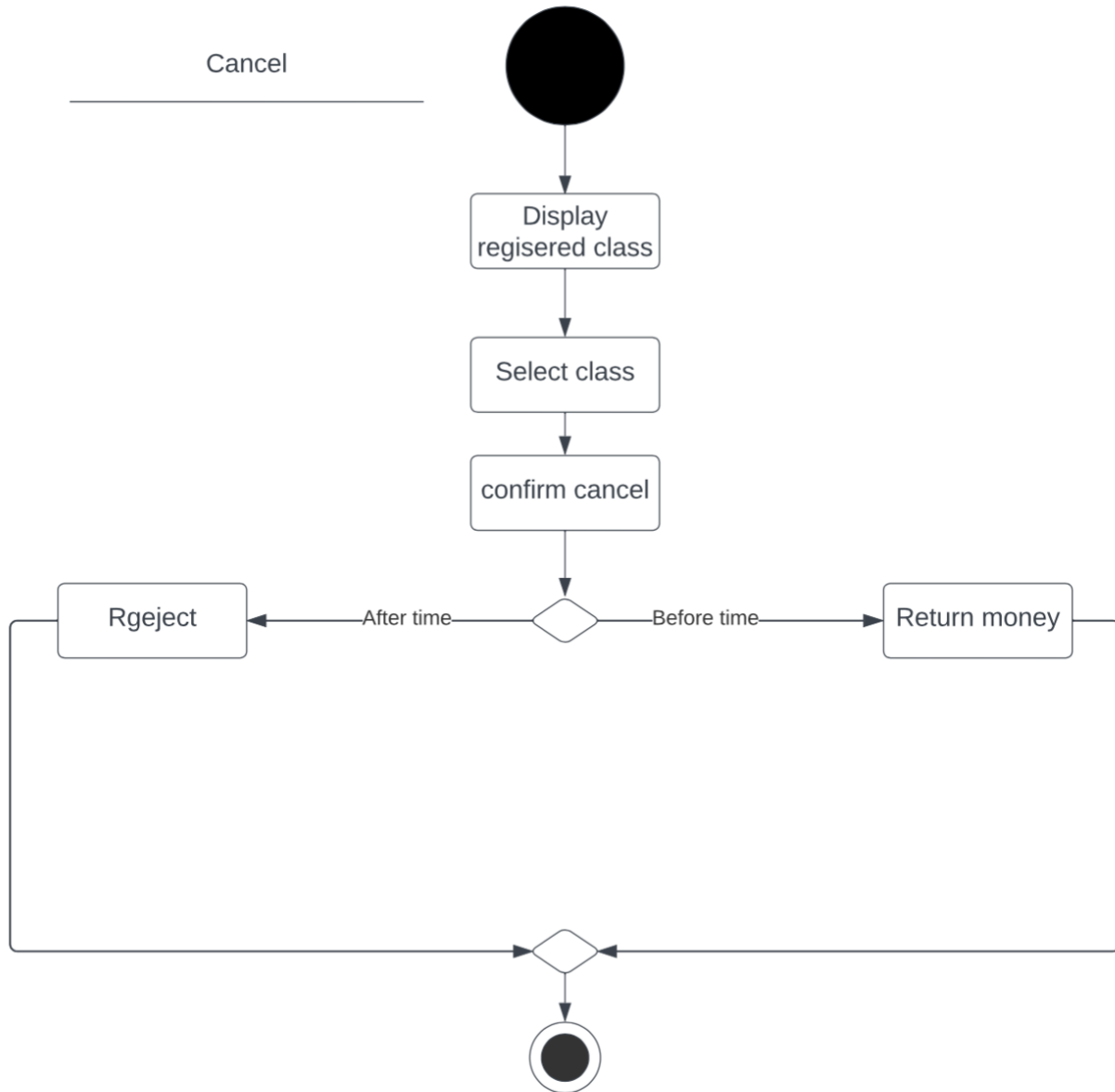
Activity Diagram for login



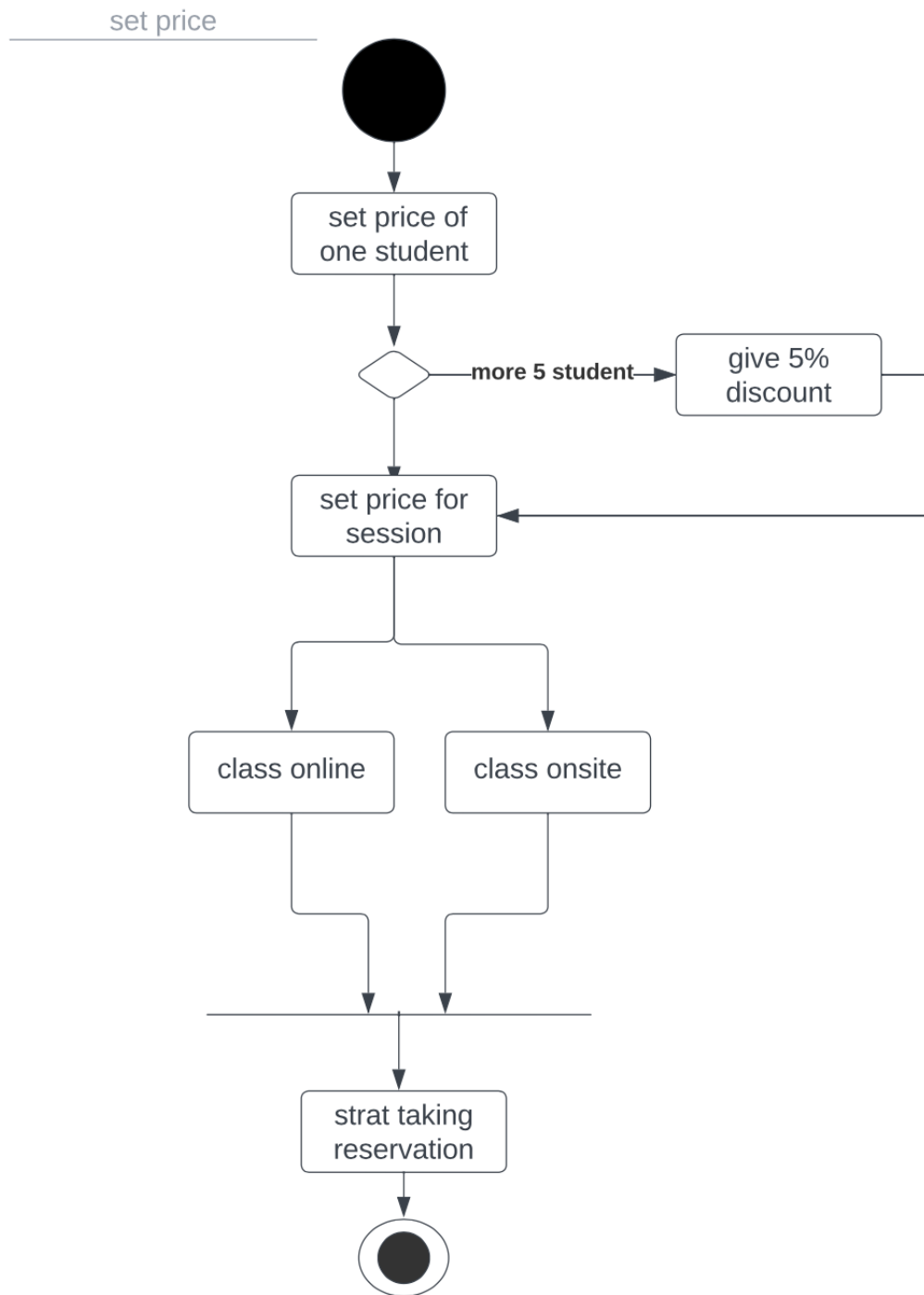
Activity Diagram for Class reservation



Activity Diagram for Cancel Reservation

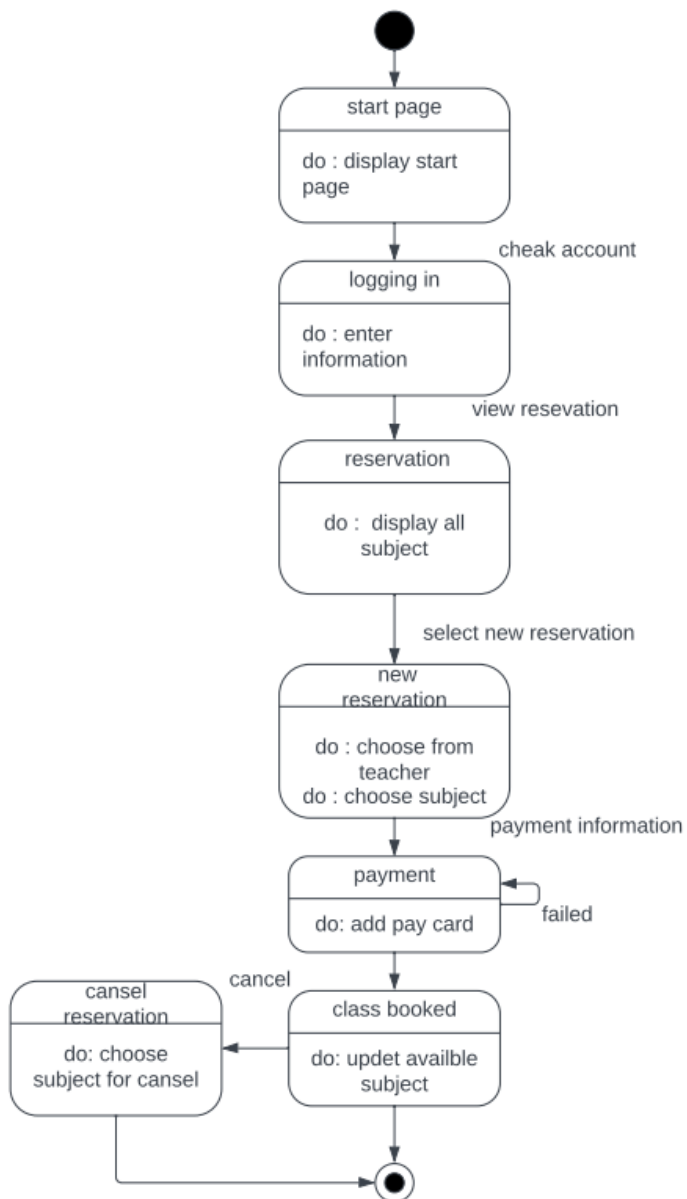


Activity Diagram for set the price



State Diagram

State Diagram for Reservation



5. Chapter 5

Architecture Diagram

