PROJECT REPORT

CCSW 223

Section C5

GROUP MEMBERS & ID

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Introduction
Labs Excersises

Lab 1

Hall Management System

Our project will be about a Hall Management System in the university. Our System will go through three steps.

We will cover:

1. Reservation orders
2. Maintenance and determining devices availability and tools
3. Confirmation

Lab 2

Interview with the user

a. Evaluation of a User Request

Ms. Omniya Wajeeh

Faculty member

Wednesday, 15 September 2021

10:15 A.M

b. Description of the problem:

Faculty members suffer to find a free hall whenever they try to give an extra lecture.

To make this an easy process we decided to add an extra field in the university "My Future" application. This application will focus on giving the best hall reservation experience for faculty members.

Interview Questions & Answers:

Do you prefer that the hall reservation service be provided through a website or an application?

➢ I guess through BB will be more efficient because its more formal and flexible to make reservations directly.

On a scale from 1 to 10 how much do you think our idea is useful and why?

➢ Absolutely 10, its very useful because sometimes we need an extra class and the procedure is very complex cause I have to talk to someone to check if there is available halls and most of the time even the available classrooms doesn't fit my

requirements like tools or specific software I need to use in the lecture which make it more difficult to us finding what we want in a short time, it takes more than one day to book a classroom. So, I think your idea is more than useful.

What requirements and services do you expect from our project?

➤ Maybe display the available classrooms or labs, confirmation, notifications for the booked hall, also notifications for the students if their teachers booked a class for their course for example, there is a class for course…. at…. in hall number… please be there. Also, it must have a checklist for tools and software that I want it to be included inside the hall.

Do you prefer to have a private account or register directly by your ID?

➤ With ID is better, it's more flexible and easy way to make reservations.

What is your desired method to receive your order confirmation?

➤ Text messages. And I think it's much better to leave the choice for the users so they can decide their needs, or to make it as a notification from the application itself (my future).

What facilities and services (tools) do you expect/need in a hall?

➤ It depends on the type of the lecture. For example, some classes all I need is a space on a board to write on but in other classes like labs I need computers for the students to work on. So, it depends and like we say before checklist is an efficient way to know what tools are needed so you can let the user to pick what they need than display the available halls that fits their requirements.

As a user, do you think specifying the hall attendance will complicate the procedure?

➢ Yeah, sometimes before I book a class, I asked the student what time they prefer to take the extra class like sending them a questioner. I think it is easier way than sending e-mails and waiting for their replies so adding a questioner in your project to specify the attendance is very helpful.

Do you prefer choosing the time before the date or the opposite?

➢ Date than time.

Would you like to receive a reminder notification if a desired hall is finally available?

➢ Yes of course.

c. Analyst comments:

Based on our interview with one of the faculty members, we found out that adding a hall reservation field isa needed and efficient idea since the manual idea is very complex and time-consuming.

Faculty members prefer reserving a hall through the "my future" application than from a website so it connects the students and the faculty members together, this will make the reservation easier, more flexible, and formal to inform the students about it.

Faculty members expect from a hall reservation service to display all the halls available with the available times, a clear confirmation method, and add a notification whenever the desired hall is available to both the faculty members and the students about the class.

They also expect from the service to display the tools and if a certain software is available in the hall. Faculty members would

like to have the freedom to choose their desired confirmation method (e-mail, text messages, phone calls, or through the application).

The facilities -tools- that the faculty members need in a hall depends on the type of lecture given. For that reason, they prefer the freedom of choosing what are their requirements in the application by adding to a checklist with every tool needed.

Faculty members would like to register directly through their IDs because it makes the process more formal and simpler at the same time. Faculty members usually love to choose the day before the time of the lecture.

Lastly, they receive a reminder notification as a confirmation if the desired hall is finally available for both the faculty members and their students.

Interview with the programmer

a.Evaluation of a User Request

Abdullah and Jawad

Professional programmers

Alshreef15xm@gmail.com

jawadfageha@gmail.com

Friday, 7 September 19, 2021

7:00PM

Description of the problem:

Building or developing a software program needs so much experience. The best way to do that is by interviewing professional programmers, so we did.

Interview Questions and Answers:

What is the best programming language to use?

➢ Java because it's an object-oriented language so we can use the objects to specify halls and use classes to make more than one class like: class for the teachers and another class for the students, also it's easy to use because you're studying java this semester so it will make it better for you to use it in your project, so I think java is the best option.

What is the best platform?

➢ I think that it is better to have the application on Android and iOS systems, because now everyone carries their mobile phones everywhere, so it will be easy for them to book at any time or manage their reservations, and also students receive notifications through the program and are more careful about their assignments for example, the Blackboard application is now on the mobile and students receive notifications of recently added assignments or announcements and most of the students interact with it. So yes, this is an easier way to get their attention. In the end you can decide what is the best for the teacher, but I recommend you make it as an application.

What is the field in which the user enters his personal information?

➢ We can link the database of the ODDS system with my future application system so that the ID number and the password are entered, after which the confirmation reservation will be sent through notifications in a future application, as well as the private university e-mail.

What is the comprehensive tool that contains a description of reservation information?

➢ It contains a special method in which it contains the faculty member's information, id number, reservation date, hour, and

hall number. The faculty member confirms the reservation. The system administrator approves, then sends the notification and e-mail.

Does the hall offer a flexible booking feature to change the booking date in case of any sudden changes?

➢ Yes, we can provide a feature to change the booking date in case of any change, for example, a faculty member booked an appointment at five o'clock. She can change the booking date for upcoming hours. There is also a QR code feature in the application. This feature confirms the person's attendance by scanning the code on each hall, if this person scanned the code, it means that they are prepared to use the hall. If the person did not scan the code within 15 minutes before the desired appointment, the system will automatically cancel the reservation.

Analyst comments:

We are most likely going to use java as a language because it allows us to create classes and objects which we are going to use frequently.

Programmers recommended to use the application on Android and iOS systems as a platform due to the portability of our phones nowadays and everyone always have their phones with them, also it is going to be easier to receive notifications on our phones, and more effective feedback. Also, programmers advised us to link the database of the ODDS system with a future application system which is a great idea, so that the ID number and the password are entered, after which the confirmation reservation will be sent through notifications in "my future" application.

For displaying the reservation information in the end of the process, we will add a special method that contains the faculty member's information, ID number, reservation date, hour, and

the hall number and a confirmation button to press, which will lead to sending the confirmation notification.

We are definitely going to keep an eye on the booking flexibility in case of any sudden changes. We are going to provide the QR code feature that the programmers mentioned earlier.

Lab 3

1.The project Planning Phase

Simplicity, Flexibility, and Reliability.

Since reserving a hall in our university manually takes so much time and energy, the hall reservation management system has three main goals to provide a great experience while reserving a hall.

The first objective is about simplicity. We are going to add a field in the university's "My Future" app that will focus on everything hall-reserving related. This field will help the faculty member in the hall reservation process by displaying every available hall, and if there isn't, it will notify the faculty member whenever a hall is available through a desired method. Also, we will be displaying all the tools, devices, and software that might be needed in a checklist which will simplify the process. We are focusing on displaying the reservation application process in a very simple way that a faculty member will not feel discouraged any time they needed to reserve a hall.

Flexibility in our project is a main goal, too. We are focusing on making the reservation process as flexible as possible. From the log-in process, editing date and time, and confirmation notifications methods, we will make sure everything is flexible and easy to cope with. We will be making the log-in through the same application that might also contain a face ID log-in. Editing the date and time will also be flexible by giving the faculty member the freedom to change and edit the date and time. Lastly, we will also focus on the flexibility on giving a variety of confirmation notifying options that the faculty member will get to choose from. Whether they wanted it through e-mail, text messages, phone call, or through the application.

Our last main goal is reliability. Our system will be reliable enough to provide the exact needs in a hall reservation process as a faculty member asked for. This includes: the date and time chosen, the services, tools, and software asked for, and every other requirement needed.

Not meeting the efficiency expectations is a risk in creating this project, so we will make sure to work on it precisely.

2.The purpose of the project

The User Business or Background of the Project Effort

Content

We have developed the idea of booking halls that were previously manual and require long times for the approval of the Deanship, which is a problem for the faculty member.

It will also be the first choice for faculty members when they wish to book a hall that is available with all the tools.

One of the advantages of our application is the flexibility in changing the time, making it easier for faculty members to fit their time to book the hall.

The user will simply log-in into the application, click on the hall reservation field, then choose the desired date and time. Lastly, the user should confirm the order and make sure to receive the confirmation notification.

Motivation

Faculty members usually suffer to perform extra lectures due to the long, complex process.

So, by using this service the faculty member can flexibly perform their lectures in a timely manner, and because of the flexibility of the application, it will make a very big difference to faculty members and students in terms of psychological and study in terms of there will be no postponement in lessons or any delay in the curriculum.

Consideration

It is, in fact, a serious problem to deal with. The current system lacks speed, simplicity, flexibility, and accuracy.

Struggling with reserving a hall manually may not only cause a curriculum delay, but also it is time and energy consuming for both the deanship and the faculty member.

By creating this service, this will improve the hall reservation system in many aspects in the university.

Goals of the Project

We have three main goals to achieve while creating the hall reservation service.

Simplicity in the reservation process, flexibility in everything reservation-related, and reliability in the reservations.

3. Preliminary report

The Problem:

Many faculty members on campus are faced with obtaining halls that suit their requirements to perform lectures in a timely manner which makes it difficult for them to adhere to the study plan for the semester and causes them many problems.

Also, the hall reservation system is very complex and inflexible and requires speaking to more than one person and the process takes a long time because of making sure of all the tools in the available hall and often the available halls do not fit the requirements of the faculty member, which makes him obliged to give the lecture inside it, otherwise he will be delayed in his study plan, but this also negatively affects us as students, as it is difficult to convey the information well without the appropriate tools to explain it.

Findings:

- Continuous postponement of lectures.
- Unavailability of the required tools in the lecture halls.
- Taking a long period of time to organize classrooms reservations.
- Not knowing if the required softwares are available inside the labs or not.
- The reservation process is complicated, inflexible, and wastes a lot of time for faculty members.
- The system does not support additional lectures.

And because of the system's inflexibility and complexity, this also causes delays in the curriculum, which requires students to attend the last days of the semester, and their inability to study enough for the final exams and causes negative results from a psychological and health point of view, and also affects their grades.

Recommendation or proposed solution:

We, the students, have come up with a solution that enables faculty members to perform their lectures flexibly, at the right time for them and the students, and in the right place, with the availability of the required tools.

We have decided to develop my future application of the University of Jeddah by adding a new field that we called it the hall reservation management, where all faculty members can manage classrooms reservations with ease and flexibility, in addition to many advantages that are of great benefit to them and us.

Cost & schedule estimates:

Description	Duration	Cost
Requirements gathering and analyzing		
Idea Determination	1 Day	0S.R.
Interview		
Preparing Interview Questions	3 days	0S.R.
Interviewing The User	1 day	0S.R.
Interviewing The Programmers	5 days	0S.R.
Analyzing the User Requirements	10 Days	0S.R.
Analyzing the Programmers Advice		
Design		
Define System Requirements Software & Hardware	7 Days	2,000S.R.
Design Interface	14 Days	4,000S.R.
Create a Detailed Design Document to Outline the Software Structure	7 Days	5,000S.R.
Coding		

Coding the Application Field	30 Days	30,000S.R.
Adjusting & Linking QR Code	7 Days	
Internal Testing	Continuous Throughout the Entire Coding Phase	
Testing		
Testing the System Specifications & Bugs	Periodically	0S.R.
Software Examination by User	5 Days	0S.R.
Maintenance		
Define & Prepare for Updates	Periodically	500S.R.
Future Changes The User Requires	Any Time	Depending On the Changes
Total	90 days	41,500S.R.

Timetable	
Activities	Percentages
Requirements gathering and analyzing	1%
Interview	21%
Design	31%
Coding	41%
Testing	6%
Maintenance	No Limit

In conclusion, all the information presented in the "Cost & schedule estimates" are hypothetical, estimation and are not related to reality. It is likely that the percentages will change in the future and during the work more accurately.

Lab 4

The feasibility Study

The struggle of reserving a hall manually for a faculty member is the reason we decided to build this hall-reservation application segment.

Our project's main objective is evolving and converting the complex manual hall reservation process to a new advanced online service with three main features: simplicity, flexibility, and reliability.

To accomplish our project successfully we need experience in coding and data linking so we can easily link faculty members and halls' data from the Odus to the application.

We have estimated our costs for the software development with about 41,000 SR, and that includes: requirements gathering and analyzing, design, coding, and maintenance.

This application will be a quantum leap for the faculty members' hall-reservation experience. The service will be timesaving and more efficient than the manual process, and most importantly easy to use.

Report writing

1- Problem Definition:

Many faculty members on campus are faced with halls that doesn't suit their requirements to perform lectures on time. Also, the halls reservation system is very complex and inflexible, requires talking to more than one person and the process takes a long time.

It is a sub-problem that negatively affects us as students, as it is difficult to convey information well without the proper tools to explain it.

2- Scope Objectives of "new system":

Online hall reservation Management System

The main objective of the system is converting the old complex manual hall reservation system to an advanced online hall reservation service.

We have decided to develop my future application of the University of Jeddah by adding a new field that we called it the hall reservation management, where all faculty members can manage hall reservations with ease and flexibility, in addition to many advantages that are of great benefit to them and us. Among its advantages, you can book the hall electronically in a very easy way, the flexibility to change the appointment, and the availability of a detailed description in the event you book any room, showing you the tools available for this hall, and with complete reliability.

3- Alternative Solutions:

The manual reservation method continues.

The reservation method changes from the manual process to a separated website which the halls are booked electronically, and it is an independent system that is not linked to the university system.

4- Cost and benefits of Alternatives:

The best alternative solution is to choose a separate, independent system, which will be easier for faculty members and be more flexible, but in terms of funding, it will be high in price, but provides high quality services.

Description	Duration	Cost
Requirements gathering and analyzing		
Idea Determination	1 Day	0S.R.
Interview		
Preparing Interview Questions	3 days	0S.R.
Interviewing The User	1 day	0S.R.
Interviewing The Programmers	5 days	0S.R.
Analysing The User Requirements	10 Days	0S.R.
Analysing The Programmers Advice		
Design		
Define System Requirements Software & Hardware	7 Days	2,000S.R.
Design Interface	14 Days	4,000S.R.
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Coding		
Coding the Application Field	30 Days	30,000S.R.
Adjusting & Linking QR Code	7 Days	

Internal Testing	Continuous Throughout the Entire Coding Phase	
Testing		
Testing the System Specifications & Bugs	Periodically	0S.R.
Software Examination by User	5 Days	0S.R.
Maintenance		
Define & Prepare for Updates	Periodically	500S.R.
Future Changes The User Requires	Any Time	Depending On the Changes
Total	90 days	41,500S.R.

5- Software impacts:

We will add a new feature to (My future) application that helps faculty members reserve halls. This will facilitate the process of booking halls instead of the previous way, as members were struggling to find an empty hall to hold additional classes for their students. Moreover, with this feature, it will be much easier than before.

6- Potential Changes in the Organization:

My future application will be better than before because of the new changes added to it. However, with the addition of the hall's reservation feature, will make it easier for them to book halls without difficulties searching for empty halls and wasting time. In addition, there will be no crowding in the aisles, as was the case in the past, and the process will be easier and organized.

7- Recommended Alternative of the course of Action:

The best alternative is to make a separate website that offers the feature of booking halls, and it will be more advanced and has lots of practical tools that help the faculty members book easily and fast without wasting time and effort.

Project plan (By using Microsoft Project)

		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1			Project	1 day	Wed 08/09/2	Wed 08/09/2		
2			Project plan	3 days	Thu 09/09/21	Sun 12/09/21	1	
3			specifications	2 days	Thu 09/09/21	Fri 10/09/21		Mai Alqurashi
4			analyzing	2 days	Sat 11/09/21	Sun 12/09/21		Sherien Zakariya
5			Interviewing	15 days	Mon 13/09/2	Fri 01/10/21		
6			preparing questions	3 days	Mon 13/09/21	Wed 15/09/21		Sherien,Refal Najn
7			user interviewing	1 day	Thu 16/09/21	Thu 16/09/21		Refal Najmi,Mai Al
8			programmers interviewing	3 days	Fri 17/09/21	Tue 21/09/21		Sherien Zakariya
9			analyzing the answers	8 days	Wed 22/09/21	Fri 01/10/21		Hind Alnahar,Mai A
10			Designing	28 days	Sat 02/10/21	Tue 09/11/21		
11			define system requierments	7 days	Sat 02/10/21	Mon 11/10/21		Refal Najmi
12			design interface	14 days	Tue 12/10/21	Fri 29/10/21		Mai Alqurashi
13			create a dtailed design document to outline the software structure	8 days	Sat 30/10/21	Tue 09/11/21		Sherien Zakariya, Hind Alnahar
14			Coding	37 days	Wed 10/11/2	Thu 30/12/21	13	
15			Coding the Application Field	30 days	Wed 10/11/21	Tue 21/12/21		Sherien Zakariya, Hind Alnahar
16			Adjusting & Linking QR Code	7 days	Wed 22/12/21	Thu 30/12/21		Mai Alqurashi, Refal Najmi
17			Internal Testing	37 days	Wed 10/11/21	Thu 30/12/21		Refal Najmi,Hind A
18			Testing	7 days	Fri 31/12/21	Fri 07/01/22		
19			Testing the System Specifications & Bugs	7 days	Fri 31/12/21	Fri 07/01/22		Sherien Zakariya
20			Deployment	5 days	Sat 08/01/22	Thu 13/01/22	19	
21			user testing	3 days	Sat 08/01/22	Tue 11/01/22		user

Gantt Chart:
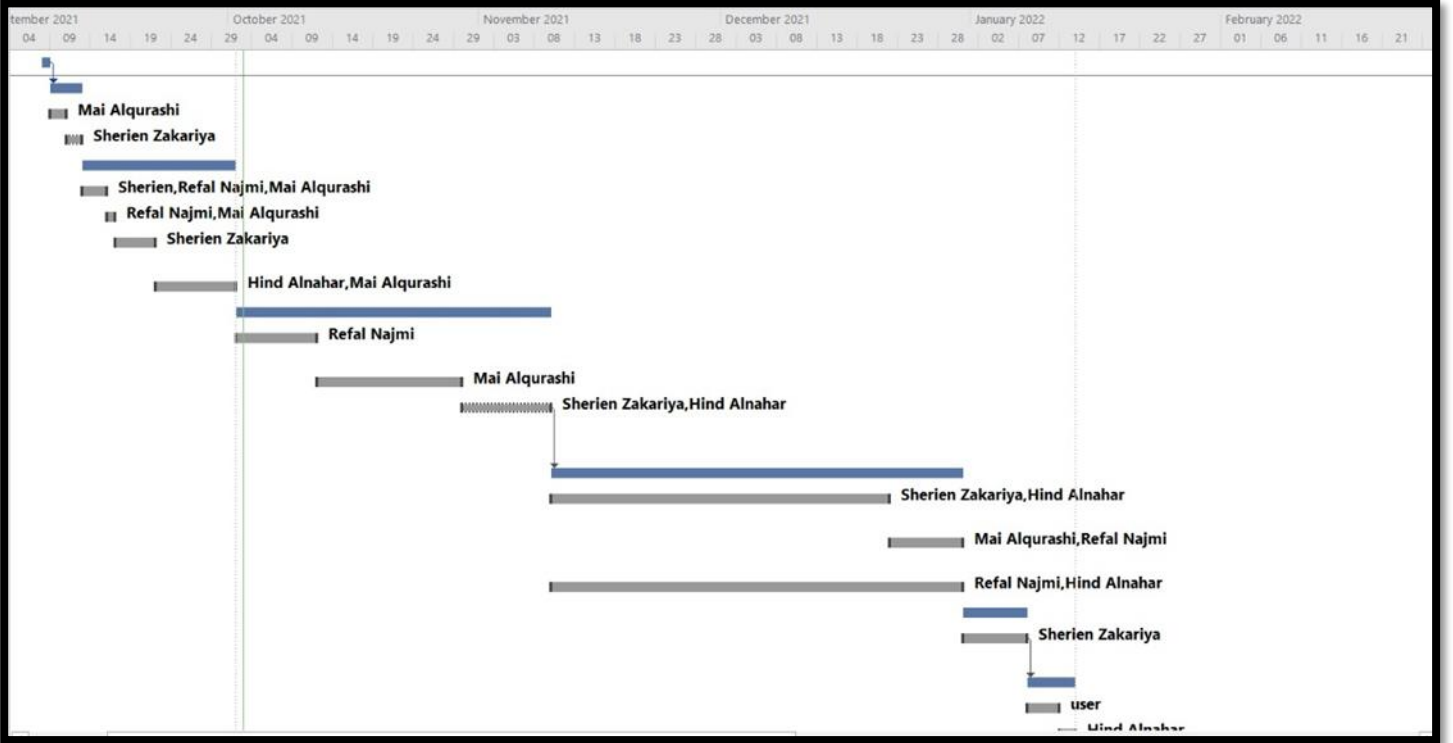
Lab 5

1: Context Diagram

Stakeholder Definition:

A: The client:

University of Jeddah

B: The customer:

Faculty members (instructors)

C: Other Stakeholders:

students, managers, and technicians.

2: The Scope of the Work:

A: The current situation:

Content:

The hall reservation system at the mean time is
a very complex process.

The faculty member must manually call the deanship to reserve
a hall, then wait for a response.

Also, faculty members may be forced to choose a hall that
doesn't match their needs in whatever services they choose in a
hall. The process is hard to deal with and inflexible.

We feel like it is a very old and unprofessional way to reserve a
hall, and it can evolve to a much better, advanced, and more
professional way.

Motivation:

The struggle these faculty members face every
time they try to reserve a hall is the reason why we thought
about building this advanced hall reservation system.

They will be able to reserve a hall with our main three
objectives which are: simplicity, flexibility, and reliability.

This process will also be timesaving, and the faculty members
can easily choose their desired services they would like to have
in a hall.

B: The Context of the Work:

Content:

After launching the hall reservation system,
the process will become much easier than the previous manual
method.

Faculty members will be able to reserve their desired hall
through an application with few effortless steps, then get their
confirmation with their desired method.

It will be a very timesaving process as it takes only few minutes
to reserve a hall that fits perfectly with the faculty member's
needs and requirements in an advanced, modern, more effective,
and highly professional method.

Motivation:

The Hall reservation system will be an online
service that helps all faculty members with affording the best
hall reservation experiences with achieving our three main
goals: flexibility, reliability, and simplicity, as well as saving
time and effort for faculty members.

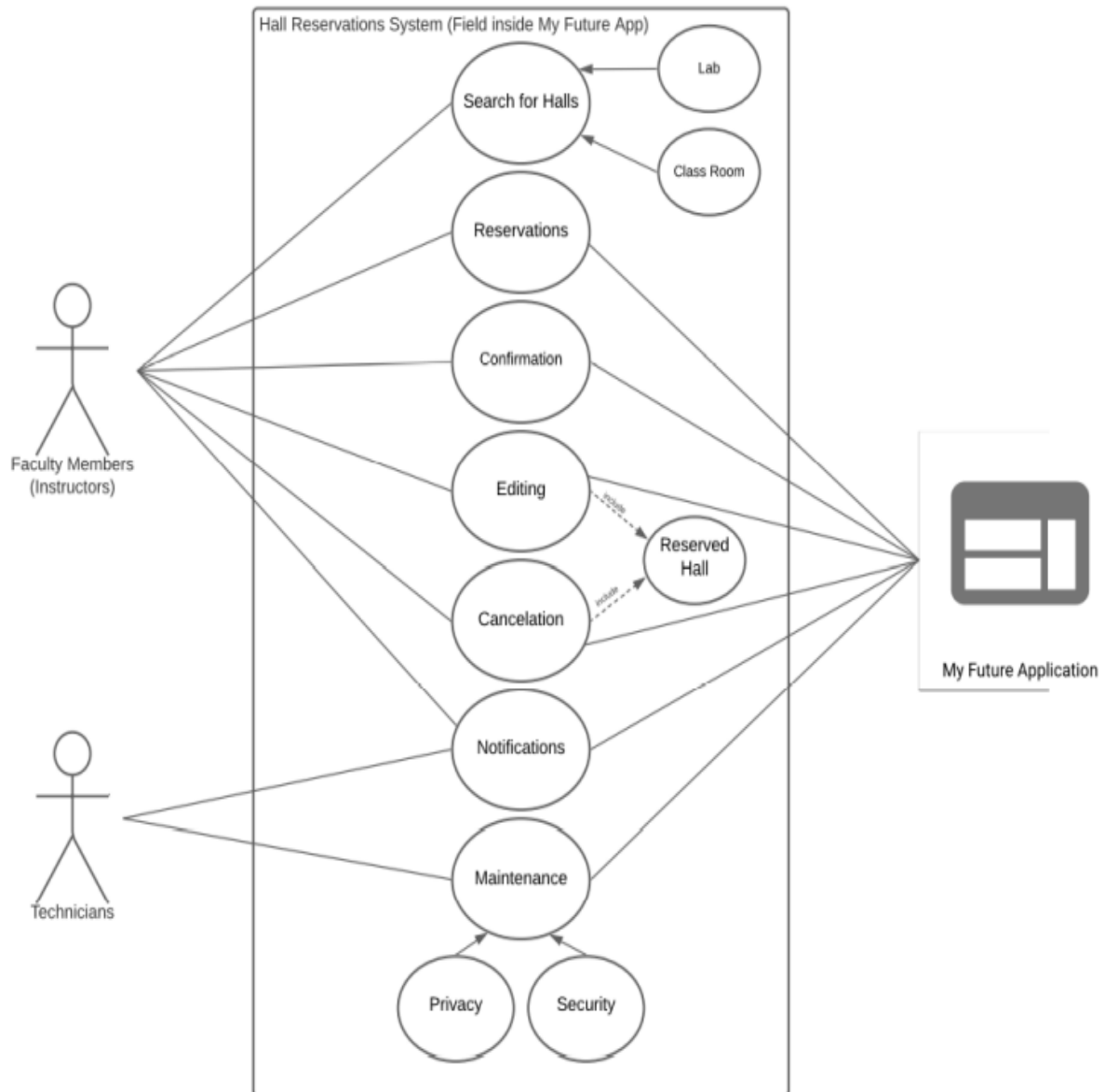## 3: Drawing a Context Diagram:
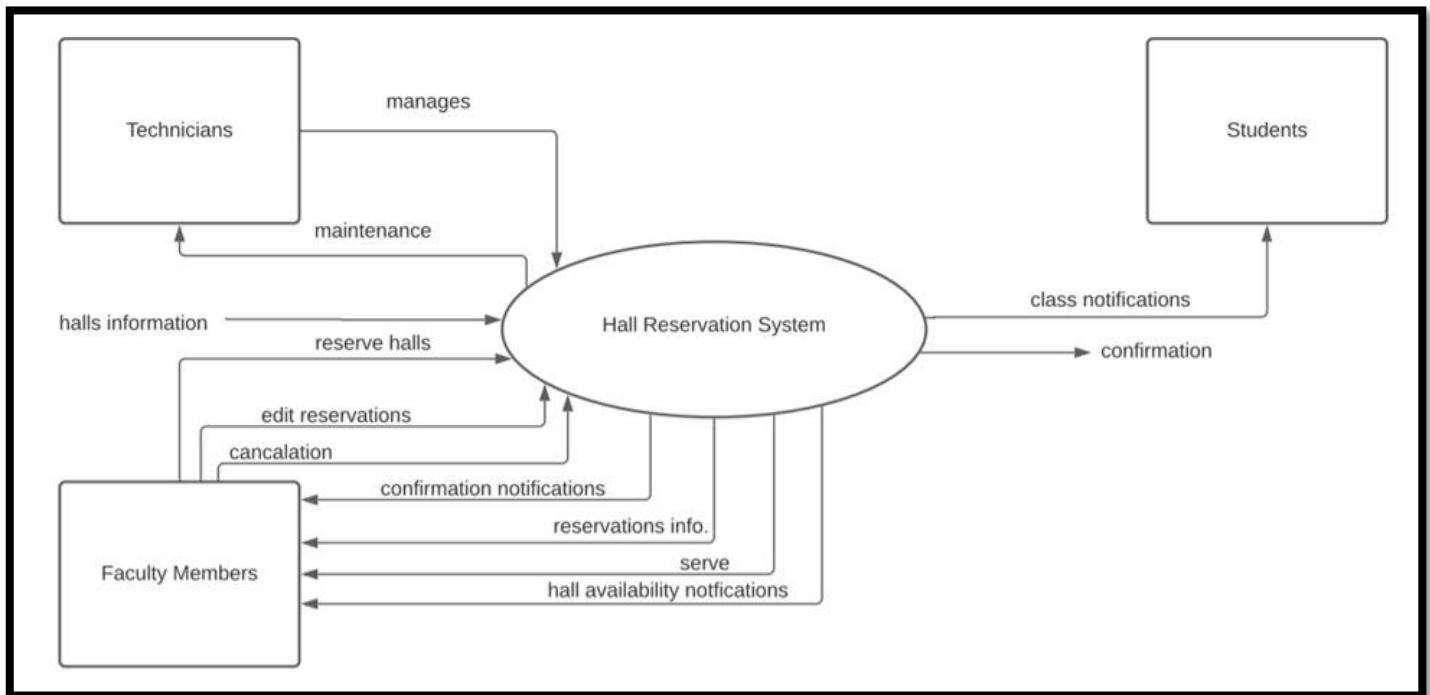
4: Conducting an event table:

Administrator	Event Name	Input and Output	Summary
Students	Class Notifications	Output	**Notifications send from the system to the student about the class timing**
Technicians	Manages	Input	**Technicians will manage the hall reservation system**
	Maintenance	Output	**The hall reservation**

			system will ask the technicians to maintain the system
Faculty Members	Reserve halls	Input	**Faculty members will reserve the halls in the application**
	Edit Reservations	Input	**The faculty members will edit on the reservation's information in the application**
	Cancellation	Input	**The faculty members will cancel the reservation when they don't need it in the application**
	Confirmation Notifications	Output	**The hall reservation system will send a confirmation notification to the faculty members**

	Reservation Information	Output	**The system will send the information about reservation to faculty members**
	Serve	Output	**The hall reservation system will serve the faculty members**
	Hall Availability Notifications	Output	**The system will send a notification message to faculty members about the available halls to reserve**
Hall Reservation System	Halls Information	Input	**The information about halls will send to the system**
	Confirmation	Output	**The system will show the confirmation**

Use case model:

Hall Reservations System (Field inside My Future App)

Search for Halls

Lab

Class Room

Reservations

Confirmation

Editing

Reserved Hall

Cancelation

Notifications

Maintenance

Privacy

Security

Faculty Members (Instructors)

Technicians

My Future Application

Functional Requirements:

ID	Requirement definition
FR1	Halls' searching
FR1.1	The system shall provide a display of the Halls
FR2	Reservation
FR2.1	The system shall allow the user to reserve a hall
FR3	Lab
FR3.1	A lab hall is the first kind of hall available
FR4	Classroom
FR4.1	A classroom is the second kind of hall available
FR5	Confirmation
FR5.1	The system shall allow the user to proceed to the confirmation process
FR6	Editing
FR6.1	The system shall allow the user to edit their hall reservation details
FR7	Cancellation
FR7.1	The system shall allow the user to cancel a hall reservation order
FR8	Reserved hall
FR8.1	The faculty member can only edit or cancel a hall that they reserved

Interface Requirements:

- The field accepts numeric data entry
- Displays reservation dates and the possibility of modification in case there is any change.
- The screen can print the hall reservation data

Work requirements:

- Data must be entered before the application is approved
- Clicking the approve button moves the request to the approval workflow

Regulatory requirements:

- The faculty database will have a functional audit trail
- The system will limit access to authorized users
- Spreadsheet can secure data with electronic signatures

Security requirements:

- Faculty members can document and record all data as it will be protected and secure
- Faculty members can enter, approve and amend all reservation requests
- All reservation requests will be saved in the database and not all requests will be deleted.

Non-Functional Requirements:

ID	Requirement definition
NFR1	Notifications
NFR1.1	The system shall send a confirmation notification within 5 minutes after reserving the hall
NFR2	Maintenance
NFR2.1	The system shall provide the required maintenance actions
NFR3	Privacy
NFR3.1	The system shall provide a private system to the faculty member
NFR4	Security
NFR4.1	The system shall provide a secure system to the faculty member
NFR5	Features
NFR5.1	The system shall execute the reservation process with simplicity, flexibility, and reliability

Non-functional requirements:

- **User Interface:**

UI1: The system shall provide certain functionalities in the user interface according to the user authorization

UI2: The system shall provide user friendly interface

UI2: The user interface shall be as GUI

- **Hardware Interface:**

HI1: The system shall be implemented in a hardware-independent fashion and should not rely on any particular hardware interfaces.

- **Software Interface**

SI1: The hall reservation system shall communicate with the data base of UJ system to extract the needed information including user name and password to validate the user access to hall reservation system.

- **Security Requirements**

SE1: The system shall allow user to access only the services which he/she authorize to access

SE1.1: The system shall allow only authorized user to make and edit, delete.

- **Maintenance**

The technicians will cover all the program's issues and they will fix any problems that occur in the program, also they provide a high-security environment that lets the users feel comfortable while using the app.

- **Notifications**

A confirmation notification will be sent to the user to confirm the reservation of the hall within 5 minutes.

- **Features**

The system will provide an environment that has simplicity, flexibility, and reliability.

The simplicity means that the program is easy to use and has simple tools to deal with.

The flexibility means that the system is very flexible to change the reservation of halls whenever you want and cancel it if you change your mind.

The reliability means that the system is secure and protected allowing the user to feel comfortable when using it.

Lab 7

UC1: Searching for a hall

> **Scope:** Faculty member
> **Level:** Faculty Member will search for a hall
> **Primary Actor:** Faculty Member
> **Precondition:** Faculty Member will open the application and look for an available hall to reserve it.
> **Stakeholders and Interests:** Faculty Member. (instructors)

Scenario of UC1:

> 1- The faculty member needs a hall.
> 2- The faculty member will open the application.
> 3- The faculty member will search for a hall to reserve it.
> 4- The faculty member will choose the desired hall to reserve.

UC2: Labs (one type of a hall)

> **Scope:** Faculty member
> **Level:** Faculty member will choose the kind of the desired hall.
> **Primary Actor:** Faculty Member
> **Precondition:** Faculty member will choose the kind of the required hall to reserve it
>
> **Stakeholders and Interests:** Faculty Member (instructors)

Scenario of UC2:

> 1- The Faculty Member will choose the kind of the desired hall either lab or classroom.
> 2- The Faculty Member will determine the chosen kind of hall.

UC3: Classroom (one type of a hall)

> **Scope:** Faculty member
> **Level:** Faculty member will choose the kind of the desired hall.
> **Primary Actor:** Faculty Member
> **Precondition:** Faculty member will choose the kind of the required hall to reserve it.
> **Stakeholders and Interests:** Faculty Members (instructors)

Scenario of UC3:

1- The Faculty Member will choose the kind of the desired hall either lab or classroom.
2- The Faculty Member will determine the chosen kind of hall.

UC4: The faculty member makes a reservation

Scope: Faculty Member.

Level: Make a reservation for a hall, either classroom or lab.

Primary Actor: Instructors.

Precondition: available halls for rent.

Stakeholders and Interests: Faculty members (Instructors).

Scenario of UC4:

1- The faculty member decides to reserve a hall in university.
2- -The faculty member enters to hall reservation field inside My Future App.
3- The faculty member makes a reservation.

UC5: The faculty member confirms the reservation

Scope: Faculty Member.

Level: Confirmation and verification the reservation.

Primary Actor: Instructors.

Precondition: the hall is available and reserved.

Stakeholders and Interests: Faculty members (Instructors).

Scenario of UC5:

1- The faculty member confirms their reservations by submitting it to the system.
2- The System Received the reservation request.
3- The System reserve the hall for the instructors and make it unavailable for other faculty members.

UC6: The faculty member edits a reservation

Scope: Faculty Member.

Level: editing the reservation, whether It's a classroom or lab.

Primary Actor: Instructors.

Precondition: A faculty member has a pre-booking to edit the reserve.

Stakeholders and Interests: Instructors.

Scenario of UC6:

1- Something unexpected happened and the faculty member decided to edit the hall reservation.
2- The faculty member clicks on "hall editing" inside My Future App.
3- The faculty member can edit a reservation.

UC7: The faculty member cancels a reservation

Scope: Faculty Member.

Level: cancellation of the reservation.

Primary Actor: Instructors.

Precondition: A faculty member has a pre-booking to cancel the reserve.

Stakeholders and Interests: Instructors.

Scenario of UC7:

1- A faculty member wants to cancel the hall reservation.
2- The faculty member clicks o" hall cancelling" inside My Future App.
3- The faculty member can cancel a reservation.

UC8: The faculty member reserved a hall

Scope: Faculty Member.

Level: Reserved a Hall.

Primary Actor: Instructors.

Precondition: A faculty member has a pre-booking to cancel or edit the reserve.

Stakeholders and Interests: Instructors.

Scenario of UC8:

1- Through the reserved hall and something unexpected happened, he has two options to edit or cancel the reservation.

2--The faculty member clicks "hall cancelling" or "hall editing" inside My Future App.

3-The faculty member can cancel or edit a reservation.

UC9: The system sends notifications to the faculty member

Scope: My Future App.

Level: Sending Notifications.

Primary Actor: My Future App.

Precondition: the reservation is confirmed.

Stakeholders and Interests: Instructors, students, and technician.

Scenario of UC9:

1- The system sends confirmations notifications to the instructors
2- The System also Sends Reminders Notifications.
3- The System sends Notifications if desired hall is available.

UC10: Maintenance

Scope: Technicians

Level: Periodical maintenance for the application

Primary Actor: Technicians

Precondition: Maintenance is usually periodical, and the presence of a malfunction.

Stakeholders and Interests: Technicians

Scenario of UC10:

1- After the application is fully set.
2- A periodical maintenance checking is implemented.
3- A maintenance check happens also in the presence of any malfunction.

UC11: Privacy

Scope: Technicians

Level: Maintaining application's privacy

Primary Actor: Technicians

Precondition: While building the system, and after the application is ready to use.

Stakeholders and Interests: Technicians

Scenario of UC11:

1- While building the system
2- A private system will be provided to the system.
3- A periodical privacy check is implemented by technicians.

UC12: Security

Scope: Technicians

Level: Maintaining application's security

Primary Actor: Technicians

Precondition: While building the system, and after the application is ready to use.

Stakeholders and Interests: Technicians

Scenario of UC12:

1- While building the system
2- A secure system will be provided to the system.
3- A periodical security check is implemented by technicians.

Lab 8

Use case Hall Searching:

1- User opens application
2- User searches for a hall either a lab or classroom
3- System checks hall availability
4- If hall is available, system will display hall availability message
5- If hall is not available, display hall not available message
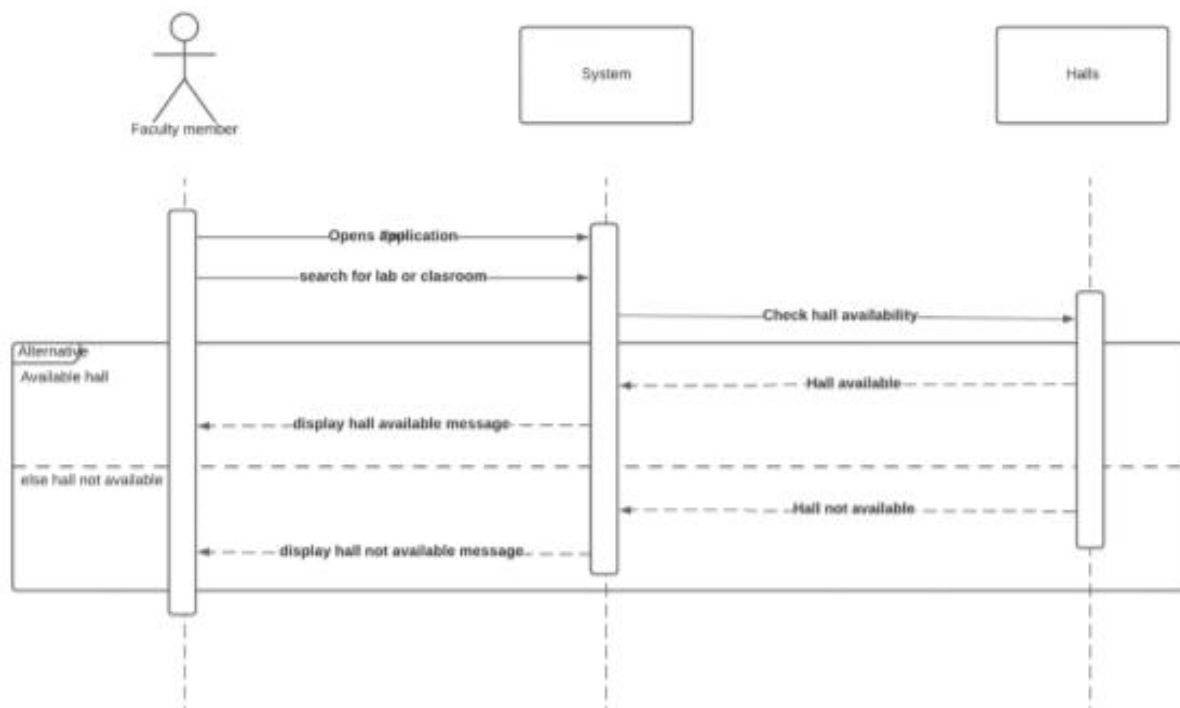
Use case 2 Reservation:

1- User opens application
2- User clicks on halls menu
3- User searches for desired hall
4- If hall is available, display hall is selected
5- Else, display sorry, try again later
6- User chooses the hall
7- The system returns hall is available
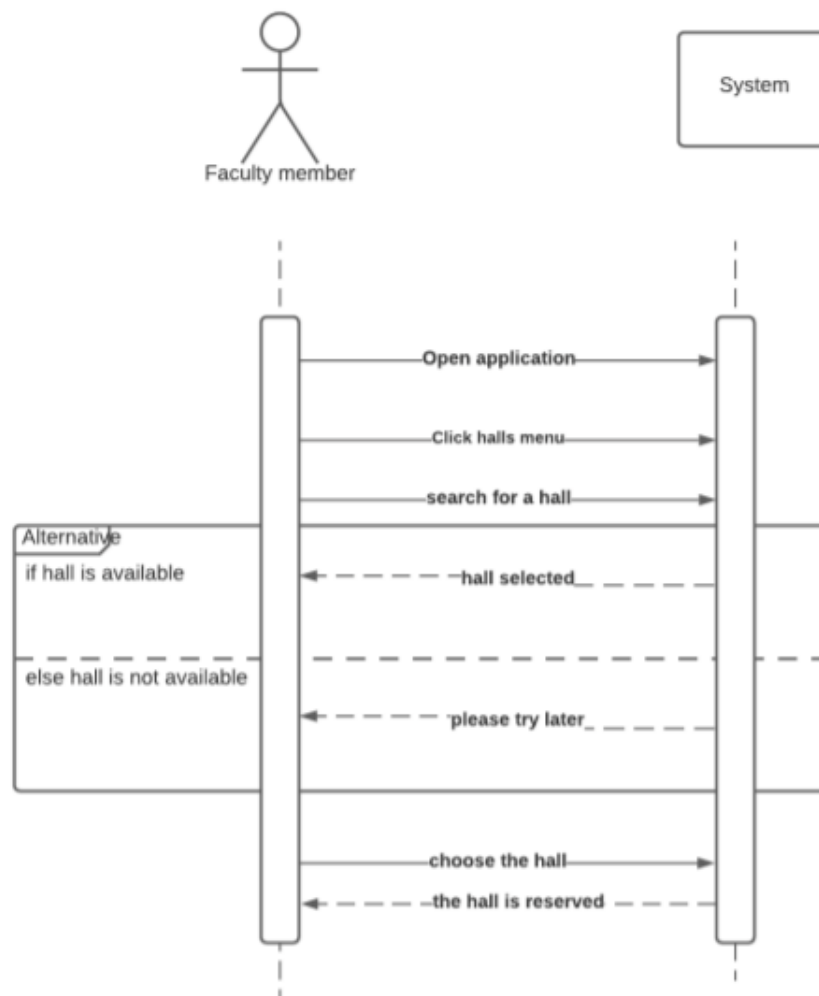
Use case 3: Cancellation:

1- User asks for hall cancellation
2- If hall is previously reserved, display the reserved hall is cancelled
3- Else, display you haven't reserved a hall to cancel it
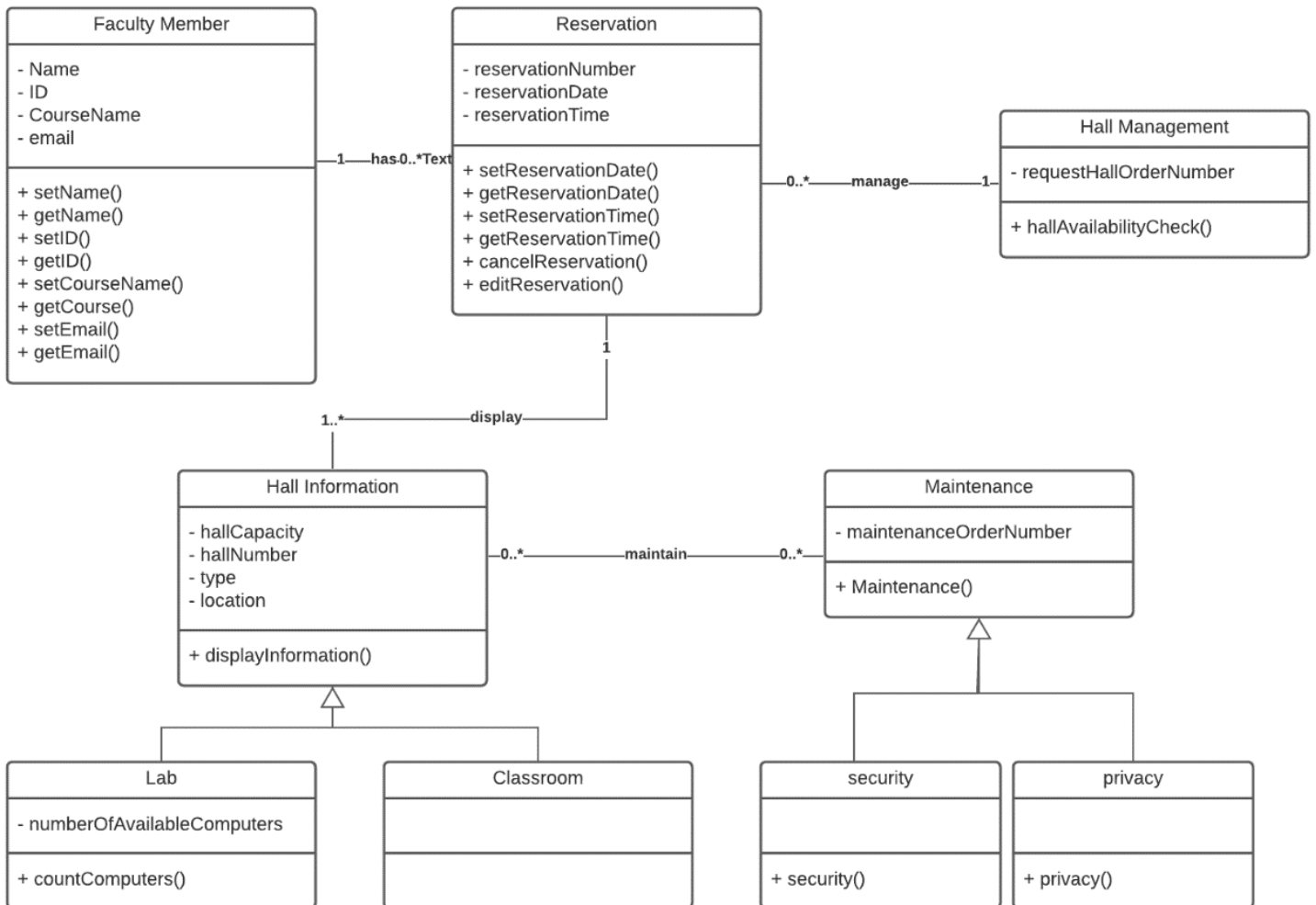4- System returns order confirmation
5- The system is existed
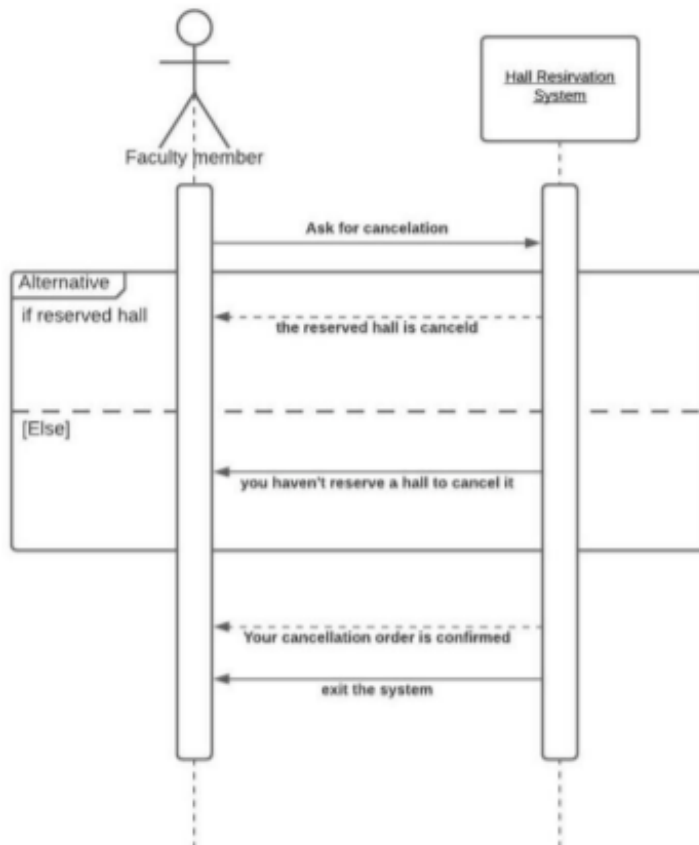
Use case 4: Editing:

1- User asks for hall editing
2- If hall is previously reserved, display editing approval message
3- Else, display you haven't reserved a hall to edit it
4- System returns editing completed
5- The system is existed
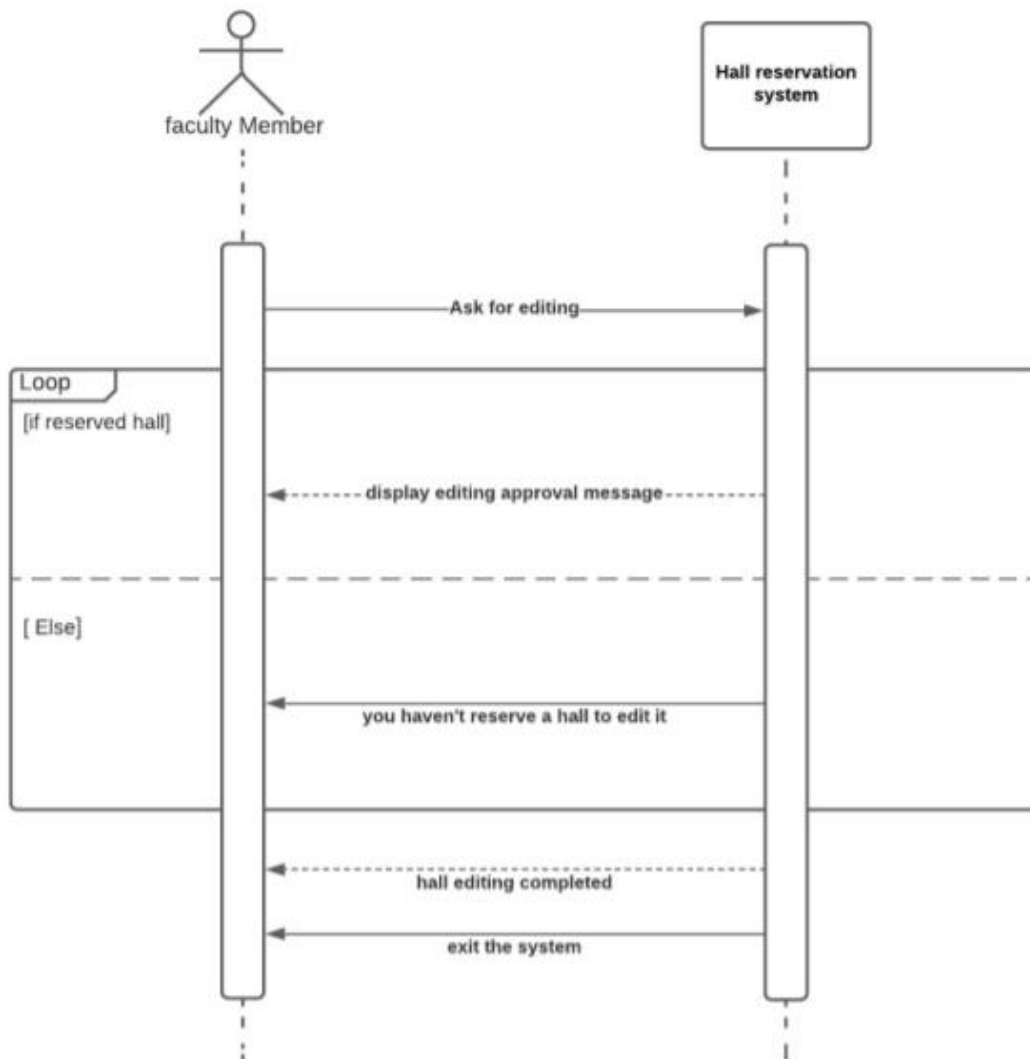
Lab 9

Class diagram:

Conclusion and Suggestions

conclusion

In conclusion, we have come to the end of our program directed to faculty members, and its goal was to facilitate the reservation of halls easily and conveniently in terms of reservation.

It also allowed them to modify and cancel reservations, which made our program easy to use, saving time and effort, and maintaining information and reliability

Recommendations and suggestions

Based on our work and analysis, we recommend applying this program at the university, because it facilitates a lot of time and effort, and the booking method will be compatible with the technical age, unlike manual booking.

On the other hand, the faculty members are the beneficiaries of this program

Task Allocation Table

Team Members:

M1: Mai Omar Alqurashi

M2: Shereen Anwar Zakariya

M3: Refal Ibrahim Najmi

M4: Hind Faisal Alnahar

No	Task	M1	M2	M3	M4
1	Problem Definition	✓		✓	✓
2	Information Gathering	✓	✓		
3	Planning phase		✓	✓	✓
4	Analysis phase		✓	✓	✓
5	Design phase	✓		✓	