



University of Jeddah

College of Computer Science and Engineering

Department of Software Engineering

Principle of Software Engineering | CCSW-223



# CCSE Clubs

College of Computer Science and Engineering Clubs

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November 6,2022

# Table of contents

- Introduction.....1
- Lab 2 | Information gathering..... 2
- Lab 3 | Planning Phase 1..... 8
- Lab 4 | Planning Phase2..... 12
- Lab 5 | Analyze Phase 1.1..... 18
- Lab 6 | Analyze Phase 1.2.....23
- Lab 7 | Analyze Phase 2.1..... 27
- Lab 8 | Analyze Phase 2.2..... 35
- Lab 9 | Modeling Phase .....40
- Conclusion and Suggestion.....43
- Task allocation table.....44

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# CCSE Clubs

## College of Computer Science and Engineering Clubs

CCSE Clubs is a website for students of the College of Computer Science and Engineering (CCSE) at the University of Jeddah. It aims, to create a platform that connects all student clubs of the College of Computer Science and Engineering, which contributes to improving the quality of university activities for college students and providing them with better opportunities to invest in these Creative energies The project will work as a network serving students and clubs with its administrative structure This platform will provide opportunities for participation for all students and cover a larger segment than before through advertisements represented by clubs the desire to join new members,volunteers...etc.

The platform will break the stalemate around the clubs, their mechanism, and the ignorance around them, because it will be easy, clear and comprehensive for the various clubs and their diversity.

The idea came to us after noticing a gap in the arrival of students and registration in college clubs as a result of the lack of club advertisements or volunteers to activate it.



## Lab 2 | Information gathering

## Lab2 - Information gathering

### | Expert Interview

A: Interview information.

Name : Ms.Bodor Alsolami.

Job title : Head of the Volunteering and Community Service Unit in the Female Section and Coordinator of Community Partnerships.

Email : bbfalsulami@uj.edu.sa

Interviewer : Layan Alsaud - Saja Alzahrani.

B: The interview.

Q1 : Since you heard the idea of the project and from your experience, do you predict the effectiveness of the site?

Yes , it is a wonderful idea , it collects all CCSE club data in one place . Therefore, a person who wants to participate in student clubs will not be scattered in more than one place. When this idea is implemented in the future, I will not hesitate to support and use it.

Q2 : In your opinion, what are the features that will improve the quality of the site that we will create?

- It is possible to use educational questionnaires.
- it is also important to have interaction on the site.
- what will the club offer for the student.

Q3 : What is the lack of student clubs today?

- The advertisements are not enough .
- The students do not know about all the clubs in the college, how they work, how to participate in them, what they offer, what they belong to, what activities they practice and what they have achieved.

Q4 : Does the student have sufficient knowledge about the student clubs offered by the CCSE at Jeddah University?

There are some students and they are considered a small group who are looking for student clubs themselves and participate in them.

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## Lab2 - Information gathering

Q5 : From your personal knowledge and experience in this field, what are the difficulties that we may face in the future when creating the site?

It could be technical problems so it is better to have technical support around the clock . Also increase the knowledge workshops for student clubs about their usefulness and what they provide.

C : Interview analysis

Since the site will collect the data of all student clubs at the University of Jeddah and put it in one place, it will be an effective and highly efficient idea and will make it easier for students to access student clubs, participate in them and know them in many ways, what is the student club that the student wants to know, what does the student club display, their advertisements, what are The talents or knowledge they will need, what are the activities of the student club, what is the annual plan of the student club, the members of the student club and what are their paths, and the easier it is for the student to know and explore these clubs, the greater the number of students participating in joining the student clubs, the more creative ideas and the circulation and sharing of diverse knowledge, which increases productivity and achievements.

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## Lab2 - Information gathering

### | User Interview

A: Interview information.

Name: Miaad Alsulami

Job title: Artificial Intelligence student at College of Computer Science and Engineering.

Email: Malsulami0630.stu@uj.edu.sa

Interviewer: Lama Alghamdi

B: The interview.

Q1 : Have you ever been a member of club?

yes, I'm a member of clubs outside the university.

Q2 : Do you have heard about or know college clubs? If yes, how do you heard about them?

Yes, I have known some of them, sometimes there are clubs with unknown members or unknown administrator because it's unactive, so it's hard to know about every students club that exists in college. The most things that helped me knowing about students clubs is WhatsApp groups and twitter, but because we don't know where exactly to contact them it's hard for us to take more information about it.

Q3 : In your opinion, Is it beneficial for students to engage in college clubs ?

Student clubs and generally working as a team are so helpful for students. I think it is a perfect community to learn and improve soft skills. Moreover, it is prepare you to work on big projects that have a lot of members, and be more patient to handle lots of problems.

Q4 : Are all clubs you have been in provide documented volunteer hours that supported by National Volunteer Portal?

Some of them was linked and the other not.

Q5 : What is the skill that makes the club accept you? And what are the standard criteria clubs require?

My ability to event management. I can run a whole new event and predict the outcomes of this event. Mostly of the clubs i've heard of have specific standers. For example, they ask for content writer or marketer, so it depends on their vacancies.

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## Lab2 - Information gathering

Q6 : Do you think the CCSE club will resolve the lack of communication and access between clubs and students? Also, as a student at CCSE do you think if we publish the CCSE clubs website will success?

Absolutely, everyone in college would like to a site that always available to let them know about college students clubs, whether if it certified or ordinary one between students. If the club needs members, students wouldn't know immediately. So, we need an instant site that would be always available for people who wants to question about anything that pertains to college students club, it would be a really wonderful idea to have a site like this.

C : Interview analysis

According to the interview with one of the students at CCSE. It is appeared the difficulty to be a part of clubs at college or hear news about their activities due to the chink of communication. The CCSE club website will solve the existing gap along with lots of features that serve both students and clubs. On the other hand, we must invest in students' skills through volunteering clubs to enhance their talents to make an active generation in the community in compliance with the Saudi 2030 vision.

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## Lab2 - Information gathering

### | Table of Tasks :

Haneen Almadadi	-Write and prepare questions for interview
Saja Alzahrani	- Interview the expert
Layan Alsaud	- Interview the expert & Analyze Expert comments
Lama Alghamdi (L)	- Interview the user
Mariyyah Samarin	- Write project brief & Analyze user comments - Gather the work and design the documents



## Lab 3 | Planning Phase 1

## Lab3 - Planning Phase 1

### | The purpose of the project

#### a) The User Business or Background of the Project Effort

- Content  
The CCSE in University of Jeddah contains many student clubs, but the majority of students do not know these student clubs or how to communicate with them, so we will develop a site that contains all student clubs.
- Motivation  
To facilitate the communication between students and club members in University of Jeddah CCSE.
- Considerations  
Students need a website where all university clubs are located to know and join them because, at present, many students are ignorant about what these clubs are and how to join them.

#### b) Goals of the Project

The main goal of the project is to gather all the clubs in one place and to facilitate the students' knowledge and joining the clubs, as it will improve the quality of the university activities for the students and invest the creative energies

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# Lab3 - Planning Phase 1

## | Preliminary report

### 1- The problem:

Students face lots of difficulty to reach and register in CCSE clubs as a consequence of the lack of club advertisements or lack of club volunteer. That clarify access gap between students and CCSE clubs.

### 2- Findings:

- Ineffective communication between university clubs and students
- Describing the university environment as stagnation and considering it a place for learning only, which results in the monotonous routine of
- college students Suppress talent and creative energies
- Restricting students of the technical community in a narrow range, which reduces the chances of participating in competitions at the local or global level

### 3- Recommendation or proposed solution:

- Build a website that makes it easier for students to register in college clubs
- Every club will have their own profile containing all their information, activities and advertisements
- Document volunteering hours with the national volunteer portal

### 4- Cost & schedule estimates:

The website will cost 2 weeks and 1500\$ approximately

Phase	Description	Cost	Time
<b>Specification</b>	Define the website	500\$	4 Days
<b>Development</b>	Design the website and program it	1500\$	7 Days
<b>Validation</b>	Check if the website ensures the requirements	0\$	8 Hours
<b>Evaluation</b>	Reflect Changing Requirements	0\$	2 Days
<b>Total</b>		1500\$	2 Weeks

## Lab3 - Planning Phase 1

### | Table of Tasks :

Haneen Almadadi	- Write project findings
Saja Alzahrani	- Write project considerations & goals
Layan Alsaud	- Write project content & Motivation
Lama Alghamdi (L)	- Write project recommendation & cost
Mariyyah Samarin	- Write project problem



## Lab 4 | Planning Phase 2

## Lab4 - Planning Phase 1

### | Report writing

#### 1. Problem Definition:

Students face lots of difficulty to reach and register in CCSE clubs as a consequence of the lack of club advertisements or lack of club volunteer. That clarify access gap between students and CCSE clubs.

Sub problem of CCSE clubs :

- Ineffective communication between university clubs and students.
- Describing the university environment as stagnation and considering it a place for learning only, which results in the monotonous routine of .
- college students Suppress talent and creative energies.
- Restricting students of the technical community in a narrow range, which reduces the chances of participating in competitions at the local or global level.

#### 2. Scope Objectives of “new system”:

To facilitate the communication between students and club members in University of Jeddah CCSE.

CCSE Clubs.

#### 3. Alternative Solutions:

- Reliance on activating the social media sites of university clubs
  - Working on scheduling and organizing university clubs, also intensifying advertisements
-

## Lab4 - Planning Phase 1

### | Report writing

#### 4. Cost and benefits of Alternatives:

##### - Benefits of Alternatives:

Expansion of social media exposes the club to a much larger community than the university community and greater opportunities.

Activating the role of all departments in advertising the club, which contributes to creating a competitive university environment.

##### - Cost of Alternatives:

The website will cost 3 weeks and 2300\$ approximately

Phase	Description	Cost	Time
<b>Specification</b>	Define the website	500\$	4 Days
<b>Development</b>	Design the website and program it	1200\$	9 Days
<b>Validation</b>	Check if the website ensures the requirements	500\$	5 Days
<b>Evaluation</b>	Reflect Changing Requirements	100\$	3 Days
<b>Total</b>		2300\$	3 Weeks

#### 5. Software impacts:

The website will improve the quality of the university activities for the students and invest the creative energies, it will make it easier for students to access student clubs and participate in them, which may increase the number of students participating in joining these clubs. Also, volunteering hours will be documented immediately.



## Lab4 - Planning Phase 1

### | Report writing

#### 6. Potential Changes in the Organization

The website will collect all the student clubs at CCSE . This will make it easier for students to access the student clubs and know their questions such as: student club name, their activities, what they offer, their achievements, their members. When the student knows the student clubs in an easier and clear way, his/her desire to join and participate in the student clubs increases, so the students have different knowledge and creative ideas.

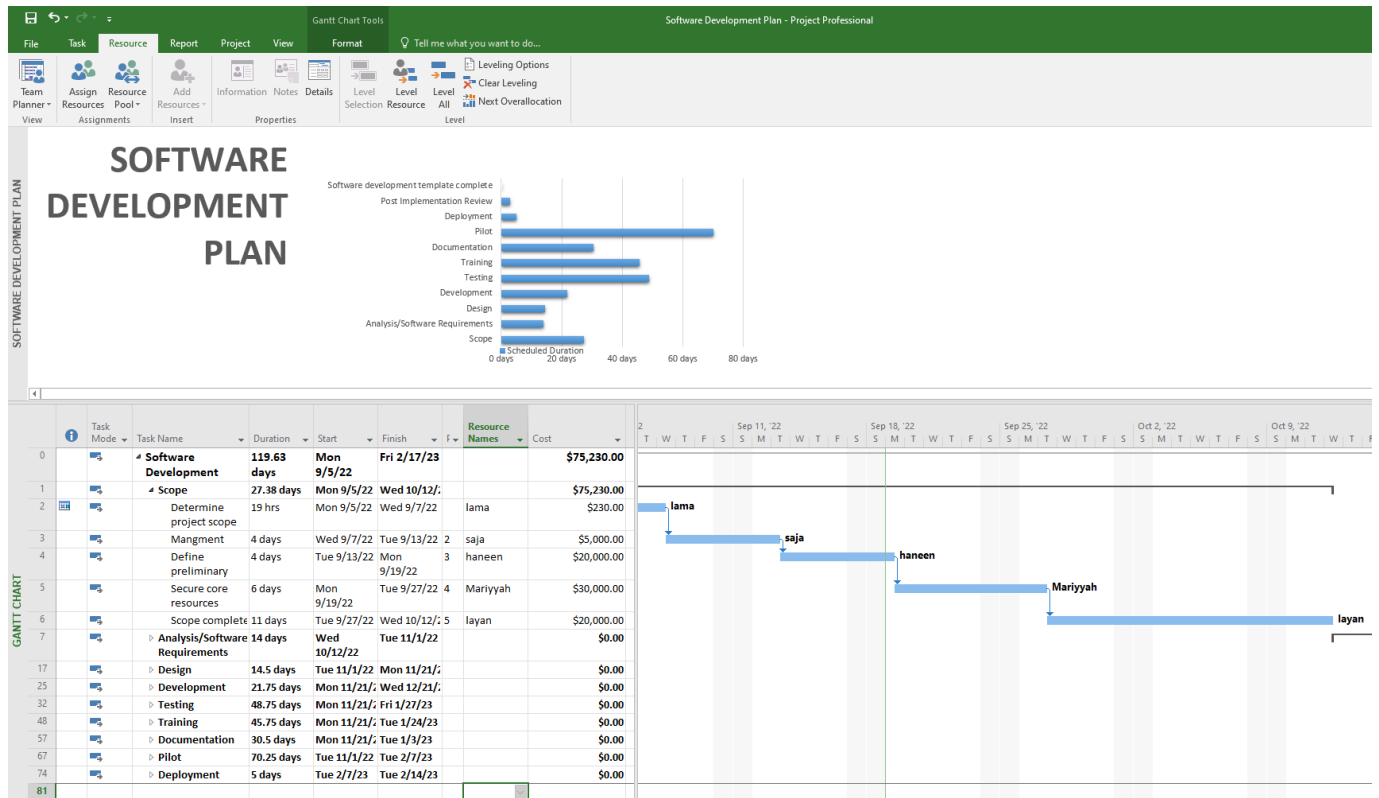
#### 7. Recommended Alternative of the course of Action

Working on scheduling and organizing university clubs, also intensifying advertisements to joining clubs by the university club administration.

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# Lab4 - Planning Phase 1

## | Project plan (By using Microsoft Project)



## Lab4 - Planning Phase 1

### | Table of Tasks:

Haneen Almadadi	- Write benefits of Alternatives.
Saja Alzahrani	-Write Alternative Solutions.
Layan Alsaud	- Write Potential Changes in the Organization. - Collect problem definition and project name
Lama Alghamdi (L)	- Write Software impacts
Mariyyah Samarin	- Draw table of cost Alternatives



## Lab 5 | Analyze Phase 1.1

## Lab 5 – Analyze Phase 1

### | Context Diagram

#### Stockholder definition

- a. The Client: University of Jeddah
- b. The Customer: The students at college of computer science and engineering
- c. Other Stakeholder: The students, The administrator of CCSE clubs

#### The scope of the work

##### a. The Current Situation

- Content

At the present time, we see that university clubs work manually and this leads to a lack of sufficient members and advertisements to attract them, and the lack of sufficient members leads to the lack of development and production of new ideas.

- Motivation

With The application and presence of our website, will enhance joining university clubs and attract distinguished and creative members, as it increases the benefit of students' productivity by joining university clubs.

##### b. The Context of the Work

- Content

We see that after the adoption of our website, the clubs have increased the opportunity to promote their valley and request the joining of new members, and from the students' point of view, it is easy for them to reach all the clubs through one platform and the possibility to join them and add their experiences and skills to the university clubs.

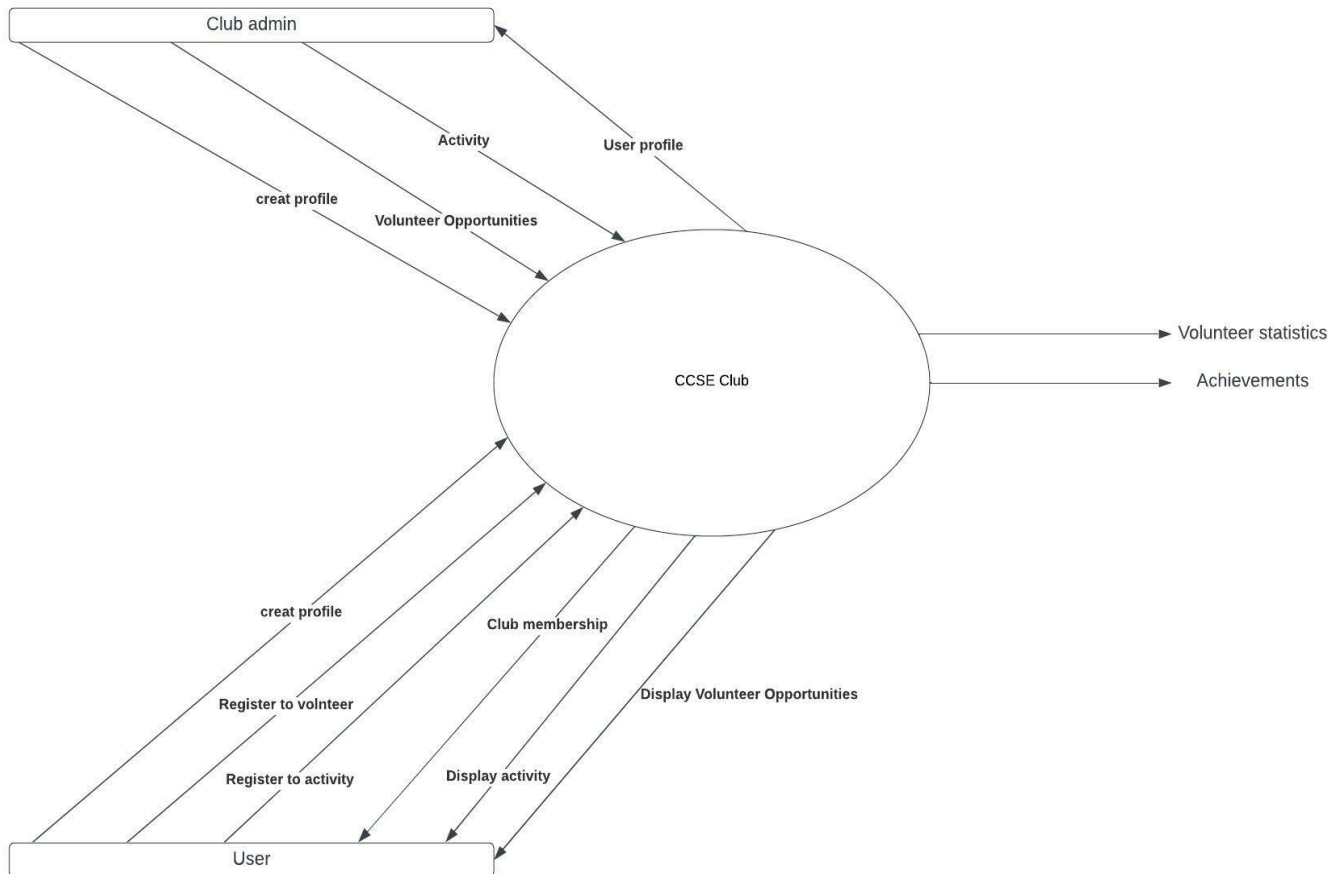
- Motivation

For the future, we aspire to develop more and expand the scope of the website for the rest of the colleges and access to other universities and add new services such as the ability to communicate through the website and it is possible to add a feature of interconnection between clubs such as setting up challenges and competitions.

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# Lab 5 – Analyze Phase 1

## c. Work Partitioning



## Lab 5 – Analyze Phase 1

### c. Work Partitioning

Event Name	Input and Output	Summary
1. Create user profile	Create student profile (in)	The user create a profile that contains their personal information
2. Club membership	Club membership (out)	The user join to a club to have membership.
3. Display activity	Display activity (out)	The system displays available activity to user.
4. Register to an activity	Register to activity (in)	The user join to an activity .
5. Display volunteer opportunity	Display volunteer opportunity (out)	The system displays available volunteer opportunity to user.
6. Register to be volunteer	Register to volunteer (in)	The user register to be volunteer
7. Create club profile	Create club profile (in)	The club admin create a profile that contains their information
8. Volunteer opportunity	Volunteer opportunity (in)	The club admin provide available volunteer opportunity
9. Activity	Activity (in)	The club admin provide available activity
10. user members profile	user profile(out)	The club admin received user profile who join the club.
11. Reporting volunteer statics	Reporting volunteer statics (out)	The system produces a volunteer report to a user.
12. Reporting Achievements	Reporting Achievements (out)	The system produces a club & user achievements report to a user.

## Lab 5 – Analyze Phase 1

### | Table of Tasks :

Haneen Almabadi	- Write the scope of work (a)
Saja Alzahrani	- Write the scope of work (b)
Layan Alsaud	- Draw the context diagram
Lama Alghamdi (L)	- Write the Stockholder definition
Mariyyah Samarin	- Draw the table of work partitioning





## Lab 6 | Analyze Phase 1.2

## Lab 6 - Analyze Phase 1.2

### | Functional Requirements:

ID	Requirement Definition
<b>FR1</b>	<b>Create an account</b>
<b>FR1.1</b>	The system shall enable all actors to create an account.
<b>FR2</b>	<b>Login</b>
<b>FR2.1</b>	The system shall allow to the all actors to gain the system throw supposed user name and password.
<b>FR3</b>	<b>Join</b>
<b>FR3.1</b>	The system shall allow the user to join on activity, volunteer and club.
<b>FR4</b>	<b>Search</b>
<b>FR4.1</b>	The system shall allow user to search for activity, volunteer and club.
<b>FR5</b>	<b>Display</b>
<b>FR5.1</b>	The system shall allow the club admin to display club member .
<b>FR6</b>	<b>Set up</b>
<b>FR6.1</b>	The system shall allow the club admin to set up membership, volunteer opportunity, activity .
<b>FR7</b>	<b>Export</b>
<b>FR7.1</b>	The system shall allow club admin to export statistics.
<b>FR8</b>	<b>Generate</b>
<b>FR8.1</b>	The system shall allow the club admin to generate report.
<b>FR9</b>	<b>Contact</b>
<b>FR9.1</b>	The system shall allow for the club admin and user to contact with each other.
<b>FR10</b>	<b>Logout</b>
<b>FR10.1</b>	The system shall allow to the all actors to log out .

## Lab 6 - Analyze Phase 1.2

### | Non-Functional Requirements:

<b>1</b>	<b>User Interface</b>
<b>UI1</b>	The system shall be understandable , usable and compatible with other system that user use.
<b>UI2</b>	The user interface shall be supports images a graphics that make the system more simple to use.
<b>UI3</b>	The system shall provide the authorized functions to the user in user interface.
<b>2</b>	<b>Hardware Interface</b>
<b>HI1</b>	The system should not rely on any specific hardware interfaces and must be developed in a hardware-independent manner.
<b>HI2</b>	The system shall have at least processor core i5 and above .
<b>HI3</b>	The system shall have at least 8 RAM(random access memory) and above.
<b>HI4</b>	The system must be running on Windows 10 and above without any changes in it is behavior .
<b>3</b>	<b>Software Interface</b>
<b>SI1</b>	Validate the user access to CCSE club system by make the CCSE club system communicate with the data base of UJCCSE system to extract the needed information including user name and ID.
<b>SI2</b>	The system must scalable enough to support 100000 visits at the same time while maintaining optimal performance .
<b>SI3</b>	The landing page must respond with in 5 seconds or less .
<b>4</b>	<b>Security Requirements</b>
<b>SE1</b>	The system has more security details that include log in page.
<b>SE2</b>	The system shall provide only authorize services to access for the user.
<b>SE3</b>	The system shall allow only authorized club admin to set up , display , export and generate.
<b>SE4</b>	Transaction data must be transmitted in encryption form.

## Lab 6 - Analyze Phase 1.2

### | Table of Tasks :

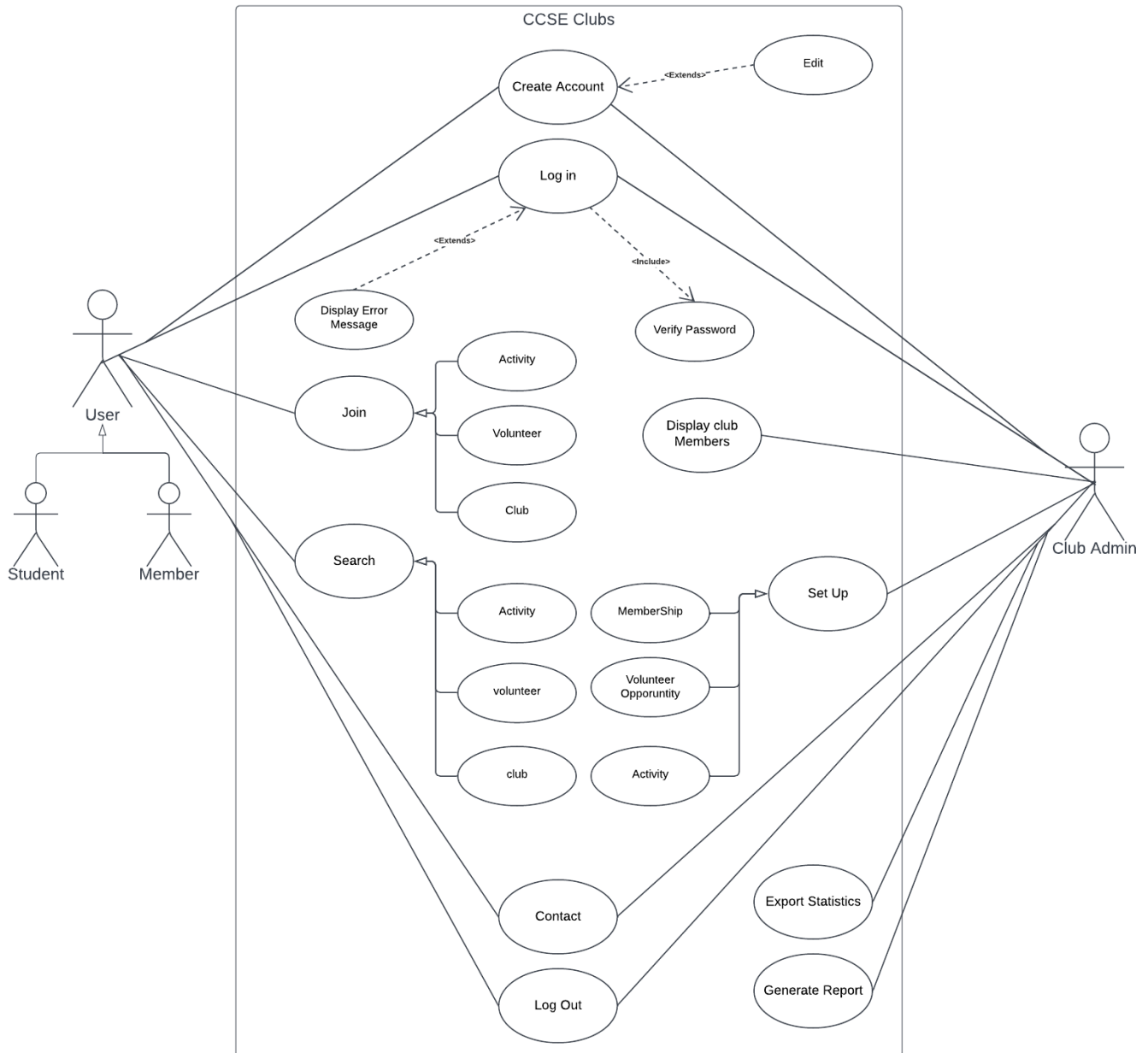
Haneen Almabadi	- work in Lab 7
Saja Alzahrani	- work in Lab 7
Layan Alsaud	- write Functional and non-Functional requirements.
Lama Alghamdi (L)	- work in Lab 7
Mariyyah Samarin	- design template , work in Lab 7.



## Lab 7 | Analyze Phase 2.1

# Lab 7 - Analyze Phase 2.1

## | Use Case Diagram:



## Lab 7 - Analyze Phase 2.1

### | Use Case:

UC1	<b>Create account</b>
Scope	Student, club members, and club admin
Level	Primitive
Primary Actor	Student, club members, and club admin
Precondition	must be a student in CCSE
Stakeholders & Interests	Student, club members, and club admin
Scenario of UC1	<p>After entering the website, an account is created by the user and club admin</p> <p>The user and club admin can edit has information</p>
UC2	<b>Login</b>
Scope	Student, club members, and club admin
Level	Primitive
Primary Actor	Student, club members and club admin
Precondition	After the actors have an account
Stakeholders & Interests	Student, club members and club admin
Scenario of UC2	<p>1- After the actors have an account</p> <p>They have the ability to gain the website</p>

## Lab 7 - Analyze Phase 2.1

### | Use Case:

UC3	<b>Join</b>
Scope	Student, club members
Level	Primitive
Primary Actor	Student, club members
Precondition	After the user(student, club member) have an account
Stakeholders & Interests	Student, club members and club admin
Scenario of UC3	The user can join to activity or volunteer or club
UC4	<b>Search</b>
Scope	Student, club members
Level	Primitive
Primary Actor	User students , members
Precondition	After the actors have an account
Stakeholders & Interests	Student, club members and club admin ,volunteers
Scenario of UC4	The user can search to activity or volunteer or club



## Lab 7 - Analyze Phase 2.1

### | Use Case:

UC5	<b>Display club members</b>
Scope	CCSE clubs system
Level	control of the system users
Primary Actor	Club admin
Precondition	Verify administrator
Stakeholders & Interests	User (Student - Member) Club admin
Scenario of UC5	1- After club admin accept members 2- The club admin can display club members
UC6	<b>Set up</b>
Scope	Student, club members
Level	Primitive
Primary Actor	User (Student- Members )
Precondition	after the actor have an account
Stakeholders & Interests	Student, club members and club admin and club volunteers
Scenario of UC6	After completed set up account of user via chosen one of the membership or volunteer opportunity or activity

## Lab 7 - Analyze Phase 2.1

### | Use Case:

UC7	<b>Export Statistics</b>
Scope	CCSE clubs system
Level	Control of the system users
Primary Actor	Club admin
Precondition	Verify administrator
Stakeholders & Interests	User (Student - Member) Club admin
Scenario of UC7	1- After club admin accept members 2- The club admin can export statistic of each member of the club
UC8	<b>Generate Report</b>
Scope	Student, club members, club administrator, CCSE clubs
Level	Primitive
Primary Actor	User Student, club members
Precondition	After having an account and doing some export statistics
Stakeholders & Interests	Student, club members and club administrator
Scenario of UC8	Once actors have an account and do some export statistics to be able making Generate Report.

## Lab 7 - Analyze Phase 2.1

### | Use Case:

UC9	<b>Contact</b>
Scope	CCSE clubs system
Level	Take approve by system
Primary Actor	Club admin, user
Precondition	Place request
Stakeholders & Interests	User ( Student - Member ) Club admin
Scenario of UC9	1- After the club member request to contact the admin 2- The admin have the ability to approve the request
UC10	<b>Log out</b>
Scope	Student, club members, and club admin
Level	Primitive
Primary Actor	Student, club members and club admin
Precondition	after the user login the website
Stakeholders & Interests	Student, club members and club admin
Scenario of UC10	1- after the user login the website 2- Click the logout button and you will be logged out from the website

## Lab 7 - Analyze Phase 2.1

### | Table of Tasks :

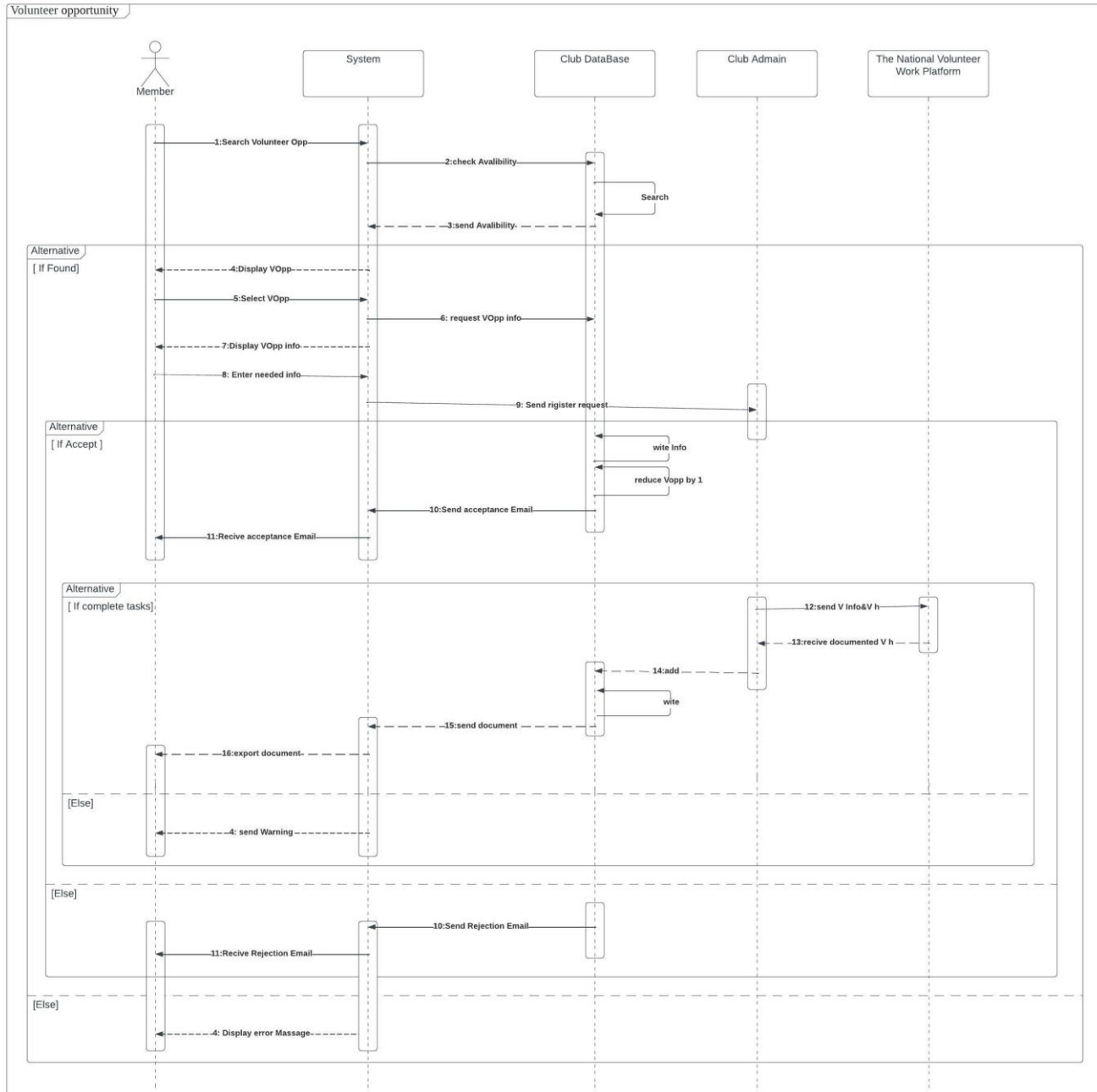
Haneen Almabadi	- Write 3 Use Cases
Saja Alzahrani	- Write 4 Use Cases
Layan Alsaud	- Work in Lab 6
Lama Alghamdi (L)	- Write 3 Use Cases
Mariyyah Samarin	- Draw Use Case



## Lab 8 | Analyze Phase 2.2

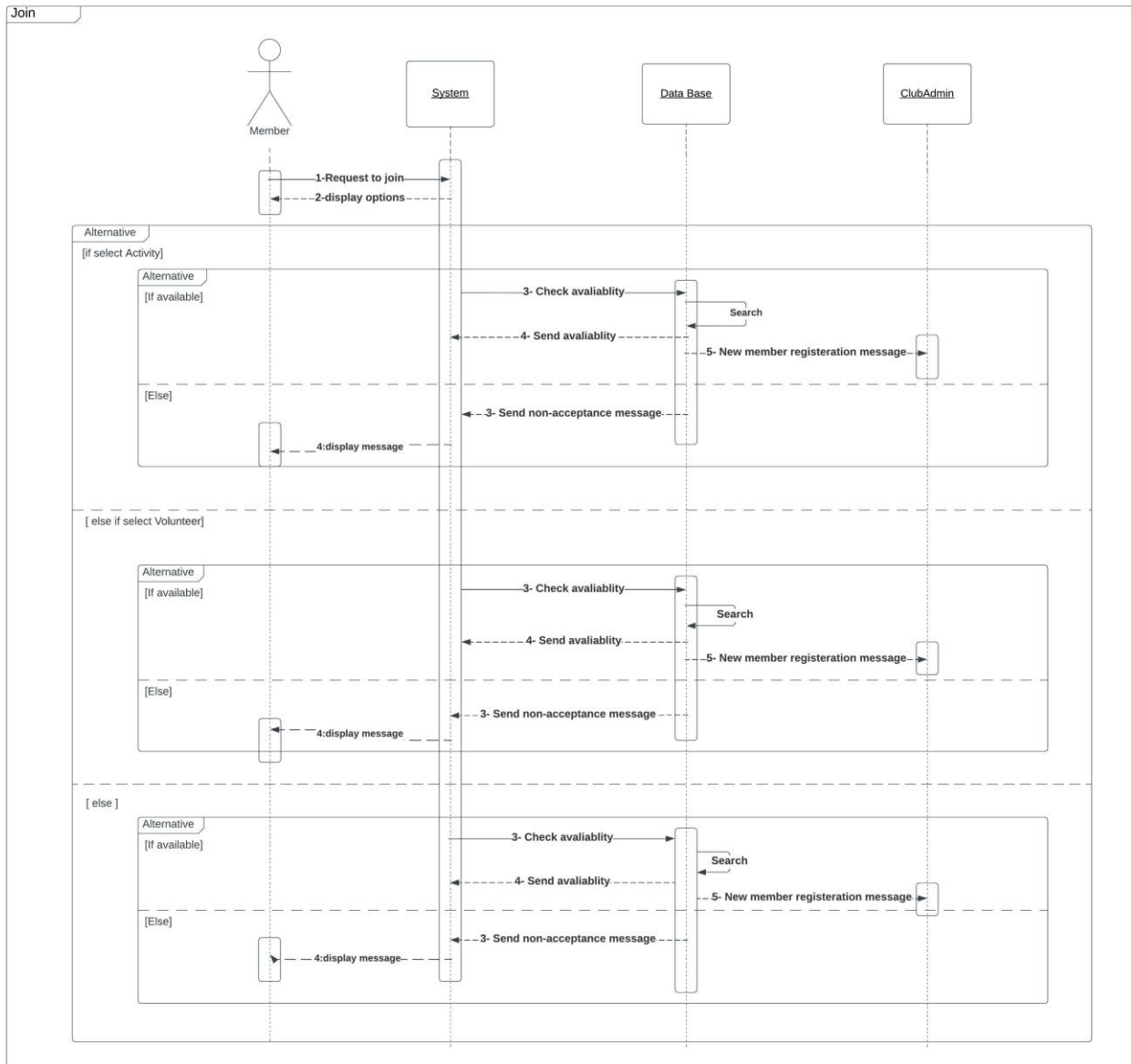
# Lab 8 - Analyze Phase 2.2

## |Sequence diagram 1:



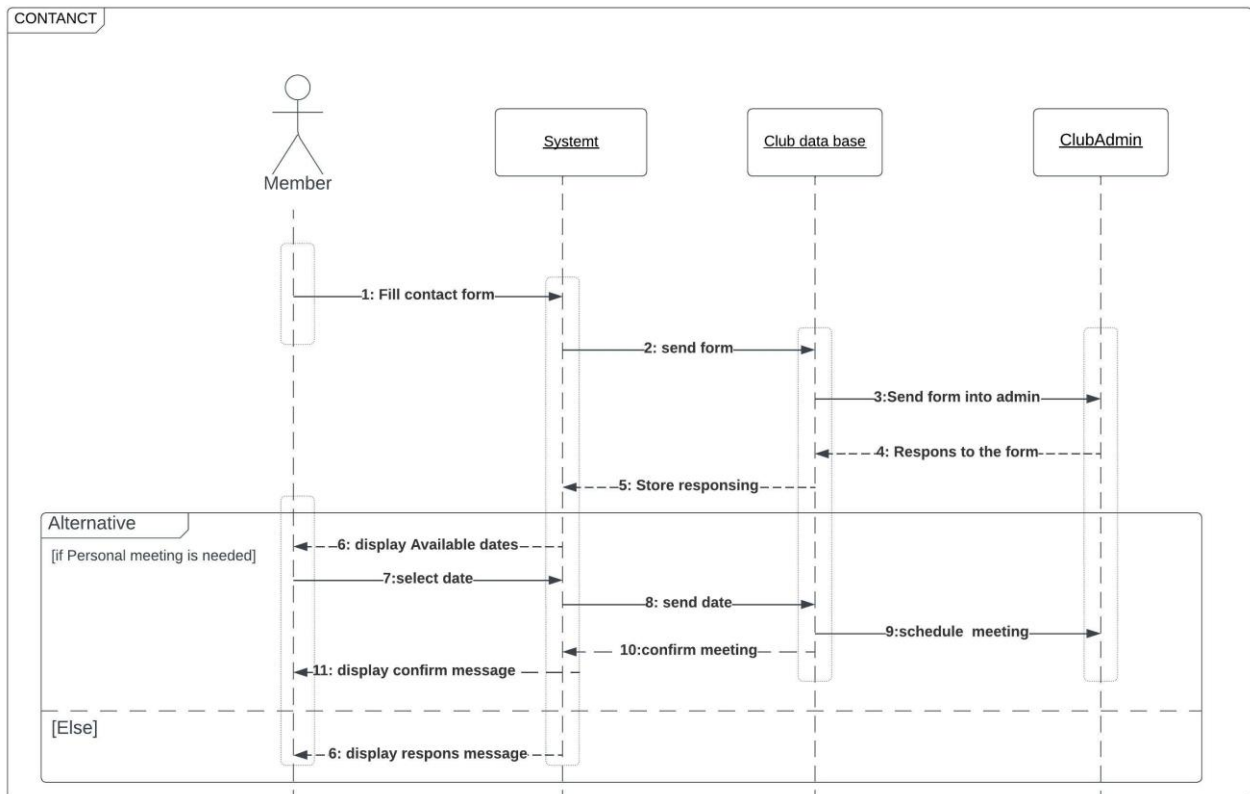
# Lab 8 - Analyze Phase 2.2

## |Sequence diagram 2:



## Lab 8 - Analyze Phase 2.2

### |Sequence diagram 3:





## Lab 8 - Analyze Phase 2.2

### | Table of Tasks :

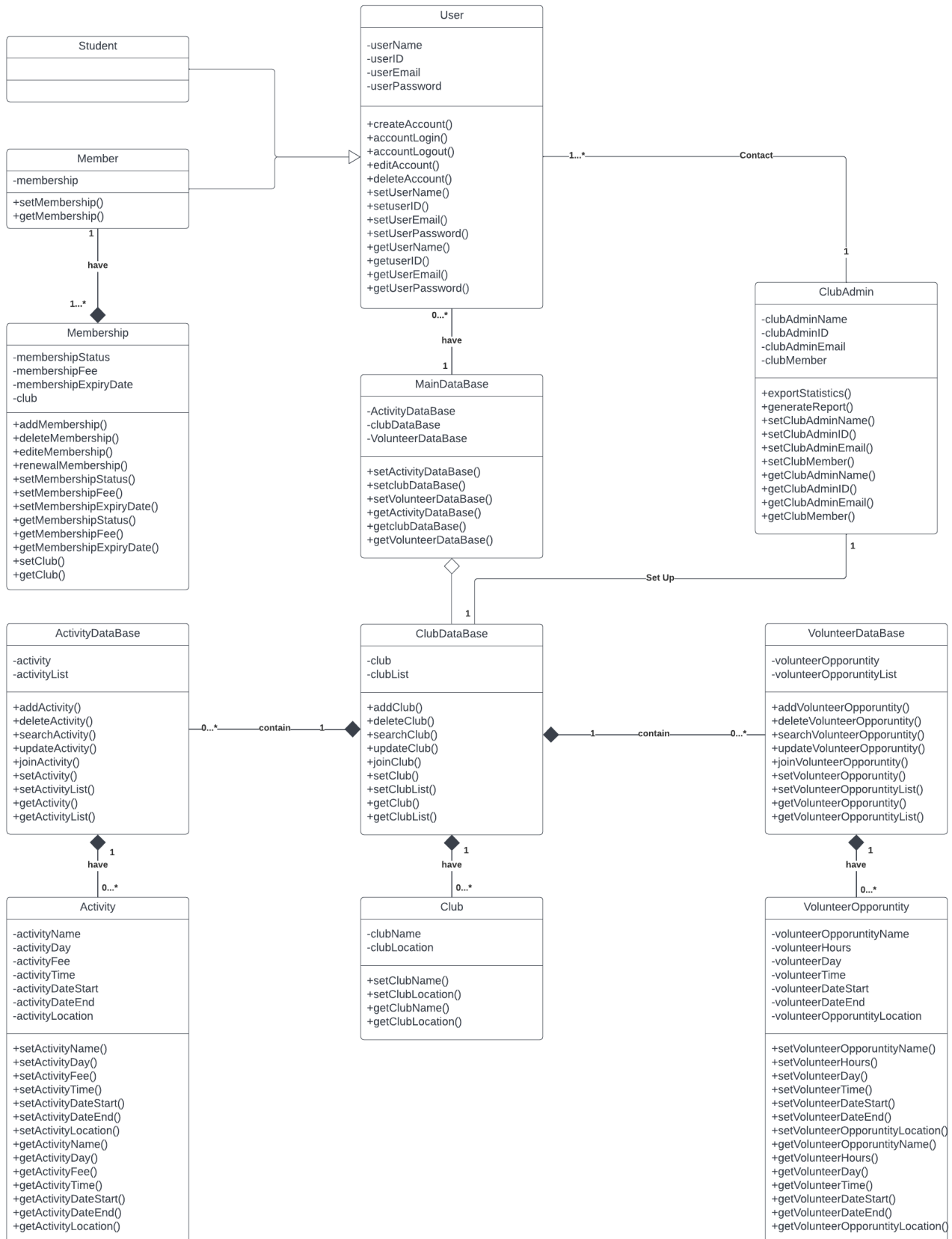
Haneen Almabadi	- Draw Sequence diagram (3)
Saja Alzahrani	- Draw Sequence diagram (2)
Layan Alsaud	- Draw Sequence diagram (1)
Lama Alghamdi (L)	- Draw Sequence diagram (2)
Mariyyah Samarin	- Draw Sequence diagram (1)



## Lab 9 | Modeling Phase

# Lab 9 - Modeling Phase

## | Class Diagram:



## Lab 9 - Modeling Phase

### | Table of Tasks :

Haneen Almabadi	- Draw Class Diagram
Saja Alzahrani	- Draw Class Diagram
Layan Alsaud	- Draw Class Diagram
Lama Alghamdi (L)	- Draw Class Diagram
Mariyyah Samarin	- Draw Class Diagram

# Conclusion and Suggestion

## Conclusions

Briefly, the website will improve the quality of CCSE clubs for the students, and it will make it easier for students to reach, participate in CCSE clubs and their volunteering hours will be documented immediately.

## Suggestions

Based on conclusion, we strongly recommend the following actions:

- 1- Build a clear website to facilitates the process of participation
  - 2- Every club will have their own profile to share their information, new activites and advertisements
  - 3- Document volunteering hours with the national volunteer portal.
  - 4- Invest more money on our website due to its advantages for our college in the long term
  - 5- Provide technical support 24/7
-

## Task allocation table

Haneen Almabadi	- Design the presentation
Saja Alzahrani	- Write Introduction
Layan Alsaud	- Review the final document
Lama Alghamdi	- Write Conclusion & suggestions
Mariyyah Samarin	- Design & collect the final document

Submitted by:

-Lama Alghamdi (L) | 2111926

-Layan Alsaud | 2110946

-Mariyyah Samarin| 2111188

-Haneen Almabadi | 2111251

-Saja alzahrani | 2111780

Section : CWO