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Ministry of Higher Education
Taibah University
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المملكة العربية السعودية
وزارة التعليم العالي
جامعة طيبة
كلية علوم وهندسة الحاسبات
(قسم الطالبات)

Academic advisor system

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Chapter 1: Introduction

1.1 Introduction

The primary purpose of the chapter is to provide an overview of the study. The introduction includes the following components separated into sections.

1.2 Problem Definition

In the current academic advisor and proxy system, the advisor is unable to perform some important operations, as the advisor can't request the administration to expand a section if the section is crowded, also, he can't add students' grades in the department for which he is responsible, and he can't obtain a transcript of student grades in a particular section. According to a student, he can't request re-registration.

All these problems in relation to the academic advisor or the student cause a gap in the services of the current system, which causes the weak capabilities and services provided, whether for the student or the academic advisor.

1.3 Project Objectives

The goals of the system that we will develop will help the student to get some important and unavailable processes in the current system.

The goals we decide to achieve are:

1. The academic advisor can request the expansion of a specific section.
2. The advisor can add student grades in a specific section.
3. The academic advisor can obtain the students' grades transcript in the department.
4. According to a student, he can request a re-registration.

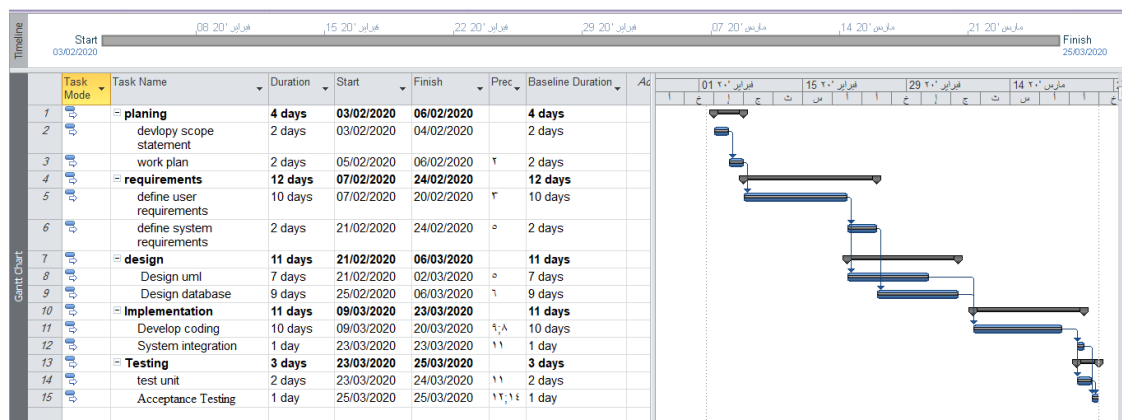
We decided to work with the e-learning environment because it saves the time and effort for the student and academic advisor, and they can complete many operations from anywhere and at any time.

1.4 Project Scope

The scope of the project serves the student side, the academic advisor side, and teacher side.

- **Student:**
 1. Request re-registration.
 2. Request section expansion.
- **Academic Advisor:**
 1. Receive the requests and deal with.
 2. produce grades reports.
- **Teacher:**
 1. Recording student grades.

1.5 Project Timeline



1.6 Document Organization

- Introducing the system of academic advisors and college vice-deans.
- Determine the unsolved problem statement and the basic difficulty.
- Determine the goal and scope of the project to emphasize practical results and define the project schedule, stages and work activities.

Chapter 2: Literature Review

2.1 Introduction

In this chapter, we will provide an overview of the system and how it works, and we will talk about our understanding of the system according to the answers that we got through the interview.

2.2 Background

The Academic Advising System is emphasis on planning and academic advice, and it is an advisory system which means having to help student and advisor to communicate easily. The students can check the consultation details such as: data time, duration, review of academic performance, overall performance, problem encountered and advice given from the adviser.

Because of the situation these days (Covid-19 Pandemic), we have contact with our academic advisors in the IS department to do the interview and asking them some questions for every process that we chose. This interview was conducted via email.

We have summarized the processes in general.

- **produce grades report**

The teacher entered the students grades and print them through his personal page on the university website, and the final examination reports are collected in the college testing unit.

- **section expansion request**

It is a service that allows the department admin/college vice-dean to receive the expansion requests submitted by the academic advisor for implementation. The academic advisor raises the requests on online Excel file, at the end of the day all requests are collected and the possibility of implementing them is being considered by the guidance committee. After that, the academic advisor received all the approved requests and implement them.

- **Recording student grades**

The teacher submits students' grades, then the department admin approved them, after that it becomes available to students through the system. Submitting grades either done in periodically way or the grades collected in an Excel file then transferred to the system.

- **re-registration request**

The application submitted for educational affairs at the college, and they send it to the admission & registration department. This process will not take place until the student's status is confirmed (Was he dismissed before?).

2.3 Summary

Chapter 3: System Analysis

3.1 Introduction

In this chapter, we will define the job requirements for the new system as well as define the non-functional requirements. We will develop the development methodology on which the system will depend. Finally, we will design a use case for a system that describes the external interaction (the academic advisor, the student, the teacher) with the system's functions.

3.2 Requirements Elicitation

3.2.1 Functional Requirements

- **Student:**

1. The student must be able to enter the system.
2. The student must be able to request re-enrollment.
3. The guide should be able to request the expansion of a section.

- **Academic Advisor:**

1. The advisor should be able to log into the system.
2. The advisor should be able to add student grades.
3. The advisor should be able to view the marks report.

- **Teacher:**

1. The Teacher should be able to log into the system.
2. The advisor should be able to add student marks.

3. The advisor should be able to view the marks.

- **Educational affairs:**

1. The Educational affairs should be able to log into the system.
2. The Educational affairs should be able to receive requests.
3. The Educational affairs should be able to study the application (approve, refusal).

- **Department admin:**

1. The Educational affairs should be able to log into the system.
2. The Educational affairs should be able to approve marks.

- **Admission and Registration Department:**

1. The Registration Department should be able to log into the system.
2. The Registration Department should be able to Executing the request.

3.2.2 Non Functional Requirements

Property	Measure
Efficiency	The computerized system will make the task of computing the result and recording it much more efficient, as well as following the courses by the administration and the quality supervisor, the work will be done quickly, easily and with high efficiency.
Safety and security	Information stored in the computer is safe from animals, insects and intruders. In addition, a password can be used to make program assessable to only authorized persons.
Retrieve ability	Retrieval of information is a lot easier.
Accuracy	Interactive processing identifies and correct error due to negligence.

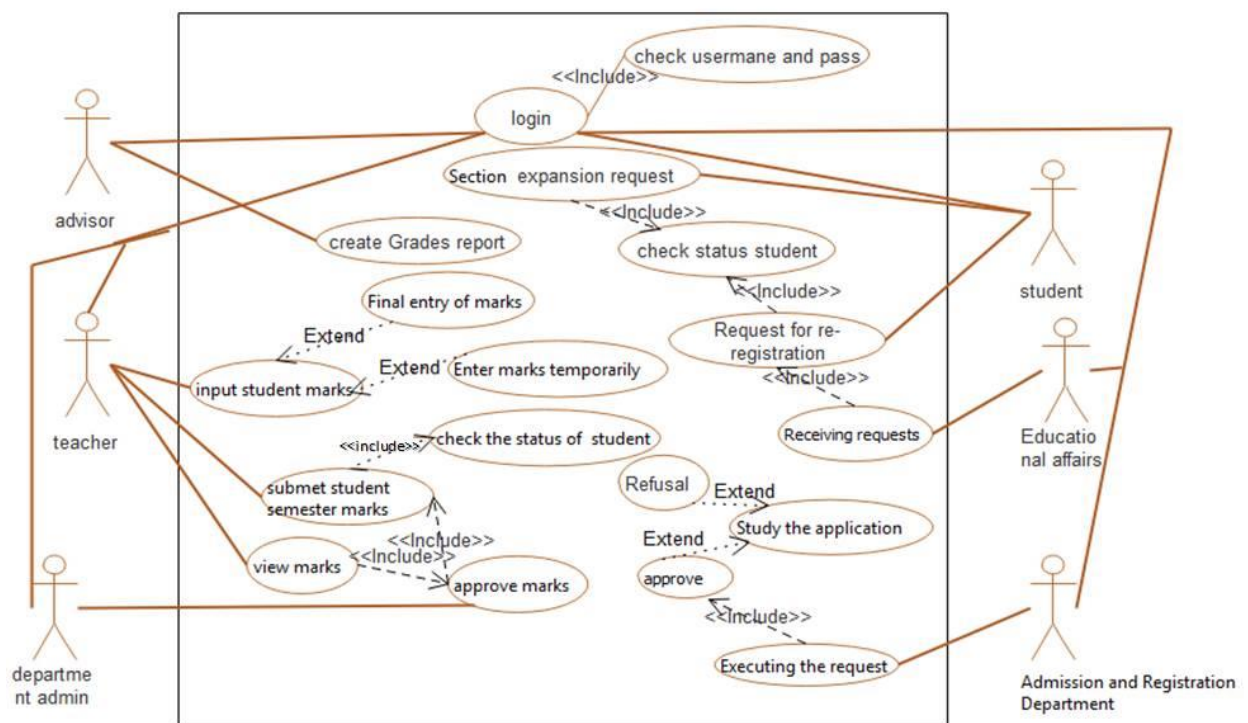
3.2.3 User Requirements or Domain requirements

- **User Requirements:**

1. The user must have a computer, a mobile phone or a tab.
2. The user must be able to use the computer.
3. The user must have a web browser.
4. The user must be able to access the Internet.

3.3 Requirements Specification

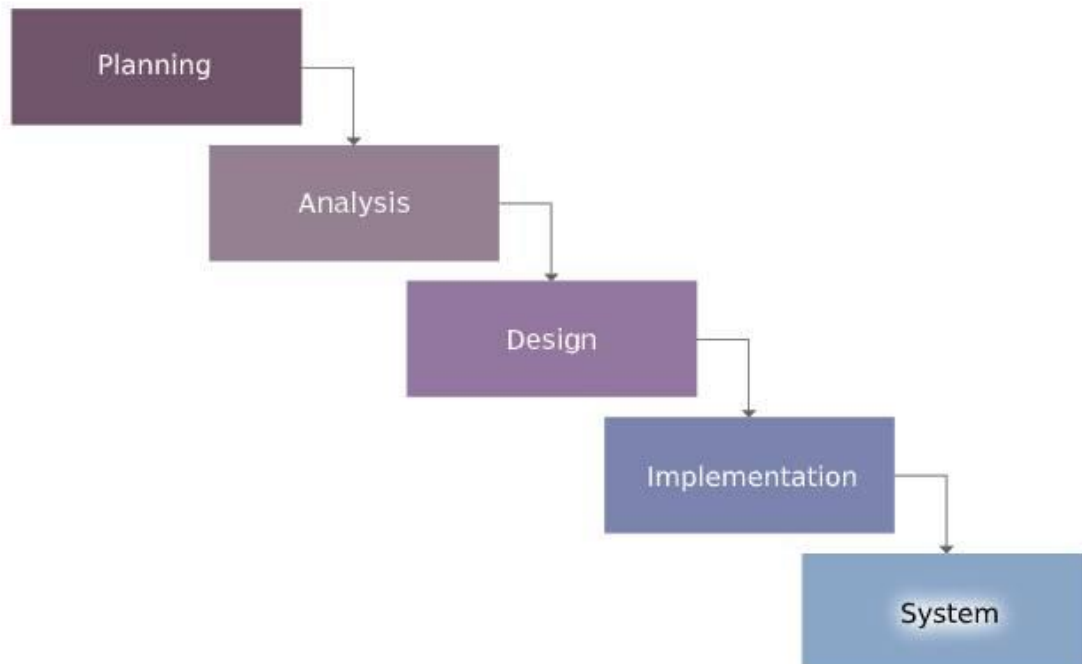
- **Use case diagram:**



3.4 Developmental Methodology

The waterfall model is an example of a Sequential model. In this model, the software development activity is divided into different phases and each phase consists of a series of tasks and has different objectives.

The waterfall model is the pioneer of the SDLC processes. In fact, it was the first model which was widely used in the software industry. It is divided into phases and output of one phase becomes the input of the next phase. It is mandatory for a phase to be completed before the next phase starts.



3.5 Summary

In this chapter we have defined the functional requirements of a system and the non-job requirements, we have also defined the development methodology and we have chosen the waterfall methodology, and finally we designed the use case diagram.

Chapter 4: System Design

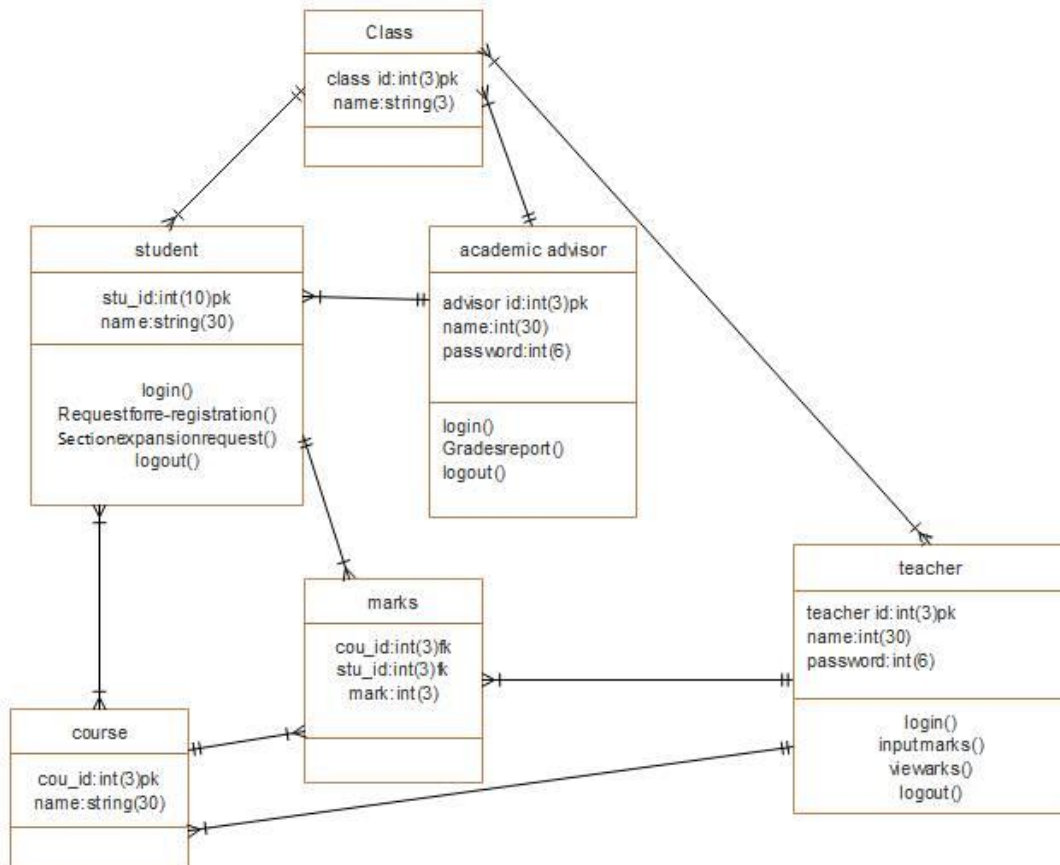
4.1 Introduction

In this chapter, we will design the required system diagrams such as: class diagram, DFD, ERD, activity diagram, and sequence diagram, and at the end of this chapter we will design the data dictionary and the system interfaces.

4.2 Object Oriented Design

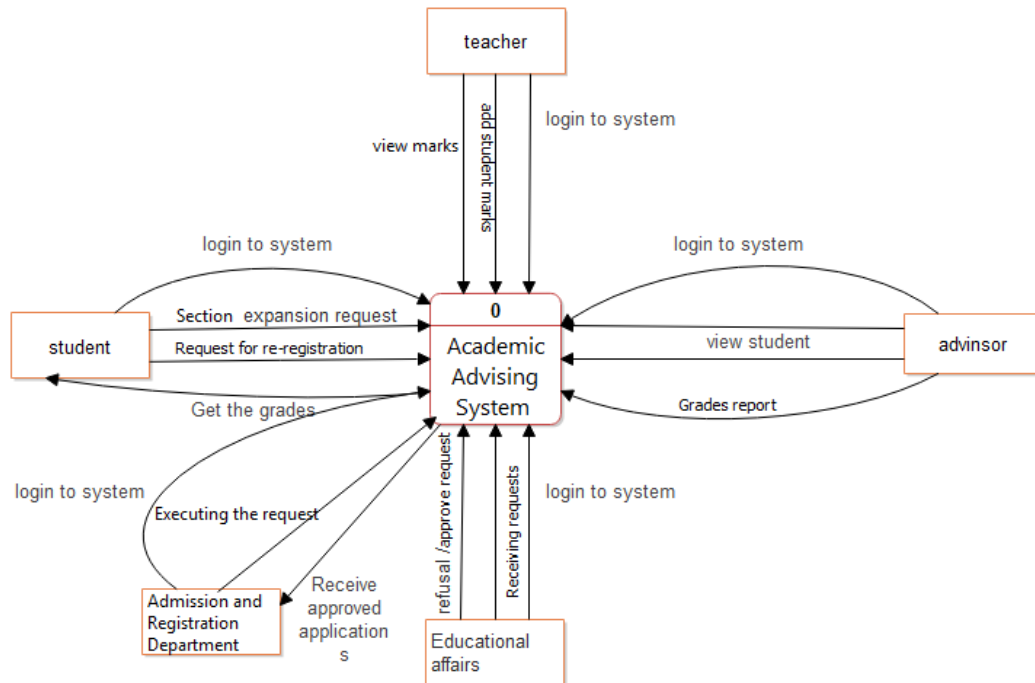
4.2.1 Structural Static Models

1. Class diagram

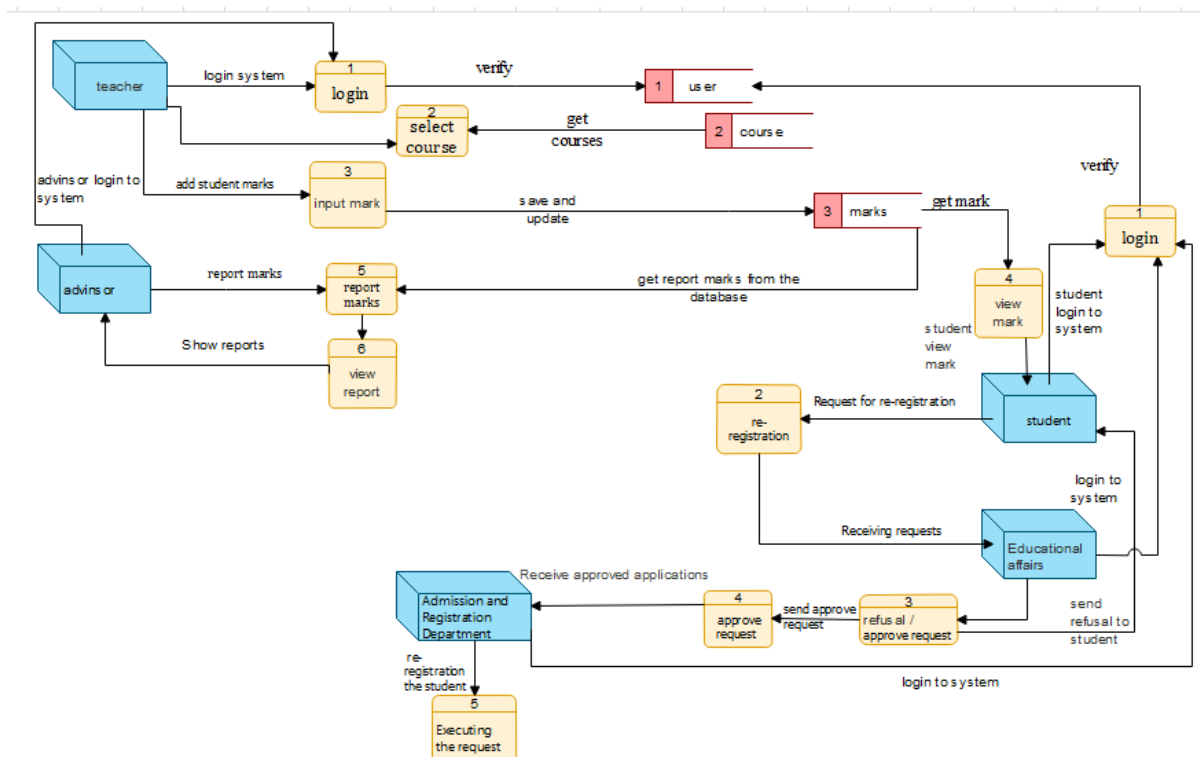


2. DFD

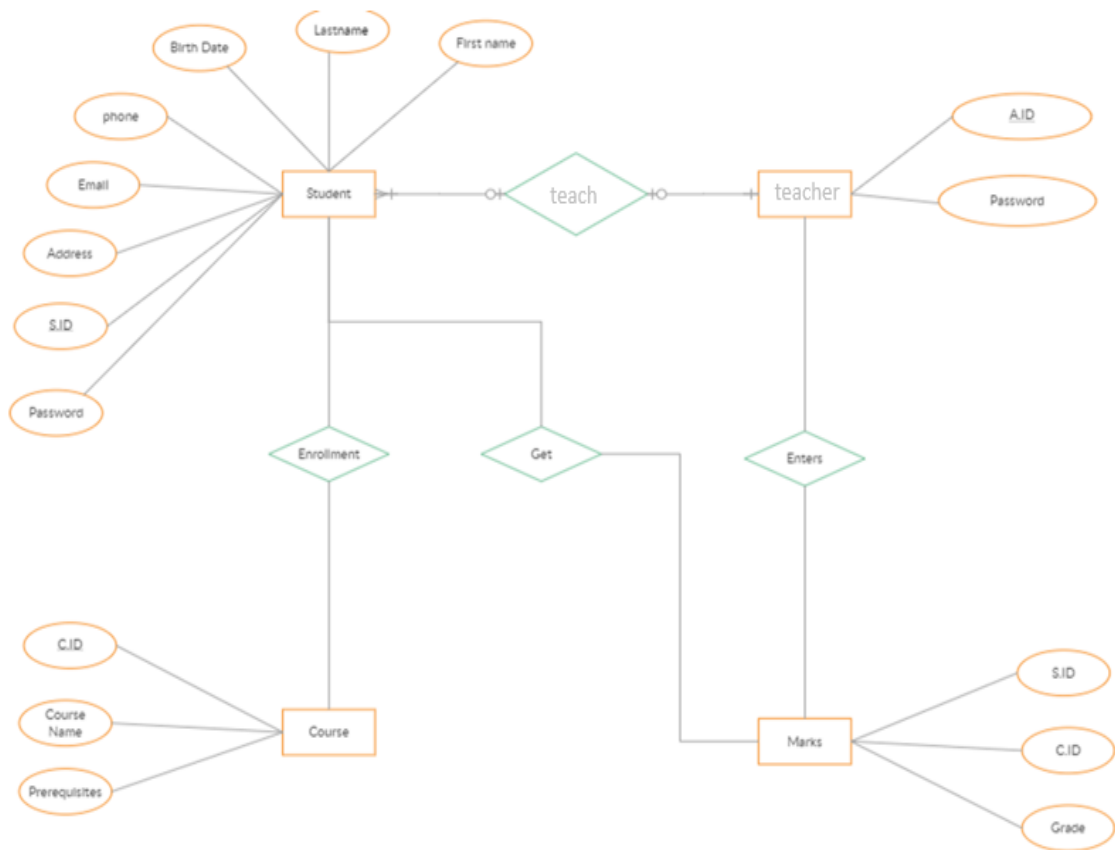
- context level:



- level 0:



3. ERD

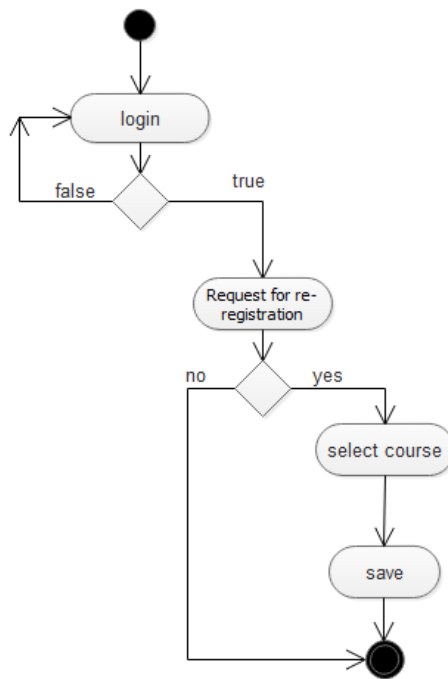


4.2.2 Dynamic Models

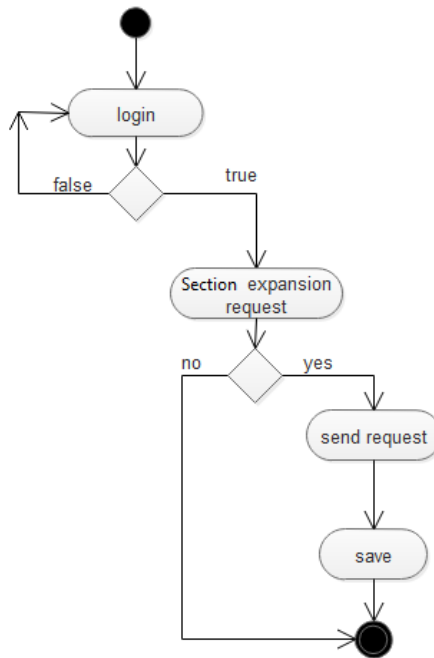
1. Activity diagrams

- Student:

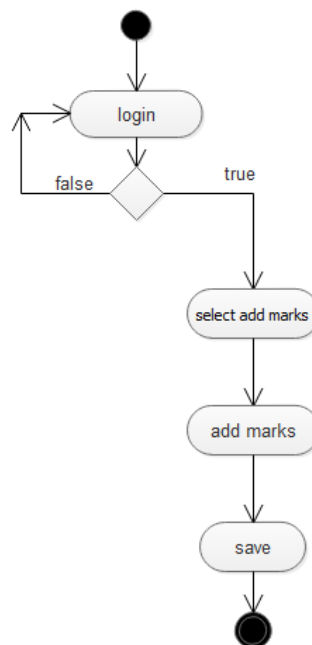
- Request for re-registration



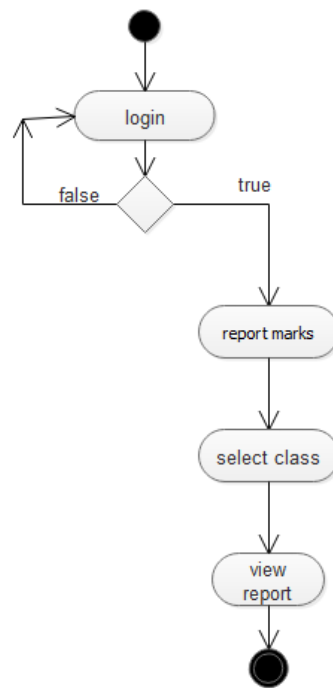
- Section expansion request



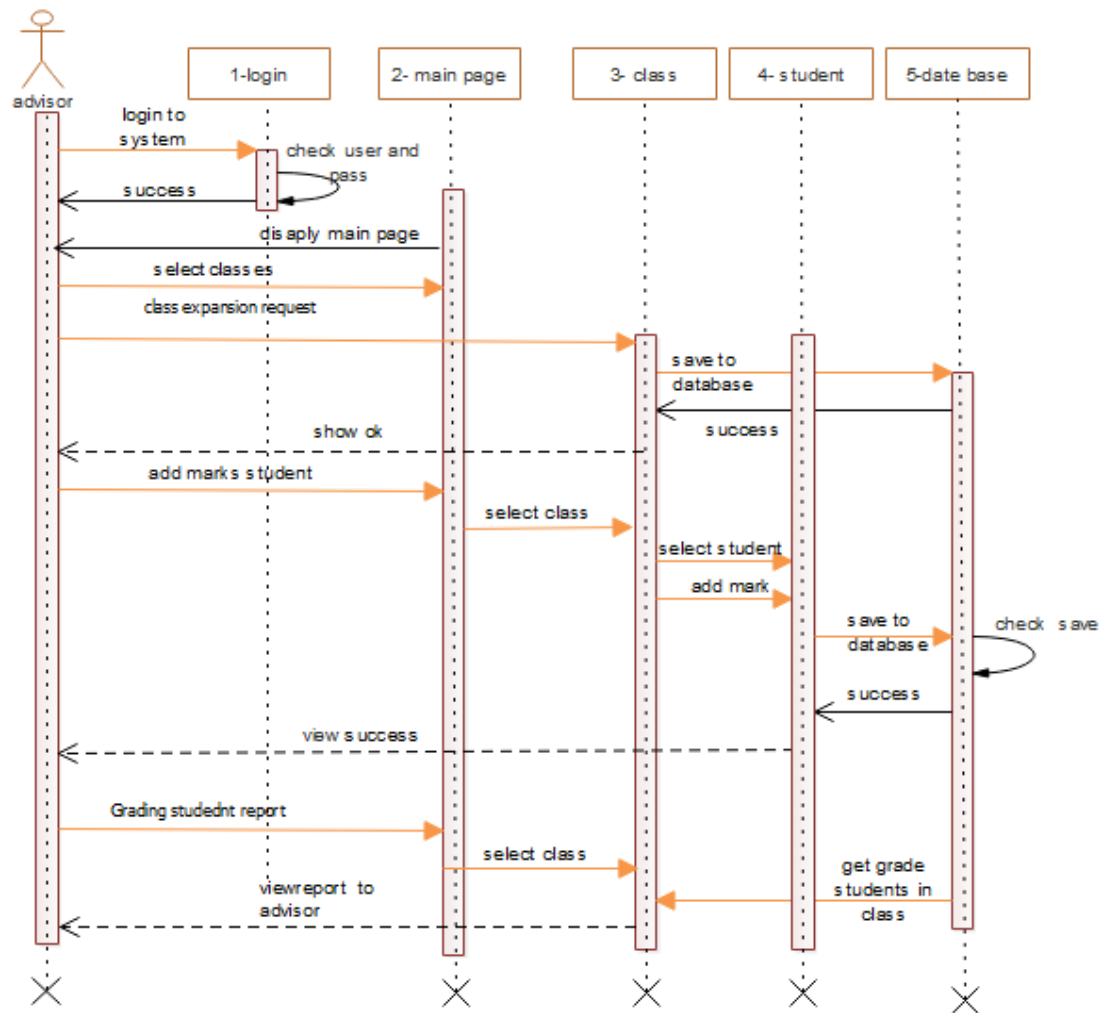
- **Teacher:**
- add marks



- **Advisor:**
- report



2. Sequence diagram



4.3 Data Modeling

class			
attribute	Type	Length	Constraint
class ID	Integer	3	Primary key
class name	String	30	

Users			
attribute	Type	Length	Constraint
user ID	Integer	3	Primary key
user name	String	30	
Password	Integer	10	

Student			
attribute	Type	Length	Constraint
student ID	Integer	3	Primary key
student name	String	30	
Email	String	50	
Gender	Integer	1	
Class id	Integer	1	Foreign key from table class
Phone	Integer	30	
Address	String	100	
Password	Integer	10	

course			
attribute	Type	Length	Constraint
course id	Integer	3	Primary key
course name	String	30	

marks			
attribute	Type	Length	Constraint
course id	Integer	3	Foreign key from table course
student id	Integer	30	Foreign key from table Student
mark	Integer	3	

4.4 User Interface Design



Appendix A

- **Forms:**

- Student:

Log in

log in

Student ID *

password *

Submit

Section expansion request

Application form

section expansion request

Major *

course name *

Course code *

Course number *

section name *

reason *

Submit

cancel

Re-registration request

Application form

re-registration request

Major	GPA
<input type="text" value="Information Systems"/>	<input type="text" value="4.5"/>
Registered units	Acquired units
<input type="text" value="101"/>	<input type="text"/>
The number of apology semesters	The number of adjournment semesters
<input type="text" value="0"/>	<input type="text" value="0"/>
year	reason *
<input type="text" value="1441 H"/>	<input type="text"/>

- Academic Advisor:

Log in

log in

advisor ID *

password *

Section expansion request

Application form

section expansion request

Semester *

Year *

Major *

course name *

Course code *

Course number *

section name *

teacher name *

current capacity *

required capacity *

Submit

cancel

Re-registration request

Application form

re-registration request

Student ID	Student name
<input type="text"/>	<input type="text"/>
Student state	Registered units
<input type="text" value="regular in study"/>	<input type="text" value="101"/>
Acquired units	year
<input type="text"/>	<input type="text" value="1441 H"/>
The number of apology semesters	The number of adjournment semesters
<input type="text" value="0"/>	<input type="text" value="0"/>
Student reason	send to: *
<input type="text"/>	<div><div>▼</div><div><ul style="list-style-type: none">- admission & registration department.- educational affairs.- department admin.]</div></div>
<input type="button" value="Submit"/>	<input type="button" value="cancel"/>

- Teacher:

grade sheet

Grade sheet

Course Name

System Analysis & Design

Course Code

IS

Course Number

244

Semester

Second Semeser

Year

1441 / 2020

Student ID	Student Name	First Midterm	Second Midterm	quizz	Assignment	Project	Final Exam
3864356							
3246735							
7653109							
6532740							
6541098							
1935673							
9212056							
5109303							
2395624							
1293064							

Submit

cancel

Attendance sheet

Attendance sheet

course: IS244

Date

DayMonthYear

Student

ID	Names	
3864356		<input type="checkbox"/>
3246735		<input type="checkbox"/>
7653109		<input type="checkbox"/>
6532740		<input type="checkbox"/>
6541098		<input type="checkbox"/>
1935673		<input type="checkbox"/>
9212056		<input type="checkbox"/>
5109303		<input type="checkbox"/>
2395624		<input type="checkbox"/>
1293064		<input type="checkbox"/>

Submit

cancel

- Interview & questions:

Now we will clarify the questions and responses that we got from the guides and teachers

- **Produce grades reports**

- 1. How is the process of revealing grades in a division?**

Is it intended how to obtain a test score? If the answer is yes, every university professor can print and enter the statement through his account on the university's website,

- 2. What is the unit responsible for issuing student grades and verifying the correctness of the data in them?**

None, the scheduled professor has the authority to obtain the list from his account.

- 3. Where are these statements collected when issued?**

Done at the college tests unit.

- 4. Is there a party benefiting from the division's grades needed to complete other operations?**

No.

- 5. Is this process done in an electronic way and by that I mean all the steps?**

Yes, except for the compilation of the statements in the final stage of the unit tests manually.

- 6. Are there any current problems that you face in this process?**

There is no.

- **Request section expansion**

- 1. A priority for the expansion of the people?**

The students who have them are Graduates or regular students who are entitled to download the level so that they must complete all of his subjects or very troublesome. Take these materials which are a requirement for other materials later.

- 2. What is the department responsible or the unit responsible for expanding the people?**

The guidance committee in both departments after obtaining approval from the deputy department or deputy, and the approval of the decision professor may be taken when needed.

- 3. How does the division expand?**

The faculty members raise the requests for expansion on the Excel file online and by the end of the work day all requests are collected and the guidance committee meets with the deputy department and at the end of the day or the day after which the members of the faculty are notified by looking at the possibility of implementing them from the teaching with the requests that have been approved and expanded by the number required for students to be added.

- 4. How long is the extension period required to implement?**

If the expansion is for a small number of female students, or if it is within the permitted range of the hall capacity, it can take place during the same day after reviewing the requests and taking the approval of the department deputy and the course professor or the next day. But if the expansion requires addressing other colleges or exceeding the permissible limit, the subject can extend for a week, depending on the case, and it may be rejected.

- 5. Are there specific decisions for which the expansion process takes place, but not others?**

Expansion of a headquarters on certain conditions, such as the capacity of the hall and the presence of justifications for the College of Computing, which are within the powers of the College and Building.

As for general courses from other colleges or university requirements, extending them is very difficult, the colleges involved are strong, and the approval of the colleges and their faculty.

6. Is it possible to implement requests to expand the people outside the university calendar?

Not possible.

7. When is a student entitled to request expansion to the department?

If the student is a graduate or the subject is from the level descending to the student as a regular on the plan without the possibility to add the material in another division or the student is very difficult and the material is a requirement for other materials and will increase her stumbling if not added.

In all cases, the Guidance Committee cannot be added to other divisions, and the student did not delete it or withdraw from it previously. The right to reject any expansion requests for any reason.

- **Request re-registration**

- 1. What is the process of simply re-enrolling?**

When a student stop schooling for a reason, for example an apology for a semester, postponement or failure in the semester, the student must submit a re-enrollment when she commences in the next semester. In some cases, the enrollment is automatically repeated and in other cases the student must submit an application.

The application is submitted for educational affairs at the college, and they in turn raise the application for admission and registration.

The student submits the application by printing the form on the student's academic services.

- 2. What are the conditions for student re-enrollment?**

As far as I know, there are no specific conditions, unless the student has been out of school for a long time, then her application and the reasons are studied by a committee in admission and registration.

- 3. What is the department or body responsible for receiving and implementing re-registration applications?**

Educational affairs in the college.

- 4. When re-enrolling a student, does he return to the university as a new student or not?**

The student does not return to normal before the interruption. He continues to study from the level from which he was discontinued.

- **Recording student grades**

- 1. How does the grading system work (in a simplified way)?**

The grading system is a sub-system of the academic services system. The course professor registers the grades for students, then the head of the department accredits the grades, after which they become available to students through the system

As for me, I usually keep the details of the grades in an Excel file, and at the end of the semester, the final degree is monitored only. But the system allows the ability to record grades of assignments, periodic exams and quizzes, and then collect them later.

- 2. Is the system for monitoring students 'grades governed by a period of time, such as monitoring the degrees of the first period at a specific time as well as the grades of the second period?**

Hours after the end of the test 72 as an organizational procedure within the college. The course professor must monitor grades within days after the end of the final 7-3. But as far as I know there are no restrictions on the system. But the monitoring system is usually closed after the final tests.

- 3. Powell interfered with the system, or was it collected and then monitored? Do you monitor the work of the classroom first?**

Yes, grades can be monitored first-hand on the system. But personally, I record grades on an Excel file and then monitor the final grade.

I think the excel file with its tools gives me speed, flexibility and ease in following up, managing and adjusting grades, the topic is a personal preference for me.

- 4. How is the student's grades handled if he is deprived or the student requests to postpone a semester or an apology for 4 semesters?**

If the student is deprived, the total score obtained before the deprivation will be monitored and the grade will be deprived.

In the event that the student apologizes for the semester, the student's status on the system is changed to an apology for a semester. He does not appear again in the students' list of the subject and therefore no grade or appreciation is provided for him.