

Ministry of High Education,  
Culture and Science City at Oct 6,  
The High Institute of Computer Science & Information Systems



المعهد العالي لعلوم الحاسب ونظم المعلومات

Graduation Project

# Credit Hours System

## Module 1

Assistant:

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Supervised by

**Dr: Amira M Gaber**

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### Module 1

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## **Abstract**

The credit hours system is a system that is characterized by giving students a large space of freedom to choose a program they want to study, and even within the program there is a great opportunity to choose from a group of courses and conditions that allow the student to complete the study at the appropriate time when he has the desire, willingness and ability without being restricted. By delaying or postponing studying after the academic courses at a later time, or having studied some of them earlier, as the student can graduate in three years instead of four.

The semesters in the credit hours system are divided into three semesters: the fall semester (first semester) and the spring semester (second semester). These two semesters are compulsory. There is a summer semester known as the summer course. Where the student retakes the exam in the event that he does not pass one of the subjects of the first or second semester because he does not have to repeat the subjects of the year in the event that the student fails in more than two subjects, improve subjects in which the student is not satisfied with his grades or in the event that the student wishes to complete the number of years of study in a shorter time, or to reduce the burden of some subjects in the following year.

In addition to that, the student takes a training program, which is a compulsory program, as the student cannot graduate until after completing the prescribed number of training hours, which are 240 hours.

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# **Chapter 1: Introduction**

# **1 Introduction**

## **1.1 An Overview**

The Egyptian government has approved a draft law that would enable universities and institutes to limit the time required for a student to graduate in hours instead of academic years. Officials say this will allow some students to complete their degrees in three years instead of four, thus reducing the cost of higher education to the state.

The credit hours system has been implemented in some disciplines since 2011, but it does not comply with the law. The Supreme Council of Universities began working on amending the regulations so that the new system was applied to all students who started their studies in the 2021-2022 academic year.

This historic amendment gives students the opportunity to graduate immediately after they fulfill the number of credit hours required,” Adel Abdel Ghaffar, the media advisor to the minister of higher education and scientific research, said in a phone call. The new system will also give students the freedom to choose their courses and professors in each semester separately, and allows them to select subjects from outside their college’s specialization in order to acquire skills that were not previously available to them.

The amendment the Supreme Council has worked on will remove the minimum requirement for various disciplines. Depending on their abilities, some students will be able to complete their studies in as short a time as three years, while others may need four years and the minister of higher education and scientific research, explained, however, that there is a minimum number of years of study in credit hours that cannot be violated, which means that an Computer and information student cannot graduate in less than three years.

The credit hours system is based on the number of study courses which the student should successfully pass according to the standard set by the academy as a condition of graduation. Students will be given the freedom to choose their own subjects, while most of them are in majors they did not choose in the first place.

This means that a large number of them will choose the easy subjects offered by professors with a high pass rate, regardless of the course content. However, this does not mean absolute freedom for the student to choose all subjects. There are compulsory subjects that the student must pass, and some subjects have a prerequisite in order to be able to choose and study them. As the new amendment will be in the interest of outstanding students because the system is not easy and requires determination and will to finish the credit hours.

**The difference between the credit hours system and the two-semester study.** Dr. Abdel-Fattah Saud, Vice President of Ain Shams University, answers by saying that the two-semester system depends on having a fixed study schedule. The student is not entitled to change the study date of the courses. As for the hour system, it allows the student the freedom to choose the subjects he studies according to his interests and inclinations.

In the two-semester system, the duration of study cannot be reduced for an outstanding student, and the minimum period is set for all. In the credit hours system, the student can graduate in fewer years by focusing on the study period, provided that he passes the hours of the academic program.

Studying in credit hour programs in some colleges takes place in 3 semesters per year, which is the first semester (fall), the duration of the study is 14-16 weeks, and the second semester (spring), and the duration of the study. 14-16 weeks. In addition to the summer semester, which is an optional semester and the duration of the study is 8 weeks.

The two-semester system does not allow an academic supervisor for students. In credit hour programs, each group of students is provided with an academic supervisor responsible for them, and the academic supervisor is a faculty member of the college who records students' choice of courses at the beginning of each semester. Each group of students appoints a faculty member as an academic advisor to assist the student in adapting to the credit hour system, supervise the student's academic program, guide him, assist him in

selecting courses for each semester, and monitor his progress and monitor his performance. As part of the educational process.

In the two-semester system, failing three courses means losing a full year without studying other courses. Failing two courses does not allow the student to study them again, but he must attend the final, practical and oral exam. In the hour system, when a student fails one of the elective courses, he can choose another course, and once he passes it is not considered a failure. In the event that he fails in one of the compulsory courses, he must re-study in this course and not only in the final exam, as the failure in it is temporary, and if he succeeds in it after re-studying, then the grade will be calculated for him.

The number of hours of theoretical courses increases in the two-semester system compared to the number of hours of practical training, but in the credit hours system there are more advanced practical training that are commensurate with work requirements in all institutions.

In a two-semester system, students are assessed at the end of each semester and through some assignments that the students do. As for the credit hours system, students' evaluation is based on real, comprehensive and diverse evaluation methods.

**The following rules define the conditions and mechanisms for registration, addition and deletion of courses:**

- The student can register for the courses in the summer semester. After registration, the student can add or delete courses with mechanisms and conditions decided by the Board of Directors of the Institute and in accordance with the applicable rules. Failure to complete the necessary procedures when deleting a course will cause it to be considered a failed session.
- A student may drop a course without any academic impact until the end of the third week of the first and second semesters and until the end of the second week of the summer semester. Then the permitted alternative is to withdraw from the course. The deleted course does not appear in the transcript given to the student, and after this date the student takes a grade of W (official withdrawal) in that course.
- If the student wishes to withdraw from the course or from the semester with an excuse accepted by the Board of Directors of the Institute, he must submit a request to Student Affairs and obtain the approval of the Board of Directors of the Institute.
- He repeats the courses in the last semester of study and exam, and the courses he withdrew from are not included in the cumulative GPA.
- A student who has been academically warned is allowed to re-register in a subject he previously studied and in which he obtained a grade of C or less, and the grade he obtained in re-registration is counted as a

maximum of B, provided that all grades obtained by the student are mentioned in his academic record, and when calculating GPA Only the last grade is calculated.

- When the student repeats a course in which he failed (in which he got an F grade), he repeats the course and takes an exam, and the grade he obtained in the retake is calculated with a maximum of B, provided that all the grades obtained by the student are mentioned in his academic record, and when calculating the cumulative average Only the last grade counts.
- A student gets an F if he or she stops attending without leaving the course.
- The student may, at the suggestion of the advisor, drop a course and enroll in another course within the limits of the academic load within two weeks of the start of the study for the semester. The student may also, based on the proposal of the academic advisor, withdraw from a course during the first six weeks without registering for other courses, provided that the number of credit hours does not fall below the minimum number of credit hours that must be studied in this semester.
- The academic advisor may request that the student repeat some courses that he succeeded in before, or add new courses to him, and not more than three courses during the study period at the institute, in order to improve his academic average.

- The Board of Directors of the Institute announces the dates of registration in courses before each semester, and students must review their choices with the academic advisors assigned to them, and the approval of the academic advisor is required in registering or deleting courses. declared.
- The student takes an exam at the end of each semester for the courses in which he registered during the registration period and they were not deleted, and the student is prohibited from applying for the exam in all or some courses by a decision of the Board of Directors of the Institute based on a request from the subject professor and a proposal from the department council, if the attendance is Attending lectures and exercises is less than 75% of the total actual hours. In this case, the student is considered to have failed the courses in which he was denied the opportunity to take the exam.
- When a student registers for new courses, it is taken into account that he has completed the qualifying courses in accordance with the academic schedules and regulations that are distributed to students at the beginning of registration. A student may not study the course and its previous requirements in the same semester unless his graduation depends on that.
- The Board of Directors of the Institute suspends the enrollment of the student for an academic year and does not exceed two years if he presents an acceptable excuse preventing him from attending the study and after the approval of the Ministry of Higher Education.



## 1.2 Objectives

The main objectives of this project are:

1. To give the student the freedom to choose the subjects to be studied in order to complete the academic hours required for graduation.
2. To give the student an opportunity not to lose a full academic year if he fails in three academic subjects.
3. To allow the student to reduce the number of subjects studied in the semester if he has circumstances that require that.
4. To allow the student to increase the number of credit hours that he is registered to study in a particular semester, if he obtains a high cumulative average according to what is decided by the regulation.
5. To allow the student during the summer semester to study some subjects that are chosen from another semester, in order to reduce the academic burden on the one hand and to improve his cumulative average on the other hand.
6. to Allow the student to improve GPA of the subjects through the availability of a summer semester for the student in the registration subjects in subjects he has succeeded in or subjects from other classes.
7. To reduce the period of study for the distinguished Student.
8. To prevent the application of the system of lifting and compassion, a system that cannot be fair for a student to obtain degrees without right.

### **1.3 Scope**

In light of the talk about explaining the credit hour system in detail and getting to know many of its details, objectives and advantages. The Higher Institute of Computer Science and Information Systems has undergone the credit hour system in 2022-2023. Where our system includes some modules that have been implemented. Such as administrator, book director, academic advising, Result, reports, training and improvement, but in this project, we will completely cover the training module and improvement module in all aspects.

#### **Firstly, Training Module:**

Students do practical training during the summer vacation twice during the study period, and for a period of not less than four weeks at a time. Either the training is internal at the institute or in a company identical to the student's general specialization branch, and the training is under the supervision of the student's academic advisor. The student submits to the institute an accredited certificate of successful completion of the training and a report on what he has done, which is discussed by a joint committee from the institute and the institution in which he was trained, and he is given an estimate for this training, which is included in the total points obtained.

The training module is part of the administrator's desktop application which designed and implemented to add 40 hours to the student's total successfully passed training hours.

According to the list, we have several courses that the student has to choose and pass only 6 of them, where the one course is 40 hours, which they are...

**Table 1.1 Training Courses Hours**

<b>Training courses</b>	<b>Duration by hours</b>
C++	40
Python	40
Java	40
MATLAB	40
SPSS	40
R	40
Machine learning	40
Deep learning	40
Linux	40
Android	40
Flutter	40
Smart Home	40
Microcontrollers basic applications	40
ARM advanced apps	40
Arduino	40

to complete the student's piggy bank, which is estimated at 240 hours as it is not possible to graduate without completing the total number of hours to be passed.

## **Secondly, Improvement and Summer Course Module:**

In the context of talking about explaining the credit hour system in detail, it is important for those who are about to adopt that system to know that it consists of three semesters, the fall semester, which is the first semester, and the spring semester, which is the second semester, and they are two compulsory semesters.

There is also a third semester in the summer, and it is called the summer course. This semester is optional, not compulsory, and it was added to benefit students in the event that they could not pass some subjects from the main classes (first or second semester), In the previous system, the student used to repeat the academic year when he did not pass 3 or more subjects, but in this system the student can re-study these subjects and pass them during it, where a sum of money is paid for the subject, The possibility of registering a course that you have already passed again in order to improve the GPA. or reduce the burden of some subjects in the following year, so you can take these subjects in the summer semester or summer course, and in this way you can, for example, finish the study in three years instead of four.

### **Article (20) In the Regulations:**

The student may repeat the same course any number of times. either because of his failure or his desire to improve his GPA, and the grade he gets in the repeat is as follows:

- 1- If the repetition is a result of failure, the student shall be awarded the grade he obtained, not exceeding the maximum grade of **B+** in the first repetition, of **C+** in the second repetition, and of **D+** in any subsequent repetition.
- 2- If the repetition is a desire for improvement, the student is given the grade he obtained in the last repetition as it is. If that grade falls in the estimation of “**failing F**” and he starts the repetition again, the previous item “1” applies to him.

### **1.4 Methodology**

Data of students will be collected with the help of Student Affairs at the institute.

## **Chapter 2: Theoretical Background and Tools**

## **2 Theoretical Background and Tools**

### **2.1 Background**

The credit hours system was invented in the United States in the early 20th century by the Carnegie Endowment for the Advancement of Teaching. The institution was founded by Andrew Carnegie, a wealthy industrialist who was concerned about the lack of standardization in higher education. He believed that a unified system of credits would help ease the transition of students between colleges and universities, and would also help ensure that students receive a similar level of education.

The credit hour system is based on the idea of allocating a certain amount of time for each course. In the United States, a typical credit hour is equivalent to 15 hours of class time per week, for a total of 150 hours of instruction per semester. The number of credit hours required to earn a degree varies by educational institution, but most bachelor's degrees require between 120 and 180 credit hours.

The credit hour system has been adopted by many countries around the world, but it is not the only system in use. Some countries, such as France and Germany, use a system based on the number of years students have been in school. Other countries, such as the United Kingdom, use a system based on the number of units students complete.

The credit hour system is not without its critics. Some people argue that it is too rigid and does not take into account the different learning styles of

students. Others argue that it places too much emphasis on quantity rather than quality. However, the credit hour system remains the most popular system for measuring academic progress in the world. The credit hour system has been criticized for being too strict and for not taking into account the different learning styles of students. However, it remains the most popular system for measuring academic progress in the United States.

The amendments to the executive regulations issued by the Prime Minister's Decision No. 3596 of 2021 to the Universities Organization Law, with regard to studying the accredited hours or points system, were regulated. In this regard, Article (80 bis) of the executive regulations stated that with regard to studying with the credit hours or points system, the student who did not obtain the minimum cumulative average required to pass the level shall be treated as the remaining student for repetition, as indicated by the internal regulations of colleges and higher institutes. " The amendments to the executive regulations come to clarify the mechanism for students' failure in universities, and to consider them remaining to repeat according to the credit hours system.

It is noteworthy that at the beginning of the current academic year 2021-2022, universities began working on the credit hours system, in light of the amendment of the second paragraph of Article No. 79 of the executive regulations of the Universities Organization Law promulgated by Law No. 49 of 1972, which gives the opportunity for university and institute students to graduate immediately after completing their For the number of credit hours



required by their scientific specializations and after fulfilling the requirements specified by the internal regulations of the faculties that adopt the credit hour system, without being restricted to the number of years required for the study shown in Chapter Four of the executive regulations of the Universities Organization Law for each college separately.

## **2.2 Tools**

- Java, JavaFX and MySQL for Desktop Application.
- HTML, CSS and JavaScript for Front-End website.
- PHP and MySQL for Back-End.

## **Chapter 3: System Analysis and Design**

## **3 System Analysis and Design**

### **3.1 Software Requirements**

The purpose of this document is to describe the requirements for the Credit Hours System. This Software Requirements Specification (SRS) is the requirements work product that formally specifies Credit Hours System. It includes the results of both business analysis and systems analysis efforts. Various techniques were used to elicit the requirements and we have identified needs, analyzed, and refined them. The objective of this document, is to formally describe the system's high-level requirements including functional requirements, and non-functional requirements.

1. functional requirements are listed first, according to their relationship to the overall system, Admin, Student.
2. The subcategories of non-functional requirements given are Performance, Scalability, Reliability, Resilience, Security, Usability and Maintainability.

#### **3.1.1 Functional Requirements**

##### **1. Admin Requirements for Training Module.**

presents the activities performed by the admin on the training module.

**Table 3.1 Admin Requirements for Training Module**

<b>RQA1</b>	The system should enable the admin to login.
<b>RQA2</b>	The system should enable the admin to registration.
<b>RQA3</b>	The system should enable the admin to Select the training courses.

<b>RQA4</b>	The system should enable the admin to add students by ID.
<b>RQA5</b>	The system should enable the admin to add students by importing Excel Sheet.
<b>RQA6</b>	The system should enable the admin to Submit the Students who have been added to the Course.
<b>RQA7</b>	The system should enable the admin to logout.

## **2. Student Requirements for Improvement Module.**

presents the activities performed by the student on the improvement module.

**Table 3.2 Student Requirements for Improvement Module**

<b>RQS1</b>	The system should enable the student to login.
<b>RQS2</b>	The system should enable the student to registration.
<b>RQS3</b>	The system should allow the student to see the subjects he succeeded in and want to improve his grade with these subjects.
<b>RQS4</b>	The system must allow the student to show the subjects that he failed in, and he must enter them again in order to pass them.
<b>RQS5</b>	The system should allow the student to show his GPA in the exams.
<b>RQS6</b>	The system should allow the student to choose the subjects in which he wants to improve his GPA in it.
<b>RQS7</b>	The system should allow student to view their profile.
<b>RQS8</b>	The system should allow the student to take other courses to increase his GPA.
<b>RQS9</b>	The system should enable student to logout.

### **3. Admin Requirements for Improvement Module.**

presents the activities performed by the admin on the improvement module.

**Table 3.3 Admin Requirements for Improvement Module**

<b>RQA1</b>	The system should enable the admin to login.
<b>RQA2</b>	The system should enable the admin to registration.
<b>RQA3</b>	The system should enable the admin to Approve the Student Request of the subjects.
<b>RQA4</b>	The system should enable the admin to logout.

### 3.1.2 Non- Functional Requirements

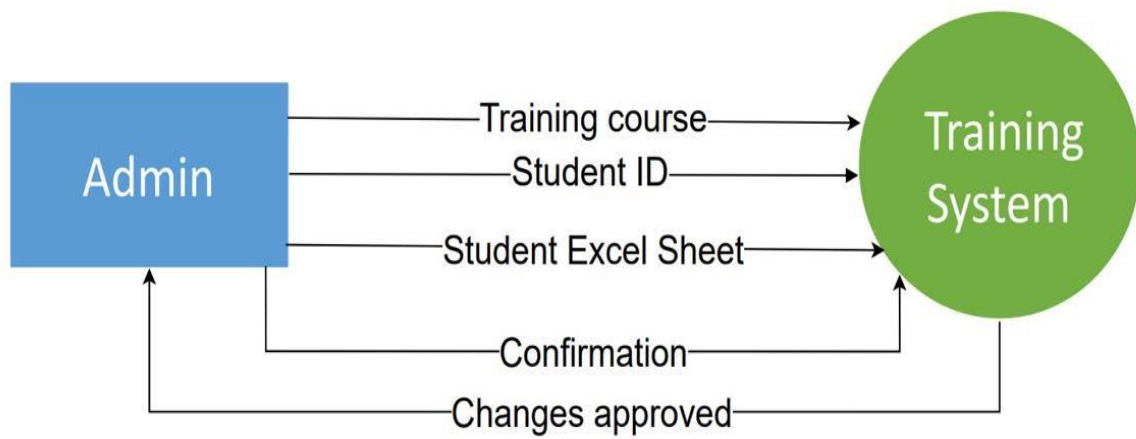
Non-functional Requirements (NFRs) define ‘how’ systems do what they do. This includes characteristics such as their performance, scalability, Reliability, security and etc.. Essentially, they provide the proper checks and balances to the functional requirements.

**Table 3.4 Non-Functional Requirement Types**

<b>Non-Functional requirement types and what to consider</b>	
Performance	Focuses on the system's speed, efficiency, and workload. I.e., how fast does the system respond?
Scalability	Ensures the system can respond to changes in demand. I.e., how will the system pull on additional resources?
Reliability	Defines the system’s availability and the tolerance for failure I.e., what’s the target uptime?
Resilience	Defines how quickly a system can recover if it fails. I.e., how does the reset process work?
Security	Focuses on how the system is kept secure, stores data, and responds to attacks. I.e., what are the security protocols of the site?
Usability	Specifies how systems should operate for the customer/end-user. I.e., how many clicks to get to a certain place?
Maintainability	Ensures the system is easy to upgrade and troubleshoot. I.e., what format is the error log?

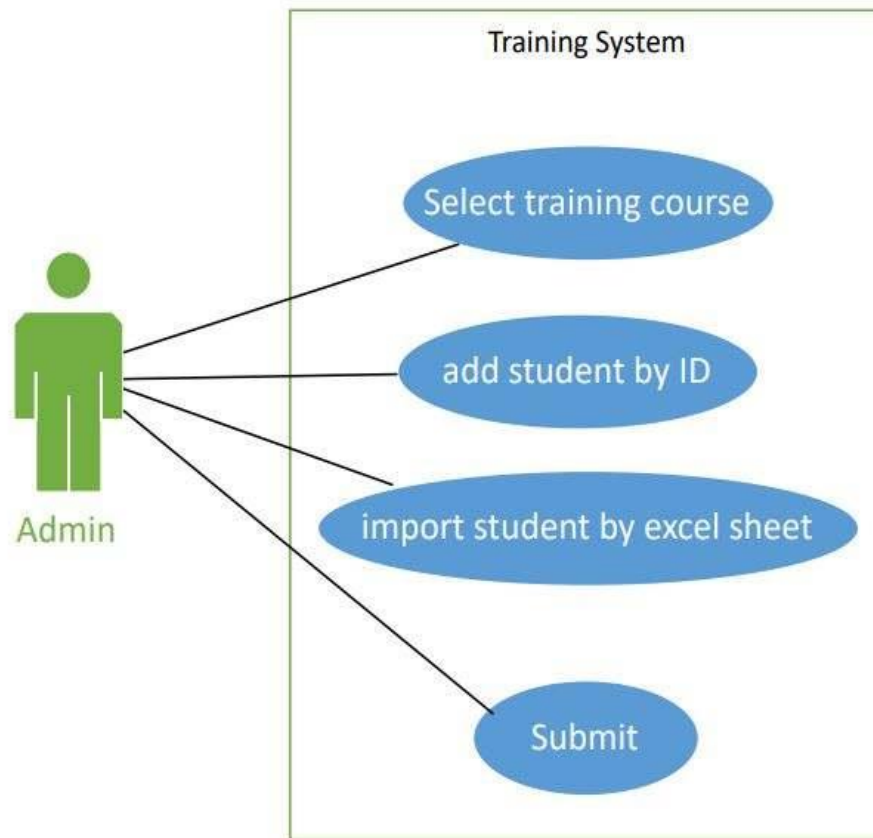
## 3.2 UML Analysis Models for Training Module

### 3.2.1 Context Diagram



**Figure 3.1 Context Diagram for Training Module**

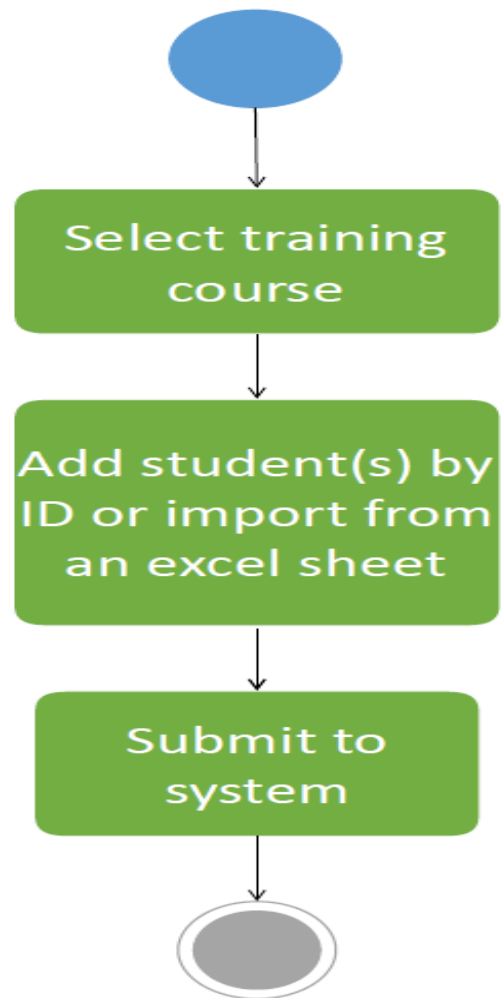
### 3.2.2 Use Case Diagram



**Figure 3.2 Use Case Diagram for Training Module**

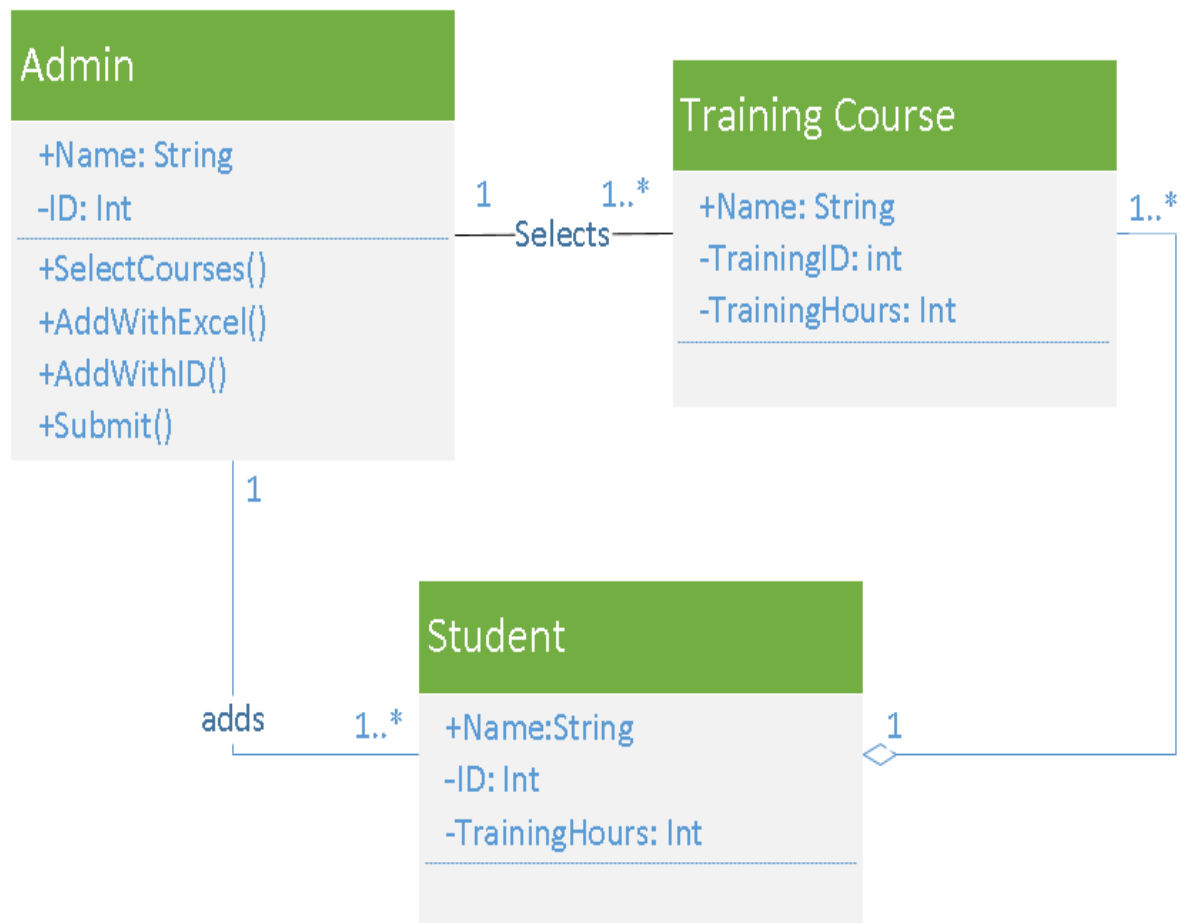


### 3.2.3 Activity Diagram



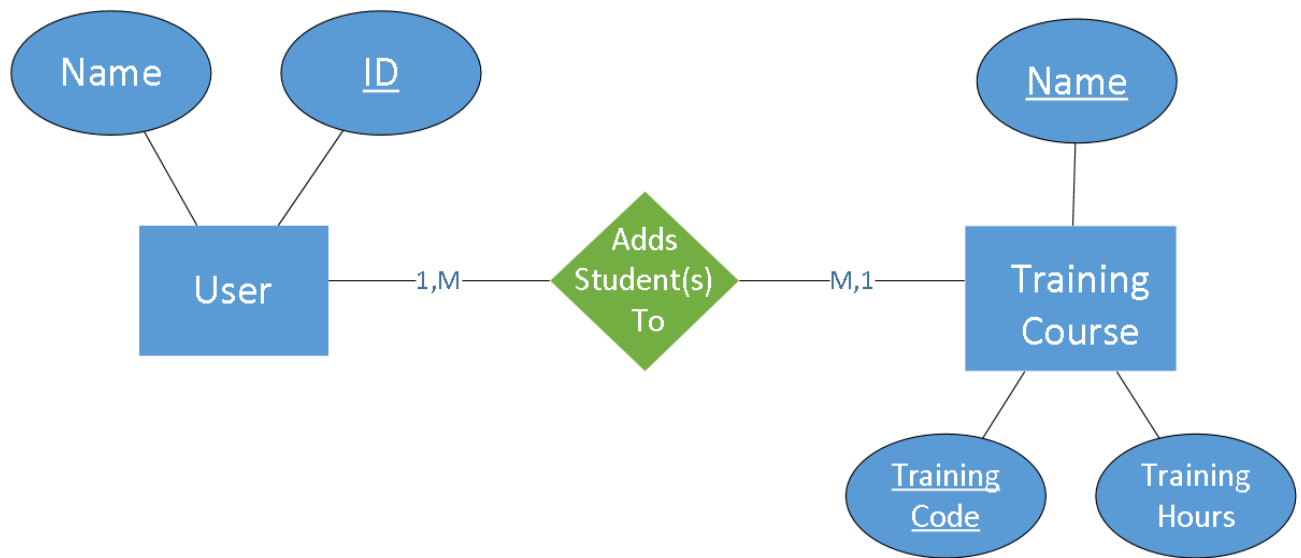
**Figure 3.3 Activity Diagram for Training Module**

### 3.2.4 Class Diagram



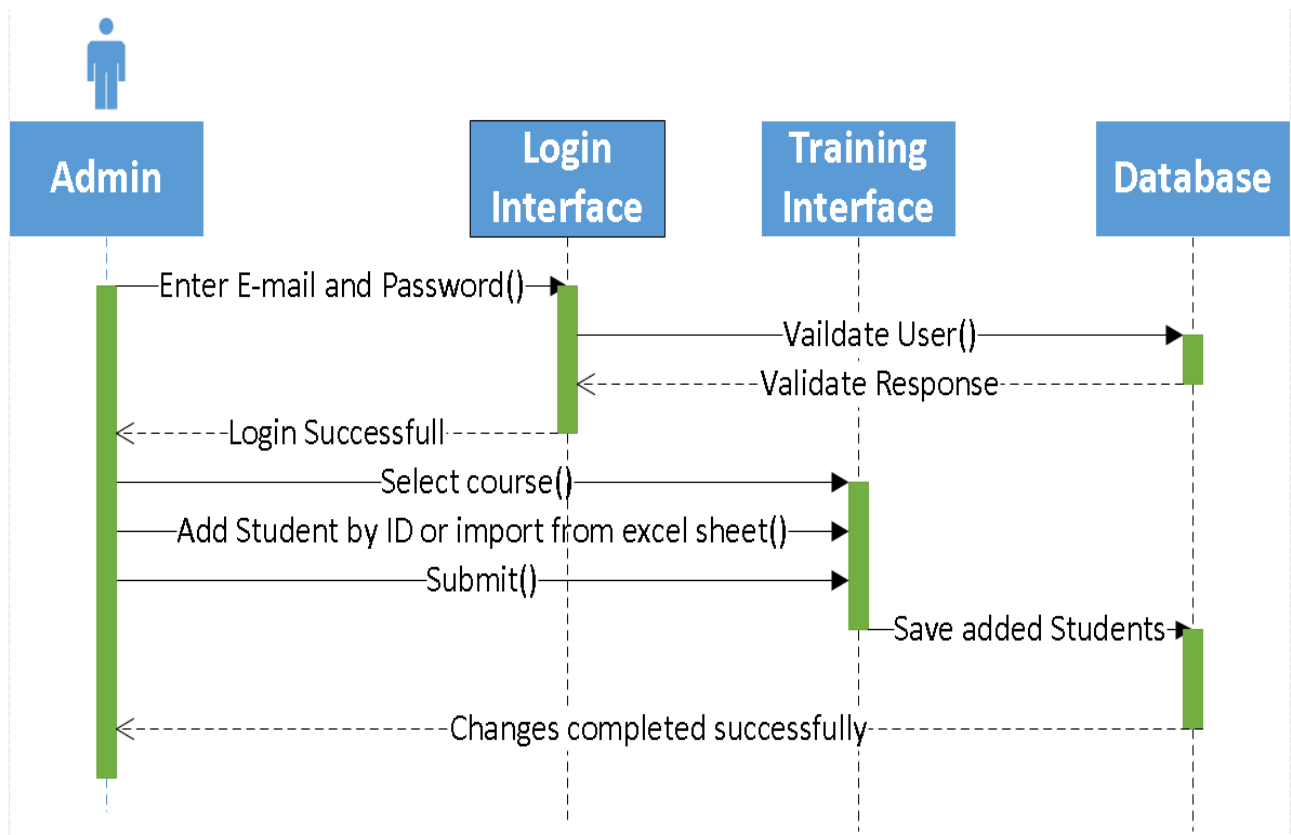
**Figure 3.4 Class Diagram for Training Module**

### 3.2.5 Entity Relationship Diagram



**Figure 3.5 Entity Relationship Diagram for Training Module**

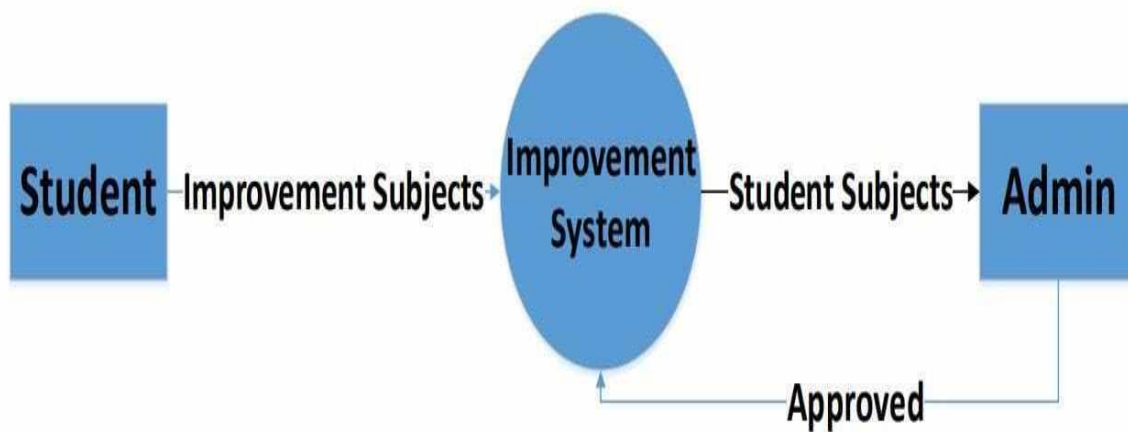
### 3.2.6 Sequence Diagram



**Figure 3.6 Sequence Diagram for Training Module**

### 3.3 UML Analysis Models for Improvement Module

#### 3.3.1 Context Diagram



**Figure 3.7 Context Diagram Improvement Module**

### 3.3.2 Use Case Diagram

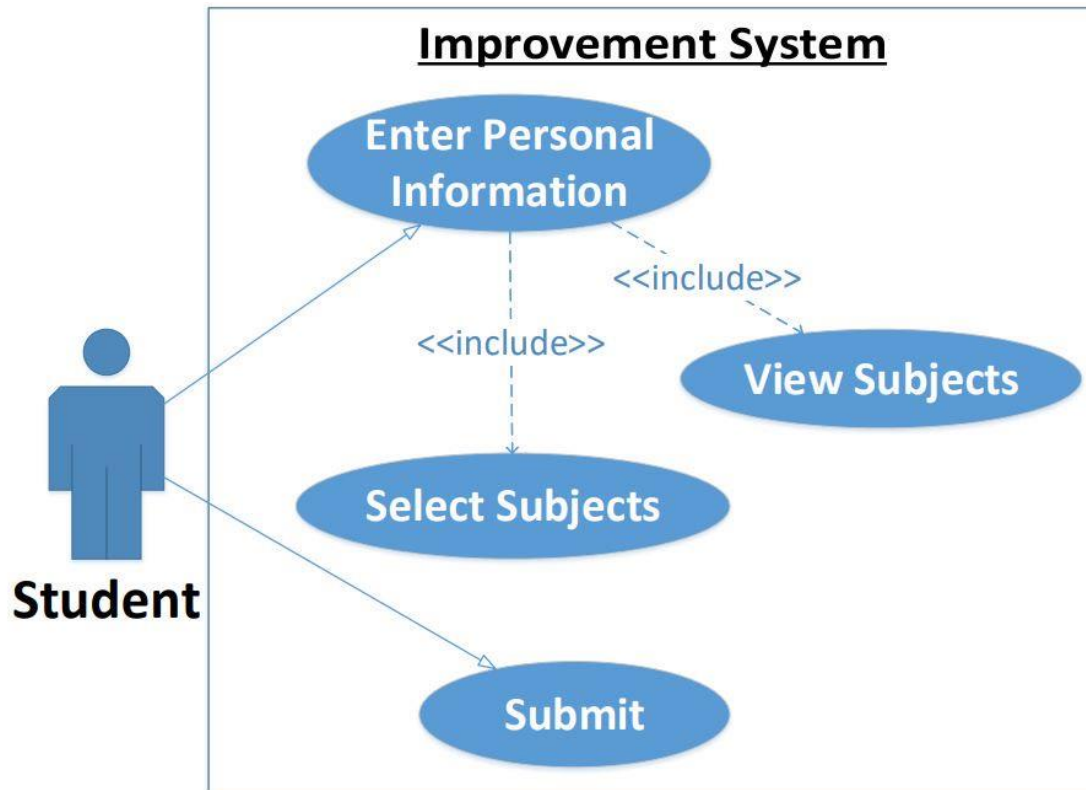
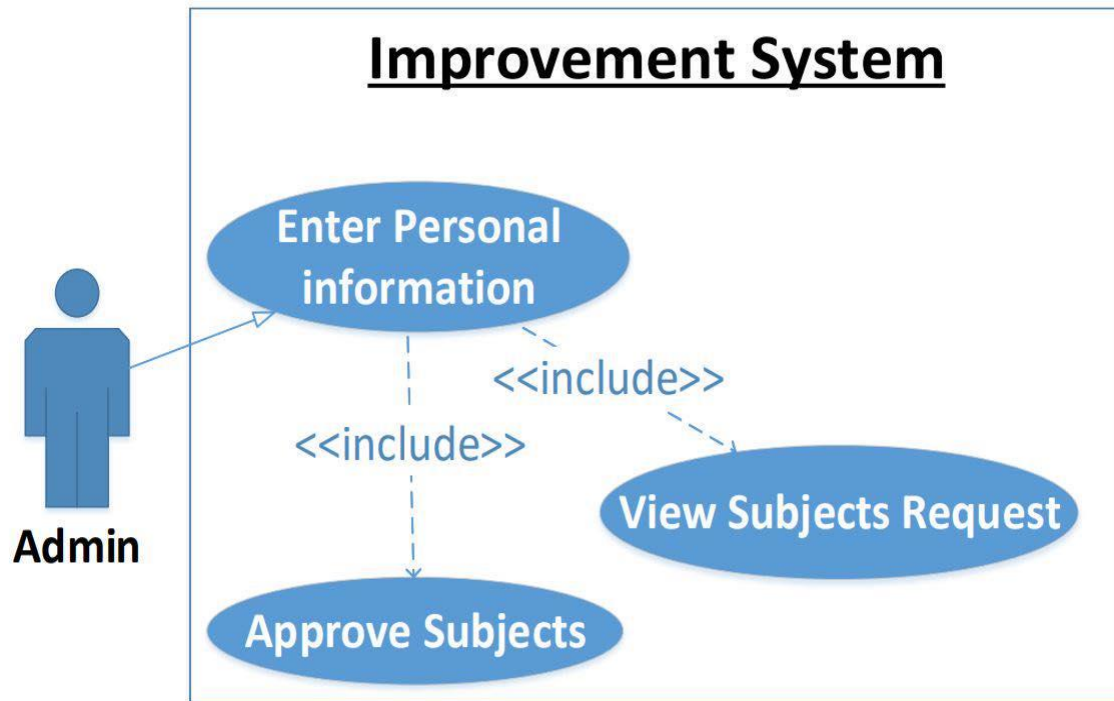
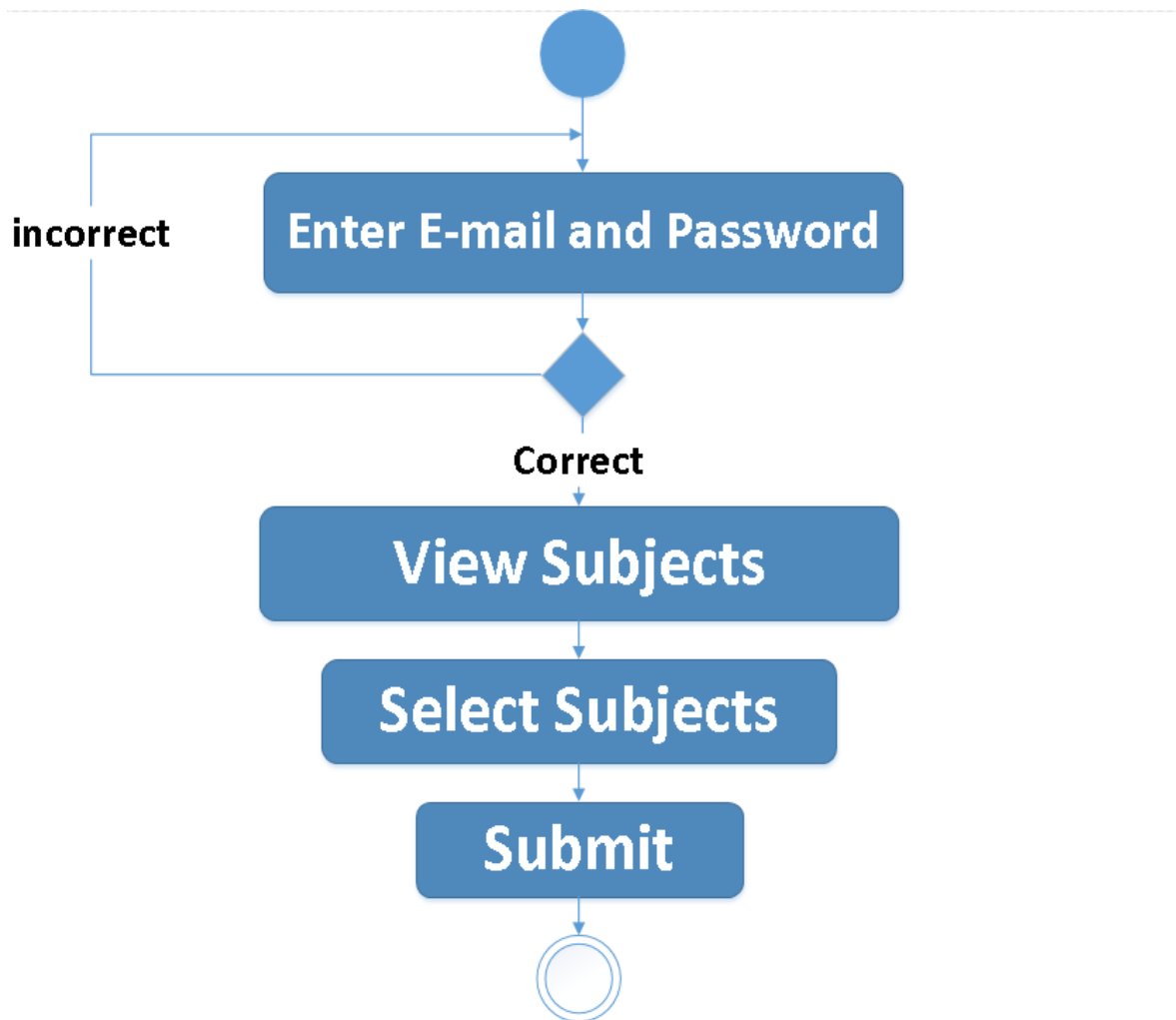


Figure 3.8 Use Case Diagram Improvement for Website



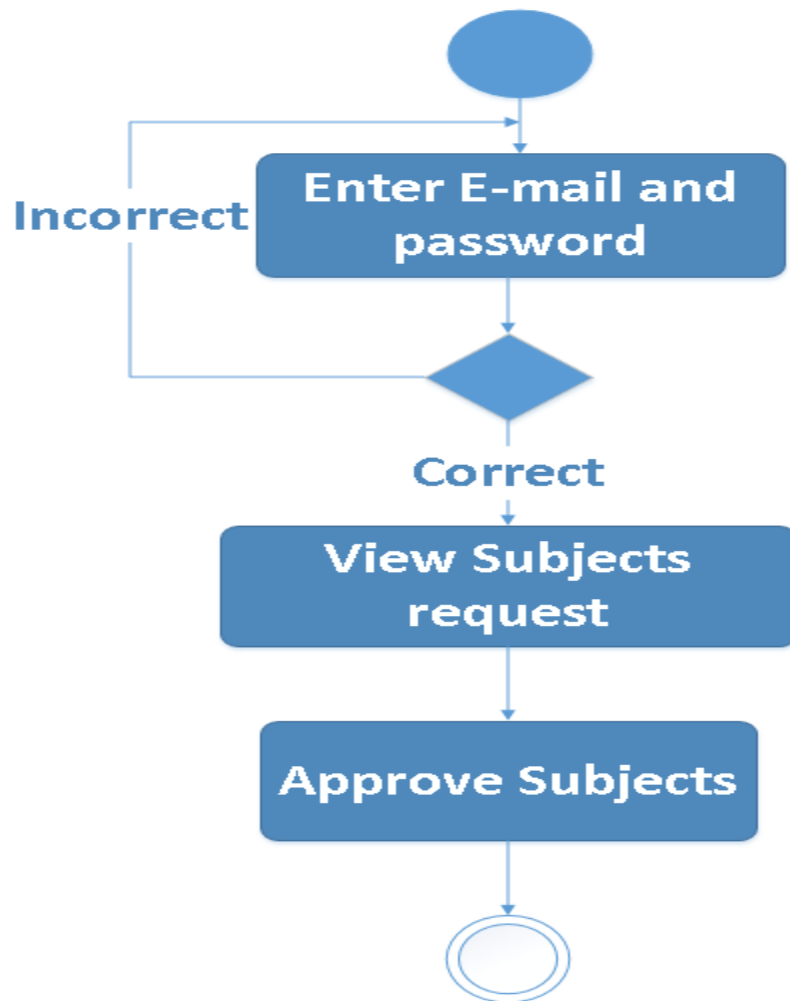
**Figure 3.9 Use Case Diagram Improvement for Desktop Application**

### 3.3.3 Activity Diagram



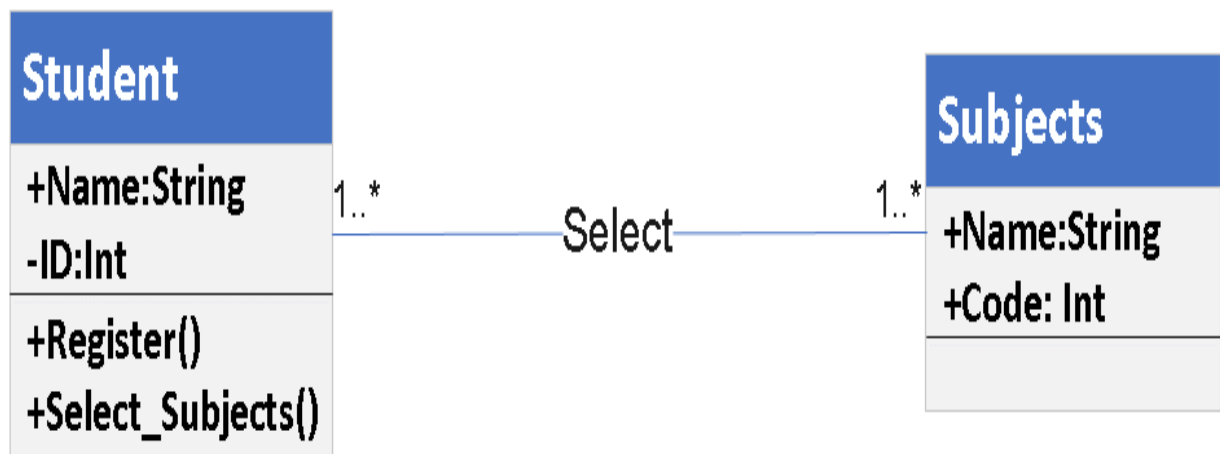
**Figure 3.10 Activity Diagram Improvement for Website**



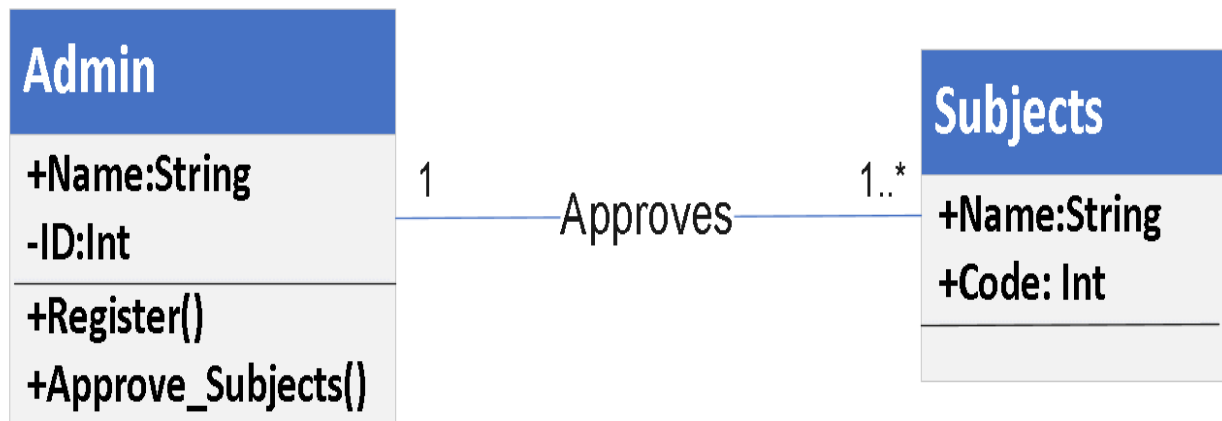


**Figure 3.11 Activity Diagram Improvement for Desktop Application**

### 3.3.4 Class Diagram

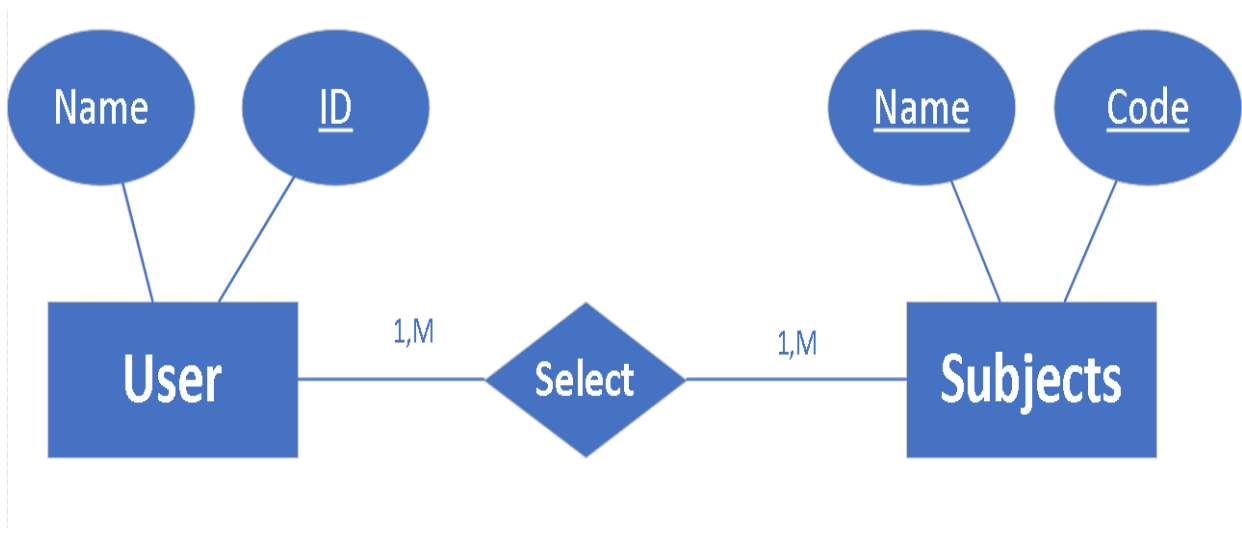


**Figure 3.12 Class Diagram Improvement for Website**

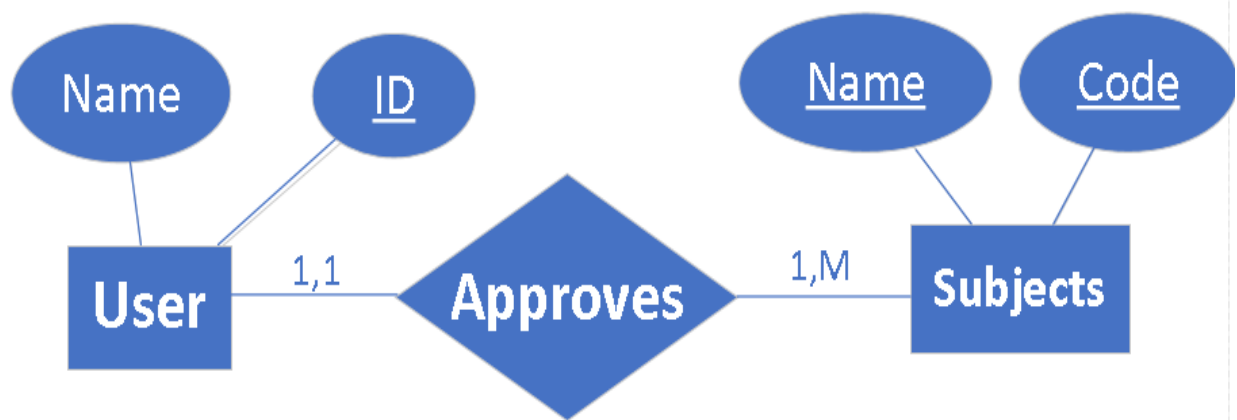


**Figure 3.13 Class Diagram Improvement for Desktop Application**

### 3.3.5 Entity Relationship Diagram

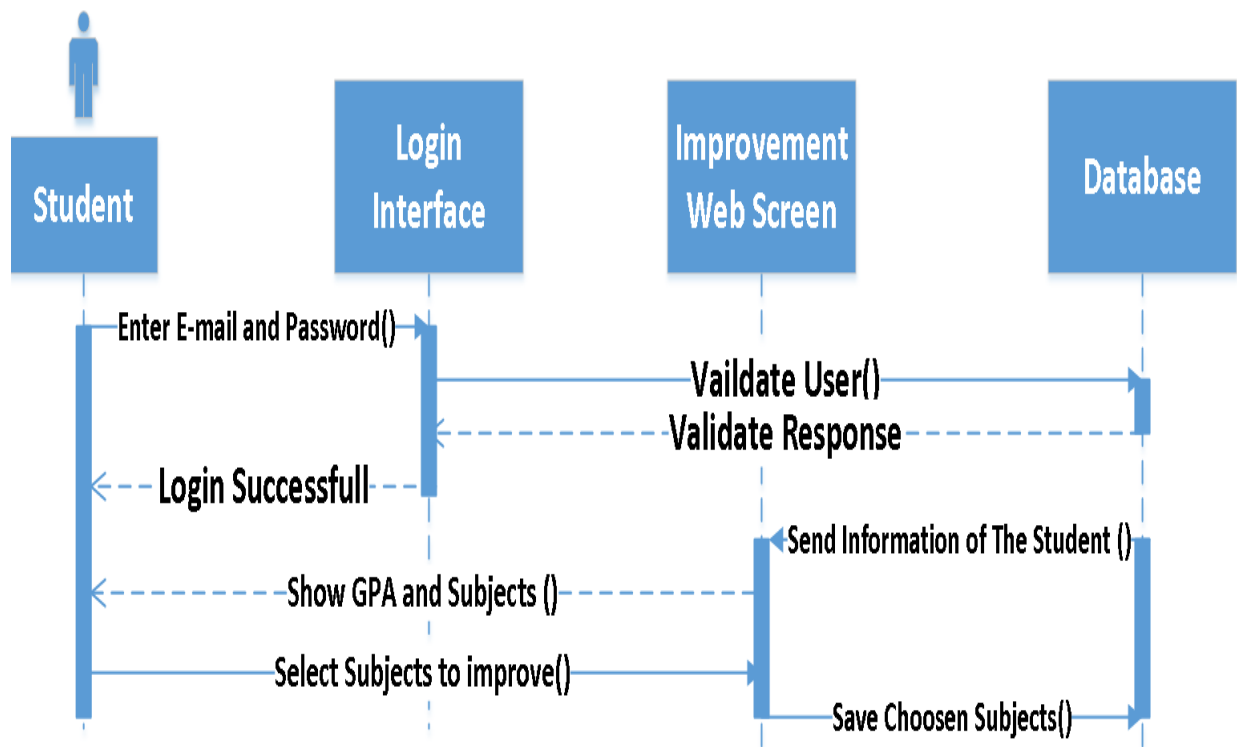


**Figure 3.14 Entity Relationship Diagram Improvement for Website**

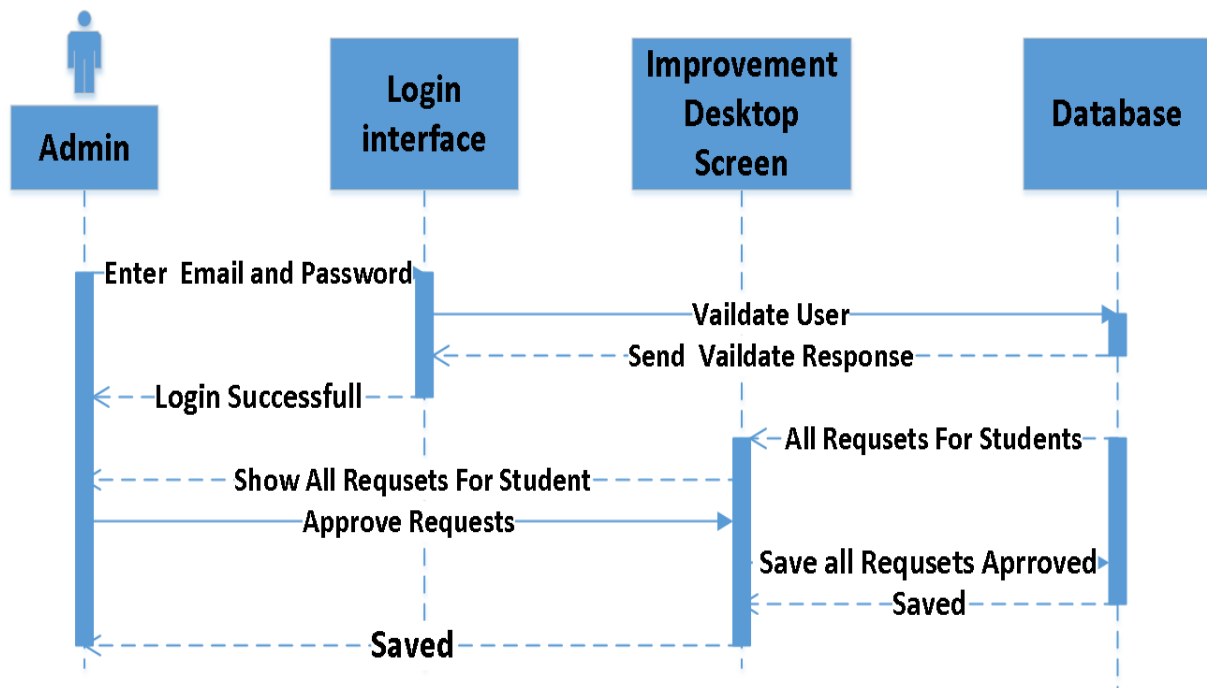


**Figure 3.15 Entity Relationship Diagram Improvement for Desktop Application**

### 3.3.6 Sequence Diagram



**Figure 3.16 Sequence Diagram Improvement for Website**



**Figure 3.17 Sequence Diagram Improvement for Desktop Application**

## **Chapter 4: Implementation**



## 4 Implementation

### 4.1 Implementation of Training Module

The mechanism of the module is very simple once the admins approve that the students have passed the training successfully each student on the list will get 40 hours added to their total passed hours to complete the student's piggy bank, which is estimated at 240 hours as it is not possible to graduate without completing the total number of hours to be passed.

In this part we are going deep to the vision of the module and how it's works.

Back

Select training : C++  
Java

Student id :

add student import Student From Exel Submit

Selected students :

id	name	hours
220498	بشیر مختار عبداللہ ریاض	40
221952	عبداللہ محمد حسن صدیق	40
221693	ہانی اللہ اسماعیل رجب محمد اسماعیل	40
220656	شہزاد اسماعیل مصطفیٰ عبدالجواد	40
220346	شہزاد حامد عبداللطیف حسین	40
221468	محمد احمد سید عبدالنور	40
222447	احمد صبیح سید محمد	40
221318	بالا رحمان محمد الطیب	40
221520	یاسین محمد عبدالعزیز عبدالعزیز	40
222586	عائشہ النبی مصطفیٰ شام محمد	40
220970	شہزاد ابراہیم حسنین	40
220196	یوسف رائف یوسف یوسف	40
220576	اسلام محمد احمد محمد عتیق	40
221202	سنان صلاح النبی حامی ابراہیم	40
220981	محمد اسماعیل محمد النبی عبدالعزیز	40

**Figure 4.1 Training Module Screen**

The training module as you can observe it consists of seven parts, the first parts. they are Divided into buttons, lists, and text box.

**Firstly, an overview of lists.**

- The first list is the selection training list which it contains all trainings courses of the regulation.
- The second list is the selected students list which it consists of
  1. student ID
  2. Student Name
  3. Training hours

**Secondly, an overview of buttons.**

The training Module contains of 4 buttons.

1. back button
2. add student button
3. import from Excel sheet button
4. Submit button

**Thirdly, an overview of text boxes.**

the training Module contains of 1 text box which is the student ID text box.

From here we are going to explain each list, button and text box deeply.

The screenshot shows a web application interface. At the top left, there is a 'Back' button. Below it is the label 'Select training' followed by an empty list box. A blue arrow points to the list box. Below the list box, there is a 'Student id:' text box, followed by 'add student' and 'import Student From Excel' buttons, and a 'Submit' button. Below these buttons, there is a section labeled 'Selected students:' followed by a table with columns 'id', 'name', and 'hours'. The table is empty and displays the message 'No content in table'.



The screenshot shows the same web application interface as the top one, but the 'Select training' list box is now populated with two items: 'C++' and 'Java'. A blue arrow points to the list box. The 'Student id:' text box, 'add student' button, 'import Student From Excel' button, and 'Submit' button are still present. The 'Selected students:' section is not visible in this screenshot.

**Figure 4.2 Select Training List**

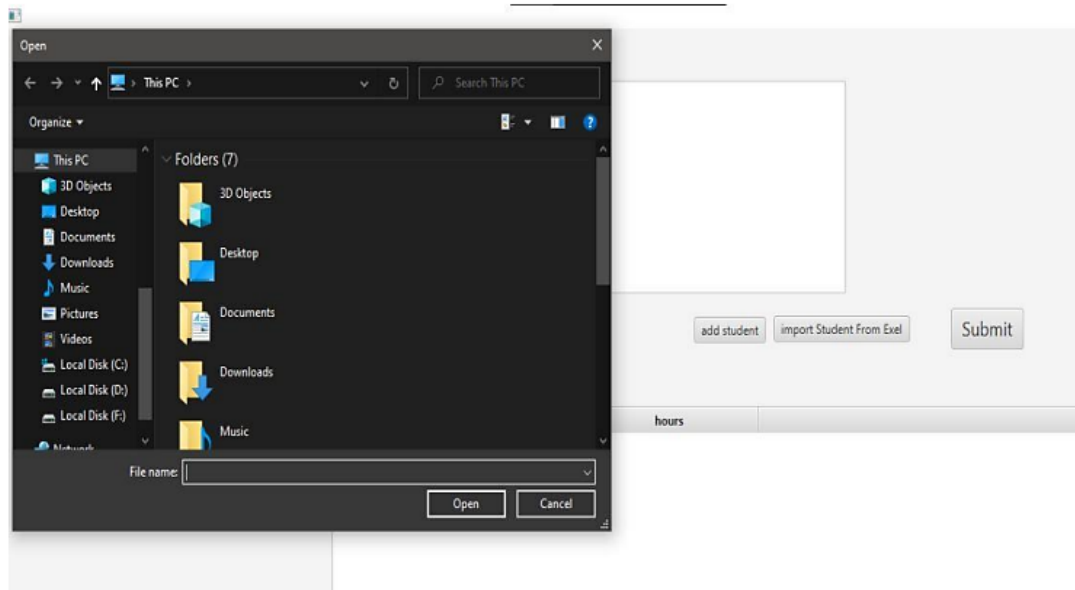
First, the admin selects the training course from the list. the admin must select the right training to import its Excel sheet in the next step.

The screenshot shows a web application interface with the following elements:

- A "Back" button in the top left corner.
- A "Select training:" label followed by a large empty rectangular box for selection.
- A "Student id:" label followed by a small text input field.
- Three buttons: "add student", "import Student from Excel" (highlighted with a blue box and a blue arrow pointing to it), and "Submit".
- A "Selected students:" label above a table.
- The table has three columns: "id", "name", and "hours".
- The table body is empty, displaying the message "No content in table".

**Figure 4.3 Importing Student from Excel Button**

once the user selects the training course title, the next step is to press the "Import from Excel sheet" button to add the student file who had Succeed in the training.



**Figure 4.4 Window Screen**

When the user clicks on the "Import from Excel sheet" button, the window where the Excel file is saved appears, then he clicks on Open to upload the file to the system.

Back

Select training : C++  
Java

Student id :

add student import Student From Excel Submit

Selected students :

id	name	hours
223498	طارق مختار عبدالوهاب رمضان	40
221952	عبدالله محمد حسن هاشم	40
221699	عبدالله احمد رجب محمد اسماعيل	40
220956	تامر اسماعيل مصطفى عبدالجواد	40
220346	تامر وائل عبدالوهاب حسن	40
221468	احمد احمد نورا عبدالوهاب	40
223447	احمد صبري نورا احمد	40
221318	ياني رجائي محمد الطهري	40
221520	ياسمين محمد عبدالقادر عبدالهادي	40
222586	علي الدين مصطفى فتح محمود	40
220970	عمر عبدالله ابراهيم هاشم	40
220196	يوسف رائف يوسف يوسف	40
220576	اسلام محمد احمد احمد هادي	40
221202	مينا صالح الدين علي ابراهيم	40
220981	هديل احمد محمد الدين عبدالهادي	40

**Figure 4.5 Selected Students List**

After the Excel file gets loaded it's all of its Contains loaded in the selected student list as shown in the image above.

Back

Select training : C++

Java

Student id :

add student import Student From Excel Submit

Selected students :

id	name	hours
220498	بكر مختار عبدالمجيد	40
221952	عبدالله محمد حسن صبيح	40
221693	هبة الله اسامة رجب محمد اسماعيل	40
220556	شكري اسامة مصطفى عبدالحامد	40
220346	شكري حاتم عبدالحامد حسين	40
221468	محمد احمد عبد الكوثر	40
222447	احمد صبحي عبد محمد	40
221318	بال رحمان محمد الطير	40
221520	باسم محمد عبدالحامد	40
222586	علي الدين مصطفى علي محمد	40
220970	عمر عبدالله ابراهيم حسين	40
220196	يوسف رافت يوسف يوسف	40
220576	اسلام محمد احمد محمد علي	40
221202	سنان صلاح الدين علي ابراهيم	40
220981	محمد اسامة علي الدين عبدالحامد	40

**Figure 4.6 Adding Student Button**

Admin can add a new student that was not in the file once it is uploaded in the system by entering their ID. Once the administrator enters the student ID and before pressing Add Student, the system will load the student information from the database.

Back

Select training : C++

Java

Student id :

add student import Student From Exel

Submit


Selected students :

id	name	hours
220496	تاجر عبدالله بن رمضان	40
221952	عبدالله بن محمد حسن صبيح	40
221693	بنه الله املقة رجب احمد اسحق	40
220656	تكرور املقة مصطفى عبدالحجوز	40
220346	تكرور حاتم عبدالحقبة حسن	40
221468	احمد احمد عبد شاذلي	40
223447	احمد مصطفى عبد جاد	40
221318	بال رحمان احمد الطويل	40
221520	ياسين احمد شاذلي بن عبدالحق	40
222586	شاذلي النور مصطفى شاذلي	40
220970	شاذلي عبدالله ابراهيم جاسين	40
220196	يونس رائف يونس يونس	40
220576	امال احمد احمد احمد	40
221202	عائس صالح النور ابو ابراهيم	40
220981	عبدالله احمد بن عبدالحق	40

**Figure 4.7 Submit Button**

The Submit button once it gets hits it activates the action of adding 40 hours into each student total passed hours in the selected student list.





Select training : C++

Java

Student id :

Selected students :

id	name	hours
220498	تاج محمد عبداللطيف رحمان	40
221952	عبدالله محمد حسن صديق	40
221693	عبدالله اسماعيل رجب محمد اسماعيل	40
220656	شهره اسماعيل مصطفى عبدالجواد	40
220346	شهره هادي عبداللطيف حسن	40
221468	محمد احمد عبد عبدالكريم	40
222447	احمد صديق عبد محمد	40
221318	بال رحمان محمد الطير	40
221520	ياسين محمد عبدالكريم عبدالجواد	40
222586	تاج الدين مصطفى تاج محمد	40
220970	شهره عبدالله ابراهيم حسن	40
220196	يوسف رافت يوسف يوسف	40
220576	اسلام محمد احمد محمد تاج	40
221202	سنان صالح الدين تاج ابراهيم	40
220981	محمد اسماعيل عبد الدين عبدالجواد	40

**Figure 4.8 Back Button**

The back button going back to the previous window.

## 4.2 Implementation of Improvement Module

The improvement module is divided into two parts

1. First, the student website page.
2. Second, the admin desktop Application page.

At first, in the student's web section, it shows all student data, his GPA and subjects that need to be improved.

The screenshot displays a student's profile at the top left with a graduation cap icon, the name 'إسراء عبد السمیع سالم السباعي', and the ID '1111'. To the right are two boxes: 'My Hours' with the value '14' and 'GPA' with the value '1.95294'. Below this is a table titled 'Suggested Courses' with four columns: 'code', 'Course Title', 'GPA', and an empty column. The table contains five rows of data. The last row, for course 'IS105' with title 'intro to information system' and GPA '1', has its checkbox highlighted with a blue box and an arrow. Below the table is a 'Submit' button, also highlighted with a blue box and an arrow.

Suggested Courses			
code	Course Title	GPA	
BS101	calculus	2.6	<input type="checkbox"/>
BS104	elcotronics	2	<input type="checkbox"/>
CS101	intro to computer sciencee	2.8	<input type="checkbox"/>
IS105	intro to information system	1	<input type="checkbox"/>

Submit

**Figure 4.9 Student's website page**

When a student needs to improve a subject, he or she clicks on the check box in front of the subject and then press submit. After pressing, the data will be transferred to the system database for approval by the administrator on his own page, as shown below.

[illegible]

**Figure 4.10 Admin's Desktop Application Page**

The student's request is sent to the admin page, which includes the student's ID, the name of the student and the name of the subjects to be improved. Where the Admin approves the student's request by pressing into approve button to improve the required subjects. And the back button is going back to the previous page of the system.

## **Chapter 5: Conclusion and Future work**

## **5 Conclusion and Future Work**

### **5.1 Conclusion**

In this project, we have applied two modules to the system, the first of which is the training module.

The training module is part of the administrator's desktop application designed and implemented to add 40 hours to the total training hours successfully completed by the student. According to the list, we have many courses that the student must choose and pass only 6 of them, where one course is 40 hours until all the hours required for graduation, estimated at 240 hours, are taken.

The second is the improvement module which it consists of Web page and desktop application. The site page displays information about the student, such as the subjects studied by the student and his GPA, and this part allows him to re-examine the subject any number of times if he is not satisfied with his grades or fails in this subject, and the page where the admin approves the student's request in the subjects to be improved.

### **5.2 Future Work**

The institute's credit hours system has been applied in line with scientific progress and academic development in universities and institutes, where some rules have been applied to our system as we mentioned earlier, and there are some rules that have not been applied yet, such as suspension of enrollment, cases of dismissal, and evaluation of special cases of the student.

## References

- <https://www.al-fanarmedia.org/ar/2021/06/%D9%86%D8%B8%D8%A7%D9%85-%D8%A7%D9%84%D8%B3%D8%A7%D8%B9%D8%A7%D8%A%D8%A7%D9%84%D9%85%D8%B9%D8%AA%D9%85%D8%AF%D8%A9/?fbclid=IwAR3dI3PcsWojnc5lMrRWxYhqmwDTEOAJMTr4Y8SCmELdIyCd21o6VeiacA4>
- [https://l.facebook.com/l.php?u=https%3A%2F%2Ftariik.com%2F%25D9%2586%25D8%25B8%25D8%25A7%25D9%2585-%25D8%25A7%25D9%2584%25D8%25B3%25D8%25A7%25D8%25B9%25D8%25A7%25D8%25AA-%25D8%25A7%25D9%2584%25D9%2585%25D8%25B9%25D8%25AA%25D9%2585%25D8%25AF%25D8%25A9%2F%3Ffbclid%3DIwAR0yRGucgifH0j1KJwL8IjgL-MPiF8DOhNmT7KwJur3ZX7L1dVSoXGy1L3E&h=AT3mQTu3tVZ5TzpUgx6CgTr4TmXvp39x2I\\_X2eTHVp-QvfGopNui2XFGni0J69qQfz-BlfqCfp\\_tx8\\_3U3LATTNbmur1AP6EfFOkZvDjhWrxp-p80GAwAhzFfYkFJbOXOku4yQ](https://l.facebook.com/l.php?u=https%3A%2F%2Ftariik.com%2F%25D9%2586%25D8%25B8%25D8%25A7%25D9%2585-%25D8%25A7%25D9%2584%25D8%25B3%25D8%25A7%25D8%25B9%25D8%25A7%25D8%25AA-%25D8%25A7%25D9%2584%25D9%2585%25D8%25B9%25D8%25AA%25D9%2585%25D8%25AF%25D8%25A9%2F%3Ffbclid%3DIwAR0yRGucgifH0j1KJwL8IjgL-MPiF8DOhNmT7KwJur3ZX7L1dVSoXGy1L3E&h=AT3mQTu3tVZ5TzpUgx6CgTr4TmXvp39x2I_X2eTHVp-QvfGopNui2XFGni0J69qQfz-BlfqCfp_tx8_3U3LATTNbmur1AP6EfFOkZvDjhWrxp-p80GAwAhzFfYkFJbOXOku4yQ)
- [https://dhiet.edu.eg/page/a3h1UzJBb2tOUWpCeGVJQ21QY09rQT09OjoxNzY4YmMyM2U2YzM5MDlh?fbclid=IwAR3hZrAM9g9-2aUUNMrt1QmrPuCN19Osc4\\_JxUg\\_TP6Rv4jXq6\\_qcUXwvJE](https://dhiet.edu.eg/page/a3h1UzJBb2tOUWpCeGVJQ21QY09rQT09OjoxNzY4YmMyM2U2YzM5MDlh?fbclid=IwAR3hZrAM9g9-2aUUNMrt1QmrPuCN19Osc4_JxUg_TP6Rv4jXq6_qcUXwvJE)
- [https://l.facebook.com/l.php?u=https%3A%2F%2Fdhiet.edu.eg%2Fpage%2Fa3h1UzJBb2tOUWpCeGVJQ21QY09rQT09OjoxNzY4YmMyM2U2YzM5MDlh%3Ffbclid%3DIwAR3hZrAM9g9-2aUUNMrt1QmrPuCN19Osc4\\_JxUg\\_TP6Rv4jXq6\\_qcUXwvJE&h=AT3mQTu3tVZ5TzpUgx6CgTr4TmXvp39x2I\\_X2eTHVp-QvfGopNui2XFGni0J69qQfz-BlfqCfp\\_tx8\\_3U3LATTNbmur1AP6EfFOkZvDjhWrxp-p80GAwAhzFfYkFJbOXOku4yQ](https://l.facebook.com/l.php?u=https%3A%2F%2Fdhiet.edu.eg%2Fpage%2Fa3h1UzJBb2tOUWpCeGVJQ21QY09rQT09OjoxNzY4YmMyM2U2YzM5MDlh%3Ffbclid%3DIwAR3hZrAM9g9-2aUUNMrt1QmrPuCN19Osc4_JxUg_TP6Rv4jXq6_qcUXwvJE&h=AT3mQTu3tVZ5TzpUgx6CgTr4TmXvp39x2I_X2eTHVp-QvfGopNui2XFGni0J69qQfz-BlfqCfp_tx8_3U3LATTNbmur1AP6EfFOkZvDjhWrxp-p80GAwAhzFfYkFJbOXOku4yQ)

- <https://dhiet.edu.eg/page/a3h1UzJBb2tOUWpCeGVJQ21QY09rQT09OjoxNzY4YmMyM2U2YzM5MDlh>
- [https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.sofi.com%2Flearn%2Fcontent%2Fcredit-hours%2F%3Ffbclid%3DIwAR3AqNXYZmjIAnG4svjdonXAcgDJyTsqLSarrjNZqmVAfimdi975\\_6YkfGs%23%3A~%3Atext%3DA%2520credit%2520hour%2520is%2520a%2520system%2520to%2520measure%2Cto%2520measure%2520higher%2520ed%2520programs%2520and%2520student%2520progress&h=AT1Inp7HnbziRGUv\\_shouH\\_zg6cMmpOr8uVtVv1oPMajl5q\\_6ugB3B-H997ZUc8J5pWgSyJGFwcG6Jmhw96MFlvJT39ITQu5saLENCLo9s2duHYVSVd2WNXBJAT2oDKgfa\\_PmyQ](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.sofi.com%2Flearn%2Fcontent%2Fcredit-hours%2F%3Ffbclid%3DIwAR3AqNXYZmjIAnG4svjdonXAcgDJyTsqLSarrjNZqmVAfimdi975_6YkfGs%23%3A~%3Atext%3DA%2520credit%2520hour%2520is%2520a%2520system%2520to%2520measure%2Cto%2520measure%2520higher%2520ed%2520programs%2520and%2520student%2520progress&h=AT1Inp7HnbziRGUv_shouH_zg6cMmpOr8uVtVv1oPMajl5q_6ugB3B-H997ZUc8J5pWgSyJGFwcG6Jmhw96MFlvJT39ITQu5saLENCLo9s2duHYVSVd2WNXBJAT2oDKgfa_PmyQ)
- [https://www.youm7.com/story/2022/1/19/%D8%AA%D8%B9%D8%AF%D9%8A%D9%84%D8%A7%D8%AA-%D8%B9%D9%84%D9%89-%D9%84%D8%A7%D8%A6%D8%AD%D8%A9-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D8%A7%D8%AA-%D8%AD%D9%88%D9%84-%D8%A7%D9%84%D8%AF%D8%B1%D8%A7%D8%B3%D8%A9-%D8%A8%D9%86%D8%B8%D8%A7%D9%85-%D8%A7%D9%84%D8%B3%D8%A7%D8%B9%D8%A7%D8%AA-%D8%A7%D9%84%D9%85%D8%B9%D8%AA%D9%85%D8%AF%D8%A9-%D8%A7%D9%82%D8%B1%D8%A3/5618887?fbclid=IwAR3AUoVbOMVUXi01cnJ6YSjbpANLffwsffkep\\_m86qPysUXwTojukeOV9Qo](https://www.youm7.com/story/2022/1/19/%D8%AA%D8%B9%D8%AF%D9%8A%D9%84%D8%A7%D8%AA-%D8%B9%D9%84%D9%89-%D9%84%D8%A7%D8%A6%D8%AD%D8%A9-%D8%A7%D9%84%D8%AC%D8%A7%D9%85%D8%B9%D8%A7%D8%AA-%D8%AD%D9%88%D9%84-%D8%A7%D9%84%D8%AF%D8%B1%D8%A7%D8%B3%D8%A9-%D8%A8%D9%86%D8%B8%D8%A7%D9%85-%D8%A7%D9%84%D8%B3%D8%A7%D8%B9%D8%A7%D8%AA-%D8%A7%D9%84%D9%85%D8%B9%D8%AA%D9%85%D8%AF%D8%A9-%D8%A7%D9%82%D8%B1%D8%A3/5618887?fbclid=IwAR3AUoVbOMVUXi01cnJ6YSjbpANLffwsffkep_m86qPysUXwTojukeOV9Qo)

## Appendix

[https://github.com/OmarKhalidMahmoud/Credit\\_Hours\\_System?fbclid=IwAR27li4DajnAI3gIEYQk5lXjDeKMjUOxaPlOJf8urKk6GhC-MrGRBK8Vp3A](https://github.com/OmarKhalidMahmoud/Credit_Hours_System?fbclid=IwAR27li4DajnAI3gIEYQk5lXjDeKMjUOxaPlOJf8urKk6GhC-MrGRBK8Vp3A)

## ملخص المشروع باللغة العربية

نظام الساعات المعتمدة هو نظام يتميز بإعطاء مساحة كبيرة للطلاب من حرية اختيار برنامج يرغب في دراسته ، بل وفي داخل البرنامج توجد فرصة كبيرة للاختيار من بين مجموعة من المقررات و بالشروط التي تسمح للطلاب أن يستكمل الدراسة في الوقت الملائم عندما يكون لديه الرغبة والاستعداد والقدرة دون التقيد بزمان أو تأجيل دراسته بعد المقررات الدراسية في وقت لاحق أو أن يكون قد درس بعضها في وقت أبكر حيث يمكن للطلاب ان يتخرج في ثلاث سنوات بدلا من اربعة.

تتقسم الفصول الدراسية في نظام الساعات المعتمدة الى ثلاث فصول دراسية فصل الخريف (الترم الاول) فصل الربيع (الترم الثاني) وهذين الفصلين إجباريين. و يوجد فصل صيفي ما يعرف بالسمر كورس. حيث يقوم الطالب بإعادة الامتحان في حال عدم اجتياز أحد مواد الترم الأول أو الثاني لعدم الاضطرار الي إعادة مواد السنة في حال سقوط الطالب في أكثر من مادتين. أو لتحسين المواد التي لا يكون الطالب راضيا عن درجاتها بها. أو في حال رغبة الطالب في إنهاء عدد سنوات الدراسة في وقت أقل أو تخفيف عبء بعض المواد في السنة التالية.

وبجانب ذلك يأخذ الطالب برنامج تدريبي وهو برنامج إجباري حيث لا يمكن للطلاب ان يتخرج إلا بعد إتمام عدد ساعات التدريب المقرره وهي ٢٤٠ ساعة.