

King Saud University Online Education System: Learning Management System (LMS)

MIS 215 Group Project

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Introduction

A **learning management system (LMS)** is a software application To manage, record, monitor, report, automate and deliver educational courses, training programs, or programs for learning and development.

Despite the advantages of the current system, we noticed that as students, there are deficiencies or some of the requirements of the system we need to facilitate our learning and improve our experience

Some of the shortcomings of the current system happened at test time the possibility of some technical problems is likely, which leads to the stopping of the test due to that problem, but this does not stop the test and despite the development of the system, there is no way to prove that the failure occurred at test time so it will lead to a decrease in the grades of students, which means the failure of online education system. Also, students who are interested in a particular course area may not know to expand in it and do not know where to start, so it is better to put suggestions from an expert person, for example certificates accredited by the university or from specific companies and well-known companies in this field and some articles on the latest information about the field of the course.

We also noted that there is no place for group work as students in the system, and this is supposed to exist from the beginning of the application of the system so that we came with an idea to improve group work and the most important thing is to record work, progress and the hours that they worked in this project.

Project Goals

Group work section:

- Facilitate teamwork and collaboration
- The teacher can check the progress of teamwork
- Students gain experience and skill working together online.
- Students take ownership of their work together.
- Each student work hours and what he/she did is recorded and visible to the teacher
- Real-time respond that help to Increases productivity

live support:

- Live support improves the experience for student
- Improved the support at the time of the exam
- Reducing problems that may lead to a decrease in grades as a result of a technical defect
- Support is available at the same time of exam
- The shared screens of students exam help the support in discovering any technical defects and fix them as soon as possible

Certifications option:

- This option will help students who are interested in a specific course to obtain certificates in the course field.
- It will give the latest information and invention in the field of the course.
- Give information the companies that work in the course field.
- Help students expand their knowledge.
- Help students to gain more experiences and certificates that will help them after graduation.
- Allow students to have opportunity to take a certifications that belong or similar to their favorite course.

The business process of the group work section:

The current system doesn't provide a group related service, especially that in a teamwork projects and assignments it has to be enhancing communication and sharing files, and maybe sometimes students has some issues and difficulties in sharing their work, so it's much easier to have a dedicated platform.

So our system will help to provide group work section by this process:

The group work section will enable students to make meetings and work together on their projects and assignments. The first step the group leader will do is start the room, the room will have options like sharing screen, camera, live chat and audio. Then the leader will send the request to the group members, the request will go to them, they have to accept the request before joining, this step is important to insure that the actual members got the request and not just any classmates. Then it will display Microsoft Office tools like PowerPoint, Word etc. The most important step from the process is that all of their work is saved in the system to enable teachers to see the work and know who has actually worked and for how many times, and, of course, to enable the students to come back to their work.

The business process of the live support:

Some of the Shortfalls in the current system is Technical problems that occur at the time of exam Especially in our current time the existence of the Corona crisis has led to some exam being online so the role of support worker become more and more important Because of this it lead in high demand for support and high expectations that they are supposed to satisfy.

So our system will help reduce some of the technical problems with this process:

-The live support will be available and reserved at the time of an exam for a specific class, by monitoring the screens of the students "sharing screens" so the first thing to activate the live support the student have to click on the live support button that will be in the top of the test page so this will enable the support staff to contact the student directly through voice and screen seeing the technical problem that exists On the student's screen, if there is a problem, he/she will stop the time, solve the problem, then run the time for the student to complete the test safely.

The business process of the certifications option:

Current system:

A learning management system (LMS) is software which is designed to create, distribute, and managing the delivery of content of education. LMS is designed to help students attend lectures, submit assignments, and take exams, and it also allows students to know the grades for the courses. It also helps teachers to easily issue attendance and absence sheets. Among the advantages that exist is that it allows teachers to record lectures to help students refer to them, and it also allows teachers to upload course contents.

Problem:

Students often do not find an accredited body that directs them to take reliable certificates based on their specializations and desires. This wastes time and effort for students and does not guarantee them suitable certifications. Some bodies may offer certificates that do not fit what they want to obtain. Therefore, LMS needs to be developed and added this feature to help the students.

Proposed solution:

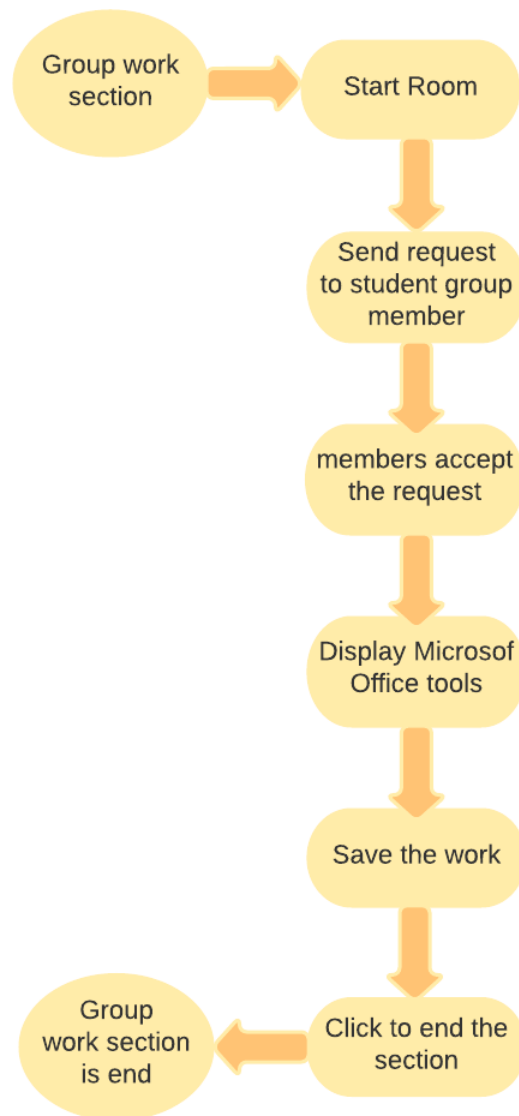
Add a new feature to LMS for all King Saud University students. This feature is in the form of an option named certifications or courses. To accomplish this, the KSU university contracts with trusted bodies to support it with certificates and content suitable for students based on their specializations and desires. It also communicates with developers to add and activate it for all King Saud University students. This option contains accredited certificates and also intensive courses for some courses.

This proposed solution:

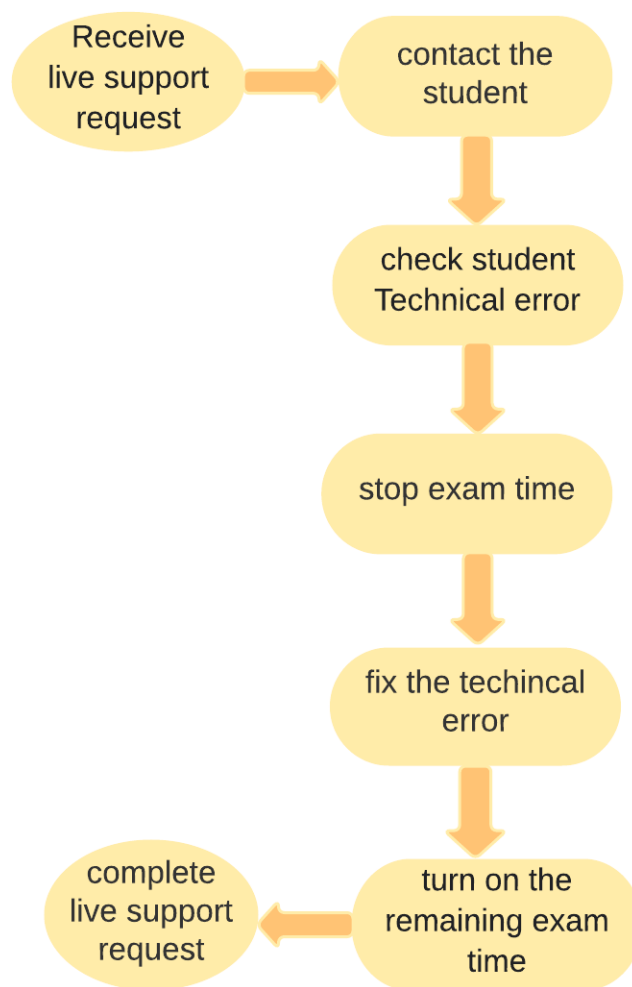
- Open to students all the semester.
- The student can take courses at any time, and after completing the course, he will receive an approved certificate.
- The students can take their courses in a live classroom and webinar environments.

Business process modeling notation (BPMN)

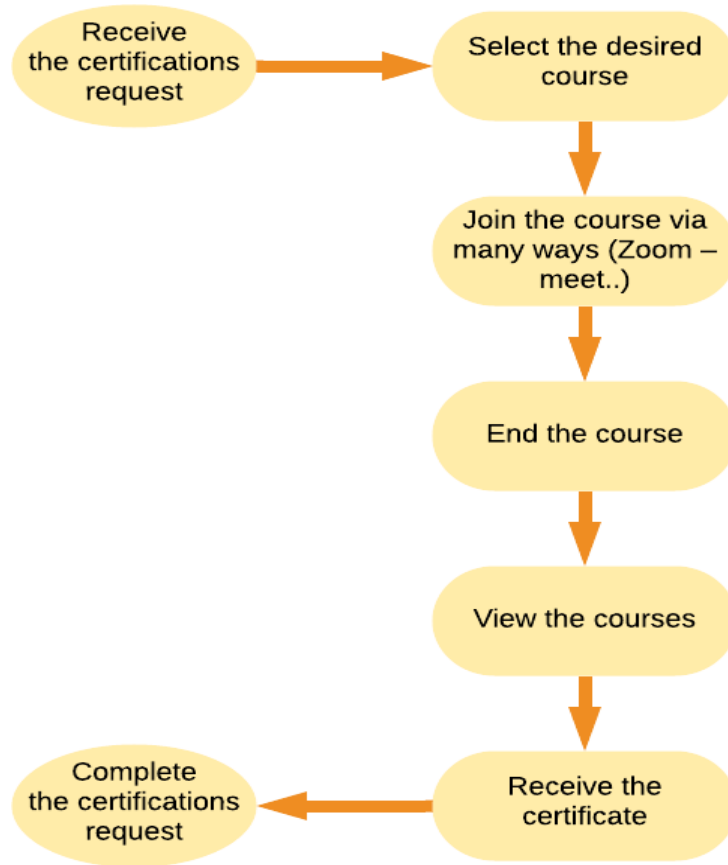
Group work section



Live support



Certification option



FUNCTIONAL REQUIREMENTS

Student:

- Log in/out to Learning management system.
- Create group sessions to make it easier to accomplish teamwork with functions that facilitate the work (insert files, share content, and a panel to score achievements).
 - Insert files to the group section such as HTML, WORD, POWERPOINT, PDF, EXCEL. In addition, many media forms.
 - Share content including share screen, Audio, Video.
 - Score achievements to indicate the progress of work.
- **Take tests.**
- Live support services are available during the test by click a small support button that appears in the top of the test page.
- Each course will show additional learning resources and main certifications specialized to the course.
 - Choose the subject that the student wants to get additional resources about.

Lecturer:

- Log in/out to Learning management system.
- Check student's teamwork progress.
 - By the achievement score in the group session created by the students.
- Share additional content learning resources (Such as YouTube videos, References related to each course).
- Check student activity during the test (Begin time and submit test).
- Assign to the technical support services.
 - Student can contact support services easily for help.

Learning management system staff:

- Update the system.
- Check the files uploaded in the system.
- Check authorization.
- Provide support services during exams.
- Send e-mail to all users.

Non-Functional Requirements**- Performance:**

The system should be fast containing high respond ability from support system while students/instructor uses it.

- Extensibility:

The system ability to be extended through all geographic regions of KSA. Also, extensible to support multiple devices and mobile platform (laptops, Computers, and Phone devices).

- Availability:

The system should be available to use 24/7 and during updates all users must be informed previously through e-mail.

- Privacy and security:

The user information and password will not be shared with any external users. The system provides security by update the instructor's password continuously. Other authority on this manner can't access the system.

- Maintainability:

The system should be able to update and checked manually, also should be easily maintainable to prevent crashes and unexpected issues when adding new features.

- Usability:

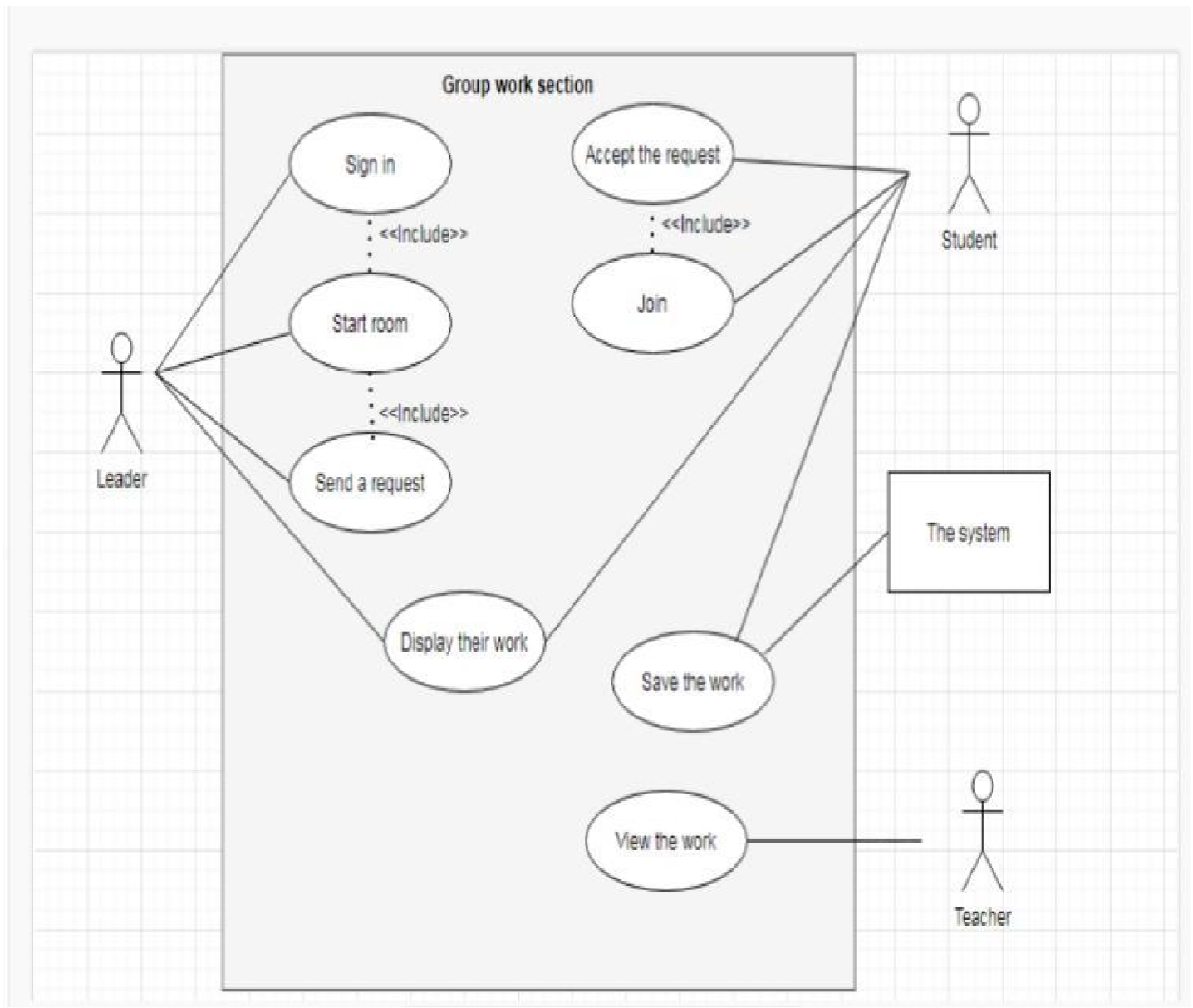
The system is easy to use providing a simple and clear interface.

Facts Finding and Communication

System information and suggestions to improve it have collected from the Learning Management System (LMS) users. We used face to face, and online interview question methods with students who use the LMS everyday, their answers and the collected information will help us reach the project purpose.

(The Interview questions are contained in the appendix)

Use Cases:



Figuer1

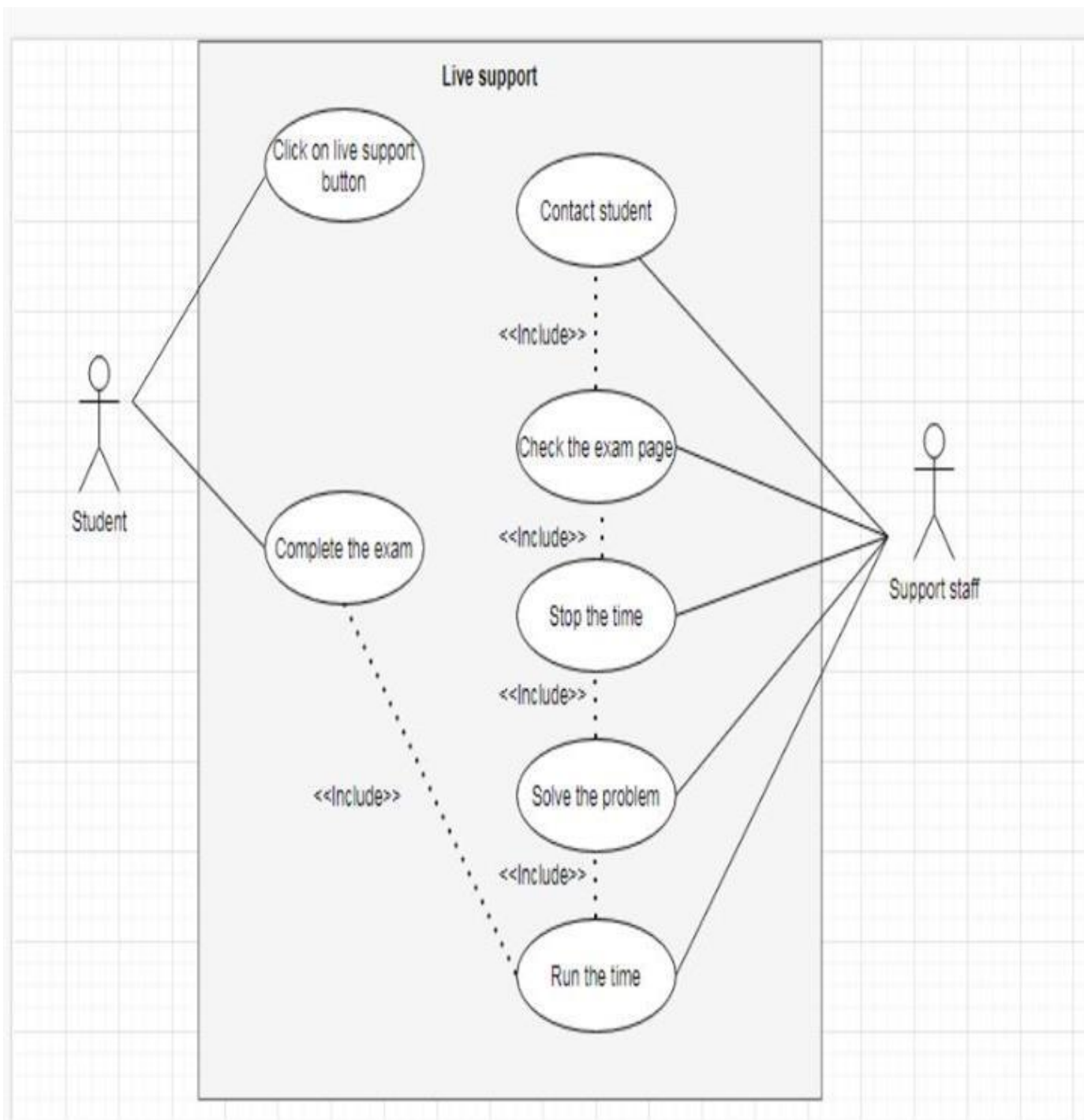


Figure 2

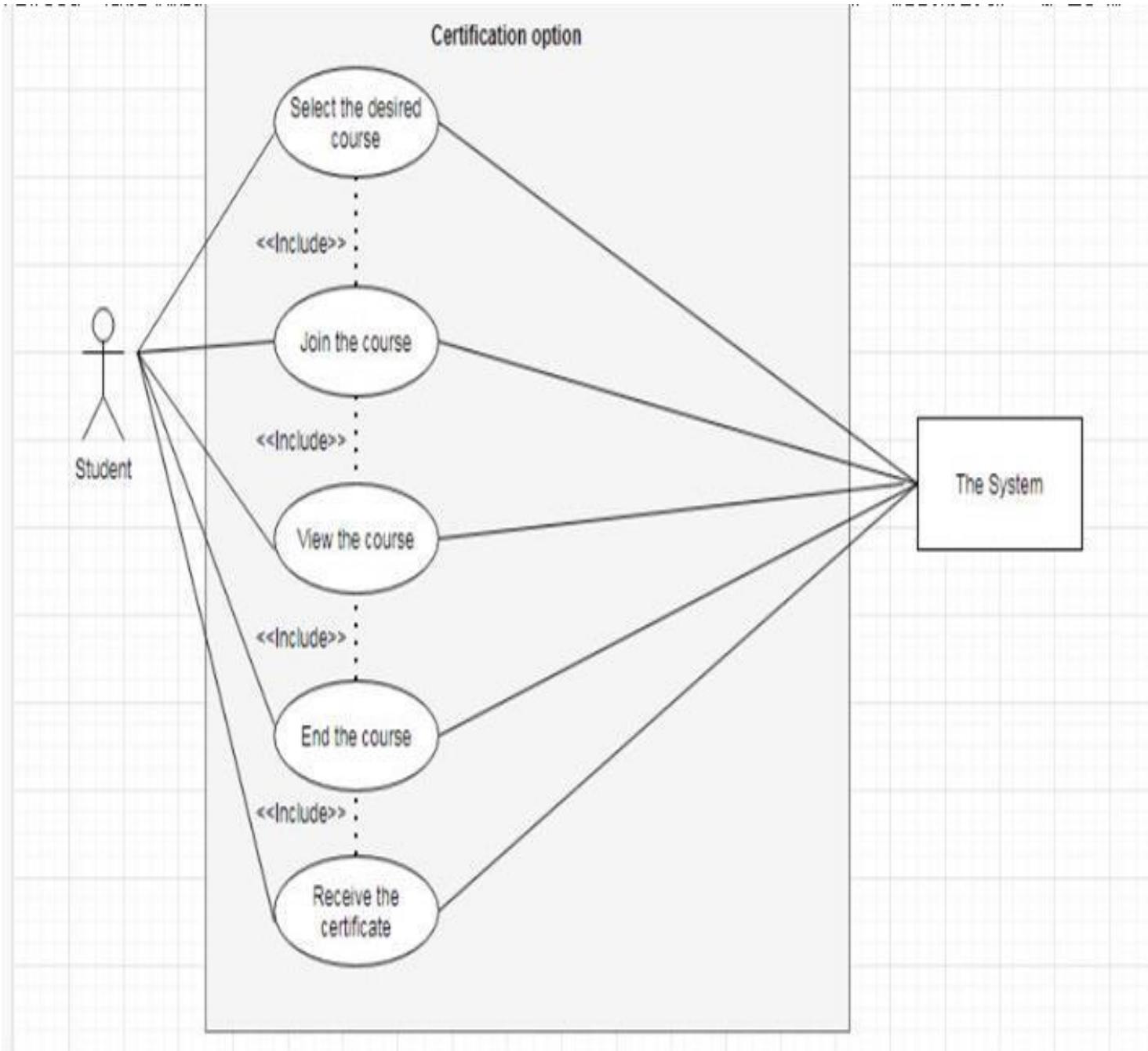




Figure 3

Use Cases Specifications:

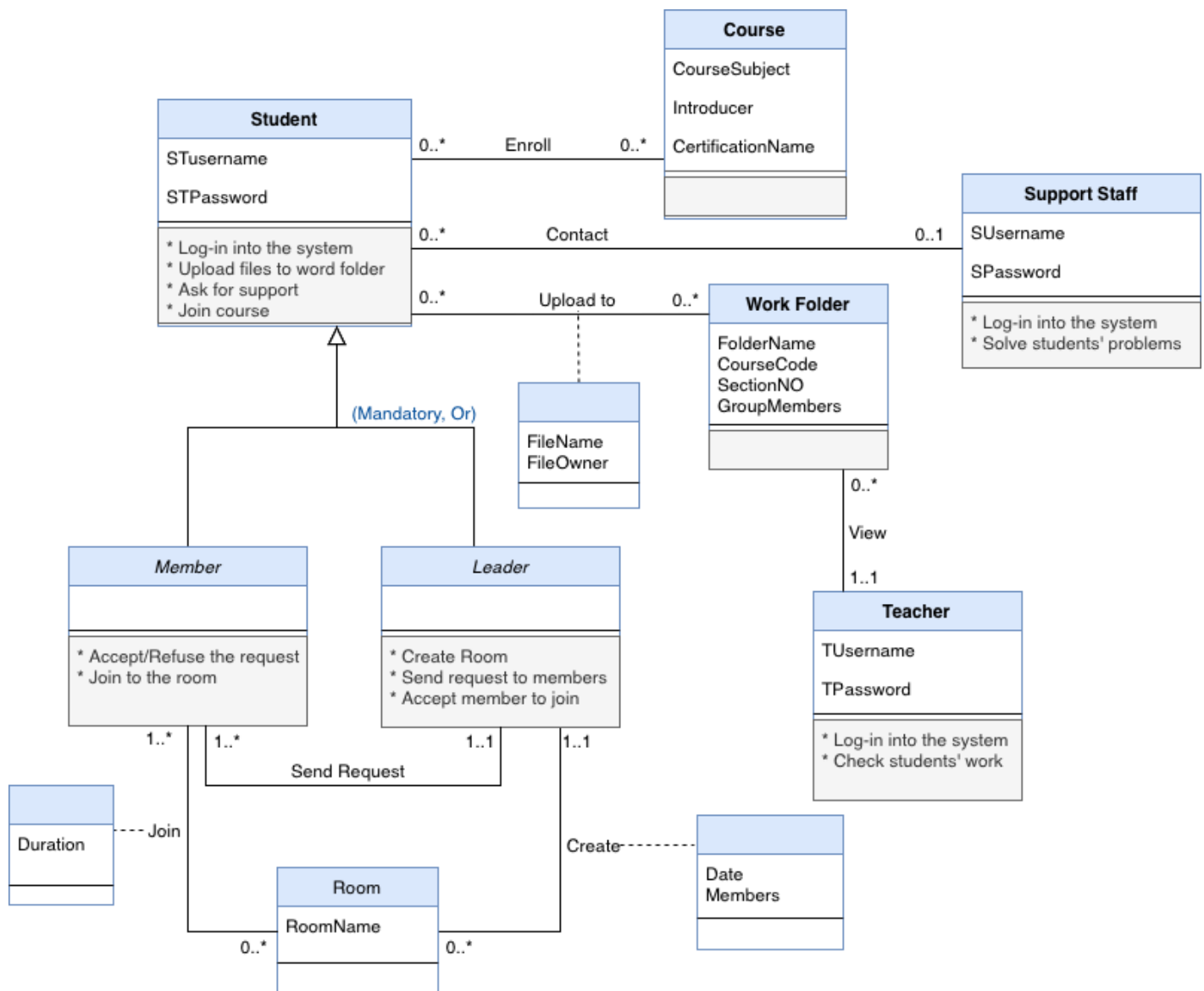
LEADER START ROOM Use Case	
	
Name	Start room
Actor	Leader/Students
Description	The leader create room and send request to the group member
Successful completion	1- Room is start 2- Request sent to the group member 3- Leader allows for students to enter the room 4- group member is entered
Alternative	None
Precondition	Student sign in into Blackboard
Postcondition	Leader and group member started the meeting and displayed their work
Assumption	None

SUPPORT STAFF CONTACT STUDENT Use case	
	
Name	Contact student
Actor	Support staff
Description	Contact the student that call for a support during the exam
Successful completion	Student call for support .1 Support staff accept the call .2 See what's the problem that occurred .3 Solve the problem .4
Alternative	Stop the time .1 Retake the exam .2 Contact with the teacher .3
Precondition	Staff check for any support request
Post condition	Student no longer have a problem
Assumption	none

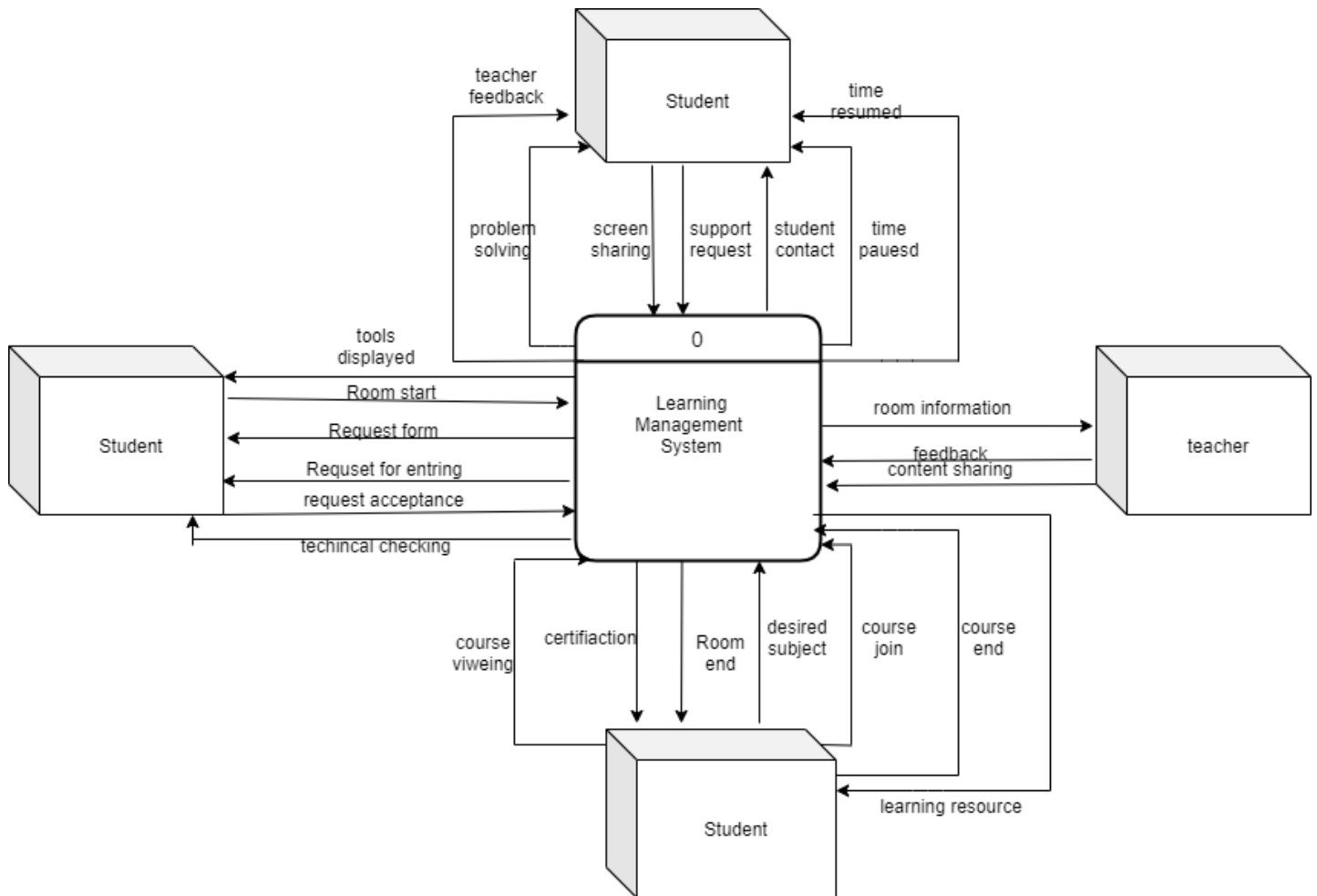
**GET
CERTIFICATION
Use Case**

Name	Get Certification
Actor	Student
Description	Describes the process used to join desired courses
Successful completion	1- Student select desired course 2- Student join the course 3- Student end the course 4- Student receive the certificate
Alternative	Not finding the specific desired course
Precondition	1- Student logged in into Blackboard system 2- Student have searched for desired course
Postcondition	Student after finishing the course will receive the certification
Assumption	Student is already enrolled in the subject course

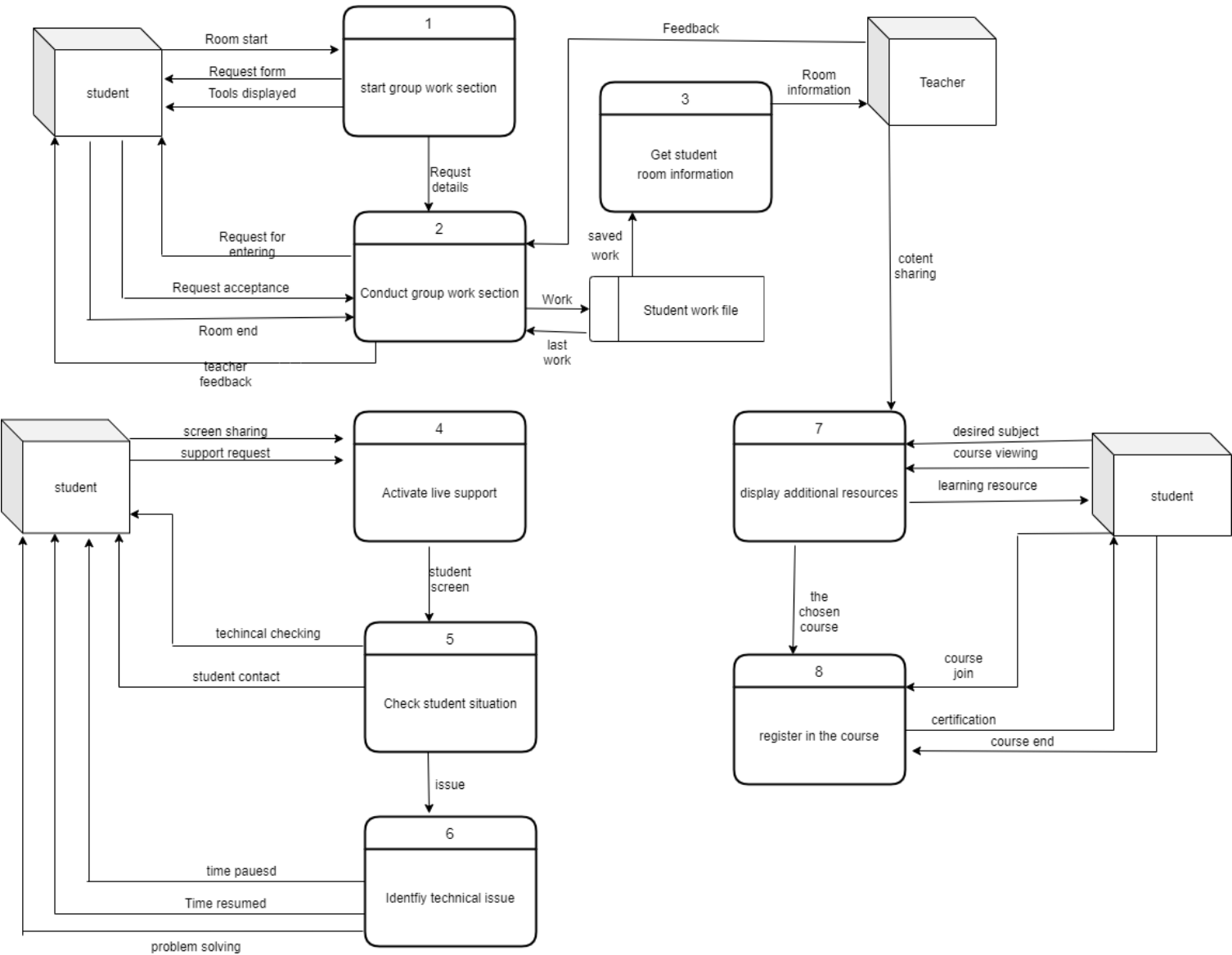
Class Diagram:



Context Diagram

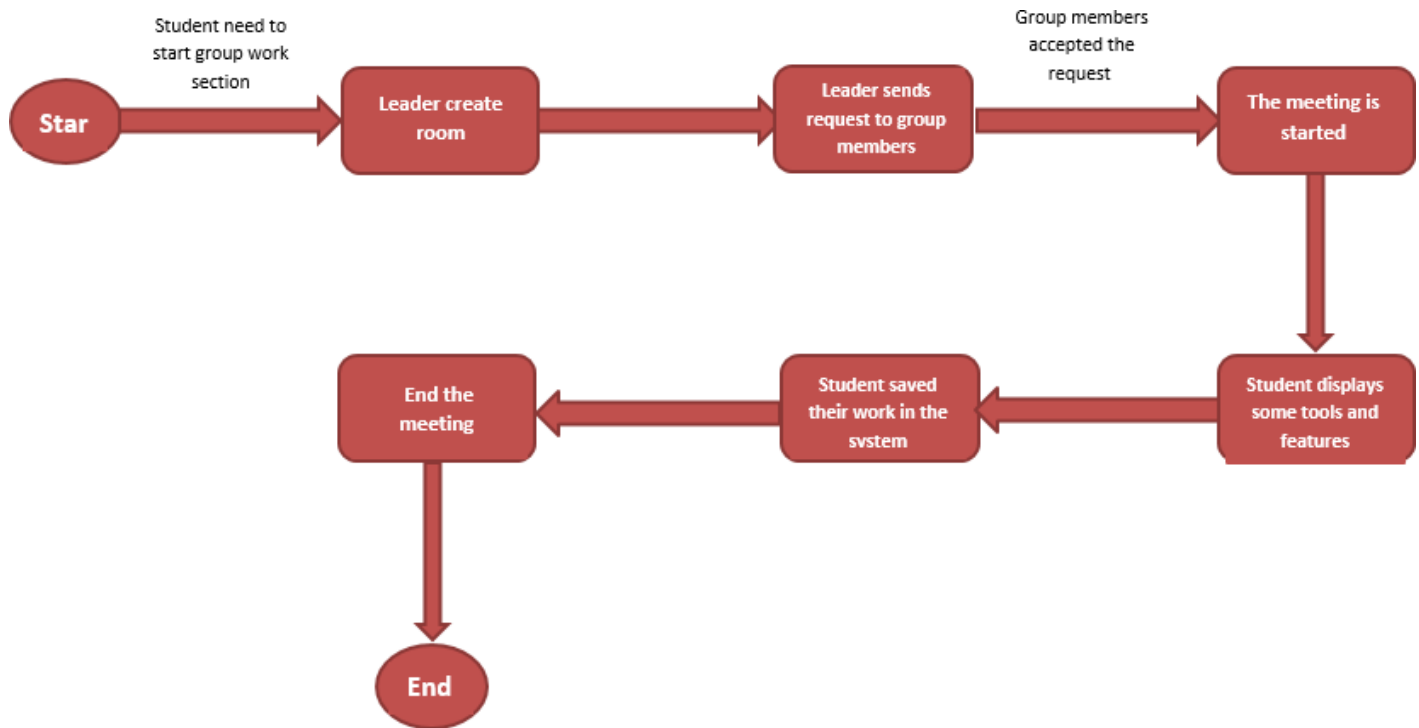


Level 0 Diagram

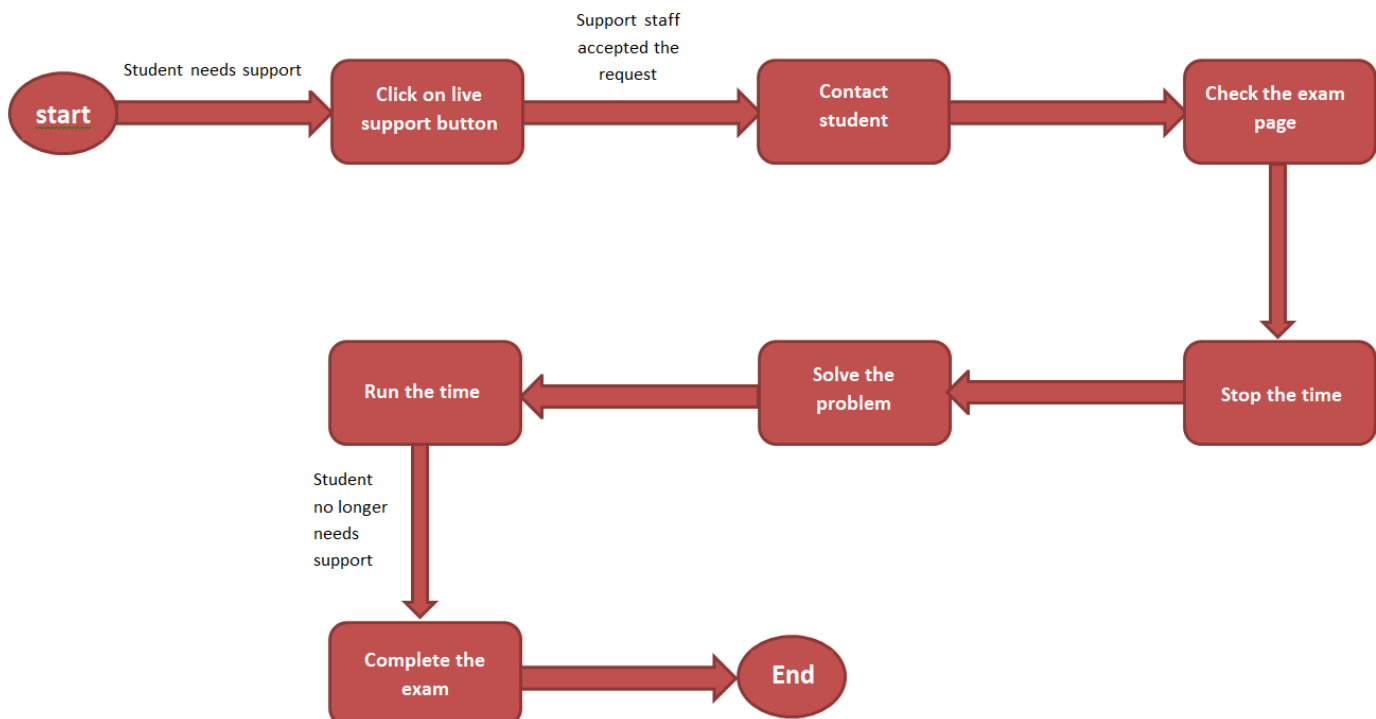


Activity Diagrams

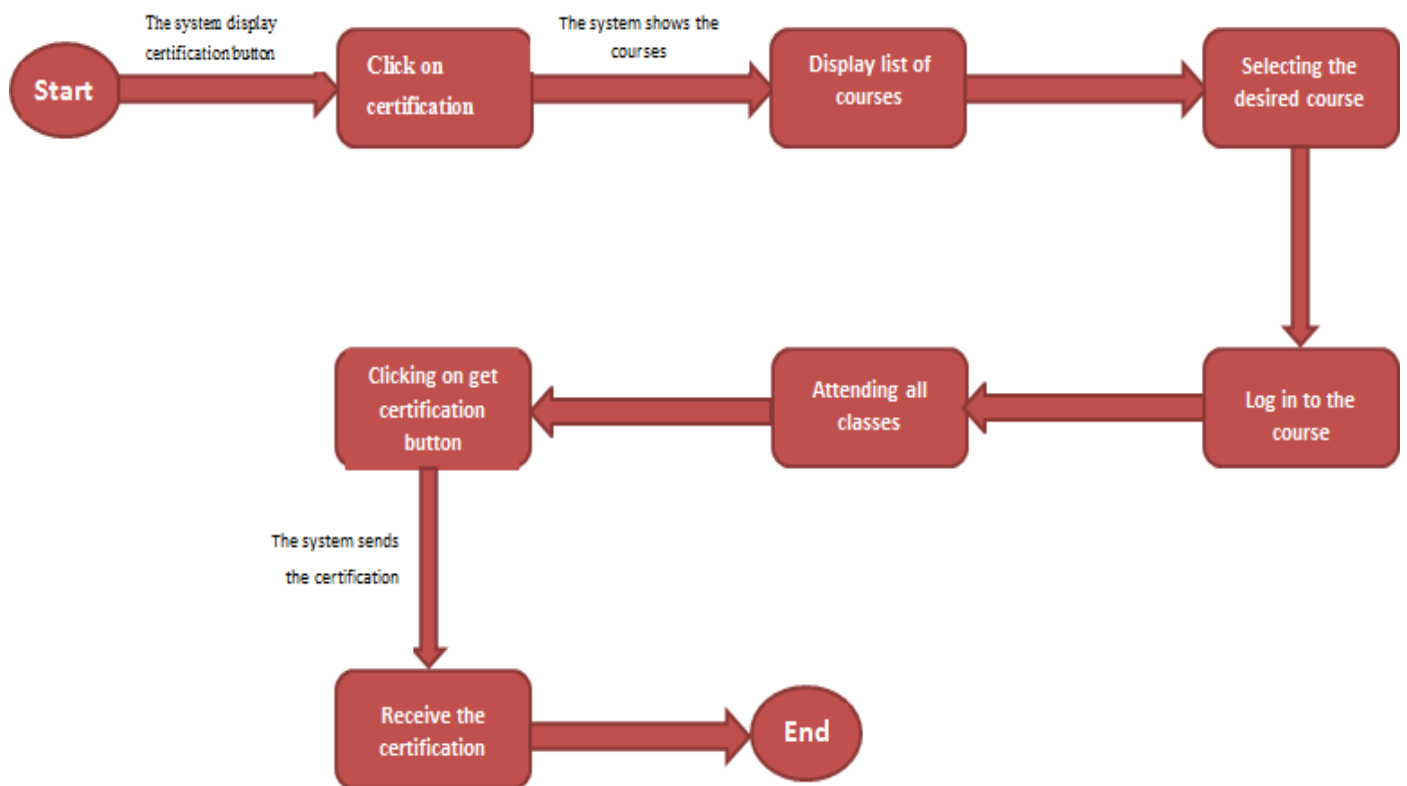
-Group Work Section



-Live support



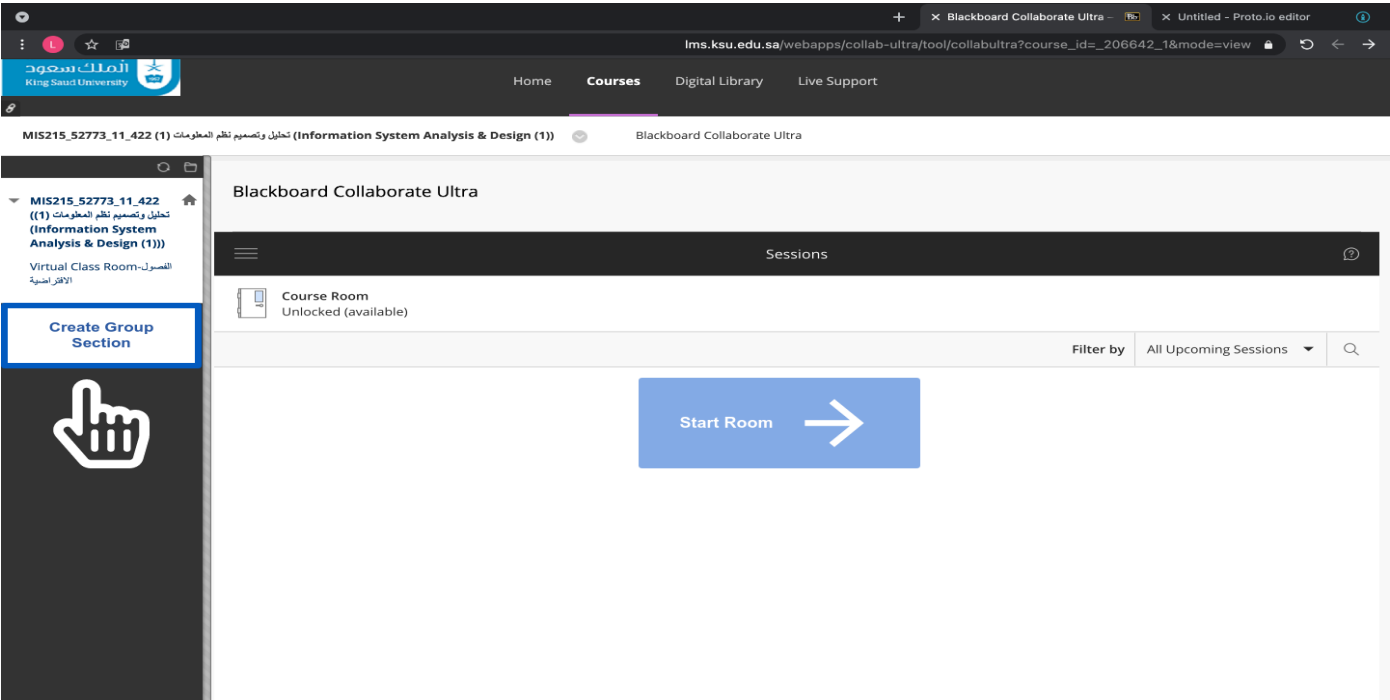
-certification option



User Interface


-Group Work Section

a. Group leader start the room



Group leader will create the session and start a room

b. Send request



Send Request To Student Group Members

Leader view:

Join Group →

Select Student Name:

Layan

Select KSU ID:

439

SEND

Join Group

Alanoud aldosary is inviting you to join group

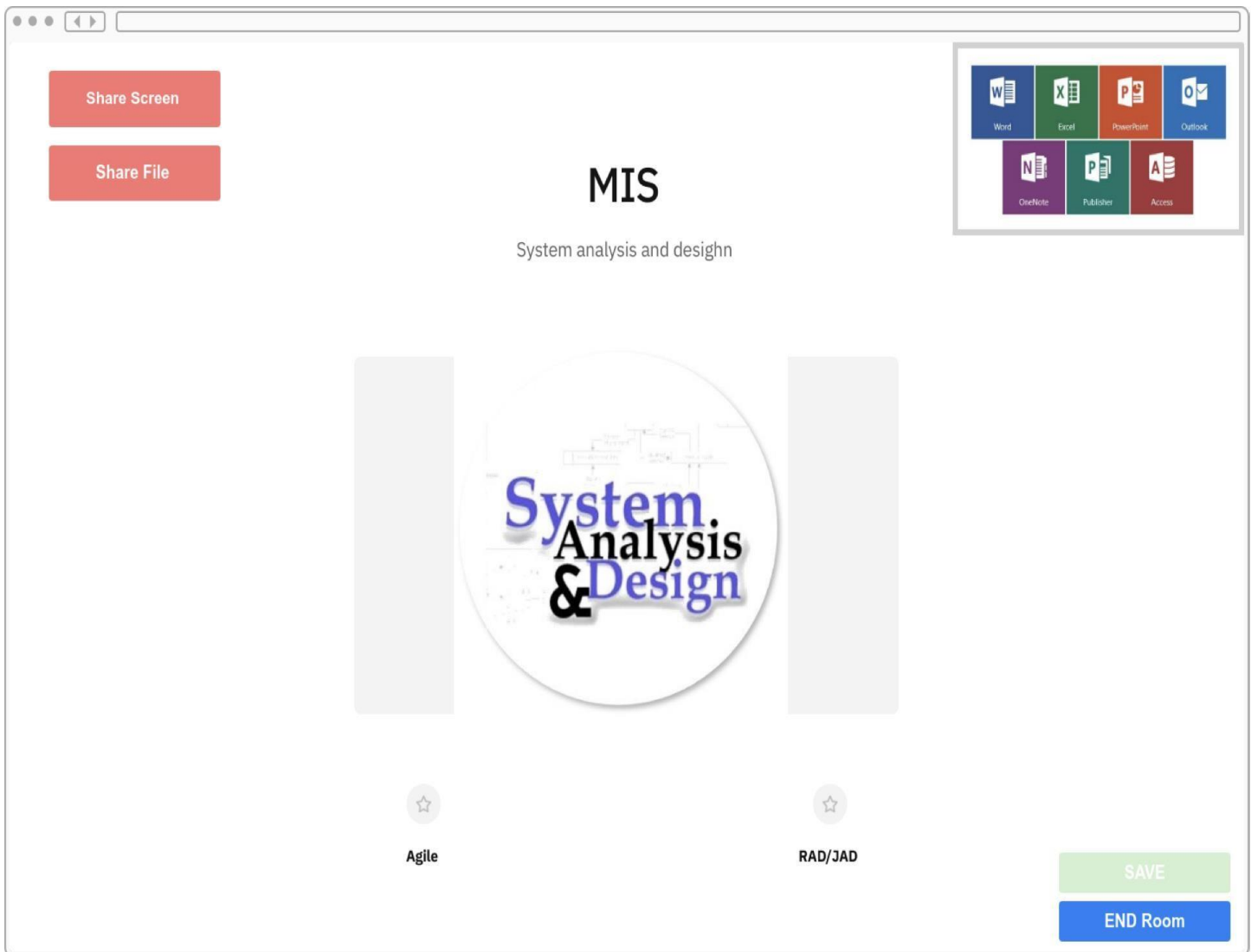
Group members view:

Decline

Join

Leader will choose student name and KSU ID to send a request to them.

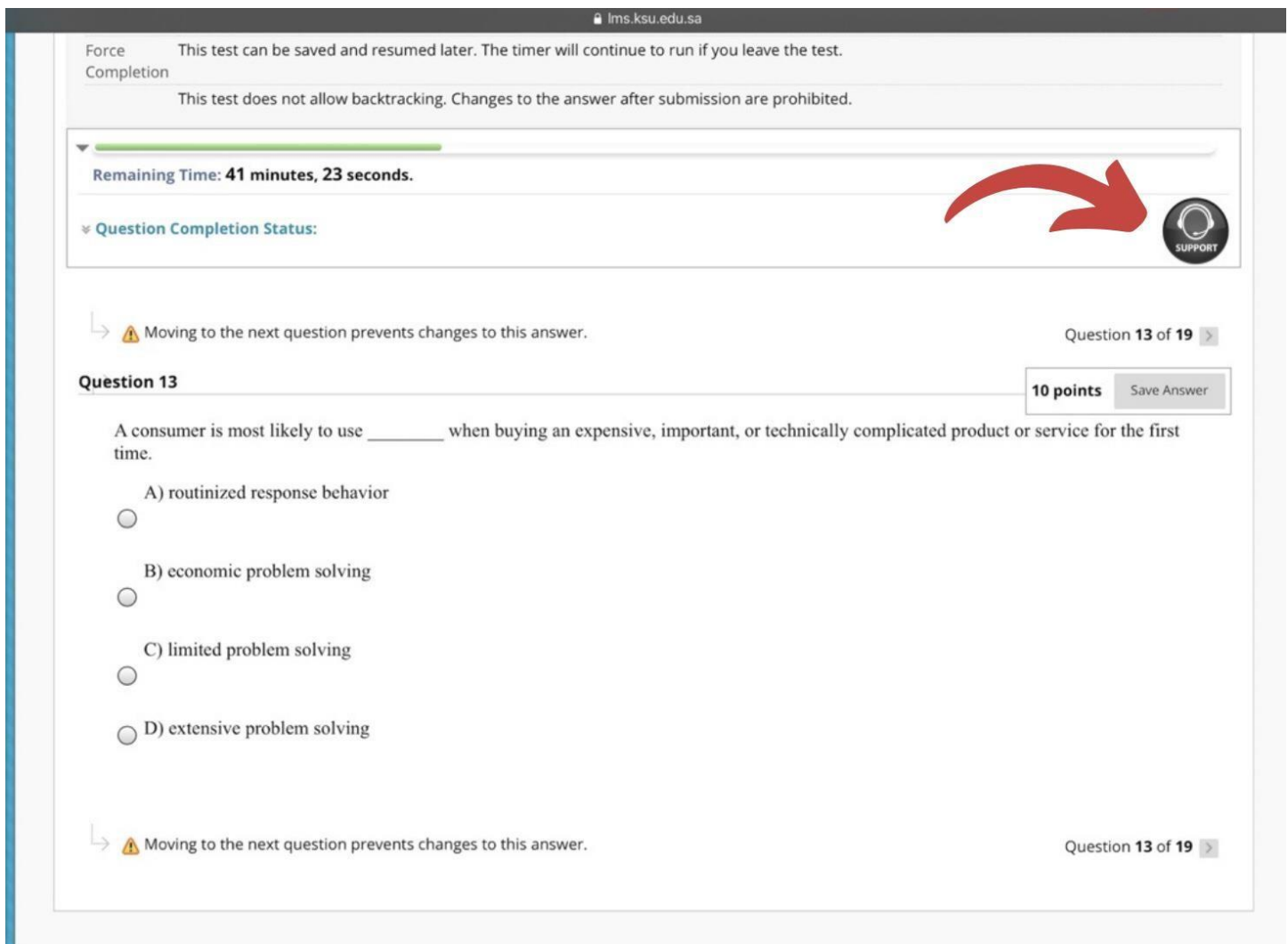
c. Joining the room



After accepting the request Microsoft tools will display and they can share screen/ file then save their work and end room

-Live Support

a. Test Page



The screenshot shows a test interface from lms.ksu.edu.sa. At the top, there are instructions for 'Force Completion' and a progress bar. Below the progress bar, a red arrow points to a 'SUPPORT' button. The button is a circular icon with a headset and the word 'SUPPORT' below it. The test is 'Question 13 of 19' and is worth '10 points'. The question text is: 'A consumer is most likely to use _____ when buying an expensive, important, or technically complicated product or service for the first time.' The options are: A) routinized response behavior, B) economic problem solving, C) limited problem solving, and D) extensive problem solving. A warning message at the bottom states: 'Moving to the next question prevents changes to this answer.'

Force Completion This test can be saved and resumed later. The timer will continue to run if you leave the test. This test does not allow backtracking. Changes to the answer after submission are prohibited.

Remaining Time: 41 minutes, 23 seconds.

Question Completion Status:

⚠ Moving to the next question prevents changes to this answer. Question 13 of 19

Question 13 10 points Save Answer

A consumer is most likely to use _____ when buying an expensive, important, or technically complicated product or service for the first time.

A) routinized response behavior

B) economic problem solving

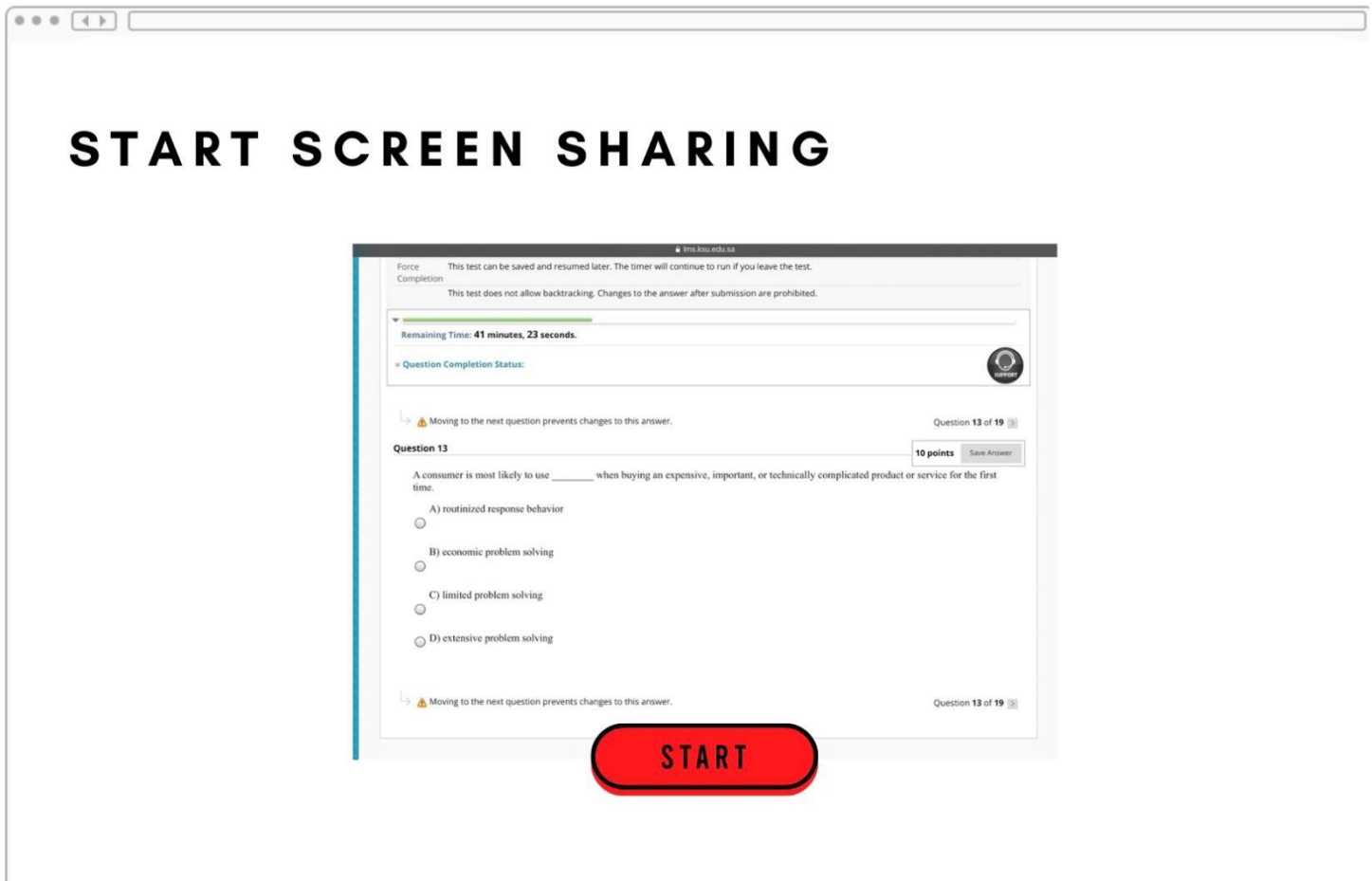
C) limited problem solving

D) extensive problem solving

⚠ Moving to the next question prevents changes to this answer. Question 13 of 19

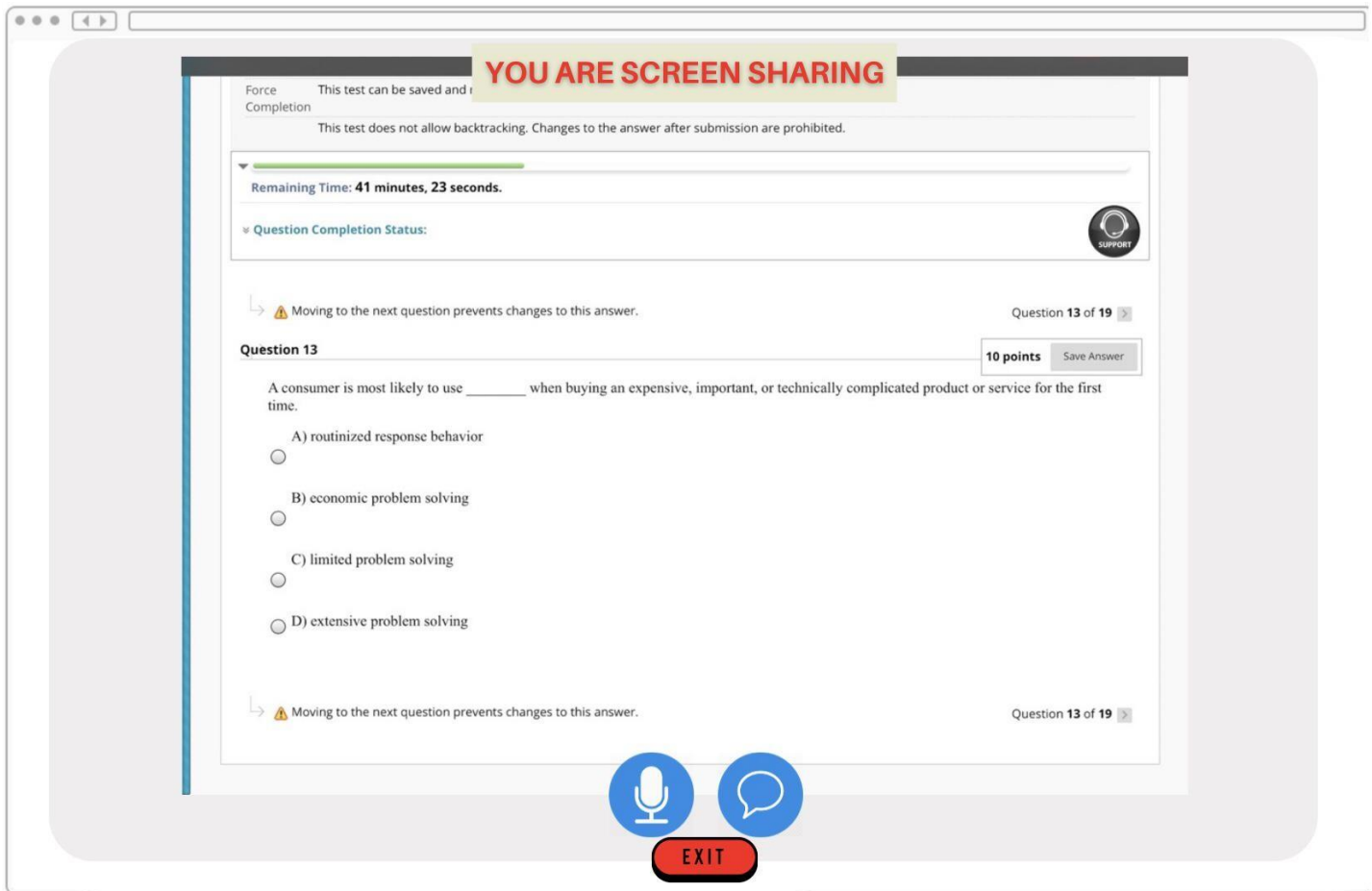
Live Support Button appears for the student during the test

b. Confirmation Page



Student can start screen sharing with the member of support staff

c. Support Session Page



Microphone and Chat features are available during the support process

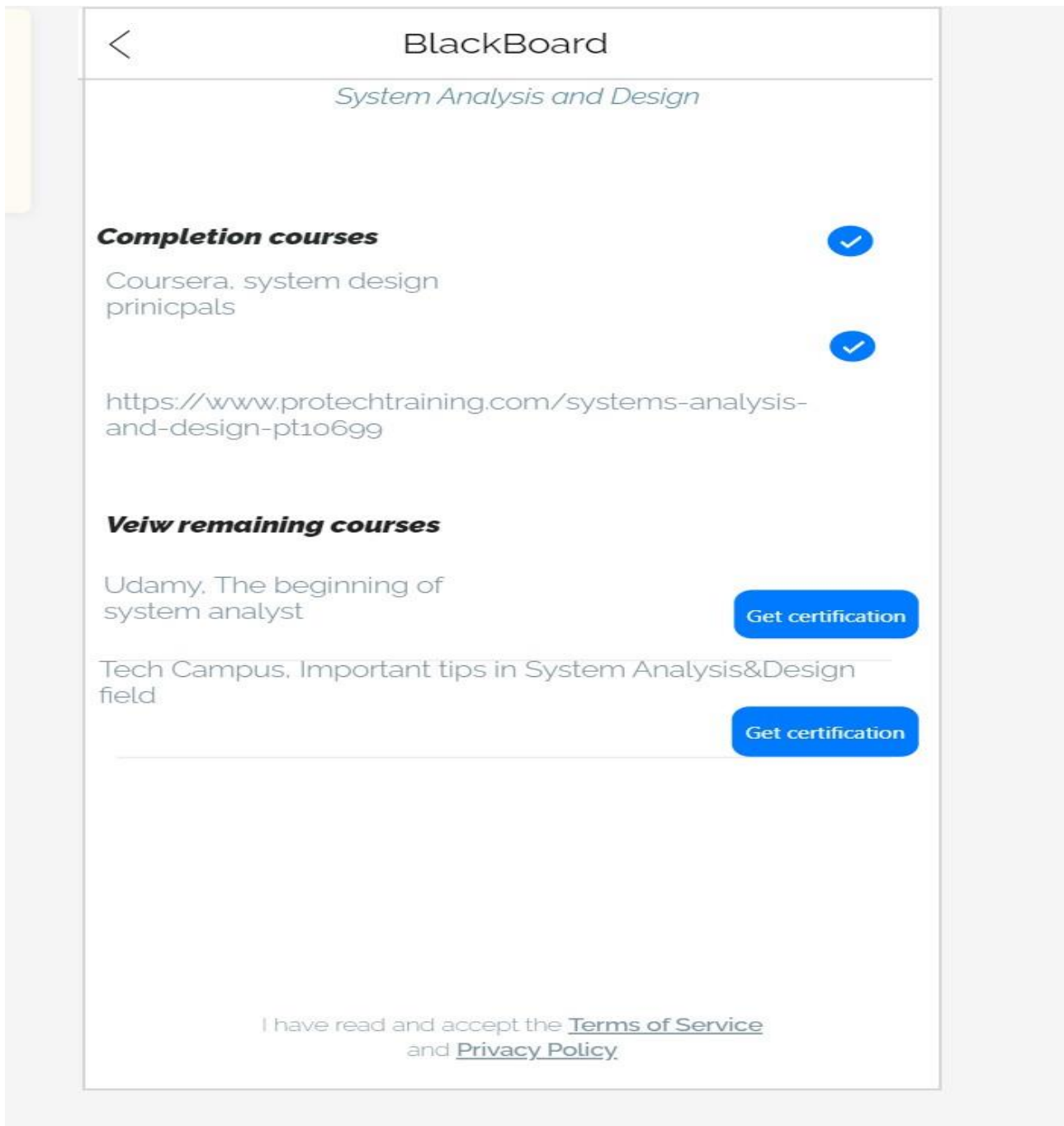
-Certification Option

a. Additional learning resources options

The image shows a mobile app interface for BlackBoard. At the top, there is a back arrow and the text "BlackBoard". Below this is a section titled "Available Courses" with the course name "System Analysis and Design". A search bar is present. Underneath, there is a section titled "Additional learning sources" which lists three items: "link source(1)", "link source(2)", and "link source(3)". Each item has a flag icon to its right. The third item, "link source(3)", has a blue checkmark icon. Below this is a section titled "Related YouTube videos" which lists two items: "YouTube link(1)" and "YouTube link(2)". Each item has a flag icon to its right. At the bottom of the screen, there are navigation buttons: "Back" (with a left arrow), "Confirm" (with a right arrow), and a large "Enroll" button. Below the "Enroll" button is a large "Cancel" button. At the very bottom, there is a text line: "I have read and accept the [Terms of Service](#) and [Privacy Policy](#)".

Student after choose the desired course, additional resources options will appear

b. View for completion/remaining courses



The image shows a BlackBoard interface for a course titled "System Analysis and Design". The page is divided into two main sections: "Completion courses" and "View remaining courses".

Completion courses

- Coursera, system design principles (marked with a blue checkmark)
- <https://www.protechtraining.com/systems-analysis-and-design-pt10699> (marked with a blue checkmark)

View remaining courses

- Udemy, The beginning of system analyst (with a "Get certification" button)
- Tech Campus, Important tips in System Analysis&Design field (with a "Get certification" button)

At the bottom, there is a checkbox labeled "I have read and accept the [Terms of Service](#) and [Privacy Policy](#)."

View page to get certifications for courses are already chosen by student but still not complete it, and the courses that student finished it for the desired subject

References

<https://forms.gle/hFvK87sMb6FZKhPr9>

<https://lms.ksu.edu.sa/>