

SOEN 342

E-Concordia Drive: Phase 2

By

Sprinters

Team Members:

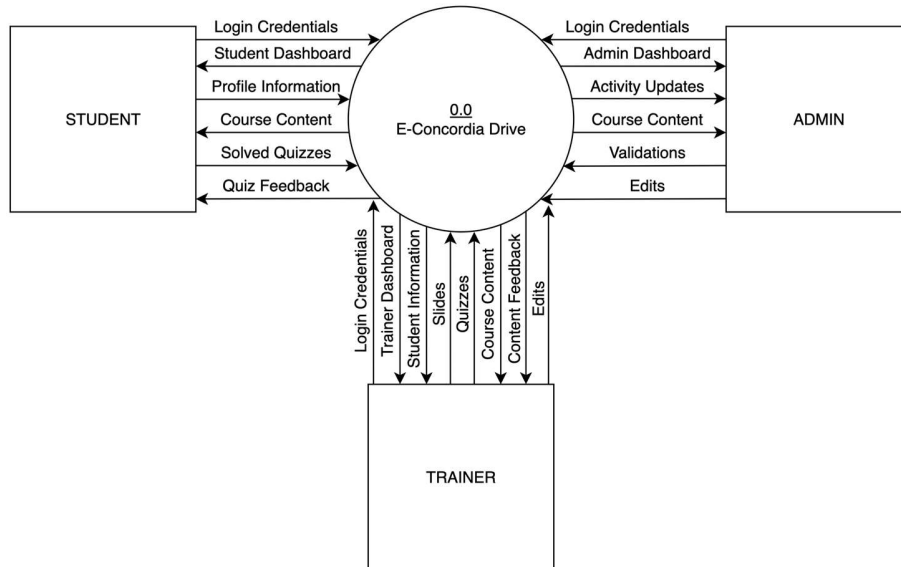
Aydin Azari Farhad 40063330
Anonna Chowdhury 40127606
Corinne Beaudoin-Pellerin 40121353
Nadia Beauregard 40128655
David Xie 40065595
Jordan Joseph 40045681

We certify that this submission is the original work of members of the group
and meets the Faculty's Expectations of Originality.

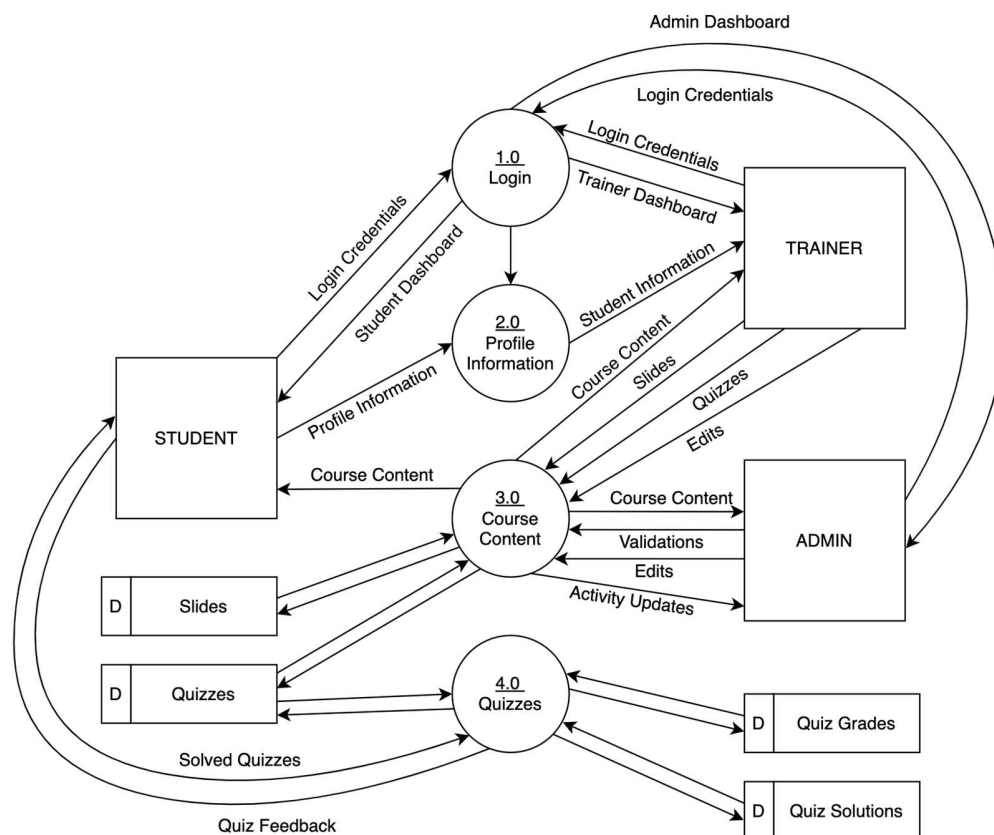
Concordia University
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1. Context Diagram

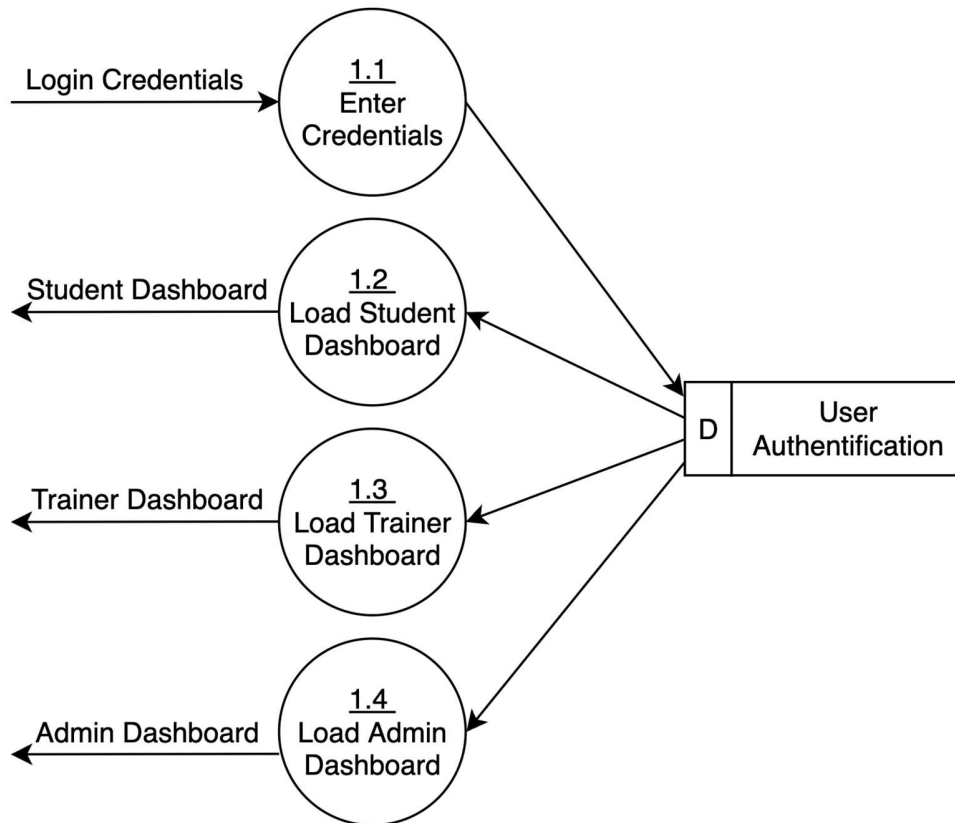


2. DFD Level 0

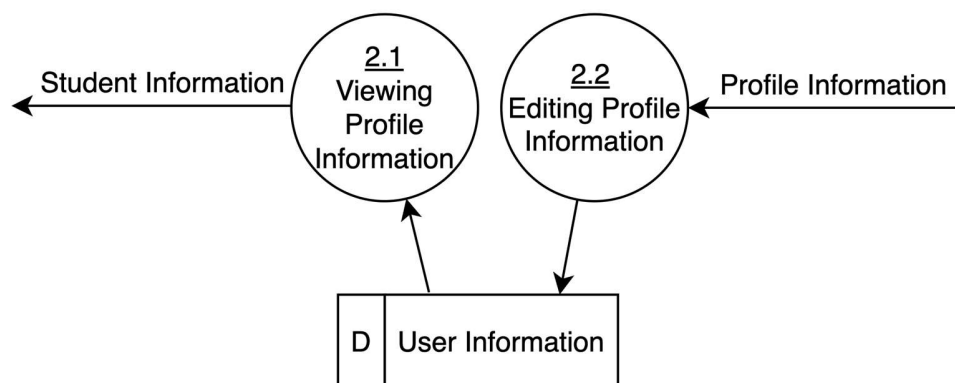


3. DFD Level 1

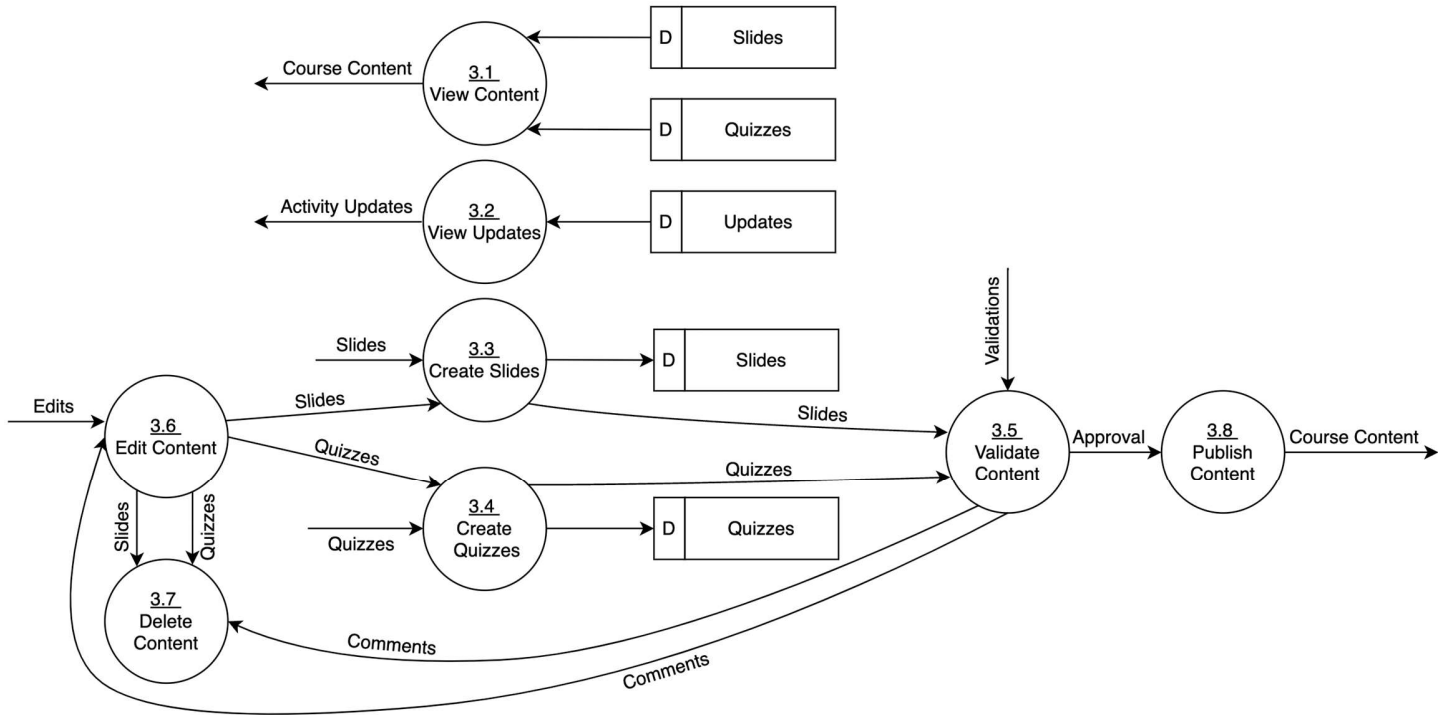
Process 1.0: Login



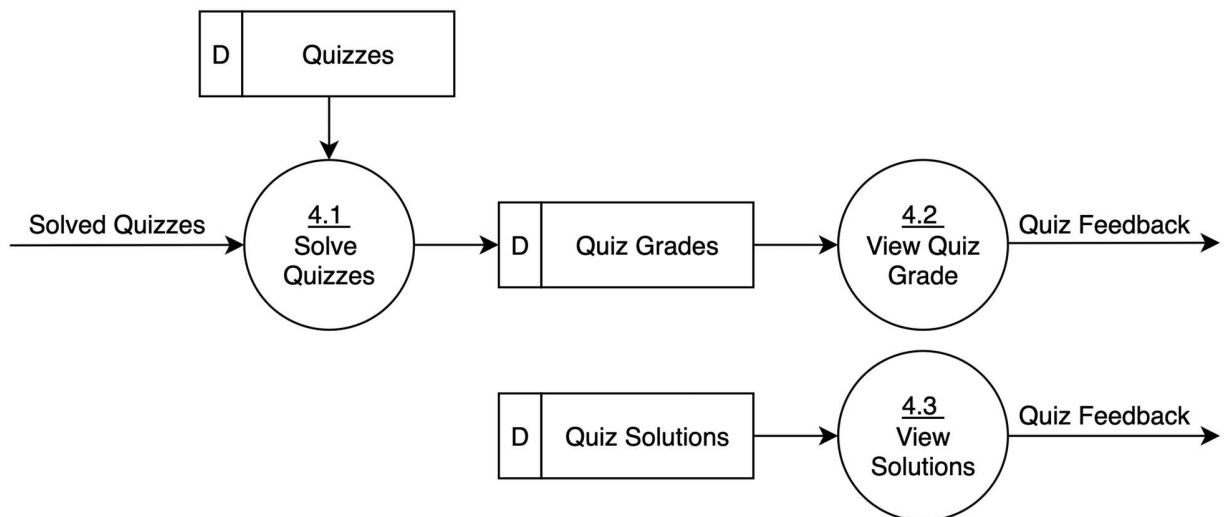
Process 2.0: Profile Information



Process 3.0: Course Content



Process 4.0: Quizzes



4. Risk Assessment

Risk	Consequence	Risk Level L/M/H	Likelihood of Event	Mitigation Strategy
Team				
Project team availability	Harder to schedule meetings.	M: Due to pandemic restrictions	Somewhat likely	Use meeting schedulers to share availabilities and decide on the best time to meet. Use Microsoft Teams for online meetings to increase availabilities.
Physical location of the team	Different team members locations makes it harder for members to meet.	H: Due to pandemic restrictions	Certainly	Use Microsoft Teams for online meeting and online work collaboration so that the project can progress regardless of location.
Weak user participation on project team	This could lead to missing requirements due to lack of user input.	L: Users are part-time members	Somewhat likely	Solicit and advertise participation. Offer incentives for participation.
Lack of coordination	Difficult to schedule meetings. Could lead to delays in delivery of the project. Could lead to poor communication and poor workload distribution.	M: Members not used to working remotely	Somewhat likely	Use meeting schedulers to coordinate meetings. Plan and distribute sprint deliverables. Update progress frequently.

				Use Microsoft Teams to coordinate work and ensure smooth and seamless progress.
Lack of joint working experience in team	This could lead to poor communication skills between members and poor coordination.	M: Members not used to working together	Somewhat likely	Plan out sprints. Distribute tasks according to members according to strengths. Prioritize the tasks. Frequently communicate progress.
Level of commitment of the stakeholders	This could lead to delays in the project due to lack of engagement.	H	Somewhat likely	Engage with stakeholders regularly. Ask for feedback to make the stakeholders feel valued and involved in the project. Offer incentives.
Improper working environment	If team members are working from home, they could have a poor working environment.	M: Due to pandemic restrictions	Likely	Book a conference room for important meetings. Book an office space or any other suitable place with good working environment.
Process				

Inaccurate requirements	Could lead to unsatisfactory features or design.	H	Likely	Use an iterative approach to increase flexibility and address issues as soon as possible as the project progresses.
Incomplete design of the app	This could lead to missing features.	H	Likely	Plan out milestones to meet for each sprint. Prioritize features by importance.
Inexperienced developer team	This could lead to delays in the app, as well as missing features and cost overruns.	M	Unlikely	Have a comprehensive research of project topic. Delegate tasks based on individual strengths.
Unrealistic budget	If there is a constraint on the budget that is not followed, then the app would not be able to be completed.	H	Somewhat likely	Have a comprehensive estimate analysis through research. Amend cost estimates as new details are revealed.
Unrealistic schedule	If the schedule for the app is not followed, this could cause the project to be delayed, as well as cause it to go over budget.	H	Somewhat likely	Frequently review the progress during each sprint to prevent undetected delays. Amend schedule if necessary.
Dependencies on external sources	This could lead to delays in the project due to lack of engagement.	M	Somewhat likely	Early and frequent communication, update, and feedback with external sources to increase

				engagement and adapt to changes.
Delayed delivery of the app	This could lead to cost overruns.	H	Likely	Set milestones (functionalities) to complete for each sprint. Prioritize functionalities based on importance. Amend schedule as necessary.
Cost overruns	This could lead to incompleteness of the app.	H	Likely	Frequently review budget plan and amend as necessary.
Inadequate documentation	This could lead to difficulties in trying to evolve the app in the future, as well as cost overruns and a delay in delivery.	M	Likely	Use iterative approach to increase flexibility and address issues as soon as possible as the project progresses.
Technology				
Server failing	This could lead to the app being unusable. Quizzes could be missed, students wouldn't be able to access course content, and admins wouldn't be able to modify course content.	H	Unlikely	Implement a backup server. Have important data saved in non-volatile memory.
Lack of storage	This could make it impossible to upload new lessons, to create	L	Unlikely	Connect to external storage space.

	new quizzes or to create new users. Essentially, this would prevent the storage of new information in the database.			Clear redundant or idle content. Clear idle users.
Server overload	Could lead to students not being able to access the app and performance reduction of the app.	M: Class sizes are limited	Unlikely	Optimize databases. Ensure concurrency and multithreading to increase performance and efficiency.
Missing or corrupted files	This could lead to missing course content. Trainers would need to re-upload the missing content and the students learning process would be delayed.	L	Somewhat likely	Have a backup storage. Have a firewall.
Lack of integration with E-Concordia	This could raise the difficulty of students trying to access the course.	M	Unlikely	Make proper tests; unit tests, integration tests, user interface tests, system tests, ...
Domain of the Application				
Accidental deletion of a course	Could lead to loss of lessons and important information.	H	Somewhat likely	Have a backup storage or a special folder for deleted files which can be retrieved within a certain timespan.
Long upload times	Lessons might be uploaded later than expected and could potentially delay students learning process.	L	Unlikely	Optimize the system to increase speed, performance, and efficiency.

				Offer the possibility to send compressed files to download.
Server overload	Could lead to students not being able to access the app and performance reduction of the app.	M	Unlikely	Optimize databases. Ensure concurrency and multithreading to increase performance and efficiency.
Server failing	This could lead to the app being unusable. Quizzes could be missed, students wouldn't be able to access course content, and admins wouldn't be able to modify course content.	H	Unlikely	Implement a backup server. Have important data saved in non-volatile memory.
Cybersecurity	This could lead to personal information being leaked or stolen.	H	Unlikely	Implement encryption and CAPTCHA authentication.

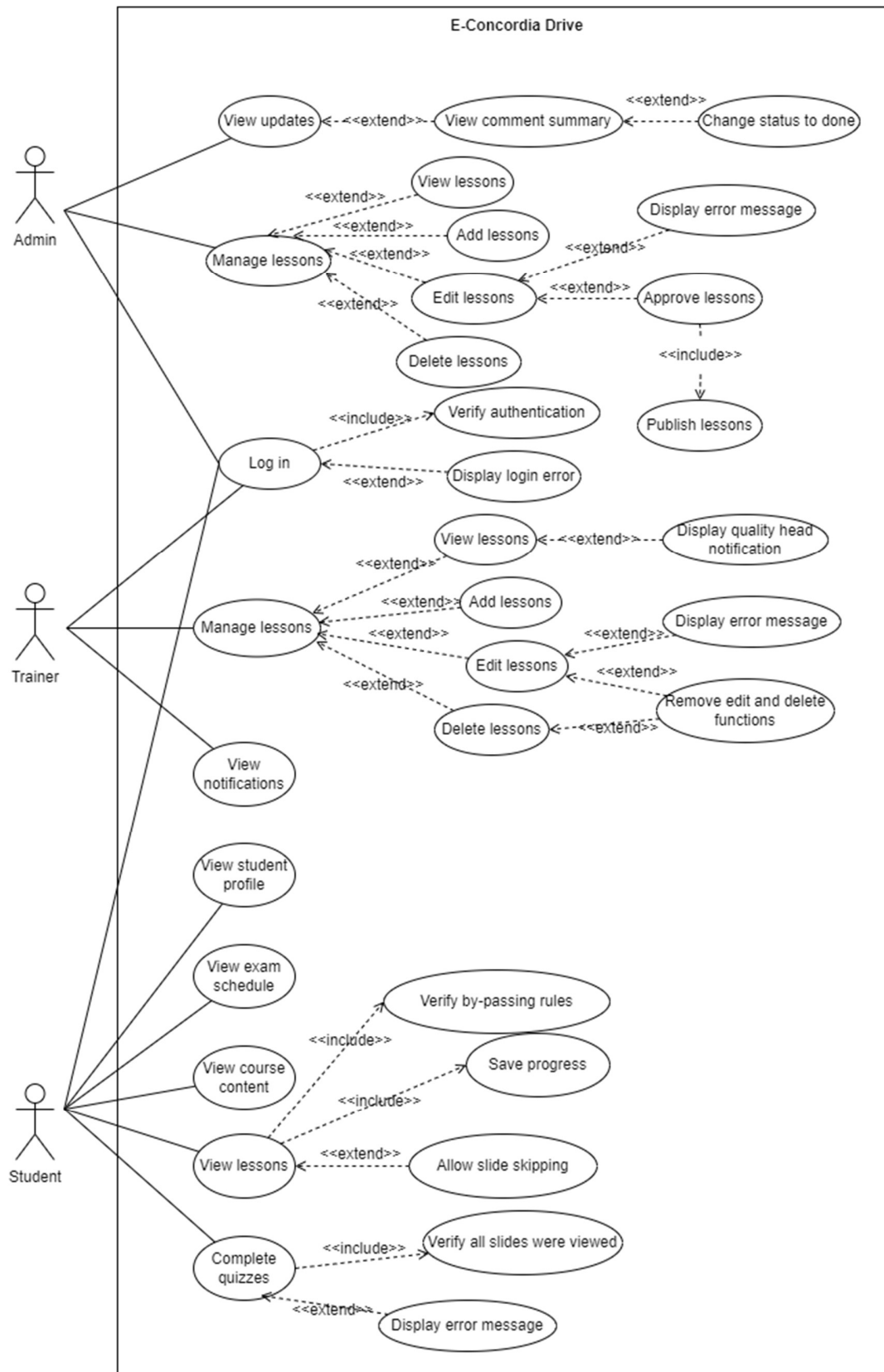
5. Actor-Goal List

Actor	Goal
Admin	To log into E-Concordia drive.
Admin	To view updates.
Admin	To manage lessons.
Trainer	To log into E-Concordia drive.
Trainer	To manage lessons.
Trainer	To view notifications.
Student	To log into E-Concordia drive.
Student	To view student profile.

Student	To view exam schedule.
Student	To view course content.
Student	To view lessons.
Student	To complete the quizzes.

6. Use Case Model

Include the use case model of the whole system with all actors and functionalities.



7. Details of Use Cases

Id: UC- 1.1

Use Case: View Updates

Description

When an admin logs into the dashboard, recent updates will be shown for updated lessons.

Level: User Goal

Primary Actor

Admin[Text Wrapping Break]

Supporting Actors

Trainers

Stakeholders and Interests

Admin, Trainer

Pre-Conditions

User needs to be signed in.

Post Conditions

Success end condition

Updates are reflected

Failure end condition:

Updated are not reflected

Main Success Scenario

1. Admin signs in
2. Admin sees lesson updates on dashboard

Other Scenario(Alternative /Error/Failure Scenarios)

1. Admin signs in
2. Updates shown on dashboard do not reflect the updated lessons

Id: UC- 1.2

Use Case: View Comment Summary

Description

When an admin logs into the dashboard, they can access the comment summary by navigating to the slide of each specific lesson.

Level: User Goal

Primary Actor

Admin

Supporting Actors

Trainers

Stakeholders and Interests

Admin, Trainer

Pre-Conditions

User needs to be signed in.

Post Conditions

Success end condition

Comment summary and its content load when navigating to the slide of each specific lesson.

Failure end condition:

Comment summary and/or its content do not display or load when navigating to the slide of each specific lesson.

Main Success Scenario

1. Admin signs in
2. Admin clicks on “view” for a specific lesson.
3. Admin is taken to the comment summary page.

Other Scenario(Alternative /Error/Failure Scenarios)

1. Admin signs in
2. Admin clicks on “view” for a specific lesson.
3. The link does not take the admin to the slide of that specific lesson or the page fails to load.

Id: UC- 1.3

Use Case: Change Status to Done

Description

When a lesson has been updated per the Admin’s comment, the status changes to “Done”.

Level: User Goal

Primary Actor

Admin

Supporting Actors

Trainers

Stakeholders and Interests

Admin, Trainer

Pre-Conditions

Comments were made in the past for a lesson.

Admin needs to navigate to the comments summary page for the specific lesson.

A trainer has made the required adjustments for the mentioned comment.

Post Conditions

Success end condition

Trainer makes the required adjustments for the related comment.

The related Comments in comment summary display “Done”.

Failure end condition:

Comment status does not change to “Done” upon updating the lesson by a trainer.

Main Success Scenario

1. Trainer navigates to the comments summary page for a specific lesson.
2. Admin clicks on “view” for a specific lesson.
3. Admin is taken to the comment summary page.
4. The status of the comments for which an Admin has made adjustments are changed to “Done”.

Other Scenario(Alternative /Error/Failure Scenarios)

1. Trainer navigates to the comments summary page for a specific lesson.
2. Admin clicks on “view” for a specific lesson.
3. Admin is taken to the comment summary page.
4. The status of the comments for which an Admin has made adjustments remains as “Pending”.

Id: UC- 2.1

Use Case: Change Status to Done

Description

When a lesson has been updated per the Admin’s comment, the status changes to “Done”.

Level: User Goal

Primary Actor

Admin

Supporting Actors

Trainers

Stakeholders and Interests

Admin, Trainer

Pre-Conditions

Admin is logged in.

Lessons must exist.

Admin clicks on "All lessons" under the navigation menu.

Post Conditions

Success end condition

The pressed link navigates the user to the lesson management page.

Failure end condition:

"All lessons" link does not navigate the user to the lesson management page.

Main Success Scenario

1. Admin clicks on "All lessons" under navigation menu.
2. Admin is taken to the all lessons page.

3. Lesson Management section is displayed on the All Lessons page.

Other Scenario (Alternative /Error/Failure Scenarios)

1. Admin clicks on “All lessons” under navigation menu.
2. All Lessons page does not load or Lessons Management is not displayed on the All Lessons page.

8. Special Requirements

E-Concordia Drive must be a platform extension of E-Concordia.

E-Concordia Drive should be compatible with any type of computers if it has access to internet and a web browser.

E-Concordia Drive should be an e-learning platform which follows a PHP MVC model and has a MYSQL database.

E-Concordia Drive must be able to handle 1000 students at once.

E-Concordia Drive’s videos should be fluid with a buffering rate under 5%.

E-Concordia Drive should have a crashing rate under 1% and if it crashes, it should not be down for more than 2 hours.