

**GINA CODY School of Engineering and Computer Science  
Department of Computer Science and Software Engineering  
Concordia University  
SOEN 342  
Phase 3**

**Team: Requirements Bandits (Team B)**

**Imran Ahmed 40172931**

**Joe El-Khoury 40173108**

**Ali Alp Erdinc 40172910**

**Arsany Fahmy 40157267**

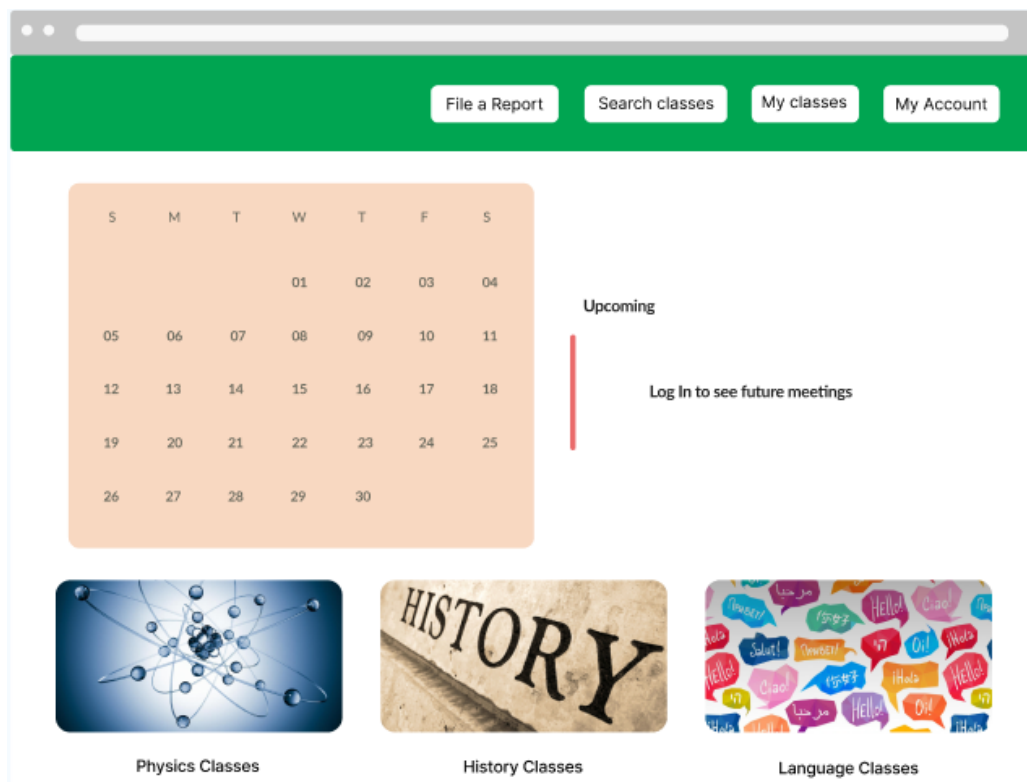
**Hao Yi Liu 40174210**

**Pai Peng 40155601**

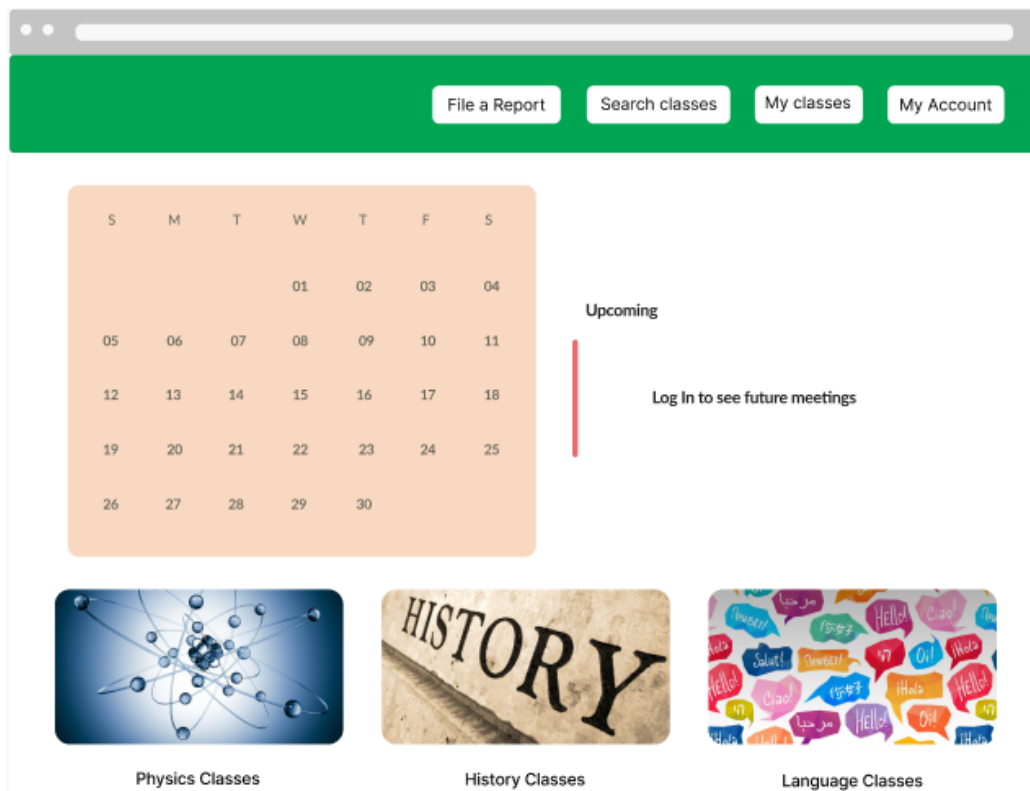
**Titouan Sablé 40179062**

**Steven Franchetto 40112243**

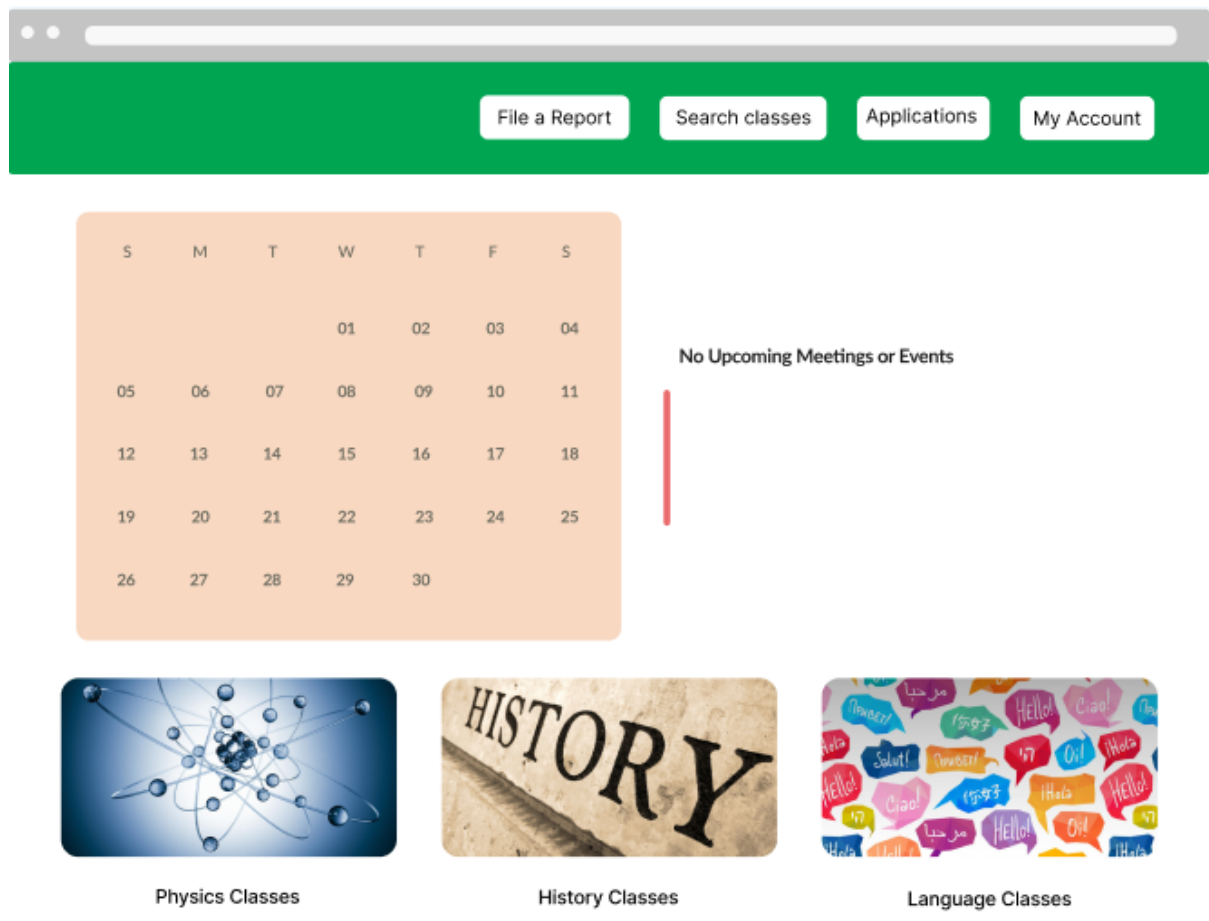
## Graphical User Interface (GUI)



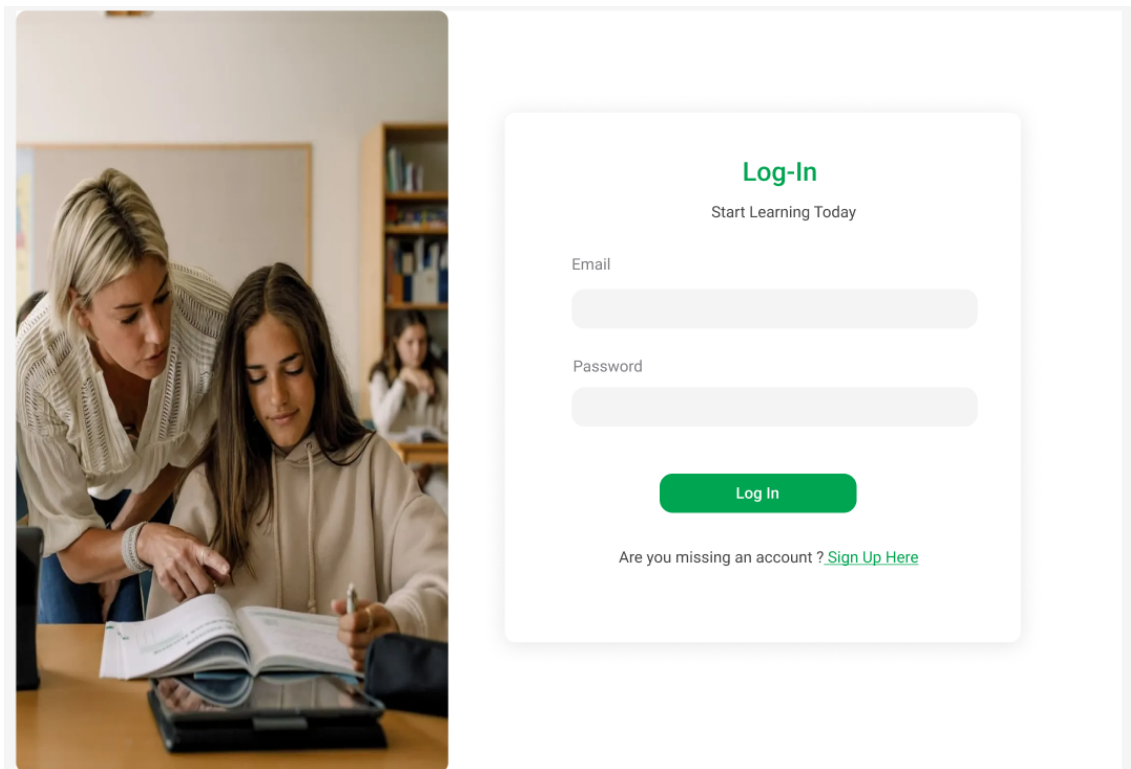
This is the main page viewed as a guest. They can view the offered classes, the tutors and the reviews for each of them. If they try to look at their own classes or account, they will have to log in.



This is the view that tutors and students would have upon logging in. The only extra functionalities they should have (from the main page) is to view their profile/account and their classes.




This is the view that the admins of the website would have. The main difference being that they would have no link to classes and instead, they would have a link on the navbar to see the applications of the tutors.



This is the Login page accessible by clicking the account/My Account button. If a user enters the right email and password they will be signed in automatically to their type of account whether they are a Student, a Tutor or an Admin. If they don't have an account they can click the [Sign Up Here](#) link at the bottom of the page.

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Let's Learn  
Together

Already have an account? [Log in](#)

Sign up with Google

or


First name

Last name

Email

Password

☐ Sign up as a Student ☐ Sign up as a Tutor



If Signing up to be a Tutor on our platform  
Upload your Proof of  
Certification Here

☐ I agree to the [Terms of Service](#) and [Privacy Notice](#)

Sign me up !

This is the SignUp page where a Student or a Tutor can sign up. Admins can only be added by other admins via the backend of the website. If signing up as a tutor, there is an extra step of adding proof of certification. For both the student and tutor the process of sign up can be shortened by using google's sign up services.

E-Academy
Home
About
File a Report
My Classes
Account

The figure above is the search classes page. This allows students to search for classes to gain additional academic resources to succeed in their university courses. Students can search for study field classes, or specific classes. They can also select the tutors that are teaching specific courses.

E-Academy
Home
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My Classes
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Class	Tutor	Select?
SOEN 331	Constantinos C.	<input type="button" value="Select"/>
SOEN 287	Yuhong Y.	<input type="button" value="Select"/>
SOEN 287	Zixi Q.	<input type="button" value="Select"/>
SOEN 228	Hakim M.	<input type="button" value="Select"/>
SOEN 341	Peter C.	<input type="button" value="Select"/>
SOEN 343	Melika A.	<input type="button" value="Select"/>
SOEN 357	Aiman H.	<input type="button" value="Select"/>
SOEN 363	Peter C.	<input type="button" value="Select"/>
SOEN 321	Eric C.	<input type="button" value="Select"/>

Example of the search functionality based on the study field.

E-AcademyHomeAbout

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ENGR 213

Search

Class	Tutor	Select?
ENGR 213	Akhmed T.	Select
ENGR 213	Joseph A.	Select
ENGR 213	Melina R.	Select

Example of the search functionality based on specific classes.

E-Academy


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SOEN 342

Description: Requirements Engineering, Software Processes, Requirement Elicitations, Quality Assurance, Test Cases

Tutor Description

Zoom Link

Notes

Forum

Group meeting: Available (Tuesday 2pm-4pm)  
One-on-one: Available (Thursday 5pm-7pm)

### Class availability

	Mon Dec 5	Tue Dec 6	Wed Dec 7	Thu Dec 8	Fri Dec 9
11 am					
12 pm					
1 pm					
2 pm					
3 pm					
4 pm					
5 pm					
6 pm					
7 pm					
8 pm					

The “class description” page contains all the useful information about a chosen class such as links to class notes, the forum, the meeting platform, and the tutor description. It also shows class availability as well as different options for meeting such as group meetings and one-on-one.



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**Professor Alice Doe**

★★★★☆  
based on an average of 51 reviews

"Professor Alice is really the best! She helped me with my studies and I was able to get a good grade after attending her lessons."  
- John

Number: 514-000-0000  
Email: alicedoe@mytutor.com

## Software Engineering Tutor

**Classes offered:** SOEN342, SOEN343

**Description:** Hello everyone! My name is Alice and I have been teaching Software classes since 2017. My goal is to help students and (hopefully) make their learning more enjoyable.

Add review comment

★★★★☆

Post Review

The “tutor description” page contains all relevant information about the tutor. The students can also see the tutor’s average rating and some reviews left by previous students. They also have the ability to submit their own reviews.

# SOEN 342 | 2222

## Tutorials

 [Tutorial 1](#)

 [Tutorial 2](#)

 [Tutorial 3](#)

 [Tutorial 4](#)

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## 20 November - 26 November

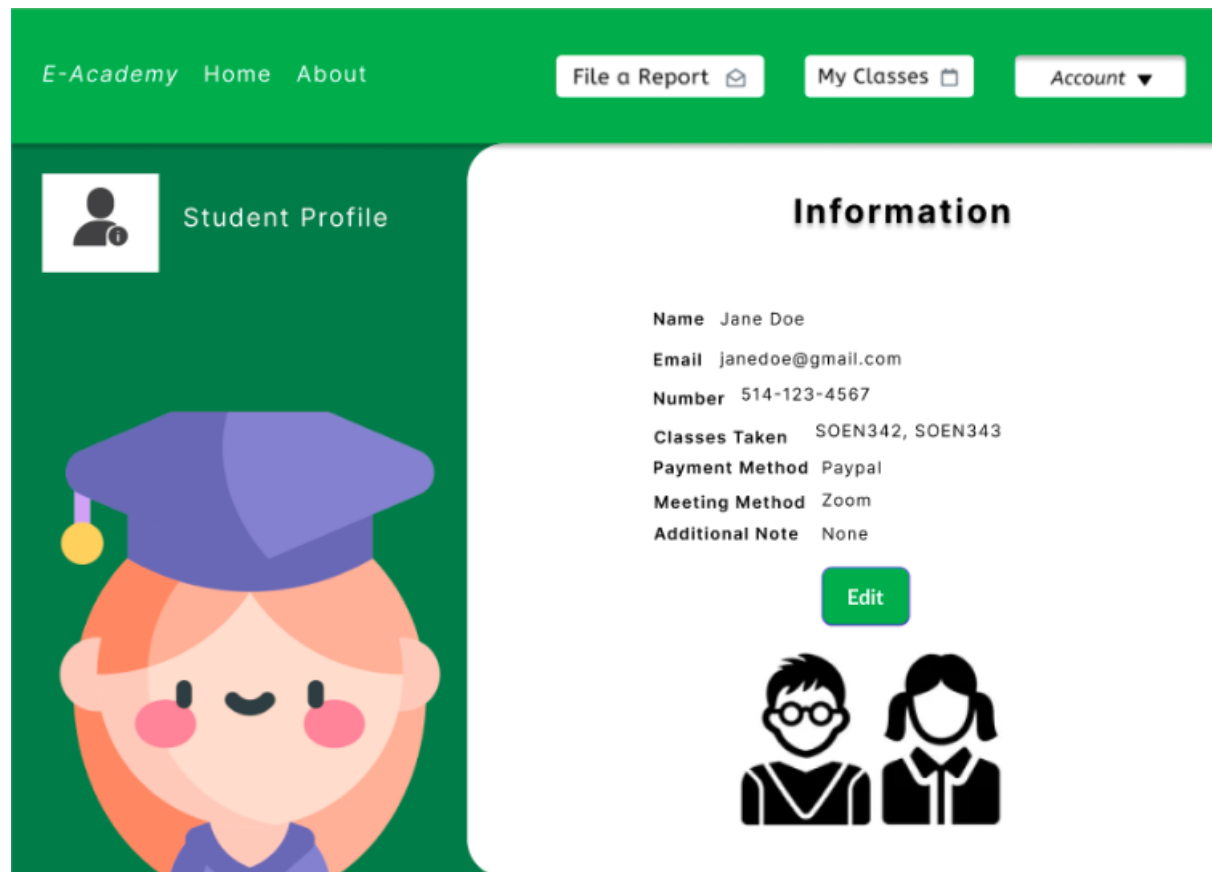
 [Note 1](#)

 [Note 2](#)

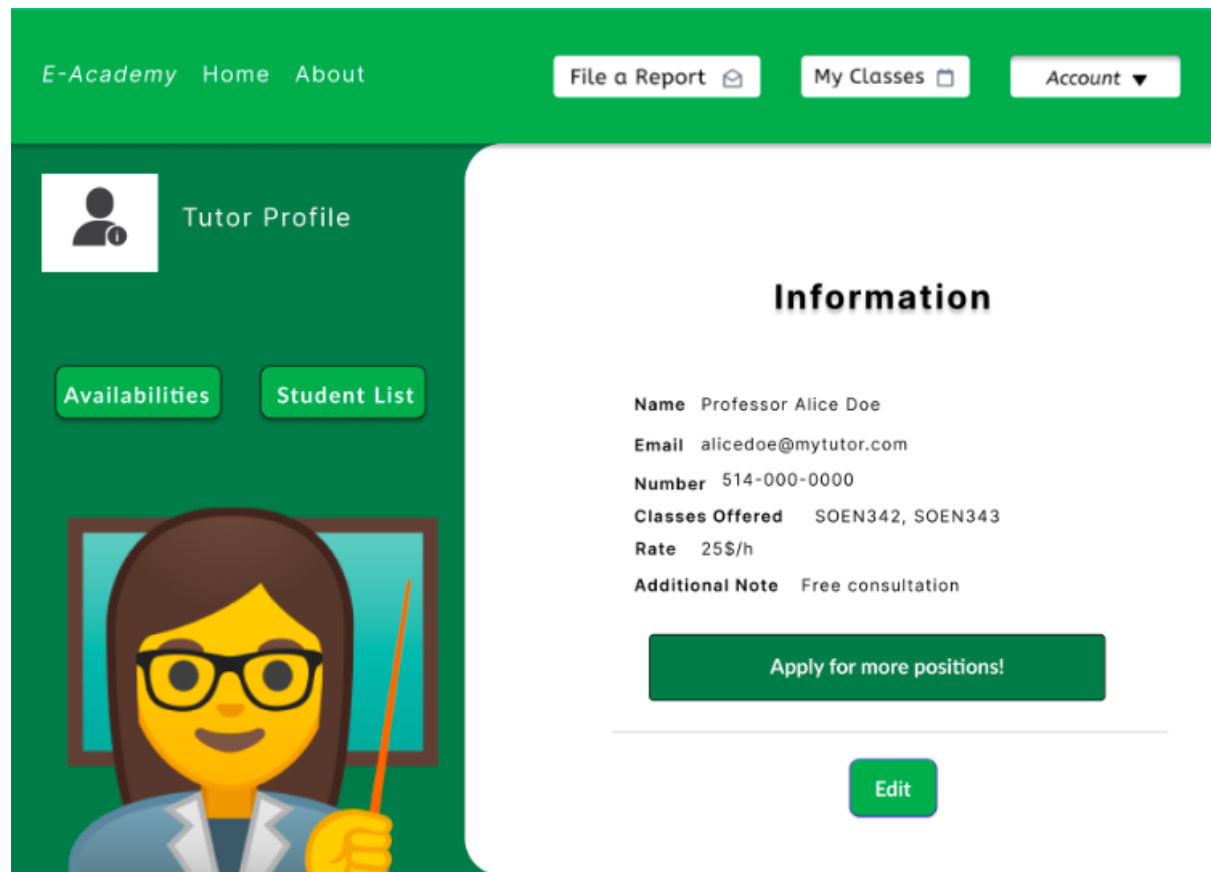
 [Note 3](#)

 [Note 4](#)

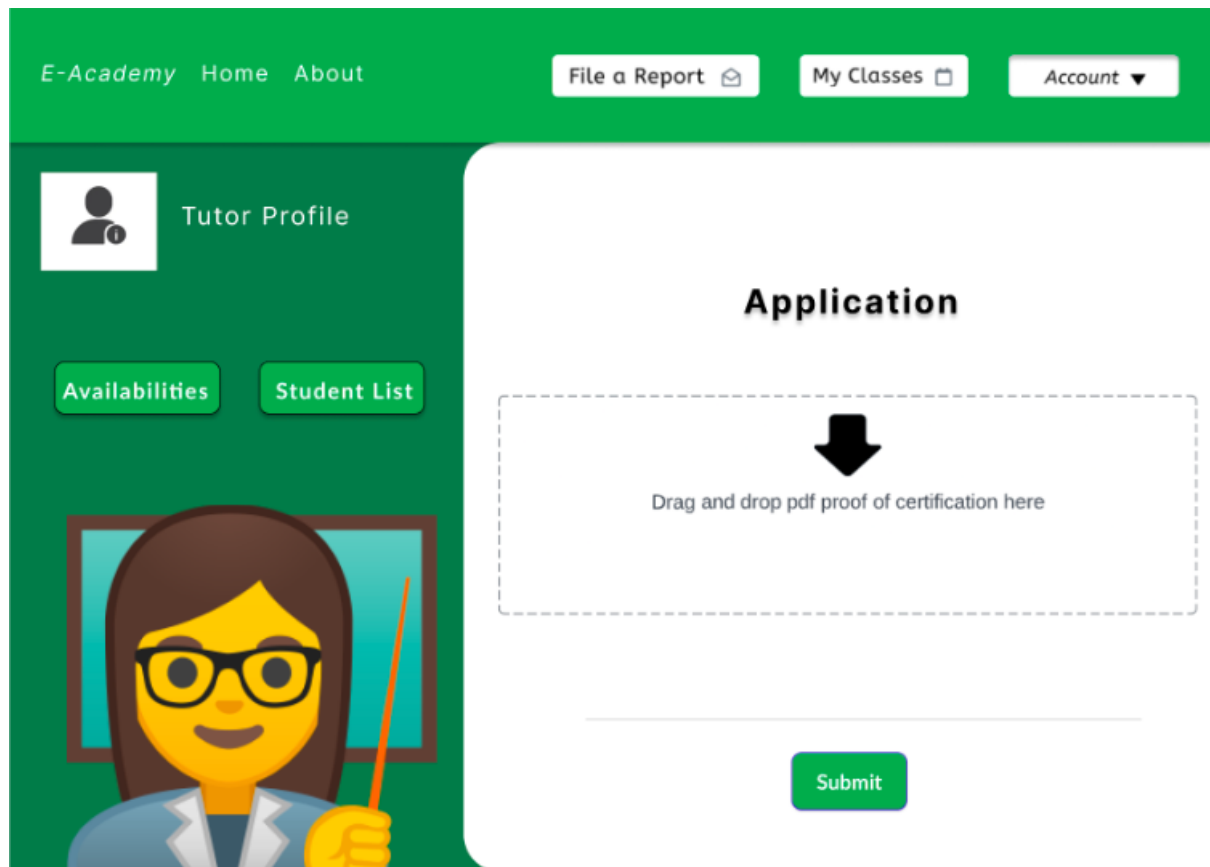
The “class notes” page contains all the notes published by tutors for a particular course.



The “student account” page shows the student profile and allows the student to modify his/her information.



The “tutor account” shows the tutor profile and allows the tutor to change his/her information. It also contains links to submit their applications for other positions, to edit their availability, and to see their student list.



The “application” page allows tutors to submit their proof of certification for more posts.

E-Academy


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My Classes


Account



Tutor Profile

Availabilities

Student List



Availabilities

	Mon Dec 5	Tue Dec 6	Wed Dec 7	Thu Dec 8	Fri Dec 9
11 am					
12 pm					
1 pm					
2 pm					
3 pm					
4 pm					
5 pm					
6 pm					
7 pm					
8 pm					

Edit

The “tutor availability” page allows tutor to schedule their availability and modify them.

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Account



Tutor Profile

Availabilities

Student List



### Student List

Student Name	Student ID	Class	Schedule
John Doe	4011222	SOEN342	Tuesday 2pm-4pm
Mary Jane	4011223	SOEN342	Tuesday 2pm-4pm
William Zhang	4011224	SOEN342	Tuesday 2pm-4pm
Daniela Cortez	4001225	SOEN343	Thursday 2pm-4pm
Lilia Thabet	4001126	SOEN343	Thursday 2pm-4pm
Thalya Smith	4001027	SOEN344	Thursday 2pm-4pm

Edit

The “student list” page shows the list of every student enrolled in the class(es) offered by the tutor.

# SOEN 342 | 2222

## Tutorials

 Tutorial 1

 Tutorial 2

 Tutorial 3



Drag and drop pdf

## 20 November - 26 November

 Note 1

 Note 2

 Note 3



Drag and drop pdf

The “class notes submission” page allows tutors to upload their course notes and make them accessible to students.



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Forum

#	User	Post	Last updated on
1	Joseph Joestar	Can someone help me with this?	2022-11-26 @ 11:45 PM
2	Imran A.	How does Formal methods help us gather requirements more effectively?	2022-11-26 @ 9:26 PM
3	Hao Yi L.	I don't understand anything...	2022-11-26 @ 8:55 PM
4	Steven Universe	How can we study faster for a final exam that is in 1 week?	2022-11-25 @ 12:00 PM
5	Alp Mountain	Work extension request	2022-11-25 @ 7:27 AM
6	Pai P.	How do we calculate the risk matrix?	2022-11-25 @ 4:30 AM

Create a Post

The forum page is useful for students to post questions about their course, where tutors and students are encouraged to participate in discussions with the original poster. Students have the option to create a post.

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Report Form

What type of report would you like to make?

Bug Report

Complaint

The “File a Report page” contains 2 choices: bug report and complaint. The bug report form is a form users must fill in case they encounter a software issue. The complaint form is a form users fill in case they face an issue related to the class they’re taking.

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## Bug Report

Please clearly explain the problem you've faced.

Module

Select

The webpage where the issue is occurring.

Web Browser

Select

The internet browser you used when the problem occurred.

Has this issue occurred more than once?

☐ Yes

☐ No

Explain the procedures to replicate this issue.

Placeholder

Submit

The "Bug Report" page

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## Complaint Report

Please clearly explain the problem you've faced.

Class

Select

Your class where you are facing this issue.

Type of issue

Select

What is causing this problem? Your tutor? The class material?

Has this issue occurred more than once?

☐ Yes

☐ No

Please explain why is this an issue?

Placeholder

Submit

The "Complaint Report" page

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### Confirm Payment

NAME ON CARD

CARD NUMBER

EXP DATE  
MM / YY

CVV

PAY NOW

### Your Order Summary

2 Items

SOEN 343 Software Architecture and Design I
\$ 299

Group meeting ☒
1-on-1 ☐

SOEN 357 User Interface Design
\$ 199

Group meeting ☐
1-on-1 ☒

Total Payable : \$ 498

The “payment page”

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#### Upcoming Assignment

Working Frontend Code For Shopping Web
SOEN 287

OCT 05, 2022

#### Upcoming Assignment

Meeting with TA regarding Sprint 1
SOEN 490

OCT 15, 2022

#### Class In Progress

SOEN 287

SEP 06, 2022

SOEN 490

SEP 06, 2022

#### Past Classes

COMP 248 (A-)

JAN 06, 2022

“My classes and upcoming assignments” page

File a Report   Search classes   Applications   My Account				
#	Tutor	Application Details	Last Updated	View Application
1	Titouan	Subject: Math, Availability: ...	2022-06-19	<a href="#">View</a>
2	Joe	Subject: Chemistry, Availab ...	2022-06-23	<a href="#">View</a>
3	Imran	Subject: UI Design, Availab ...	2022-08-08	<a href="#">View</a>
4	Alp	Subject: History, Availabili ...	2022-11-11	<a href="#">View</a>
5	...	Subject: ... , Availability: ...	Today @ 4:23 pm	<a href="#">View</a>

This is the page for admins so they can see a list of applicants and their applications for tutoring.

## Quality Assurance

In order to enhance the quality of the final product, it is necessary to conduct both internal and external inspections. Members of our team as well as external stakeholders will both be involved in testing and ensuring that the specified requirements have been respected and properly delivered.

One of the ways to assure the quality of our system is to generate acceptance tests for the core features of our system. These are tests that will be used to determine if clients are satisfied with the product developed and if any improvements are needed. In other words, each of the core features will have a positive scenario and a negative scenario. The positive scenario will lead us to conclude that the requirements were successfully met and the negative scenario will determine that the requirement was not fully met and more time will be needed to develop the feature and clarify what the client really wants.

For example, one of the core features of the proposed E-learning platform is the class forum for students where students enrolled in a course can access a class form to communicate and socialise with other students enrolled in the same course.

One of the positive scenario will be

- The user logs in
- The user select and buys a course
- The user is enrolled in the course and is enrolled in the class forum
- The user write a message/post in the class forum
- System shows a success message
- Other user have seen the message and replies back

One of the negative scenario will be

- The user logs in
- The user select and buys a course
- The user is enrolled in the course and is enrolled in the class forum
- The user write a message/post in the class forum
- System shows a success message
- No other user can see the message and post despite showing a success message in the previous step

Finally, the last step before the deployment of the project would be the deployment of a UAT (User acceptance testing) environment which allows the different stakeholders to examine, test and request some final modifications before giving their final approval for deploying the website to the public.

# Change Management

## 1.1 CHANGE REQUESTs

The following tables represent anticipated change requests that the team is ready to face if necessary. Each table represents some information about a specific change that can be anticipated throughout the project.

Element	Description
CR#	CR001
Title	Change of layout of certain pages within the application
Description	The stakeholders may request the addition or removal of front-end elements of the application or a cosmetic change impacting the design of the website (navigation bar, fonts, colours, etc...)
Type of CR	Enhancement
Artefacts impacted	User interface (front-end)
Importance of the CR	Low

Element	Description
CR#	CR002
Title	Change of access rights for one of the types of user.
Description	The stakeholders may request the removal or addition of certain access rights for some of the different types of users of the platform. This would potentially have an impact on security, privacy, accessibility and information hiding.
Type of CR	Defect
Artefacts impacted	Backend, Database, Requirements document
Importance of the CR	High

Element	Description
CR#	CR003
Title	Request of an additional functionality
Description	The stakeholders may request the addition of a new functionality in the system such as a new rating system for tutors which may require the addition of a new entity in the database as well as the implementation of a new section within the website to accommodate the change.
Type of CR	New
Artefacts impacted	Requirements Document, User interface (front-end), Back-end, Database
Importance of the CR	High

Element	Description
CR#	CR004
Title	Request of an additional user role
Description	The stakeholders may request the addition of a new user role with its own set of access rights and roles. Such a request would require the modification of the database as well as the back-end system to accommodate the different roles.
Type of CR	New
Artefacts impacted	Requirements Document, Back-end, Database
Importance of the CR	High

Element	Description
CR#	CR005
Title	Request of adding new courses/ updating old courses.
Description	The users (students) may request to add a new course that is being taught in the university and has yet to be added in the system. The user may also request to update an old course if the course is outdated or does not follow the curriculum taught in the universities. This would require modification on the databases, as new courses would need to be added and old course information needs to be updated. This change will really benefit the users and have them still committed to the product.
Type of CR	New
Artefacts impacted	Requirements Document, Back-end, Database, Front End
Importance of the CR	Medium

Element	Description
CR#	CR006
Title	Request for adding a new type of payment in the system.
Description	Users may be more inclined to use other types of payments such as crypto-currency, gift-cards that have not been implemented in the current system. This modification will require modification in the front-end and back-end of the system, but also the system would need to communicate and depend on an additional external system.
Type of CR	New
Artefacts impacted	Requirements Document, Back-end, Front-end, Database, Design Documents
Importance of the CR	Medium



Element	Description
CR#	CR007
Title	Request for adding/removing meeting platforms
Description	Users may be more inclined to use another meeting platform, which may grow in popularity and may be the standard for virtual meetings. The existing virtual meeting platforms such as Zoom and Microsoft Teams may decrease in popularity and user usage or can be potentially discontinued in the future. This new implementation of the meeting platform will likely produce modifications in the front-end and back-end of the system, but also the system will be dependent on another additional external system.
Type of CR	New
Artefacts impacted	Requirements Document, Back-end, Front-end, Database, Design document
Importance of the CR	Medium

Element	Description
CR#	CR008
Title	Fix User Bugs
Description	Users may experience various bugs while using the system. This can impact the usage and user experience negatively. Users may not be using the product in a long term basis if the bugs are not fixed fast enough. This change will allow users to have a reliable error free system.
Type of CR	Enhancement
Artefacts impacted	Source code and Design documents.
Importance of the CR	High

Element	Description
CR#	CR009
Title	Maintain high system performance
Description	With the system evolving and changing as new requirements come in, the system must be as performant as before. This will allow users to use our system in the long term, since fast and performant software are aspects that are crucial to the customers.
Type of CR	Enhancement
Artefacts impacted	Source code.
Importance of the CR	High

Element	Description
CR#	CR010
Title	Enhance/Update system security.
Description	As technology is growing, hackers find creative ways to get into a company's system and database. Thus, the system must be regularly up to date with security updates to decrease the risk of information outbreak. This will make user's feel safe and confident when inputting information into the system.
Type of CR	Enhancement
Artefacts impacted	Source Code.
Importance of the CR	High

## 1.2 CHANGE READINESS OF YOUR WORK

For each change, different techniques will be used to make the changes easy to implement. Each of the change requests can be treated and approached differently.

### CR001

In order to change the user interface, it is first advisable to get the needs of the stakeholder and clients. This will allow us to know what exactly the users of the system want and to ensure their satisfaction. Once the requirements have been gathered and documented, a prototype of the new user interface can be implemented and shown to the stakeholders and clients for testing. If they are satisfied, then the development team can implement the new UI layouts. In general, this process will ensure that the requirements have been fully met and that the clients are satisfied with the changes they have requested.

### CR002

To change the users rights and access in the platform, it is first important to actually get the exact details of the change request from the stakeholders. Once the details have been gathered and checked, the developers can implement the change.

### CR003

In order to add a new functionality into the system, many steps may have to be taken before implementing such functionality. First, as much details as possible should be gathered from the stakeholders and clients regarding the new functionality. This will ensure that there is no misconception between the development team and the clients. After, use case scenarios and sequence diagrams can be drawn and implemented in order to ease the work for the development team and get a clear overview of the new functionality. This will also allow other stakeholders to review the work and to see if it is compliant to the needs. After everything is cleared, the development team can implement the functionality. These techniques will ensure that the functionality added into the system fully respects the needs of the stakeholders and make it more easy for developers to implement it.

### CR004

The implementation of a new user into the system will use the similar techniques used in CR003.

### CR005

In order to add a new course into the system or update an existing course, it is important to get the details of the courses from the students or tutors from the system. Once the details of the course have been gathered the development team can implement this new course, or update an existing course.

### CR006

The user should have options when purchasing services from our website. To implement a range of options we must first figure out which methods the user would like to use to pay, whether it be cryptocurrencies or site gift-cards we must have an interface during the payment step to show our options. The back-end must also communicate with both 3rd party services depending on the type of payment (Credit cards, cryptocurrencies) such that the

payment will go through successfully, and also it must communicate with the database if a gift card is used to make sure its activated such that it gets validated.

#### CR007

Adding more options to host virtual sessions would be somewhat easy to implement. When a user creates their account, a radio button would appear asking the user to select their preferred platform for a virtual session. A column in the database will tie the user\_id with their preferred\_platform. If a user wants to use another platform that we are not familiar with, they can add it to a textbox located under the radio buttons and we would need to add that option in our database.

#### CR008

To limit the amount of user bugs, we should be testing the system on a consistent basis. Having user feedback would also help us find bugs that we couldn't find ourselves. There will be a button that sends bug reports to the system admin. A system admin will check the reports and send them to the bug-testing/QA team.

#### CR009

Performance as a non-functional requirement must be tested and maintained. Black-box testing will show us if changes to code make our system faster/slower and we can document which lines of code are causing the slowdown/speedup. If users still experience slow functionality, a whole refactoring may be needed to speed up the functionality.

#### CR010

When initially designing the database and any data transfers between the interface layer and the database layer, we would hire security specialists to design the data transfers using standard-level encryption such that if a data leak were to occur, most of it would be hashed and not legible. To keep the security up to date, we would scrutinise the system by contracting white-hat hackers to see if there are any vulnerabilities in our system. A monthly report would be generated on the overall health of the system, showcasing unusual traffic, attempts at password resetting, penetration attempts etc just so we can get a model of where our vulnerabilities might lie.