

# Vision Document

## [E-Academy Web Platform System]

### 1. Introduction

#### **Purpose:**

The purpose of this Vision Document is to collect, analyse and define high-level needs and features of the E-Academy Web Platform System. The document focuses on the capabilities needed by the stakeholders and the target users and more significantly, why these demands are necessary. The details of how the E-Academy Web Platform System fulfils these needs are detailed in the use case and supplementary specifications.

#### **Scope:**

This Vision Document applies to the E-Academy Web Platform System. With the use of this technology, students will be able to sign up for online study-related tutoring sessions with ease, relatively flexible scheduling, and affordable prices.

#### 1.1 References

[1] SOEN-342, Tutorial #2 (Vision Document), (Fall 2022), (Ahmed Rebei) Concordia University

[2] IBM. (2022, August 4). *Vision document*. Vision document for a requirements project. Retrieved October 31, 2022, from <https://www.ibm.com/docs/en/elm/7.0.0?topic=requirements-vision-document>

[3] Brennen, A. (2021). *10 best practices for secure online payment processing*. Rapyd. Retrieved October 30, 2022, from <https://www.rapyd.net/blog/secure-online-payment-processing/>

[4] *The chaos report 1994-revised* - California State University, Sacramento. The Standish Group International. (1995). Retrieved October 31, 2022, from <https://www.csus.edu/indiv/v/velianitis/161/chaosreport.pdf>

[5] *How to define stakeholders for Your Software Development Project*. How to define stakeholders. (n.d.). Retrieved October 14, 2022, from <https://www.conceptatech.com/blog/how-to-define-stakeholders-for-your-software-development-project>

## 2. Positioning

### 2.1. Problem Statement

The problem of	Finding a competent tutor that is willing to provide lessons at a convenient time and cost on an online platform
Affects	Students
The impact of which is	Students waste valuable time looking for teachers but are unsatisfied with them, costing them money and time that could be used for learning.
A successful solution would be	Gather a multitude of tutors on one platform so that students could quickly find a tutor who is right for them and have access to reviews on the tutors' ability. The availability of instructors' schedules on their profiles will allow students to quickly identify the most convenient times for lessons.

### 2.2. Product Position Statement

For	Students
Who	Want to search for a tutor for a specific subject
The E-Academy Web App	Is a web application software product
That	Offers tutoring services 24/7 to students with clear pricing

Unlike	<a href="http://Teachersoncall.ca">Teachersoncall.ca</a> which offers tutoring sessions only in Canadian time and requires students to request and wait for a quote
Our product	Provides students with tutoring services 24/7, making tutoring sessions constantly accessible with upfront pricing that does not require requesting a price.

### 3. Stakeholder Descriptions

#### 3.1. Stakeholder Summary

Name	Description	Responsibilities
<b>Owners</b>	Represent the client as they have a vision of the end-product and are hiring us to complete this project.	<p>They supply capital or equity to the business and have a final say in major decisions.</p> <p>Consider the needs and objectives of stakeholders.</p> <p>Set and communicate the requirements of the product.</p>
<b>Employees</b>	Employees have a direct stake in the company where they work. Employee's earn a salary and other (monetary and nonmonetary) benefits.	Employees can carry out managerial, supervisory, developers, designers and many other roles to assist the project.
<b>Sponsors</b>	Organisations or individuals who are funding the E-Academy project.	<p>They have a say in business decisions for the project.</p> <p>Approve the project budget</p> <p>Ensuring the availability of resources.</p>

<b>UX/UI Designers</b>	Focus on the entire user experience as well as design and aesthetic aspects.	Analyse functional requirements intended for users.  Define the information architecture and navigation model
<b>Project Managers</b>	They are responsible for planning, organising, and controlling activities in accordance with established timelines	Shape the development process.  Keep track of all employees to maximise efficiency.  They serve as a point of contact with other stakeholders.
<b>Software Architects</b>	They define the overall architecture system and make high-level choices based on non-functional requirements	Define the technical and functional architecture of the system.  Develop the most critical components of the system.
<b>Testers</b>	They ensure that the software solutions meet the requirements and comply with quality standard	Understands features requirements.  Create and execute test cases to detect bugs or defects
<b>Developers</b>	They are in charge of writing the code and developing the software products.	Develop the features laid out in the sprint.  Build software based on feedback from other stakeholders.  Advise management on what features can be implemented and how long it will take to build each one.

### 3.2. User Summary

Name	Description	Responsibilities	Stakeholder
Tutor	Log in and manage his/her student(s).	Manages his/her schedule  Accepts or denies a tutoring session request	Self-represented
Student	Logs into the system; contacts and books tutoring sessions with a preferred tutor.	Creates an account  Manages his/her tutoring session  Uploads the required documents  Joins a tutoring session  Post reviews	Self-represented
Parent	Logins to the system;contacts and books tutoring sessions with a specific tutor; manages his/her child(ren)'s account.	Creates an account  Manages the tutoring session for his/her child(ren)  Contacts the tutor  Post reviews	Self-represented

Admin	Logs in to the system to manage the administrative aspect of the system	Manages tutors and students  Pays salary to each tutor	Self-represented
Employees	Logs into the system to manage their assigned duties.	Manages their department (financial, HR etc.)	Self-represented
Guest	Can browse website without logging in	Access to some functionalities (prices, FAQ section and home page)  Can apply to jobs posted on E-Academy	Self-represented

### 3.3. User Environment

There are three kinds of users in the application. All of these users need different user environments to perform different tasks.

#### **Students:**

- Students will connect to the website via the browser when looking for private tutors. They will search for the subject in which they are looking for help. After, then students would be provided with a list of available tutors alongside their schedules. Further, they will select the desired tutor and a time slot that is suitable for them. From this point, the usage pattern is not predictable since the tutor can get in contact with the student in many ways.

- Students are expected to have a browser-enabled device.
- They should have video conferencing software as well if they have booked an online session, in addition to that they should also have headphones and a camera.
- The payment to the tutor will be online, so it is mandatory for students to have a debit or credit card in order to perform the payment.
- They should have a valid email address so that the tutor can contact the student.

#### **Tutors:**

- Tutors are expected to have a browser-enabled device
- They should have video conferencing software as well if they are giving an online lesson, in addition to that they should also have headphones and a camera.
- It is mandatory for tutors to have a bank account where the company can deposit their earnings.
- They should have some knowledge about how to create online quizzes on the platform.
- They should have a valid email address so that they can be notified if someone has enrolled in their lessons and also get other updates about the company.

#### **Administration:**

- Administration is expected to have a browser enabled device
- They should have spreadsheet software such as Microsoft Excel in order to view the generated reports
- They should have a valid email address so that they can contact tutors and students

#### **Development Environment:**

A team of 10 developers would be involved in completing all the development related tasks. Activities such as requirement elicitation, design, development, testing and deployment would be divided into three sprints. Each Sprint is expected to be not more than 3 weeks, this is done to minimise the risk involved in development. The first sprint would be more focused on getting the requirement and design correct. Other two would be more concentrated on development.

### 3.4 Key Stakeholder or User Needs

#### Students

<b>Description</b>	Individual who pays to receive a tutoring session
<b>Type</b>	Primary user
<b>Responsibilities</b>	Uses the platform to book courses depending on the courses available
<b>Success Criteria</b>	Ability of customers to easily book and use our system, thus a high rate of return.
<b>Involvement</b>	We will have feedback forms to evaluate our system which will guide our vision
<b>Deliverables</b>	None
<b>Comments / Issues</b>	None

#### Tutors

<b>Description</b>	Individual who receives a sum of money in exchange for their offered sessions.
<b>Type</b>	Primary user
<b>Responsibilities</b>	Uses the platform to upload their availabilities and offered subjects
<b>Success Criteria</b>	Ease of communication with clients and no conflicts in schedule
<b>Involvement</b>	We will have feedback forms to evaluate our system which will guide our vision
<b>Deliverables</b>	Tutoring sessions and quizzes
<b>Comments / Issues</b>	None

#### Admin

<b>Description</b>	Individual who moderates the students, courses and tutors, as well as resolves conflicts
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<b>Type</b>	Secondary user
<b>Responsibilities</b>	Uses the platform to monitor and resolve unusual behaviour.
<b>Success Criteria</b>	Ability of admin to update tutor and student profile, cancel and book sessions
<b>Involvement</b>	We will have feedback forms to evaluate our system which will guide our vision
<b>Deliverables</b>	None
<b>Comments / Issues</b>	None

#### Guest

<b>Description</b>	Any person who is browsing the website who is not a tutor or a student but wants to learn more about E-Academy
<b>Type</b>	Secondary user
<b>Responsibilities</b>	Uses platform to submit job applications
<b>Success Criteria</b>	Based on the amount of people who applied for jobs.
<b>Involvement</b>	We will have feedback forms to evaluate our system which will guide our vision
<b>Deliverables</b>	None
<b>Comments / Issues</b>	None

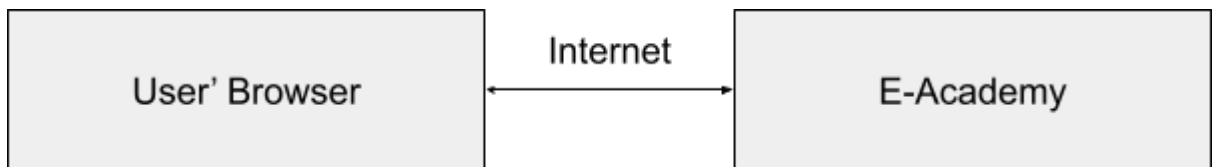
Need	Priority	Concerns	Current Solution	Proposed Solutions
Easy to use	High	User interface and user experience	See proposed	Provide large CTA buttons for important links and place menu items in intuitive categories
Receive reminder for Next session	High	None	See proposed	Send email 24 hours prior to the meeting,

				requesting confirmation
Receive notifications for cancellations	High	None	Users gets notified on the app	Integrate email and SMS messaging
Customer support	low	user satisfaction	Communication via email	Integrate live chat

## 4. Product Overview

### 4.1. Product Perspective

Our product is independent and self-contained. The communication is done exclusively between the user's browser and the system via the internet.



Overview of the E-Academy system

### 4.2. Assumptions and Dependencies

Assumptions	Dependencies
Tutors are assumed to be already there	Online tutoring sessions rely on ZOOM to conduct meetings
Tutors are assumed to at least have a bachelor's degree in the respective tutoring session subject	Third-party financial reports generation service has to be purchased to be able to fulfil this feature

Enough tutors are available to provide one-on-one tutoring sessions	Discussions have to be made with certain reputable universities in order for them to recommend us the <b>best</b> tutors who graduated from their respective universities
Overnight tutors in Canadian time are assumed to be found in order to provide 24/7 service globally	—
Tutors covering most subjects offered are assumed to already be hired	—
Tutoring cost is assumed to already be determined after negotiation with stakeholders and tutors.	—
Tutors' availabilities are assumed to already be determined before a reasonable period of time	—
HR or (administration) is already a cohesive team ready to review employment requests	—
ZOOM enterprise subscription is assumed to be made by management team	—

## 5. Product Features

### 5.1. Core Features

- **Request to be a tutor/student:** Guests can submit a request to become a tutor or a student. A tutor must apply to work at E-academy through the website since the administration must make sure that the tutors have all the required qualifications such as degree (bachelor's, master's, Ph.D.) and experience to determine their capabilities. On the other hand, students at E-academy must also request to become a student by sending the name of the tutor to the administration since they have the freedom to choose which tutor they want.
- **Group/One-on-One Session:** E-academy will offer both one-on-one tutoring and group sessions. This feature is necessary because every student learns differently. For example, one-on-one sessions would be more beneficial for students who are easily distracted since they will have the undivided attention of the tutor. Whereas, group sessions are more suitable for students who learn better in group environments, where they can discuss and better understand the course material. In addition, E-academy offers cheaper prices for group sessions since most students have a budget, while one-on-one sessions are more expensive.
- **24/7 Tutoring:** E-academy offers its services globally, meaning that there will be many students from different countries with various time zones. In order for E-academy to offer their services at an appropriate time, tutors will be hired from any country to ensure that students can book the sessions according to their availability and preferences. This feature can also be useful when students need help last minute with their assignments and exam preparation.
- **Various Subjects:** E-academy strives to accommodate students from all levels of education starting at primary, secondary and finally post-secondary. This will greatly benefit the students since most subjects that they need assistance with will be available through one platform. Furthermore, students can learn any subject that sparks their interest whether or not it is a part of their school curriculum.
- **Tutoring Cost:** This feature will display the rates of each tutor on their profile which is effective as it helps students pick tutors based on their budget. Students won't have to email to enquire about the rates which can be a lengthy process since they would have to wait for a response. Thus, having the prices available will ultimately save both the students' and tutors' time.

- **Schedule Availability:** Tutors will have their schedules available on their user profile which will be marked as either booked or available. This is also a useful feature in terms of saving time since students will be able to view the tutors' schedule and book according to the time that they are available. The schedule is also useful to the administration because they will be able to keep track of the hours being completed and if each tutor is fulfilling their hours. Lastly, having their schedules available will allow the administration to calculate the salary based on their hours.
- **Post Reviews:** Students will be able to post reviews under the tutors' profile and comment about their tutoring service and overall experience. This is beneficial for the students since they will be able to read the honest and unbiased reviews given by other students, which will help them decide if they should book a session with a particular tutor. More importantly, this feature enables the administration to keep a close eye on the tutors to ensure that their customers (students) are getting a quality education.
- **Counselling Services:** Career counselling will also be a service for students who need guidance for applying to internships or post graduation job search. This is a unique feature that will help students gain opportunities that will allow them to utilise their knowledge in the workplace environment. The counsellor will provide information on how to ace interviews, improve their résumé and cover letter and learn networking strategies.
- **Practice Quizzes:** Tutors will be required to provide practice quizzes on the subjects that they are offering for their students. This will allow students, tutors and parents to keep track of the progress. This also allows tutors to identify the topic in which their students are struggling so that they could help them improve in that certain area. Similarly, students will determine what they are struggling with through these quizzes and seek help to grasp the concepts.
- **Tutor's Verification:** Every tutor will be closely monitored so that they maintain a 3 or more star rating. If a tutor has less than a 3-star rating then they will be removed from E-academy. This is an important feature for the administration, in order to ensure quality education and to uphold a good reputation in the highly competitive market.
- **Generate Financial Report:** Monthly reports will be generated by the finance department. These reports will consist of the information on the profits made that

month, the number of new students joining the academy vs. discontinuing, and the monthly wages of the tutors.

- **Managing Requests:** Tutors will send in their request to become a tutor and submit the required documents in order for the administration to be able to review their request and either ask for additional information or questions about the submitted application. This will allow the administration department to select the most qualified and competent applicants for their E-academy.
- **Post Job:** Job listings will be posted on the E-academy website for guests to submit applications directly through the website. However, other methods can also be used to post job opportunities that will be promoted on popular recruitment websites such as Indeed or LinkedIn. Posting jobs is an important feature because E-academy offers 24/7 tutoring therefore we need many applicants from various parts of the world and to accomplish that the administrations need to widely advertise job opportunities.

## **5.2. Other Product Requirements**

When developing a software, it is critical to consider additional product needs that are required for our product to be useful and efficient. The following are the necessary requirements in each category.

### **Applicable Requirements:**

1. Platform compliance standard (Windows, UNIX, Macintosh, Android)
2. Communication standards (TCP/IP and ISDN)
3. Legal and regulatory standards (FDA and UCC)

### **System Requirements:**

The app must be compatible with Android and Apple smartphone devices.

### **Performance Requirements:**

The maximum acceptable response time is 10 seconds, as longer delays risk losing the user's attention. Moreover, except during periods of scheduled or unexpected maintenance, the application must always be accessible.

### **Environmental Requirements:**

It's possible that maintenance will cause a temporary outage of the application.

### **Quality ranges:**

Performance: User updates and entries should become accessible and visible in under ten seconds.

**Robustness:** System must be capable of handling unexpected or inaccurate user input.

**Fault Tolerance:** The system's components should function separately. In the event that one crashes, the others should continue to work.

**Usability:** The functionalities must work on all systems.

### **Design Constraints:**

**Budget:** This project has a sufficient budget, which covers labour, materials, and activities. This is a difficult limitation for our project since if it is not met, new sources of funding must be identified or the project will fail.

**Schedule:** If the project is not finished by January 15, 2023, there will certainly be negative pressure from the stakeholders, which could lead to project abandonment. Due to the fact that some costs are time-dependent, this restriction is connected to the budget constraint. Consequently, a schedule delay will cause a budget overrun.

**Documentation Requirements:** The FAQ document and the application guidelines are two necessary documents to aid users in navigating E-Academy.

### **Priority of Requirements (from highest to lowest):**

1. It is crucial that the hardware powering the server can manage both a high volume of data and a high level of traffic.
2. Given that this application will have a large amount of user data, the server database software is also high priority.
3. The software design must be functional and desirable to users
4. The documentation requirements are the lowest priority and should be completed last because they have no connection or consequence on other parts of the system.

## **6. Risk and Feasibility**

In order to ensure a successful delivery of the E-Academy application, we must consider both domain-specific risks and process related risks. The leading cause of software failure is poor risk management. For this reason, we must thoroughly identify and explore mitigation techniques for all related risks to reduce the severity of the consequences.

### **Process-related risks:**

- Unrealistic schedules and budget is a process-related risk that can postpone the planned delivery date of the product. This risk can upset our client and damage the reputation of our team which would further result in fewer business opportunities in the future. Furthermore, failing to meet deadlines would lead to hiring more developers which will ultimately be more costly. A mitigation technique to prevent this risk from occurring would be to follow a specific type of process. For instance, the agile method is a widely used process that will divide the deliverables into rapid iterations to track the progress of the product, ensure that the schedule is being respected and finally to help us stay within the budget.

- Failure to deliver intended features is another process-related risk. This is due to the lack of understanding of the requirements. In fact, according to a survey by the Standish Report analysis of 8000 software projects in the United States, 33% of them failed due to poor requirement engineering (The Standish Group, 1995). An effective mitigation technique for this risk would be to keep stakeholders involved. This would enable us to monitor the evolving requirements and make sure they are clear and consistent.
- Personnel turnover is also a process risk that should be taken into consideration. Personnel turnover is the number of employees leaving the company over a certain time period, whether it is voluntarily or involuntary. Employees are bound to leave their companies at some point, however, if multiple employees depart at once due to a toxic or stressful work environment, it can cause extensive damage to the project. The company would have to quickly hire replacements which can be time consuming. This will result in schedule delays and exceed the budget. In order to prevent this situation, it is important to create a healthy work environment where the employees feel that their opinion is valued. It is also necessary to teach employees strategies for conflict resolution, such as compromise and confrontation.

#### **Domain-specific risks:**

- The safety of all users on E-Academy is one of the main concerns. E-academy is an online platform where minors will be vulnerable to users with malicious intentions. This is a high risk because E-academy could be held responsible for any event that could possibly cause harm to its young users. Therefore, it is important to take measures such as contact information of parents and guardians of students who are below the age of 18, the background checks of tutors, encouraging and informing students to report any form of misconduct, keeping students private information encrypted (like their address) etc.
- E-Academy will be receiving transactions online from users, so security measures should be taken in consideration to protect users from fraud. The consequences of leaked credit card information could cause legal adversary. To avoid such circumstances from occurring is by encrypting data, payment tokenization, requiring strong passwords to protect users from unauthorised access, and finally monitoring fraud continuously .
- Another risk to consider is high traffic on websites, especially during midterms and final exam season, which can cause the website to crash. An increase in traffic and frequent website crashes can cause E-Academy to lose customers, as the system will become unreliable and ineffective. To prevent this situation from arising, is to regularly run server maintenance and have a solid host for the website (Brennen, 2021). Since this situation is unavoidable at times, we must inform the users on social media or email that the website is down and will be fixed as soon as possible. This ensures responsibility, honesty and communication to stakeholders.



### Technical Feasibility:

- This project is technically feasible because we have the technology to translate the requirements into operational systems. In addition, we also have a team with the technical skills to complete this project.

### Organisational Feasibility:

- This feasibility includes stakeholders, admin, and employees. The admin will be responsible for managing the tutors and students, processing financial reports and posting job opportunities. The employees would be responsible for their respective departments.

### Financial Feasibility:

- Since we are developers, financial feasibility is not applicable and of a concern in our project.

## 7. Use Case Diagram

