



Phase 2: Intelligencia E-Academy Vision Document

SOEN 342

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1. Introduction

1.1 Purpose

The purpose of this document is to provide the vision and strategic intent for the Intelligencia E-platform. This vision document defines a high-level overview of the scope of the project including the features and the high-level user needs. It covers the definition of the problem the system is answering, the product solution, and the roles shared by the stakeholders as well as their needs. Additionally, the document sheds light on the key stakeholder and user's needs, an overview of the product and its features as well as the risks assessment and feasibility involved and other use-case specifications.

1.2 Scope

This vision document describes the goals and requirements of the interactive learning system Intelligencia. Intelligencia's focus is to offer an extensive toolset for both clients and tutors to offer an optimal interactive learning environment thereby answering online learners and teachers' main concerns and needs. The system, similar to both Google's collaborative documents and Zoom, will allow tutors to communicate with students through video calls and shared collaborative boards and documents. Feedback and collaboration are also key aspects of the system ensured by allowing users to find the best tutors for their problem through a rating and feedback system, allowing them to help each other through a Q&A section and group tutoring sessions as well as the possibility for parents to know what main challenges younger students are facing through a Parent Portal. The feedback system is also a crucial tool to ensure the quality of the service provided to students. Lastly, the system provides accessibility through a library that can be accessed at any time and interactive animations decomposing complex subjects into smaller blocks thereby assisting students with an attention deficit or easily distracted.

1.3 References

1. Appendix B. Vision Document Template of the book: Dean Leffingwell. *Agile Software Requirements: Lean Requirements Practices for Teams, Programs, and the Enterprise*. Agile Software Development Series. Addison-Wesley Professional, 2011. Available <https://learning.oreilly.com/library/view/agile-software-requirements/9780321685438/?ar>

2. Risk Assessment Sample

2. Positioning

2.1 Problem Statement

| | |
|--------------------------------|---|
| The problem of | online platform that helps students with school subjects lack human interaction and one on one aspects. |
| Affects | students and parents of students that require scholarly help. |
| The impact of which is | the lack of confidence from the client, whether the student or the parent of the student |
| A successful solution would be | implementing a platform where the interaction between students and tutors, as well as parents and tutors is established. For example, with the use of a board like in a real classroom. |

2.2 Product Position Statement

| | |
|-------------------|--|
| For | students and parents of students, |
| Who | need help with school subjects, or whose children need help with school subjects. |
| The Intelligencia | E-platform is an online website |
| That | focuses on tutoring with multiple interactive learning features and experiences |
| Unlike | current websites that lack human interaction and lack one on one time between students and tutors. |
| Our product | provides the clients to speak with their tutors, to have a classroom setting with a board, ask questions in real time and give the parents the opportunity to discuss with the tutors what they require as well. |

3. Stakeholder Descriptions

3.1. Stakeholder Summary

| Name | Description | Responsibilities |
|-----------------------|--|--|
| Requirement Engineers | The engineers work with varied tutoring communities to ensure and elicit all the specifications and turn them into the accurate requirements. | Specifying, analyzing, and eliciting the main functional and nonfunctional requirements of the E-Academy system as well as verifying the requirements of the stakeholders. |
| System Developers | The developers are the main technical team who design, develop and implement the E-Academy system. | Developing, designing, and implementing the whole architecture and main features of the E-Academy. |
| Project Managers | The managers act as the supervisors and leaders of the other stakeholders. | Setting the project goals, planning for each project stage, managing the project logistics, and targeting the stakeholders' satisfaction. |
| Clients | The clients provide all the vital needs to the requirement engineers as well as offering feedback and comments throughout the development of the E-Academy system. | Specifications and requirement providers with consistent feedback on both throughout the implementation phase. |

3.2. User Summary

| Name | Description | Responsibilities |
|----------|---|---|
| Students | The students represent the main users of the system as they will be requesting help on the platform, they represent the demand to the supply of tutors that will be joining the website. They are the users who will be paying to use the services. | Create an account on the website, set up a valid payment method, and be respectful towards the tutors. Post clear and concise questions on the Q&A part of the website and put a clear description on their profile to get assigned to tutors that have the sufficient knowledge to help them. Give fair reviews to the tutors they interact with to help other users and the platform to control the quality of tutors available on the website. |
| Tutors | Based on the demand coming from our main users (the students), tutors will have the opportunity to teach students remotely and get paid through the website. | Create an account on which they will write a description that includes their availability and their experience by listing which courses they have taught before. Fill in their availability on their private schedule so the students can book sessions with them when they are available. Link their bank account or any other method they wish to receive the payment on. Provide a memorable teaching experience to every student. Be respectful to all students and all tutors on the platform. |

| | | |
|---------|---|--|
| Parents | Younger students who are not able to sign up to get tutored on their own and don't have a payment method assigned to their name, would need their parent or guardian to help them navigate the website. | Create an account for the students that are not able to create their own account, help them set up a method of payment, and book the student's sessions with the appropriate tutors. The parent/guardian must also have the first interaction with the tutor selected to explain the student's needs and make sure the tutor is aware of what knowledge the student is lacking in the material. The parents can also give reviews to the tutors to help other users with their decision when selecting tutors. |
|---------|---|--|

3.3. User Environment

The Intelligencia platform will be used by students of all ages, parents, and tutors with the goal of learning or teaching the academic material which they either need or are able to teach. The users will access the platform through the internet with the use of a browsing engine such as Google Chrome, Microsoft Edge, Firefox, Safari etc. they are expected to have a stable internet connection. The platform will provide learning tools such as private tutoring, group tutoring and video lessons to the users. Additional resources used in the tutoring sessions are live video, live whiteboard, and document upload. All tutoring sessions and videos will be one hour long to allow both the user and the tutor to easily fit the learning session into their schedules.

3.4. Key Stakeholder or User Needs

| Need | Priority | Concerns | Current Solution | Proposed Solutions |
|----------------------------|-------------|---|--|---|
| Access | High | Users need access to the platform to be able to learn | Some e-learning platforms are limited to students of certain academics | Ensure that our platform will be available to all |
| Tutor availability display | High | Users need to see tutor availability | Tutors available are randomly assigned if they can handle the subject | Allow users to see time slots available with specific tutors. |
| Quality Tutors | High | Users require quality tutors to learn more effectively | Tutors can display their own cv | Offer a rating system for tutors so that users know if the tutor is right for them |
| Easy to use website | Medium/High | Users of all technical ability will be using the platform as such the website needs to be easy to use | Complex websites with many options available | Simple user interface that is intuitive for users to navigate to their desired function |
| Guest log in | Medium | Account required to access platforms | Account creation | Allow for guests to access and view the platform |

| | | | | |
|--------------------|--------|---|--|---|
| Textbook access | Medium | Users learn course material from a textbook | None | Offer textbook rentals |
| Multiple Languages | Low | Limited language support limits user access | Some platforms support only one language | Support multiple languages, which provides more opportunity for tutors worldwide to get employed. |

4. Product Overview

4.1. Product Perspective

The E-academy system is an online platform for students, tutors, and parents, with the aim of teaching in case of tutors and being taught in case of students. It can be accessed through internet browsers on electronic devices such as a PC or a mobile. This system is an independent system, it is not a part of a larger system.

4.2. Assumptions and Dependencies

| Assumptions | Dependencies |
|--|--|
| Server is running compatible OS | System compatible with the latest versions of web browsers (Chrome, Firefox, Safari, etc.) |
| Devices using the system have stable network connections | System is efficiently reachable by using either a voice plan on smartphones or a WI-FI hotspot. |
| Tutors have the necessary hardware to record sessions | System compatible with any recording devices like microphones and cameras that are connected by either USB or Bluetooth. |

5. Product Features

5.1. Core Features

- Accounts Creation: Create an account, put a clear description, and a picture to make the experience more personal on the platform. Set up a payment method to pay with or get paid on depending on the user.
- Guest Log-in: Parents or guardians can log in to the younger student's accounts to interact with the tutors, post reviews and schedule tutoring sessions.
- Courses Attribution to Tutors: Based on the tutors' availability, knowledge, and experience they would get assigned to the students who need them the most.
- Upload/download Documents: Students can upload the homework or school material they are having trouble with. Tutors can solve problems or write notes to their students on paper and upload them to send to their students.
- Lessons Request: Students can request lessons on the platform by posting a request with a description on what they need help for. Tutors will go through the requests that are related to their field of expertise and select the ones that they are most comfortable teaching.
- Shared board between Students and Tutors: On tutoring sessions, tutors can share a board with their student so they can both interact by writing notes, solving problems, and correcting mistakes on the same online board in real time.
- Q and A Forum for Students' Questions: Students can post questions related to their assignments or school material and tutors can answer.
- Rating System for Tutors from Students: Students would have the option to leave a review to the tutors based on the experience they had to help other students with their decision selecting a tutor.
- Multi-language Platform: Tutors and students speaking more than one language can interact together.
- Animation for Interactive Learning: Tutors would be able to post animations to help the students understand better the material, they can either post it on their

profile and students can pay to view and ask questions about the animations or send them to the students they tutor during their session.

- **Tutor Group:** Tutors can accept multiple students at the same time that are interested in learning about the same material or have difficulties with the same schoolwork. Students can form groups to split the tutoring fee and be tutored at the same time.
- **Textbook Rentals:** Students or tutors can rent a digital or hardcopy of a textbook for a period of time and pay the rent fees in return.

5.2. Other Product Requirements

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|-------------------|--|
| Responsiveness | The system must be responsive on all devices and perform with low latency under high load. |
| Security | The system shall have a secure database to store all account information, have two-factor authentication as a requirement for all users, as well as encrypt all personal information that is provided by the user. |
| Compatibility | The system shall be compatible on most devices. |
| Resilience | The system shall have backup servers in the case of a failure. |
| Understandability | The user interface must be easy to navigate and understand. The system shall have a help desk center that users can call into when having technical issues. |
| Compliance | The system shall comply with regulatory and legal requirements. |
| Data Retention | The system shall retain all user data for 10 years at least. |
| Availability | The system shall be available to users 24/7. |
| Auditability | The system shall audit all transactions made by users and make them available to users. |
| Scalability | The system must be able to accommodate large numbers of users on the site at a single time. |

6. Risk and Feasibility

The initial risk assessment below attempts to identify, characterize, prioritize, and document a mitigation approach relative to those risks which can be identified prior to the start of the project. The risk assessment will be continuously monitored and updated throughout the life of the project.

6.1 Initial Project Risk Assessment

| Risk | Risk Level L/M/H | Likelihood of Event | Mitigation Strategy |
|----------------------------|-------------------------|------------------------|--|
| Project Size | | | |
| Person Hours | L: Over:200 | Unlikely | Assigned Project Manager, engaged consultant, comprehensive project management approach and communications plan. |
| Estimated Project Schedule | M: Over 4 months | Likely | Created comprehensive project timeline with frequent baseline reviews |

| | | | |
|---|--|------------------------|---|
| Team Size at Peak | H: Over 9 members | Certainty | Comprehensive communications plan, frequent meetings. |
| Number of Interfaces to Existing Systems Affected | L: 0 | Unlikely | N/A |
| Project Definition | | | |
| Narrow Knowledge Level of Users | M: Knowledgeable of user area only | Likely | Assigned Project Manager to assess global implications |
| Project Scope Creep | M: Scope generally defined, subject to revision | Somewhat Likely | Scope initially defined in project plan; changes may occur from stakeholder's side. |
| Consultant Project Deliverables unclear | L: Well defined | Unlikely | Included in project plan, subject to amendment |

| | | | |
|--|---|----------------------------|--|
| Timeline Estimates Unrealistic | M: Timeline assumes no derailment | Somewhat likely | Timeline reviewed in biweekly meetings monthly to prevent derailment. |
| Number of Team Members Unknowledgeable of Business | L: Team well versed in business operations impacted by technology used | Unlikely | Project Manager and consultant to identify knowledge gaps and provide training, as necessary |
| Project Staffing | | | |
| Project Team Availability | M: Availability questionable | Somewhat likely | Continuous review of project momentum by all team members, frequent meetings. |
| Physical Location of Team prevents effective management | L: Similar physical location | Unlikely | Team location is highly unlikely to cause any failure. |

| | | | |
|---|--|------------------------|-----------------------------------|
| Project Team's Shared Work Experience creates poor working relationship | M: Some have worked together before | Somewhat likely | Comprehensive Communications Plan |
| Project Management | | | |
| Procurement Methodology Used foreign to team | L: Procurement Methodology familiar to team | Unlikely | N/A |
| Change Management Procedures undefined | L: Well-defined | Unlikely | N/A |
| Quality Management Procedures unclear | L: Well-defined and accepted | Unlikely | N/A |

6.2 Feasibility

- **Technical feasibility:** It would be possible to develop and deliver the product based on the perspectives, assumptions, dependencies, and requirements stated above, as the scope, target market and the expected outcomes are well defined, and the team is fully equipped and well versed with the technologies required for the project to be developed.
- **Organizational feasibility:** The major stakeholders of our system include:
Requirement Engineers- who identify the main functional and nonfunctional requirements of the system, System Developers- who will translate the requirements to a working system, Project Managers- manage and overlook the progress/status of development of the system. Clients- provide consistent feedback throughout the phase and use the system.
- **Financial feasibility:** The goal of this financial study is to understand the economic benefits our project will drive. Based on our system, we will be charging instructors a percentage fee for every course sale made on our platform and a percentage cut from each user that purchases a course/tutoring session. In terms of long-term costs after the product is released, we are looking at uptime costs of the system (servers, storage etc.) and any maintenance costs (downtime) that may occur.

7. Use Case Diagram

