Vision and Scope Document

for

Virtual Classroom

Version 1.0 approved

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# Table of Contents

Table of Contents ................................................................. i
Revision History ................................................................. 1
1. Business Requirements ......................................................... 1
   1.1. Background .............................................................. 1
   1.2. Business Opportunity ............................................... 1
   1.3. Business Objectives and Success Criteria ......................... 1
   1.4. Customer or Market Needs .......................................... 1 - 2
   1.5. Business Risks ....................................................... 2
2. Vision of the Solution ......................................................... 2
   2.1. Vision Statement ...................................................... 2
   2.2. Major Features ....................................................... 2 - 3
   2.3. Assumptions and Dependencies .................................... 3 - 4
   2.4. Scope of Initial Release ............................................. 4
   2.5. Scope of Subsequent Releases ..................................... 4
3. Business Context ............................................................... 4
   3.1. Stakeholder Profiles .................................................. 4
   3.2. Operating Environment .............................................. 4
1. **Business Requirements**

This product will provide our sponsor with an online repository, giving their employees an effective tool to simplify the use of online simulations as a teaching aide. This will both increase the ability of teachers to use online resources in their lessons, and provide students with more opportunities to use these resources for hands on learning.

1. **Background**

This project was created with two goals in mind:

1. Providing a simple centralized online resource that will allow teachers to easily access online simulations for use as a teaching aid.
2. To give those teachers a way to easily distribute these simulations among their students while allowing them to evaluate the student’s understanding of the simulations via quizzes and homework.

2. **Business Opportunity**

There are a few online educational aids for teaching available. Ours is the only one that will allow teachers to use simulations from different websites all on one database.

3. **Business Objectives and Success Criteria**

In order for this project to succeed, it must do several things. It must be able to run all simulations in a web browser. This will help the consumer because some of the simulations available have to be run in a different environment. Also, the project needs to be easy to use. If the project is too difficult to use, the instructors will not be able to use it properly, therefore the product will never be used.

4. **Customer or Market Needs**

Teachers have previously encountered problems accessing and distributing simulation based teaching aids to the students in their classrooms. This process has traditionally had a high overhead; downloading, installing and distributing these simulations to an entire classroom of students is a time consuming task. Our product aims to simplify this process by giving teachers
a simple way to access a large repository of these simulations at a centralized online database. This database must be easy to use as the target user does not necessarily have any background in computer technology.

5. **Business Risks**

One major risk we have in this project is the short development time. The project is somewhat large and will require us to do a lot within the next four months. Another risk is our ability to learn everything in a timely manner. The group is unfamiliar with a few of the concepts and technologies we will use for this project. Another major risk is the lack of communication between the group and the stakeholders. The stakeholders and the group have schedules that conflict, so a concern is that the project will not fulfill the stakeholders’ wants.

2. **Vision of the Solution**

1. **Vision Statement**

The finished project will be a web-based education tool that provides teachers and students in junior high and high school a centralized database of educational simulations. It will enable teachers to create "classes," search and choose simulations for their class, and edit the simulations all from a web browser. It will enable students to join the classes they are invited to and view simulations that the teachers have selected. This project will also restrict usage to those who have accounts, and have features that prevent fraudulent accounts.

2. **Major Features**

   1. Login:
      Allows the user to sign in with their user-name and password to gain access to the website’s features.

   2. Create Account:
      Allows would-be users to generate an account by filling out the necessary information into the text fields. Though this feature is allowed to any individual, only students and teachers in the database will be able to create accounts.

   3. Simulation Search Bar:
      The teacher users will be able search the database for simulations related to the keywords, phrases, or topic inputted into the search bar. This feature will return a list of results that are related to the input.

   4. Add Student Button with Input:
      Teachers will be able to add students to their classes. This feature will allow students belonging to a given class to view the simulations, homework assignments, and quizzes that are posted by that class’s teacher.
5. Add Class Button with Input:
Teachers have the ability to create their classes. By clicking on the button, a folder that represents a class will be created. This class folder contains all of the features that a class needs to have.

6. Link Simulation Button with Input:
This button will allow the teachers to place the simulations found in the database via search bar into their respective class folders.

7. Add Homework/Quiz Button:
This function will allow the teacher to create an assignment or quiz. Through the use of a customizable template, the teacher will be able to adapt the template to his/her specific needs for both homework assignments.

8. Homework/Quiz Customization Tool:
This feature allows the teacher to modify the existing template so that they can create an assignment or quiz. This feature is comprised of smaller features, in this case buttons, that allow the teacher to customize the template to suit their needs.

9. Simulation Customization Tool:
This feature allows for basic customization of original simulations found in the database. Teachers will be the only users to have access to this feature. Modifications may be limited to textual changes at the present time.

10. Error Handlers:
This feature is not explicitly seen, unlike the other features listed, because it is not a button or folder. However, this feature is visible to all users at any and all times where an error is present. For example, when a user does not enter the correct user-name and password, an error handler will display that there has been an invalid input.

11. Sessions:
This feature keeps track of each individual user and the actions that they perform, distinguishing the difference between all persons logged in. This prevents certain data from being modified for all users when one user changes the given data. In general, this means that every user has a separate copy of every piece of data.

3. Assumptions and Dependencies

There are a few assumptions we have with this project. One is that the two major types of users for this program will be school teachers and students in grades 6-12. Keeping this in mind, the group also assumes that the interface has to be very simple because of the lack of experience the users may have. We also assume that the open-source websites we will get our simulations from will not drastically change their technology or decide to cut off access to their resources.
Another assumption that the group has is that one person will be put in charge of adding teachers to the database so that false teacher accounts are not created.

4. Scope of Initial Release

For the first release, we expect to include many features that will be helpful to the users. One is the centralized database of online simulations; this saves teachers the hassle of searching different websites for what they want. Another helpful feature we will be implementing is the ability for instructors to run all simulations in a web browser. This will save confusion and time with some of the simulations that require the user to run a different program.

5. Scope of Final Release

For the final release of this project, we expect to have our initial release perfected. We will also add the features that help create student and teacher profiles. If time permits, we will add a gradebook for the ease of the teachers. We will also ensure the security of the login process; our intent is to make sure that false accounts cannot be created.

3. Business Context

1. Stakeholder Profiles

For this project, we have two major stakeholders. One of the stakeholders are the educators for the junior high and high school students. They will benefit from this project because:
- They can easily send all simulations they need to only the students in their class
- They can run simulations without a lot of computer experience
- They can give students an online progress report to their grades
- They can easily search simulations with keywords

The other major stakeholder to this project is the students. They will benefit from this project because:
- They can look up assignments online, even if they did not attend class
- They can check their grade progress
- They can easily use the simulations without any prior technological knowledge
- They will have an easy way to check online simulation homework for every class that they are enrolled in

2. Operating Environment

Client computers will be running any running web browser (including, but not limited to Mozilla Firefox, Internet Explorer, Google Chrome, and Safari). These web browsers will run on any computer. The access time should be primarily during the school day (from approximately 8 AM to 4 PM), but we expect some usage in the evenings. The server will be located on the Google Apps engine. Most of the needed code should be done in Java. For our database, we will be using MySQL database architecture. For the interface that the consumer sees, we will be using XHTML, along with AJAX for some of the functions.