Vision and Scope for Interactive Simulation Virtual Classroom

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This project was created with two goals in mind
1. Providing a simple online resource that will allow teachers to easily access online simulations
2. To give those teachers a way to easily distribute these simulations among their students.
Business Requirements

- Increase the ability of teachers to use online resources in their lessons
- Provide students with more opportunities to use these resources for hands-on learning.
Stakeholders and Users- Educators

- Benefit for a few reasons
  - Will easily be able to send simulations to students in their class
  - Easily run simulations with limited computer experience
  - Give students an online progress report
  - Easily search simulations with our search function
Stakeholders and Users- Students

- Benefit for a few reasons
  - Look up assignments online, even if absent from class
  - Check their grade progress
  - Easily use simulations with limited computer experience
  - Can easily check homework for all classes on one webpage
Risks

- Short development time
- Lack of knowledge of needed resources
- Difficulty in meeting with the stakeholders
Assumptions/Dependencies

- Major users will be middle school and high school teachers
- Some of our users will not have a lot of experience with computers
- The open-source sites we get our simulations from will not drastically change
- The open-source sites will always be available
- One person will administer teacher accounts
Vision of the Solution

- Must be able to run all simulations in a web browser
- Ease of use
- Simplified process for the teachers to run and share simulations
Vision Statement

- Enable teachers to create “classes”
- Search and choose simulations for their class
- Edit the simulations from the web browser
- Students should be able to join their classes
- Restrict access to those students and teachers in the school
Major Features

- Login
- Create Account
- Simulation Search Bar
- Add Student Button with Input
- Add Class Button with Input
- Link Simulation Button with Input
Major Features cont.

- Add Homework/Quiz Button
- Homework/Quiz Customization Tool
- Simulation Customization Tool
- Error Handlers
- Sessions
Scope of Release

- Centralized database of open-source simulations
- Ability for simulations to be run in a web browser
- Student and teacher profiles
- Possible gradebook and quiz functions
- Security of the login process
Operating Environment

- Will run in any web browser
- Will mostly be accessed during school hours, but expect 24 hour access
- Server will be run on Google Apps Engine
- Coding will mostly be done in Java
- MySQL will be needed for the database of simulations
- AJAX needed for some browser functions
- HTML needed for user interface
Functional Requirements

- Separate user name and password
  - Will allow each user to have unique view when logged in

- Separate teacher and student accounts
  - Each account requires different features
  - Teachers require functions for adding students and searching simulations
  - Students require functions that allow them to view simulations and answer questions about them.
Functional Requirements Cont.

- Should only work with a valid login.
- Search through the database function
  - Project should be able to handle search cases with multiple or no results.
- Homework and quiz customization
- Homework and quiz submissions
- Simulation customization (if time permits)