CSE 403 - Spring 2007 Assignment 1

The goal of this assignment is to get great product ideas out on the table and expose them to others to see and think about.

Due dates:
Fri March 30, before 10PM, (proposal) team selection, link on website
Tues April 3, before 10PM, product submission, turnin tool

Presentation dates: Wed, Thurs, and Fri April 4-7, in class and quiz section

Overview

Your primary job in this assignment is twofold:

1. To describe your proposed product so that people understand what it is and why it is valuable
2. To describe the product architecture so that it is clear that the system can be built, making excellent use of the available resources (approximately 8 weeks and 6-8 engineers) and technology

This type of presentation is sometimes referred to as the Life Cycle Objectives (LCO) milestone review for a project.

You may work in teams of two-three for this assignment, with your choice of partners. There will be a link for identifying teams on the web calendar. ***Please sign up your team by 10:00PM Friday March 30st.***

The specific deliverables for this assignment are identified below. You will present your LCO material to the class after turning it in. Everyone will then have the opportunity to review the material and vote on the products they feel most compelling and would most like to work on. At that point, the TA's and I will reorganize you into larger teams to actually build those products.

Product requirements

The function performed by your product is entirely up to you. With this assignment, you have the opportunity to propose a product that you think is interesting and valuable. Think about the customer of your product. Your product should either cover new territory or have some compelling feature(s) that would make your customer select it over related products.

Ultimately, if you can convince your fellow developers of your product's value, you can then design and build it in a team environment. This will give you practice working in a team, building a real product with the processes we have and will discuss in class.

The three constraints on the product design, however, are:

1. That it be something other than a game.
2. That it be based on a client / server networked architecture. You will be expected to well define the interface between the client and the server as the product is designed and built.
3. That it be able to be installed and run by 403 staff working on systems such as the CSE undergraduate lab.

If your product will depend on the availability of special software, we may or may not be able to get you (or the staff) access to it, so ask upfront.

Product Life Cycle

We are following a spiral life cycle model augmented with desirable features of other models such as staged delivery, in the activities of this class. This assignment can be thought of as an early spiral turn around the life cycle. This review is a tool to help you and the other designers and developers in the class decide which projects are interesting and practical. Some projects will not go beyond this stage, and the others will be staffed up and implemented.

The essential elements of an LCO, which you should cover as five sections in your product description document, are:

1. **Operational Concepts**
What is your product, on a high level? Who is it for? Why is it interesting? Describe the top-level objectives, differentiators, target customers, and scope of your product.

2. **System Requirements**
What are the essential features of your product? Describe it from the user or customer's perspective, not necessarily from a computer scientist's. You may wish to include a (rough) drawing of the appearance of the software.

3. **System and Software Architecture**
How are you going to implement the preceding functionality? Describe at a very high level the components / modules that will interact in your system. A diagram is recommended. What programming languages, tools, and/or data sources (roughly) do you intend to use? (Do not discuss actual code details, classes, or object-oriented design at this stage.)

4. **Lifecycle Plan**
What is your (rough) schedule for developing this product? What are the major tasks and milestones, and when should each one be tackled and completed?

How many engineers are needed, with what expertise/playing what roles, and roughly how will their time be divided?

5. **Feasibility Rationale**
What leads you to believe that the project will be completed successfully? What risks exist? What assumptions are being made? What features have been cut or shortcuts are being taken?

Deliverables

1. An overview presentation.
A set of Powerpoint presentation slides that summarizes the LCO elements for your product. This is the pitch that you will give to the class. You should have at least one diagram in your presentation (you know the saying, a picture says a thousand words). Your delivery should take at maximum 5 minutes, so be rehearsed and prepared. All group members must participate.

2. A project description document.
This report should address each of the five LCO elements listed above, as appropriate for your product. It should be about three pages long, with an absolute maximum of five pages, including diagrams. Conciseness is a virtue.

Please have one person from your group submit your deliverables so that both files will be stored in the same place. The preferred names for these files are *YourProjectName*_proposal.[doc|pdf], *YourProjectName*_presentation.[ppt|pdf]. Please have all group member names visible in each file. Use the turnin tool, "attu> turnin –c cse403 –p proposal <filelist>". ***This assignment is due before 10:00 PM, Tuesday, April 3rd.***

Grading

Your grade on this assignment is not determined by whether or not the project goes beyond the LCO stage. A good LCO review that clearly identifies the benefits, risks and costs is valuable in either case.

We will be looking to see that you have addressed the identified LCO elements, that you have made reasonable judgments concerning them, and that you have organized and presented your proposal well. Remember that this delivery is the basis for the class to decide which projects to work on for the rest of the quarter.