CSE 403 - Spring 2006 Assignment 1

Goal: Get great project ideas out on the table and expose them to others to see and think about

Due date: Fri March 31, before 11:59PM, group selection, link on website
Tues April 4, before 11:59PM, project submission, link on website

Presentation dates: Wed, Thurs, and Fri April 5-7, 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 given the available resources and technology

This type of presentation is sometimes referred to as the Life Cycle Objectives (LCO) milestone review for a project (see Boehm paper and lecture notes).

You may work individually or 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 either as an individual or a team member by 11:59PM Friday March 31st.***

The specific deliverables for this assignment are identified in the deliverables section. 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 projects they feel most compelling and would most like to work on. At that point 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, and if you can convince your fellow developers, 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 discussed in class.

The two 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 (n-tier) architecture. You will be expected to well define the interface between the client and the server as the product is designed and built.

Design and development of the server side may be a large or small part of the project. A typical design will include an interface definition and a backend capability. The backend may require significant development (e.g., database management, data collection and fusion) or it may not. Integrating and wrapping existing services (ie. google) is another approach to providing a server side capability, *however*, you need to ensure that the programming interface your software will connect to exists. We have access to database servers (ie. mySQL, postgreSQL) in the department for your use if needed.

The client selection is up to you, as appropriate to the intended usage. Portable, laptop, and desktop clients running as standalone applications or using a browser are all possibilities.

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

Life cycle fundamentals

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. The milestone at the end of this turn is the Life Cycle Objectives Review. 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 generic elements of the Life Cycle Objectives milestone are:

1. Operational Concepts - What is it, high level
   Describes the top level system objectives, differentiators, scope
2. System Requirements – What is it, more specific to the deliverable
   Describes the essential system features
3. System and software architecture - How?
   Analysis of technical feasibility at this level, includes a high level sketch of the components and how they will integrate (diagrams are good)
4. Lifecycle plan - Who wants it? Who'll develop and support it? How and when?
   Identifies the major stakeholders now and in the future, their roles, responsibilities, and high level timeline for the project
5. Feasibility Rationale - Is this really true?
   Evaluates the conceptual integrity and compatibility, identifies risks

Deliverables

1. An overview presentation. (5 points)

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. Your delivery should take at maximum 5 minutes, so be rehearsed and prepared. All group members must participate.

2. A written analysis of the LCO elements. (20 points)
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. There is a turn in link on the class calendar page. ***This assignment is due before 11:59 PM, Tuesday, April 4th*.**

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.

This assignment represents 10% of your course grade.

References

Rapid Development, McConnell
Anchoring the Software Process, Barry Boehm, USC