

Project Proposal Milestone

Goal: To generate project ideas and expose them for others to see and think about

Due Dates:

Part I: Electronic submission – Tuesday, June 28 @ 10pm

Part II: In-class presentation – Wednesday, June 29, in class

Submission: A turn-in link will be made available on the course web shortly.

Introduction

Your primary task in this assignment is:

- (a) to describe the product you are proposing so that other students in the class can understand what it is and
- (b) to describe the architecture so that it becomes clear that the system you are proposing can be built given the available resources (time, people, technology, etc.).

In the literature [2], this task is sometimes referred to as the Life Cycle Objectives (LCO) milestone review for a proposed product.

The specific deliverables are identified in the ‘Deliverables’ section below.

Mechanics

You will be working in teams of two¹ for this assignment only, and you need to choose a partner. As soon as you have found one, please let us know the names and emails of both partners – send this information to both the instructor and the TA.

After turning in your project proposal (LCO materials), you will get a chance to present it to the class. Then, everyone will have a short time to review all the materials (online) and, along with their impressions from the in-class presentations, to vote on which of the candidate projects they feel are most compelling to work on. We will gather all votes and based on them will assign larger teams for the rest of the quarter to actually build those products that were perceived as most promising.

Life Cycle Model

The functionality performed by your product is entirely up to you. With this assignment, you have a chance to propose a product that you think is interesting and valuable (to some audience), and if you can convince your fellow classmates to join you, that product can then be designed and built in a team environment. This will give you practice working in a team to build a real product by using the processes and techniques discussed in class.

We will be following a spiral life cycle model [1] augmented with desirable aspects of other models (e.g., staged delivery, evolutionary prototyping, design-to-schedule) in the project 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 referred to as the Life Cycle Objectives Review. This review is the tool to help you and the other designers and developers in the class decide which projects are both interesting and practical. Some projects will not go beyond this stage, and the others will be staffed up and implemented.

Life Cycle Objectives Review

The generic elements of the LCO review milestone are:

¹ In special circumstances, we may allow teams of different sizes.

1. Operational concepts - What is it?
Description of the high-level system objectives and scope
2. System requirements - What does it do for us?
Description (at an appropriate level) of the essential system features
3. System and software architecture - How?
Feasibility analysis at the level of the architecture
4. Life cycle plan - Who wants it? Who'll support it?
Identification of the major stakeholders now and in the future
5. Feasibility rationale - Is this really true?
Evaluation of the conceptual integrity and compatibility

Evaluation

Your grade on this assignment will *not* depend on whether or not your proposed project goes beyond this step. An LCO review that clearly identifies the benefits, risks, and costs is valuable in its own right.

In our evaluation of your work, we will be looking to see that you have addressed all the necessary elements of an LCO review (above) and have made reasonable judgements concerning them. (Refer to the lectures and the Boehm paper [2] for more information about the content of an LCO review.)

Many interesting and useful products are based on the integration of several communicating pieces (e.g., in a client / server networked n-tier architecture). Yours does not have to be a client-server networked application if you do not want that. In any case, you will be expected to carefully define the various components of your product and the interfaces between them.

Technological Resources

The department gives us access to web servers and database servers for your use, if needed. 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 be sure to ask upfront.

Deliverables

We will expect to see the following deliverables from each team:

1) An overview presentation – a set of PowerPoint presentation slides that summarize the five LCO elements for your product. This is the pitch that your team will give to the class. We expect to have 6-7 teams to get through in 1 hour, so time your pitch to last no more than 7-8 minutes and, we recommend, allow time for questions within that period.

In wrestling about what to include in your presentation versus what to skip from it you will discover that you are asking yourself the same kinds of questions that your audience will wonder about as they listen to your pitch. (One such question is, “What is the most important thing that distinguishes this project from all others?”)

2) A written analysis of the LCO elements – addressing each of the five LCO elements listed above, as appropriate for your product. This should be about 3 pages long, with an absolute maximum of 5 pages, including diagrams. Remember that conciseness is a virtue.

References

[1] *Rapid Development*, Steve McConnell.

[2] *Anchoring the Software Process*, Barry Boehm (USC), <http://citeseer.ist.psu.edu/boehm95anchoring.html>

Turn-in

Please have one person from each team do the turn-in so that both files from your group are in the same place. There will be a turn-in link on the course web page soon.