

CLIENT ORIENTATION DOCUMENT

0. About this Document

This document is intended to inform clients and potential clients about the Senior Assessment projects undertaken by student development teams in course sequence CS425 and CS499 at SIUE. If you have any question or comment about the content of this document, please contact the instructor of the course. Suggestions for improving this document are most welcome.

1. Overview of Senior Assessment (Senior Project) Projects

Computer Science (CS) Senior Assessment (senior project) is a two semester course sequence in which small teams of students each undertake one software development project for an outside (usually not a CS faculty member) client. The project begins with **Requirements Elicitation** in CS 425 and ends with **Acceptance Testing** in CS 499. In other words, the teams will begin by working with the client to understand what the client needs, and finish by having the client determine that the team has delivered the needed product.

The CS senior project classes present the students with the opportunity to practice and refine the skills, and use the knowledge, they have gained in prerequisite Computer Science courses through the project they are undertaking for their client. The experiences the Computer Science Department desires for the students include working with clients to determine the actual need, designing, building, and testing software systems.

Projects are scheduled for the two courses, CS 495 and 499, which compose the Senior Assessment course sequence. The same team will work with the same client during the two semesters. These projects may begin in August and complete in April, or begin in January and complete in November. Though the delivery of the projects is the focus of these courses, there are other course activities during the semesters.

1.1. Limitations

In the academic setting there are limitations to the amount of time the students should reasonably be expected to contribute to these projects. In addition, other events (e.g., exams, holidays, semester breaks, etc.) dictated by the academic calendar may preempt project progress temporarily. In particular, students are not expected to work during the summer term (May – July) in Jan to Dec projects.

Due to the limitations of the academic setting, the Computer Science Department cannot guarantee that a team will be 100% successful. Unforeseen technical challenges or any number of other obstacles can hinder the progress of teams. However, in recent years, the majority of teams have delivered a working product. While it is a goal to deliver a working product in every case, the primary goal is student learning.

2. Project Function

2.1. Organizational Overview

The Senior Assessment course functions largely like a small software consulting firm. The instructor(s) of the courses oversees the teams and provides technical assistance as necessary. Ideally, the instructor of the course has nothing to do as the teams work with the clients to achieve the clients' goals. In reality, the instructor is frequently involved in technical aspects of the projects, as well as managing personnel of the teams.

2.2. Software Development Process

In the world of Software Engineering (the field the student teams are practicing in this project) there are generally two schools of thought on software development process.

'Waterfall development', the first school of thought on software development, was adopted from large engineering projects. The strategy large engineering teams necessarily employ is to have all of the blueprints drawn before construction begins. Think bridge building – you should have calculated all stresses and forces before you can start building the foundation. In this kind of project, making changes to the design after construction begins is very expensive and potentially catastrophic.

'Spiral development', the practice of growing a project, is the new school of thought on software development. Spiral projects begin by developing small parts of the software system and include the client feedback as new parts of the system are developed. The spiral approach, also sometimes referred to as 'agile development', considers the client the ultimate judge of what the project should be and accepts the clients wishes at all steps in the development.

The students are able to perform utilizing either a waterfall or spiral development process. If you, as a client, know exactly what is needed, then waterfall development may be appropriate. However, in most cases, the spiral development process is appropriate.

2.2. Role of the Client

The client is the one person who knows what is needed. Also, the client is the one person who will determine when the project is done (within reason). Thus, the client has an extremely important role in the project.

While the development team must respect the clients' schedule, the client must also be available to the team on as as-needed basis to allow the team to discuss requirements, review designs, and test prototypes.

2.3. Client-Team Interactions

In most cases, the development team will contact and communicate with the client directly. The team needs to have direct communication for understanding the client's needs and demonstrating progress. When projects are progressing well the client and the instructor of the course will have very limited contact. The length and frequency of meetings can vary considerably from project to project and depends on many factors.

In addition to face-to-face meetings, the teams may want to communicate via phone and/or email. The team should show deference to the client's preferred modes of communications and respect the client's schedule. Simply make your preferences and wishes known to the team.

2.4. Documentation

Teams should be documenting all of their work. The documentation takes many different forms including informal sketches of designs, UML diagrams, E-R diagrams, workflow diagrams, paper prototypes, internal and external code documentation, records of interviews, and formal written documents. (The list of required formal documents is given to the student teams.) Many of these documents will be of little value to the typical client. However, the client and team must find a way to document communication about the design of the user interface.

The students should show the client representations of user interface designs (i.e., windows, menus, buttons, dialog boxes, etc.) for client approval. The representation may be on paper or in the form of a (non-)functional prototype. The point in discussing the design of the user interface is to gain the client's feedback before investing more effort in the development. The user interface is more than just a part of the software; it represents the functionality of the product. In other words, the user interface is the medium through which the user performs tasks. The obvious consequence of this is that a task not present in the user interface is impossible for users to perform.

3. Schedule

3.1. Project Schedule

As mentioned above, the projects are scheduled over two consecutive full semesters.

The goals of the first semester are to fully understand the project scope, have a significant portion of the product design completed, and have built and tested some portion of the software system.

The goal of the second semester is to complete the product development to client satisfaction. Client satisfaction is determined by 'acceptance testing' in which the client (or client's designee) uses the product to determine if it meets all needs and is suitable for use.

Near the end of each semester development teams make presentations to the CS faculty and students. Clients are welcome, and encouraged, to attend. The teams should make their respective clients aware of the dates for presentation.

More schedule details are given for each of the possible sequences below.

3.1.1. Fall-Spring Schedule

In Fall-Spring projects (Aug to April) the development teams should begin meeting with clients by early September. Tasks of the first semester are typically presented to Computer Science faculty and clients the Friday before Thanksgiving Break. The final presentation is typically scheduled for a Friday in April about two weeks before final exams.

3.1.2. Spring-Fall Schedule

In Spring-Fall projects (Jan to Dec) the development teams should begin meeting with clients by early February. Tasks of the first semester are typically presented to Computer Science faculty and clients a Friday in April about two weeks before final exams. The final presentation is typically scheduled for the Friday before Thanksgiving Break. Generally speaking, students beginning in Spring and ending in Fall do not work on the project during the Summer term.

4. Dealing with changes and the unexpected

Please contact the course instructor. (see below)

Fall 2014 / Spring 2015 Specific CS 425 / 499 information

This year, due to the number of students/teams/projects, there are two instructors. One will be the primary management for a specific team. Below is the contact information for both instructors.

Dennis J Bouvier

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618-650-2386 (department office)

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Dr. Gary R. Mayer

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Tentative Presentation Dates

Fall Presentation date: November 21, 2014

Spring Presentation date: April 10, 2015

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