Introduction to Software Engineering
CS 360, Fall 2021
SCAI, Arizona State University
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Class Project Requirements:

Project Objectives: Course project will reinforce important concepts such as requirement analysis, project planning, design, development, testing, deployment, and teamwork that we learn in the class while gaining important experience in developing a new software product. You are expected to participate and complete the project in professional manner. You will have ample of time to accomplish the project successfully.

Overview: Students will be divided into groups, with about 5 students per group. Each group needs to elect a team leader. The team leader could be permanent for the whole project. Team members may also decide to change their leader during different phases of project. But the change should not be too frequent, in order to avoid a chaotic situation. Note that the groups will be determined by the instructor, though initially students may suggest how they wish to be grouped. The project work must be distributed among team members as equally as possible and will be considered for project evaluation.

Phases and Deliverables: Project consists of three phases and your project will be evaluated at each phase**. Instructor will provide more details and requirements of each phase. Also, you can download them from class web site**.

Phases	**Deliverables**	**Related Chapters/ Lectures**	**Contribution**
Phase I : Team formation, elicit and document the requirements and the initial user guide for the project.	Cover Page (5) Project Overview (20) User's Guide/Walkthrough (30) Credit Sheet (5) **Above items will submitted as a single PDF** -Peer Evaluation (turned in separately) (5)		65 points
Phase II : Analysis, Initial design, and testing plan	Use Cases and the Use Case Diagram (30) Object Identification and CRC (20) Initial Class Diagram and class descriptions (40) Test Plan for Functional Testing (30) **Above items will submitted as a single PDF** Initial Prototype Code (20) - Submitted separately		140 points

Phase III: Implementation	Implementation/Demo (150) – Code Submitted Separately		150 points
Phase IV: final project report, and presentation	Final Class Diagram (30) Data Design (20) Sequence diagram for major scenarios (30) Testing Report (20) Revised User's Guide (10) Conclusions (5) **Above documents submitted as single PDF** Presentation (50) **Link for the recorded presentation**		165 Points

Generic Guidelines for Project Evaluations: The instructor will evaluate the groups periodically, phase by phase, based on submitted written documents of each group. So, it is important that groups must hand in their project documents in time, and late submission will be penalized 10% per day except for the final phase. Final submission must be no later than 11/28/2021, 11:59 pm. The confidential self-evaluation of students for other group members will be considered for differentiating the grades of group members. That is, each group member is expected contribute equality to the project and group members not making contributions to the project will receive zero for the project grade.

The following will contribute to project grading:

1.Timeliness (and quality) of documents: it is important that groups must hand-in their project documents in time, and late submission will be penalized 10% per day except for the final phase. Final submission must be no later than 11/28/2021. No submissions will be accepted after 11/28/2021, 11:59 pm

2. Quality and completeness of the Software System Design

3. Thoroughness, completeness, and organization of testing

4. Software System operation
(Lack of errors, system crashes, ease of use, readability of user manual, correctness and completeness of user manual, etc.)

5. Quality of presentation
(Organization, pertinence, clarity and understandability of oral presentation, preparation and use of visual aids, effectiveness of demonstration, etc.)

6. Quality, completeness, and organization of the Final Report
Note: Projects with significant contributions and publishable quality may be submitted to appropriate conferences so that you will get a chance to present your work to peers.

Frequently Asked Questions

1. *What do we turn in?*
   There are 4 sets of deliverables that you will turn in with your assigned group this semester. These will be graded. The schedule of due dates and specific details will be posted on myASU. Additionally, you will turn in weekly reports on your individual progress (i.e., what effort did you put into your group project this week) and also at least two team meeting reports a week. You will also turn in reports on your peer reviews when you review each other's work products.

2. *Will we receive a paper that tells us everything that the customer wants?*
   No. You will not receive the requirements for the project in writing. It is your team's job to pay close attention in class to the description of the system that the customer wants and to clarify any questions during time allocated in class or office hours. The main purpose of the first phase of the project is to document requirements!

3. *Can our team use C# or some other language, and not Java?*
   Only programing language allowed is Java.

4. *We have some ideas that the customer didn't ask for – but we think that they would be great additions to the project. Can we receive extra credits?*
   Yes. This project is a good learning experience and if there is something in the field of Software Engineering. For instance, if you come up with extra features, a phenomenal design, implement a graphical user interface, you can receive extra credit. You have to **clearly label** and highlight what are extra credits in your project so that we know that you understood the requirements correctly and depict between what is required and what is not. If it is not labeled clearly, we will deduct points for the extra work because we will assume that you added wrong requirements that we did not specify.

5. *Our grade was low because one of our team members did a bad job on his/her part of work. Can our grade be higher because we did more work?*
   No, everybody in the group receives the same grade, however the grade is scaled based on peer evaluations. The biggest problem in Phase 1 of the project is that many students learn the hard way that they should have reviewed each other's work before its submission. Try not to learn the hard way.

Project Idea: Office Automation System for Pediatric Doctor's Office

This project will involve system analysis, design, implementation, and testing of an Office Automation System for Pediatric Doctor's Office. This system will be used by doctors, nurses, and patients (or parent/guardian). Main objective of this software system is to reduce the paperwork and also increase the accessibility of patient records. Ideally, this system should be accessible through web as well as using a mobile app. However, for CSE 360 class project, you will be developing a GUI based desktop application using javaFX (that you have learned in CSE 205). The following section explains the system operation and expected functionality

System Operation:

When a patient come to visit the doctor, first, meet and greet is the office staff nurse. Nurse will take vitals such as weight, height, body temperature, and blood pressure if the patient is over 12 and inter into the system associated with the visit. Then the patient will be escorted into the examination room where he/she will be examined by the doctor. Before the doctor's arrival, nurse will ask specific questions related to the health of the patient such as known alleges, any health concerns and enter to the system. At this time, the nurse will be able to see the patient's history including previous health issues, previously prescribed medications, and history of immunization.

Once the patient is ready to be examined by the doctor, the doctor will do a physical test and enter any findings to the system. If any medication need to be prescribed, the prescription will entered into the system as well as the prescription will sent to the pharmacy listed in the patient's records. The doctor will be able to see the patient's history including previous health issues, previously prescribed medications, and history of immunization and any other recommendations will be made.

The patient portal of the system allows the user to create an account in the system. Each patient is uniquely identified in the system using patients first name, last name, and the birthday combination. The patient will be able to see and change contact information entered. Also, patients can see the summary of each patient visit. Also, patient can sent messages to the doctor/nurse with specific health related questions. When, the nurse or the doctor see a message sent by a patient, they can reply via email or through the patient portal. If urgent, they will make a phone call to the patient.

In addition to health-related information, this office automation system stores patient's contact information, insurance information, and pharmacy information.