坡EP 21 Fall 2009
Dr. Nigamanth Sridhar Software Engineering
Homework Assignment 1: Requirements Analysis
Cleveland State University
Electrical and Computer Engineering
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For this assignment, you will work in groups of four or five people. The objective of the assignment is to gain some experience applying the requirements engineering and analysis modeling techniques discussed in class. You will demonstrate your knowledge of these techniques in the context of a small software project. A brief description of the system to be built appears below.

The Personal Time Tracking System (PTTS) will be used by faculty members at Cleveland State University to assist them in managing and monitoring their daily schedules. The system will allow faculty members to register recurring and non-recurring tasks as part of their configuration data, and to record time entries against those tasks. Time entries associated with non-recurring tasks will be entered manually; time entries associated with recurring tasks will be generated automatically.

The system will allow faculty members to monitor their schedules using a variety of reports. The Chair of each department will have access to each faculty members configuration data, and will be allowed to enter additional tasks. The system will allow the Chair to associate constraints with each of these tasks, requiring faculty members to enter a minimum number of hours per task period. The system will also allow the Chair to monitor faculty member schedules using a variety of reports.

This will be a web-based application.

Your goal for this assignment is to create a Software Requirements Specification document for this system. Here are the specific deliverables, and due dates:

1. *(Due Tuesday, Sep 22)* An identity for your “company”: Name, Logo, etc. Be creative.

2. *(Due Tuesday, Sep 22)* Roles and responsibilities for your team members. A suggested roster would include at least the following roles:
   - Project manager
   - Systems engineer
   - Development lead
   - Test lead

   For this assignment, you will be interviewing the project stakeholders to gain a more thorough understanding of the system to be constructed. Your instructor will play the role of a customer advocate, and your Systems Engineer will run the interview meeting. **The interviews will occur during the week between 9/22 and 9/28.** When you arrive at the interview, you will be asked to submit the following documents:
3. A document that provides a more detailed description of the system to be developed. Your document should include (i) an introduction that describes the business goals of the project, (ii) an overview of the product to be built, (iii) a description of each of the project stakeholders, (iv) a summary of their expectations, and (v) an initial time and cost estimate for the project, which should include a justification of the proposed figures.

4. A set of questions for each stakeholder that will be used during your meeting to gain a more thorough understanding of the project requirements. Your questions should include (i) context- and scope-related questions, (ii) problem-related questions, and (iii) meta-questions for your stakeholders. At a minimum, your team must create fifteen questions, with at least three questions from each category.

After your requirements elicitation meeting, you will be asked to submit the following documents. Each of the documents is due in class on Oct 1.

5. A document that summarizes the answers to each of the key questions that were asked during your team’s meeting with the stakeholder(s).

6. A use-case diagram for your system that provides a high-level overview of the system to be constructed. Every major use-case should be identified in the diagram. You might want to search the web for some examples to follow.

7. A document that summarizes any open issues that must be addressed before the design of the system can begin. Include any new questions that you would like to ask the stakeholder(s).

The next set of deliverables is due on Oct 6. You will be asked to submit the following documents.

8. A document that describes each of the use-cases for the system to be constructed. At least four of the most important use-cases should be presented in full detail following the format used in the textbook. The remaining use-cases can be described informally using a simple narrative. You should see Section 8.5 in your textbook for use-case examples.

9. For at least two of the use-cases that are presented in full detail, create activity diagrams that clarify the use-case scenarios. You should select the most complex use-cases.

The final set of deliverables is due on Oct 8. You will be asked to submit the following documents.

8. Due to time constraints, you will not be able to develop working prototypes for your system. Instead, you should create a document that presents sample user interfaces for each of the application views.

9. Submit a final document that includes camera-ready versions of deliverables one through eight. The final document should be of professional quality, including (i) a cover page, (ii) a table of contents, (iii) an overview of your team’s organization, and (iv) all of the aforementioned camera-ready deliverables.

Your final grade for this assignment will be based in part on the quality of your initial submissions (30%), and in part on the quality of your final document (70%).

All submissions must be made electronically (via email). You should include in your email (as attachment) one PDF file\(^1\) with the entire submission. This assignment will be worth 18% of your final grade.

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\(^1\)Please do not attach MS Word documents; I use a Mac, and I do not want Windows-Mac conversion issues to cost you points.