

# University of Toronto

## Department of Computer Science

### CSC340F - Information Systems Analysis and Design

November 9, 2004  
Prof. Steve Easterbrook

#### Assignment 3: Preparing a Requirements Specification

**Due Date:** 9:20am, Friday, December 3, 2004  
(i.e. within 10 minutes of the start of the tutorial)

*This assignment counts for 20% of the final grade*

*Analyse the requirements and write a requirements specification* for a software development project of your own choice, for a real problem experienced by an existing organization. This objective of this assignment is to give you practice in gathering information, developing models of various aspects of the application domain in order to analyze the requirements, and organizing the results of this analysis into a specification document.

The problem you work on should normally be the problem you identified in your feasibility study, except in the case that there were significant problems with your feasibility study. In this case, it is acceptable to select a problem from another team's feasibility study. In any case, it is okay to adjust the scope of the project from that described in the feasibility study.

The project is to be carried out in *teams of three*. Each team will submit one report.

#### I. Doing the Assignment

This assignment has eight steps. They are:

1. *Review the feasibility study* for the project you have chosen.
2. *Arrange information gathering sessions* (e.g. interviews, questionnaires, site visits, etc) to collect any additional information you need about the requirements from the key stakeholders and domain experts.
3. *Develop models of key aspects of the problem*. You models **must** include:
  - a. The *structure* of application domain information to be represented by the proposed system (using *either* UML Class Diagrams *or* Entity-Relationship diagrams);
  - b. The *dynamic behaviour* of relevant objects in the application domain of the proposed system (using *either* UML Statechart Diagrams *or* SCR Mode Tables);
  - c. The *required functionality* of the proposed system (using UML Use Case Diagrams *and* UML Sequence Diagrams);
  - d. Other models as required, e.g. of business processes, business rules, organizational dependencies, fault trees, stakeholder goals, quality requirements, etc, using whatever modeling notation is appropriate.
4. *Identify the requirements*, including all functional and non-functional requirements for the new system, the data that the system will need to manage, interfaces to other systems, and interfaces for different classes of users;

5. *Validate these requirements* with your contact(s) in the customer organization, and get feedback. Don't forget to describe any meetings, discussions and feedback in an appendix of your report.
6. *Write a requirements specification* that documents these requirements
7. *Write a short report* that summarizes the problem you chose, the methods you used, the models you generated, and the discussions you had with the client. Your specification, models, and supporting information should be included as appendices to this report.
8. *Document your teamwork* and complete a team report (see attached form).

## II. What to Hand In

Hand in your report at the start of your tutorial on the due date. *Reports not handed in within the first ten minutes of the tutorial will be treated as late.*

You should hand in a report of your work, not exceeding four (4) pages (not counting references, appendices, figures or tables). The report itself is intended just to give an overview of what you did, and the rationale for any choices you made (e.g. about what to model and how to model it; about what information to elicit, and how to elicit it, etc). Your appendices are likely to be *considerably* longer than this report.

The report should include the following:

1. An introduction that *briefly* describes the organization you chose to study and the problem you identified;
2. A methodology section that describes your analysis process, including steps you took for information gathering, modeling, requirements identification, documentation, and validation;
3. A discussion session that *briefly* describes any difficulties you encountered, limitations on your analysis, and interesting lessons learned during the analysis process, etc;
4. A conclusion that summarizes the key points in the report, including a brief assessment of what you have achieved overall.
5. An appendix containing a *detailed requirements specification*. Use the IEEE standard to give you a structure for this document, and use the quality guidelines discussed in the lectures where appropriate.
6. An appendix containing any *analysis models* that are not already included in the specification. Make sure you provide enough commentary with the models for the reader to understand what each model is of, and how to understand them. There is no need to repeat models that were used in the specification, but you may wish to cross-reference them here, to ensure we get a complete picture of your modeling efforts.
7. An appendix containing details of your *information gathering*, e.g. records of meetings with stakeholders, etc.
8. Any further appendices you feel are relevant.

### Written Presentation Requirements

Drawings must be clear and legible. Be sure to include a cover page indicating the name of your team, the names of all team members, title of work, course, date and tutor's name. Assignments will be judged on the basis of visual appearance, grammatical correctness and quality of writing, as well as their contents.

Please make sure that the text of your assignment is well-structured, using paragraphs, full sentences, and other features of a well-written presentation. The report must not consist of itemized lists of points. Text font size should be either 10 or 12 points.

## IV. Marking Scheme

Your assignment will be marked by your tutor. If you have questions about a marked assignment, you should first ask your tutor before/after a tutorial. If you don't get satisfactory answers, you should talk to your instructor.

Marks for this assignment will depend on the following factors:

**Requirements Specification (40%):** Do the functional and non-functional requirements make sense? Do they address the problem? Is your specification clear, well-structured, unambiguous, complete, easy to change, traceable, consistent, etc.?

**Analysis Models (40%):** To what depth do they model the important aspects of the application domain, and the functional requirements? Are they correct, complete, and consistent? Have you used each of the modeling techniques required in the assignment? Have you used each modelling technique appropriately?

**Report and Supporting Evidence (10%):** The description of your process, and the appendices that describe meetings and other information on the preparation of the assignment. Have you provided enough context information for us to assess validity of your specification and models?

**Presentation (10%):** The style of your presentation, including language, grammar, clarity of the presentation etc. (5% - Language; 5% - Style and clarity)

Note: The top three assignments will be posted on the course website, and will get for this a 5% bonus on this assignment.

# Team Report Form

(must be submitted with assignment)

Description of roles and contributions of each team member:

Name	% of team Effort	Signature

Date submitted: \_\_\_\_\_