

# University of Toronto

## Department of Computer Science

### CSC340F – Requirements Engineering

(Released Oct 17, 2005)  
Prof. Steve Easterbrook

### Assignment 3: Modelling Requirements

**Due Date:** 9:20am, Friday, November 25, 2005  
(i.e. within 10 minutes of the start of the tutorial)

*This assignment counts for 10% of the final grade*

Assignments 3 and 4 are closely related. The two assignments together form a complete requirements specification. In these two assignments, you will *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. Assignment 3 asks you to model the problem using a mixture of modeling techniques (Assignment 4 will ask you to produce a requirements specification based on this analysis). This objective of this assignment is to give you practice in gathering information and developing models of various aspects of the application domain in order to analyze the requirements.

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, however you must notify your instructor about this in advance and seek his approval. 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 five 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*. Your 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. *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. Discuss any interesting lessons learned during the elicitation and modeling process.
5. *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 three (3) 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 and modeling.
3. A discussion session that *briefly* describes any interesting lessons learned during the analysis process.
4. An appendix containing all of your *analysis models*. Make sure you provide enough commentary with the models for the reader to understand what each model is of, and how to understand them.
5. An appendix containing details of your *information gathering*, e.g. records of meetings with stakeholders, etc.
6. 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 TA'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:

**Analysis Models (60%):** 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 (30%):** The description of your analysis and modeling process, the lessons learned, 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 models?

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

# Team Report Form

(must be submitted with assignment)

Description of roles and contributions of each team member:

Name	% of team Effort	Signature

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