CS3 Software Engineering with Objects and Components 1
Group Tutorial Project: Deliverable 1
October 2001

NC-Detergents: Use Case and Class Models

Your software company (tutorial group) has now received initial requirements documentation from *NC-Detergents*. You have separated into four teams, each dealing with one subsystem of the overall system tendered by *NC-Detergents*. Your first project deliverable is a report to *NC-Detergents* detailing your initial requirements specification, a preliminary outline of your proposed implementation (i.e. class model), and a request for clarification from *NC-Detergents* on outstanding issues.

Deadline for Deliverable: 5pm Mon 12 Nov 2001

Documents to submit

Your team should submit: a completed cover sheet (blank cover sheets to be issued by the lecturer); a collection of use case diagrams and accompanying specifications; the class model for your team's subsystem; validation of the class model wrt the use cases; a document setting out open issues and requests for clarification from *NC-Detergents*.

The cover sheet records the software company (tutorial group) to which you belong, and your team details (team responsibility and membership). In addition there is a *team-contribution form* on the cover sheet that allows the team to assess the level of contribution given by each team member. This should be arrived at in the team by consensus. Details of this form, and how it affects individual marks, are given on a separate handout.

Use Case Model

You should provide use case diagrams for actors (human and non-human) who interact with your subsystem. These should include all local (departmental), company (other departmental), and external (non-*NC-Detergents*) actors. Your use case diagrams should be accompanied by informal descriptions of the tasks they specify. These should be brief (typically a few sentences) and informative.

Class Model

You may provide more than one class diagram, but ensure that all classes and associations in your class model are included. Class attributes and methods should be provided, but bear in mind that you do not as yet have sufficient information to define all of these precisely. It is your responsibility to clearly identify any *speculative* assumptions and design decisions you may have made.

Validation of Class Model

You must justify that your proposed class model can realise your use case model. You may use any suitable technique to identify which classes (and their methods) collaborate in realising each of your use cases, although the use of CRC cards is the recommended technique. Furthermore, you must clearly set out how your chosen technique validates the class model. Again, you must clearly identify the impact of any speculative assumptions on these realisations.

Requests for Clarification

This final document should clearly set out all speculative assumptions and design decisions which you have made in constructing your use case and class models. To clarify your requirements you must request further information from *NC-Detergents*. Your request should contain three sections: (i) a clearly worded and unambiguous set of questions requesting the necessary information; (ii) the connection between these questions/information and your speculative assumptions; (iii) a justification that your class model has been defined at an appropriate level of abstraction (that is, that the class model remains valid – or is easily and naturally modified – whatever the answers to your questions).

Assessment

Marks will be awarded by team. The first three parts of the deliverable (use case model, class model and validation) each contribute 30% of this mark, while the final part (clarification) contributes 10%. Allocation of marks to individual team members will be as described in the separate handout.

While your reports are assessed as individual teams, it is expected that all four of the groups' reports will be consistent (i.e. wrt terminology, shared use cases, shared classes, etc.)

Marks for this deliverable constitute 50% of the practical marks for this course. That is, 12.5% of the overall course mark.