SED Lecture 6
Object Interactions and UML Sequence Diagrams

Objectives

To understand the role of dynamic models in requirements analysis. To identify sequences of interactions between the objects of a system. To be able to read and to construct UML sequence diagrams.

Key Points

- Dynamic models provide yet another view of a system for doing requirements analysis
- Dynamic modelling can help to identify methods for objects and can find previously missed objects.
- UML sequence diagrams are based on message sequence charts (1960s)
- A sequence diagram is used to model the interactions between objects.
- A sequence diagram shows the dynamic behaviour of a set of objects arranged in time sequence
- B&D heuristics for constructing sequence diagrams: start with a use case, list initiating actor, boundary object, control object, entity objects and identify the interactions amongst objects needed to realise the use case.
- Avoid "analysis paralysis" - when modelling think of which aspect of an object is dominant, and choose a model which illuminates that aspect.

Core reading

Bruegge & Dutuoit(2nd ed), 2.4.3 interaction diagrams 5.4.4 mapping use cases to objects with sequence diagrams (heuristics for drawing)

Sommerville (7th ed) 14.2.4 design models (Fig 14.13 sequence of operations)

Pressman (5th ed) 22.5.6 collaborations (sequence diagrams), 22.6 - 22.7 case study

UWA CITS 2220 semester 1, 2011