

Activity 6-3: Use Case Models

Why?

Use case diagrams represent user-level requirements and use case descriptions represent operational-level details. Together they constitute a model of a product's observable behavior that can be used to generate, refine, evaluate, and select product design alternatives and document the selected design.

Learning Objectives

- Make use case models of design alternatives

Success Criteria

- Be able to draw use case diagrams to explore user-level requirements alternatives
- Be able to write use case descriptions to explore operational-level requirements alternatives

Resources

ISED section 6.3

Plan

1. Review *ISED* section 6.3 individually.
2. Answer the Key Questions individually, and then evaluate the answers as a team.
3. Read the WebOrder case study.
4. Do the Exercise as a team, and check your answer with the instructor.
5. Do the Problems and Assessment as a team.
6. Turn in the Problems and Assessment as a team deliverable.

Key Questions

1. How are use case diagrams and descriptions used together in product design?
2. How do use case models fit into the process of generating, refining, evaluating, and selecting design alternatives?

WebOrder Case Study

A small start-up company wants to market a web-based service to restaurants that will automate order-taking for customers with devices capable of using wireless Internet connections. The product is called *WebOrder*. WebOrder will present customers with menus on their personal digital assistants or cell phones and accept their orders. It may offer additional features as well.

The company does not have much funding so it must produce a first version of WebOrder fairly quickly and cheaply.

Needs elicitation has resulted in the following needs list:

- Restaurant Managers need customers to place orders only from tables in the restaurant.
- Restaurant Managers must not have any sort of installation or maintenance tasks.
- Restaurant Managers and Servers need the product to interface with their current order management systems.
- Restaurant Managers need the product to manage inventory.
- Servers need to do their work at least as fast as without the product.
- Customers need to connect to the web site given only the URL.
- Customers need to see menus and to place orders.
- Customers need to track the status of their orders.
- Customers need to see their bills.
- Customers need to pay their bills.
- Customers need to send messages to servers (bring more bread, more water, the check, and so forth).
- Customers need to interact with the web site without being told how to do so by a person.
- Marketing needs the product to have as many features as possible.
- Marketing and Upper Management need the product to be highly reliable.
- Development needs the product to be deliverable in about eight months with only a single developer.

Various product design alternatives are under consideration at various levels of abstraction.

Exercise

Which needs are the most important?

Problems (Deliverable)

Make two use case diagrams documenting two WebOrder product design alternatives. Provide briefs for every actor and use case (if an actor or use case appears in both diagrams, write only one brief for it). You may want each team member to work independently at first to draft design alternatives.

Choose the most complicated use case from your diagrams and write two use case descriptions for it documenting alternative interaction designs. Again, you may want each team member to draft a basic flow individually to generate alternatives before working on the final results as a team.

Please turn in the following items:

- Two use case diagrams with use case and actor briefs
- Two use case descriptions for a single use case

Assessment (Deliverable)

1. Do you now feel competent to make use case models?
2. If you answered “No” to the previous question, what do you think might help you become better at making use case models?