

CIS 443/543 User Interfaces

Exercise #2

(Team-work: Presentation, Written Report, Graded)

Due: Tuesday, Jan. 27 at 10am

Introduction and Motivation

We will all work on the same software problem during the course of this class: Creating an on-line election system for the November 2004 General election in Lane County, Oregon. (Note: This is the US Presidential election.) This is a system that would be used by all voters in Lane County, Oregon and would replace the current mail-in balloting.

The Rosson and Carroll text is oriented toward learning the scenario-based development process. The second step in the development process is called *activity analysis*. Its purpose is to begin the proposed system design by specifying the system *functionality*. Functional requirements are what the users should be able to do with the system. A major concern in this phase is what is most *useful* to the end-users or other stakeholders. Activity analysis specifies what the system will do, but not the detailed how of the actual user interface. The actual details of the user interface and interaction will be designed in the next two steps called information design (chapter 4) and interaction design (chapter 5).

An activity analysis begins with the prior problem scenarios generated from requirements analysis (Exercise #1), supplemented by a claims analysis of the current mail-in balloting system. (Note: we did not do the claims analysis of the existing system in Exercise #1, but we are going to do it in this exercise. See R&C Table 2.7) The output of this phase is a set of proposed activity scenarios (R&C Figure 3.4) and associated claims analysis (R&C Table 3.3). To develop the proposed activity scenarios, designers usually start by identifying all of the activities that the system might support. This can start with a brainstorming session and end by selecting and organizing a list of activities. For example, each group member can write down all the activities they can extract from the problem scenario, put each on Post-it notes, and then organize those activities around the common high level tasks or goals. Further refinement of activity scenarios uses methods such as analysis of the users' mental models with particular attention to conceptual metaphors and prior practice, system technology options, generalizing activities to create coherence, analyzing all activities to ensure completeness, and brainstorming with clients and other users (the stakeholders) about the proposed activities and alternatives (often called participatory design).

CAUTION: Be sure that your activity scenarios are complete. Have you included all the core functions that are essential? The activity scenarios should reflect real users in the context of doing real tasks. Note the text website has several case studies illustrating activity analysis. See <http://ucs.cs.vt.edu/default.asp?button=2>

TURN-OVER

Assignment

1. Read Chapter 3 in the Rosson and Carroll text.
2. Using the on-line election problem, prepare a team presentation and written report.

Presentation (7-10 minutes/group)

1. Describe the specific studies you did for activity analysis. (1 minute)
2. Briefly list the titles of your core problem scenarios for the *current* mail-in election system. Note: you might have changed your problem scenarios from Exercise #1. These will also be your list of activity scenarios. (1 minute)
3. Take one of your problem scenarios done in 2. above, and describe in detail a derived activity scenario. (2 minutes)
4. Using the activity scenario in 3. above, describe the real-world metaphors and the system technology options. (2 minutes)
5. Describe the claims analysis for the key features of the activity design done in 3. above. (2 minutes)
6. Discuss briefly any alternative activity designs you considered and why you rejected them. (2 minute)

Written Report (10-13 pages)

1. Describe the specific studies you did for activity analysis. (1 page)
2. Describe the problem scenarios for the *current* mail-in election system. Note: you might have changed your problem scenarios from Exercise #1. Are these the core essential scenarios? (2 pages)
3. Describe your claims analysis for the key features of these problem scenarios. (1-2 page)
4. For each problem scenario, describe a derived activity scenario for the *proposed* system (2-3 pages)
5. For your activities, describe the real-world metaphors and their implications. (1 page)
6. For your activities, describe system technology options. (1 page)
7. Describe the claims analysis for the key features of the *proposed* activity design. (1-2 page)
8. Discuss briefly any alternative activity designs you considered and why you rejected them. (1 page)
9. Each member fills out a Group Membership Evaluation (GME)

Grading

You will be graded on (1) completing all the parts of the assignment, (2) correctly applying the methods and techniques, (3) having the content make sense and be representative of the real world, and (4) the quality of your presentation and writing—communicating ideas clearly, concisely, completely, and correctly (spelling and grammar).

See the Grading Sheet for Exercise #2.

TURN-OVER