

ASSIGNMENT #4

DUE: At the beginning of your recitation section, October 10–12, 2006.

This assignment is to be completed individually. You are not permitted to seek or receive assistance from anyone other than Dr. Callen or your recitation instructor.

The next recitation will be a case-study discussion of issues related to design methods for integrated products and services. The discussion will be based on the two articles:

T.S. Balaji, B. Landers, J. Kates, and B. Moritz, “A Carrier’s Perspective on Creating a Mobile Multimedia Service,” *Communications of the ACM*, vol. 48, no. 7, July 2005, pp. 49-53.

E. Kangas and T. Kinnunen, “Applying User-Centered Design to Mobile Application Development,” *Communications of the ACM*, vol. 48, no. 7, July 2005, pp. 55-59.

The underlying principle of the case-study method is to learn by analyzing actual situations. The case documents and discussion usually focus on one or more specific decisions, including an understanding of the data and other factors that led to decisions, analysis of the results of those decisions, and identification of alternatives. The instructor typically guides the discussion by asking questions of students. The answers to the questions may be based on the information presented in the case, personal knowledge and/or past experience, and personal opinions.

While the attached articles were not written specifically as academic case studies, they provide suitable information for the process. You do not need to be an expert on specific technologies involved, nor should you need to consult other references in order to prepare for the recitation.

Do the following:

- 1) Read both articles carefully. One suggested procedure is as follows: (a) first read the articles fairly quickly to gain an overview of their contents, (b) read the study questions listed below and think about how they apply to the articles, and (c) re-read the articles more carefully, identifying the information required to answer the study questions. You also may wish to annotate or highlight key concepts that you think will be helpful to you during the class discussion. Bring your marked-up copy of the articles with you to the recitation.
- 2) Answer the following study questions. Your answers should be typed, single-spaced, on a single sheet of paper, with your name and recitation section listed at the top of the page. You are limited to a maximum of one typed page to answer all of these questions, so each answer probably will be no more than three paragraphs long. This page will be turned in at the beginning of your recitation, so you should bring a second copy that you can refer to during the discussion.
 - A) Both of these articles refer to designs that blur the traditional distinction between products (hardware or software) and services. Additionally, these design also were subject to many non-technical (e.g., financial and marketing) constraints. What are the most important implications and consequences of these factors for the design process? Is a linear design model, like that described in class for electrical/mechanical products, still useful?
 - B) The design model discussed in class emphasized the importance of translating customer needs and desires into detailed product specifications. Both of these articles discuss problems they experienced in this regard. From each article, identify a specific example of this difficulty and the methods used by the designers to attempt to deal with the situation.
 - C) The second article describes two examples, which used different design processes. (See figures 2 and 3 on page 58.) Briefly explain which process you feel was more successful, and why.