5.1 Introduction

With mobile devices and wireless infrastructures becoming more powerful and ubiquitous, the corporate world is striving to use these technologies to keep their businesses competitive. One way is to provide access to enterprise applications via wireless, mobile devices. Designing mobile enterprise applications provides unique challenges. The obvious challenge is to design for small devices and usage in a mobile context; however, you may also need to design for integration with desktop products, novice users as well as domain experts, and a scalability of functionality that usually exceeds traditional consumer-oriented mobile applications and services. This chapter discusses enterprise mobile application design heuristics derived from iterative usability cycles that yielded a wealth of ideas and validation data. Although this chapter focuses on enterprise applications, many of these heuristics can be applied to more consumer-oriented applications.

The next section briefly summarizes the design heuristics for quick reference. This is followed by more detailed explanations.

5.2 Summary of the Heuristics

1. There is a need. It is clear that there is a need for enterprise level mobile applications. Spend the resources to conduct thorough interviews and task analyses with existing and potential customers so that you can understand the use cases and design for the specific mobile context.

2. Every pixel counts. Although this sounds like an obvious comment, it is meant to emphasize the need to rethink traditional screen layout principles when designing for mobile devices. Maximize the use of the available screen display.

3. Every round trip counts. There is a fine line between the need to keep pages simple and the need to put enough information on the page to decrease the number of round trips to the server. While it may be perfectly acceptable to access
key information by drilling through several pages within a desktop application, this may quickly become intolerable if the user must wait several seconds to download each page within a mobile application.

4. Employ “feature shedding.” Don’t try to shove a desktop application into a mobile device. You should not try to map a desktop application’s hierarchy or full feature set into the mobile application. Although you may be used to thinking of what types of features you can add to your software product, when designing mobile applications, it is just as important to consider those features you should leave out.

5. Keep your navigation model simple. While this heuristic persists regardless of whether a mobile or desktop application is being designed, the need is greater when designing mobile applications. Stringent limitations in screen size, memory, network transmission, and user input methods commensurately place limits on the content of the pages of the application, as well as the number of pages that should appear, and how they should follow from one another.

6. Think modular. Creating modular, “plug-in” functionality will allow you to provide added value to applications when contextually appropriate. For any application designed, the pages should follow one another in a seamless and coordinated fashion. The first step in achieving this is to design the elements within a mobile application with a standardized set of visual characteristics and interaction rules. Such standards should encompass the essential elements you plan to use within your mobile applications.

7. Minimize data entry. No matter how much the user input technology improves for mobile devices, the need for data input will continue to annoy users. Beyond technology used to aid data entry, simple interface designs can be used to limit the need to type or otherwise enter information into a PDA or Web-enabled phone. For example, use “selection” over “entry.”

8. Allow for desktop-based customization. Leave the heavy lifting to the desktop. The key to successfully designing a mobile application is mapping the functionality and information within it to the users’ mobile contexts. Obviously, getting this right for every user for every mobile context is a difficult goal to attain. A method you may want to employ is to provide a sufficiently rich set of features, but allow end users to customize their unique experience with the application based on their unique mobile contexts, personal preferences, and corporate data.

9. Fight the hype. It is important not to get caught up in any particular hot mobile technology, for it is likely to change over time. Focus on those core attributes of the technology that seem more stable. Although it may not be wise to get too caught up in the specifics of the devices, you should be aware of them, for they are more likely to impact immediate design decisions.

10. Basic UI principles still apply. All devices are not reincarnations of the PC. Therefore, UI lessons learned for the PC need to be adapted for the mobile form factor. However, basics UI principles and methodologies still apply.