Chapter LIII
Will Laboratory Test Results be Valid in Mobile Contexts?

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ABSTRACT

The phenomena a usability test in the field reveals are different from those uncovered in a classical usability test conducted in a laboratory setting. Comparison studies show that these findings are more related to the user experience and user behaviour than usability and user interaction with the device. Testing in the field is a necessary part of the product development cycle, but the question is what and how to test. Duplicating a laboratory usability test method in the field may not make sense in many cases because the required extra effort does not result in comparable added value, as far as understanding user interaction. Studying user behaviour, on the other hand, requires a less controlled test setting.
INTRODUCTION

The mobile context challenges the user of a mobile system in many ways. The user’s attention is divided between interaction with a mobile application and interaction with the environment and other people. The complexity of a real usage environment is a concern for usability practitioners. The question is: Can usability tests conducted in laboratory settings provide results that are valid in real-life mobile contexts?

In this chapter the benefits and drawbacks of mobile application usability testing in laboratory settings and in the field will be discussed. First, the latest views on the nature of the mobile context and how it challenges the mobile user will be presented. Then, some recent discussions concerning usability testing methods in general and issues regarding testing within industry vs. testing with academic goals will be described. After that, studies comparing usability testing in a laboratory with testing in the field, including this study, will be looked at. Some recommendations regarding when to test mobile applications in the laboratory and when in the field, also will be provided.

THE MOBILE CONTEXT

Usability practitioners talk of testing the usability of mobile applications in the field because laboratory settings differ from real usage environments. The mobile context is often considered to be too complex for laboratory simulation. To understand the background, that is, the different aspects of mobility, first the complexity of mobility as a concept needs to be discussed. In the following section, what kinds of challenges mobile users might face when using mobile devices and services on the move, will also be talked about.

Mobility is More than Just being on the Move

The simplest way to think about mobility would be to state that a mobile person is on the move. People travel from place A to place B, visit other places, and wander inside the places (Kristoffersen & Ljungberg, 1999). In reality, we need to remember that people also stop moving and “claim space” for their actions in mobile contexts. For example, people in a bus might pick up a newspaper for some privacy from the surrounding people, or a group of friends who happen to meet each other at a metro station gather in a circle to converse in private, as shown in an ethnographical study by Tamminen et al. (2004). In a sense, people can block out at least parts of their surroundings and concentrate on the task at hand.

Mobile device users may use their devices to build a private environment: When someone needs some privacy in the middle of a busy place, they can take their personal space with the device. A good example could be using a laptop to set up a temporary office, like a “nomadic tent,” in a crowded cafe or an airport. The same thing can happen when using a mobile phone. It is not uncommon to see people in public transportation reading, sending messages, or engaging in other activities using their mobile phone. It is a way to gain some privacy.

Mobility on a Larger Scale

Being on the move and stopping to interact with a mobile device does not, however, convey the whole picture of mobility. Kakhira and Sørensen (2002) argue that mobility is not just being on the move but, far more importantly, related to the interaction between mobile people—the way in which people interact with each other in their social lives. Therefore, they suggest expanding the concept of mobility concept by three interrelated dimensions of human interaction: spatial, temporal, and contextual mobility.

Spatial mobility means that not only people, but also objects (such as a mobile phone), symbols (such as news through TV satellites), and spaces (such as virtual communities) move (Kakhira & Sørensen, 2002). Changes in physical contexts are not the only challenge for mobile users, but moving symbols and virtual spaces also require attention and special understanding. This is quite
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