Adaptation of Cognitive Walkthrough in Response to the Mobile Challenge

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INTRODUCTION

Cognitive walkthrough (CWT) is a usability inspection method which allows users to learn a system by using it to achieve tasks rather than studying a manual or documentation. It starts with a task analysis that specifies the sequence of steps required by the users to complete a task, and the system responses to those actions. The users then walkthrough the steps as a group and questioning themselves at each step. Data and information are gathered during the CWT and potential problems are identified. However, problems rose if the CWT and user based evaluation were being conducted in the mobile context environment. It became clear that static lab is not ideal for the CWT to be carried out by the evaluators to consider the behavior of the mobile interface, its impact on the user, and judge whether the user would be able to perform the tasks which features mobility. Although the CWT is suitable to be conducted during the early stage of the mobile device development because they can be performed using a system specification as a basis, the context factor that reflects the mobile challenge should take into the consideration at this stage and CWT should make adaptation in respond to this issues. This is due to that the evaluators will use the device in different ways depending on the situation such that the CWT might work fine in the controlled context environment without side influences or other context challenges factors, but it might not goes the same with the situation where the CWT is being conducted on the run or in the field. All the context consideration will have an impact for the usability solution and content suitability.

MOBILE CHALLENGE

Context Challenge

As the traditional usability tests on applications are being done using stationary computers, the context is controlled and not specifically relevant. The computers in the labs are more or less in the same context as when they are used in offices and homes (Lindroth & Nilsson, 2001). According to Johnson (1998), usability testing in a lab with controlled situations and tasks works for applications used in stationary solutions and this performs fine with the solutions where the context and environment is of second interest. For mobile devices, testing might make the result irrelevant since it fails to take the context of its use into consideration (Lindroth & Nilsson, 2001). However, problems rise since context plays an important factor for the usability testing of a mobile solution. The impact of use context to the usability of a product is strong and it is an especially important question in design of portable or mobile products, which will be used in several environments (Dr. Sade, 2002). According to Vaananen-Vainio-Mattila and Ruuska (2000), there are three levels of use context for mobile phones and communicators. The mobile infrastructure context deals with technical issues, such as the network coverage or low communication bandwidth. Second, the physical context is about: for example, noisy surroundings, the freedom of being truly wireless, varying physical usage positions, the demand for small physical size of the device, sharing one’s attention between operating the device and other issues, the varying environmental factors concerning light, clothing and so forth. The third contextual dimension is the social context. The interaction is shaped by the need to take other persons into account—the ones who are communicating with the user and the ones who are in the same physical location with him or her. According to Howard (2003), there is another type of dynamic use context which is digital context for example the network infrastructure and communication with other devices. All these considerations have an impact on solutions for usability, physical ergonomics, the suitable types of content for the interaction channels and many other issues.
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