Evaluating Adaptive Navigation Support

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INTRODUCTION

"Lost in hyperspace" is a feeling that is familiar to almost anyone using a computer. After a few actions, we do not know where we are, how we got there, or what our original goal was. *Adaptive navigation systems* has been proposed as a means to aid users in finding their way through information spaces. Several systems have been designed that adapts the navigation to users' knowledge (e.g 11), to users' preferences and goals (9), to users' tasks (8), or to users' spatial ability (1,6). The hope is that if user characteristics are considered the cognitive workload can be reduced, or users' learning may be improved, etc., but will they?

Keywords

Adaptive, navigation, evaluation, hypermedia

EVALUATIONS OF ADAPTIVE NAVIGATION SYSTEMS

From the few evaluations of adaptive navigation systems that have been performed (2,3,4,5,7,8,9,10,12), we see an emerging pattern where depending upon the domain, only certain types of adaptive navigation strategies work. Adaptations should leave the interface somewhat predictable so that users do not feel lost, not force users to interpret advanced annotations, thus distracting them from their main tasks, and the adaptive navigation support should not *change* the structure of the space.

This of course depends upon the domain, users, and their tasks. For example, in a large domain that users seldom revisit and where there is no need for the user to learn the structure of the space, adaptive guidance might be very useful. Also, in a domain where the structure is of (nearly) no importance, as for example, in a collection of movies or food recipes, where any organisation can work, adaptation as a means of structuring the space according to preferences may work really well (see e.g. (11)). In a domain to which users frequently return and where shortcuts are useful, adaptations based on interactions with the users might be useful (as in (10)).

Unfortunately evaluations of adaptive navigation support systems fail to recognise some of the more important aspects of why certain systems provide better support than others do. These studies typically measure task completion time, or how well the structure of the space is remembered. While these are among the important measurements that should be taken, other features, such as how much anxiety the system induces in users, how pleasant it is to navigate, or how much users actually learn of the information contained in the space, might be more crucial measurements.

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