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Trees and Nests: A Comparison between Two Hierarchical Metaphors in Educational Applications

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ABSTRACT

The aim is to determine whether one of two hierarchical metaphors, the tree (parent-child) or the nested (object-container), is more suitable for designing educational interfaces for children. To cope with this issue an experimental educational application was designed with a prototype for each hierarchical metaphor. The application was evaluated in a laboratory experiment, where children participants interacted with the prototypes to find answers for questions that require searching for information. Task performance was measured in terms of effectiveness, efficiency and subjective aspects such as user perception of ease of use and user preference. The nested (object-container) metaphor was found to be preferred by users and superior in several objective parameters of performance efficiency, but no significant differences were found in the perceived ease of use and in the performance effectiveness. Implications for designing educational applications are discussed.

KEYWORDS

Human Computer Interactions; Metaphoric Interfaces; Hierarchical Information Organization; Educational Applications; Usability; Children Interfaces Design

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