

# JuSe: A Picture Dictionary Query System for Children

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## EXTENDED ABSTRACT

As adults we take for granted our capacity to express our information needs verbally and textually. However, young children also have preferences and information needs, but are just learning to be able to express themselves effectively. Consequently they encounter many barriers when trying to spell, type, and communicate their needs to a 'faceless' search engine text box.

Junior Search (JuSe) is an interface that enables preschoolers and young children to search and find consumable online content (such as games for kids, videos, etc.) through adaptable picture dictionaries. Inspired by educational children's toys, rather than search engines designed for adults, JuSe incorporates a learning element by combining audio-visual and textual cues to improve written word recognition and vocabulary skills. JuSe provides an interactive learning environment that allows parents to introduce new words and concepts into the child's lexicon, as well as controlling the content and search queries.

The primary aim of JuSe is to stimulate information needs and enable children to formulate their queries in a manner that is congruous with their abilities:

**A)** Studies [1, 2, 4, 5, 6] have shown that children have difficulties using word-based queries due to problems with typing, spelling, and the appropriate selection of query words.

**B)** Children tend to revert to browsing when they encounter difficulties with the query formulation and they think that category browsing is an essential element of webpage design [5, 6]. However, [3] found that at the higher category levels there was a large mismatch in content expectations between the individual children and with the hierarchy produced by a community of adults.

To address the design concerns associated with browsing and query formulation (**A** and **B**), the interface combines browsing and picture query-based elements. Instead of the concentrating on document space, browsing occurs by the traversal of keyword categories. Children have a limited vocabulary of content words, mainly concentrated in the high-frequency categories associated with their needs: toys, char-



**Figure 1: The screenshot of the JuSe interface.**

acters, food, sports, occupations, animals, etc. The JuSe picture dictionary emulates books and television shows used for literacy education. This basic dictionary was compiled by studying lists of children's speech [7] and vocabulary lists of essential English words.

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