

# Participatory Design Approach to Information Architecture Design for Children

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## ABSTRACT

In this paper, two participatory design toolkits for designing information architecture are introduced. They allow children to participate in the design process as design partners and build information structure that reflects their cognitive process. The toolkits were applied to find usability problems in the directory of Korean Yahoo!igans(kr.kids.yahoo.com). The result shows that children's information architecture differs from that of adults in depth and width, contents, and relationship between keywords; and that the toolkits can elicit users' needs effectively.

## Keywords

Children, Information architecture, participatory design

## INTRODUCTION

Although we all have experienced childhood and may assume to understand children well, they have unique characteristics of their own and design approach from adults' standpoint based on users' "explicit and observable needs"[1] will differ from the approach from children's standpoint. This research assumes that in designing information architecture for children, the latter will be more effective in eliciting users' latent needs.

This research aims to identify the difference between an adult's cognitive process and that of a child, thus reflecting the difference in information architecture for children. According to studies on child development, a child's limited short-term memory span, language skills and insufficient knowledge affect their perception of information [2], thus their knowledge will also construct in a way different from that of adults. The questions are then how it is unique, and how the uniqueness can be elicited and reflected in the design process.

In this research, two types of generative toolkits based on participatory design are introduced and applied to identify the characteristics of information architecture that reflects children's cognitive process.

## TOOLKITS

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The toolkits to be introduced were developed according to the following directions:

First, they should overcome children's limited of language and societal skills, and let the participants actively involve themselves in the tasks; second, the toolkits should be fun to use, and even considered as a kind of play, thus allowing children to generate as many creative ideas as possible without being bored; third, they should allow children to become design partners and visualize their own knowledge structure via collaboration.

The first toolkit is called 'Info Block'. It is a cognitive toolkit which allows children to generate ideas and construct hierarchical information architecture. In order to trigger children's interest, it was designed after constructive toys such as LEGO, and it consists of 40x40x20(mm) blocks of different colors which indicate the depth of the concepts they represent. While stacking and writing on them, children naturally construct information architecture. The outcome is then analyzed to discover the cognitive difference between children and adults

The second toolkit is called 'Info Tree'. It is based on the principle of radiant thinking of Mind Map developed by Tony Buzan[3] and provides children with a rapid and easy way to generate and organize ideas. It employs a metaphor of a tree to help children comprehend the concept of information architecture. Thus it consists of a trunk and branches made of Styrofoam and wood. With the truck symbolizing the main idea, children generate ideas and map them onto the branches. As the tree grows, information architecture is constructed.

## REFERENCES

1. E. B. -N Sanders, (2002. 12), "Finlandpaper\_99.pdf", Post Design and Participatory Culture, p3, URL: [http://www.sonicrim.com/red/us/commune/papers/Finlandpaper\\_99.pdf](http://www.sonicrim.com/red/us/commune/papers/Finlandpaper_99.pdf)
2. Yoo, Hyo-Sun, Child Development, Changjisa, 2000, pp151-202
3. The Mind Map Book: How to Use Radiant Thinking to Maximize Your Brain's Untapped Potential by Tony Buzan, Plume, 1996