

Visual Representations of Knowledge Structures for Information Discovery

Marcia Lei Zeng

Kent State University, Kent, OH, USA

Abstract

Visual representations reflecting the order and structure of knowledge have been used for hundreds of years, including the long-standing, inherent fundamental structures and theories of knowledge representation. In the current digital age, many modern computerized visualization and computer-assistant graphic creations have allowed for innovative visual deliveries of information and knowledge. This presentation focuses on the hierarchical structures of knowledge organization within three major categories, tree shapes, circular shapes, and enclosure diagrams, in order to discover their similarities and differences. The differences can be seen technologically or visually according to the presentation of the hierarchical relationships, from the root to branches and sub-branches and all the way to the leaves. Modern computerized systems allow us to treat datasets to any or all these shapes and diagrams; however, important perspectives on their features must be discussed, particularly as their capabilities and limits in terms of the extensibility, hospitality, readability, and comfortability are embedded in their designs. In general, this presentation aims to connect theories and practices for certain structures, norms, and best practices, explores their variances in applications with or without quantitative measurements, and discusses the functions of visual representation methods and layouts that enable consequential information discovery and ultimate user experience in the data-driven age.

Keywords

Visual representation, knowledge organization structures, user experience design.

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EMAIL: mzeng@kent.edu

ORCID: 0000-0003-0151-5156



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