Evaluation of Knowledge Graph Visualization System for Digital Literacy Education in the Era of Artificial Intelligence

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Abstract. As ontologies can be represented visually as node-link diagrams, visualized knowledge graphs (KGs) can be not only machine-accessible but also human-understandable—a KG visualization system can support users exploring knowledge discovery in an ontology-based system. Research has indicated that KG increasingly becoming a crucial tool for education. However, a user's visual perception (the comprehension through vision) of the visualized KG is approximately instantaneous because a feature of KGs is dynamic. How to help users gain a particular domain knowledge in this novel system has become an important issue. In this paper, we present our experience with how to read, interact, synthesize, and interpret a KG on a KG visualization system for digital heritage collection. We will also give comments to enhance the system from a user-centered perspective. Results may have implications for KG visualization system design, digital literacy teaching, and personalized learning enhancement in the era of Artificial Intelligence (AI).

Keywords: Knowledge graph, Digital literacy, Education