

# Using information visualization in libraries: why, when, and how

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### Introduction

Information visualization communicates and presents data, information, and knowledge through a graphic display. The assumption therefore is that visual presentation supports human cognition and is able to make it easier for users to perceive, understand, comprehend, and discover knowledge in large data sets (Purchase et al., 2008; André et al., 2009; Beale, 2007). By providing useful overviews and offering interactive mechanisms for browsing and exploration, it helps users overcome large information spaces, understand the overall structure and contents of the collection or search results as well as build new knowledge, discover and understand relationships in the information space. These benefits are especially pronounced when searching large datasets (Carr, 1999; Fagan, 2006), but at the same time apply only to well-made visualizations that follow human perception principles: a poorly conceived representation could not only burden the user more, but would also disturb the user's information-seeking process (Song, 2000).

Information visualization presents us with various possible techniques to display our data. The challenge lies in a) choosing a technique that will be most appropriate for our data and will best serve the aims of our information system and user tasks and b) using the elements of visualization in a way that will create meaning of geometric and structural patterns and convey this meaning to users in a clear, useful, and informative manner (Chen, 2010). The workshop will look at the various properties of data, visualizations, and user tasks that influence on the choice and implementation of visualization techniques.

### Background and objectives

Information visualization is not a new concept, but the ever increasing amounts of information and advancements in technology are beginning to establish its use also in everyday practices. The possibility to present overviews of large data sets on the one hand and to interactively explore and discover on the other, offer interesting potential also for the library community.

### Topics

Information visualization, data types, visual principles, visualization techniques, information visualization and libraries

### The target audience

The workshop will welcome anyone interested in the basic concepts of information visualization and its use in the library environment.

### The learning objectives

The workshop will not deal with the more technical aspects of information visualization that are usually handled by computer scientists, but will rather focus on providing participants with sufficient insight that would allow them to conceptually think about and design their information services using information visualization. Discussing the principles of information visualization and its various techniques from the viewpoint of benefits and potential drawbacks, participants will therefore gain an overview of information visualization. They will also better understand why, when, and how information visualization could be applied to bibliographic data.

### The method

Theoretical concepts and examples of existing visualizations will be combined with some practical work devoted to sketching and discussing possible applications of information visualization in libraries.

## Duration

3 hours

**Keywords: information visualization, user interface design**

## REFERENCES

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## Curriculum Vitae

Tanja Merčun is an assistant professor at the University of Ljubljana. Her doctoral thesis included an implementation and evaluation of information visualization to a prototype bibliographic information system. She has presented her work on several international conferences and has led a workshop on designing better user interfaces for library catalogues at ELAG conference together with Maja Žumer.

Maja Žumer is a professor at the University of Ljubljana. A significant part of her research work as well as her activities in international organisations have been focused on bibliographic data and library information systems.