Preface

With data continuously generated as a result of daily activities within organizations and new data sources (sensor streams, linked datasets, etc.) introduced within knowledge management, the growth of information is unprecedented. Providing knowledge engineers and data analysts with visualizations and well-designed user interfaces can significantly support the understanding of the concepts, data instances, and relationships in different domains.

The development of appropriate visualizations and user interfaces is a challenging task, given the size and complexity of the information that needs to be displayed and the varied backgrounds of the users. Further challenges emerge from technological developments and diverse application contexts. There is no "one size fits all" solution but the various use cases demand different visualization and interaction techniques. Ultimately, providing better visualizations and user interfaces will foster user engagement and likely lead to higher-quality results in different areas of knowledge engineering and linked data analytics.

The workshop is divided into two half-day tracks, each focusing on one of the two workshop themes: The first track addresses visualizations and user interfaces as an integral part of knowledge engineering. They help to bridge the gap between domain experts and data management, and are essential to handle the increasing diversity of knowledge that is being modeled in ontologies, ensuring that it is easily accessible to a wide community. As knowledge-based systems and ontologies grow in size and complexity, the demand for comprehensive visualization and optimized interaction also rises.

A number of knowledge visualizations have become available in recent years, with some being already well-established, particularly in the field of ontology development. In other areas of knowledge engineering, such as ontology alignment and debugging, although several tools have recently been developed, few have a user interface, not to mention navigational aids or comprehensive visualization techniques. Other activities, such as data integration, rely on the relationships between the concepts of different ontologies, which not only multiplies the number of objects to be displayed but also compounds the problem with the portrayal of different kinds of relationships between concepts.

The second track addresses visualizations and user interfaces for linked data analytics. New and traditional knowledge practices, digitization of organizational processes, high performance computing and affordable datastores create an unprecedented amount of data as a part of daily organizational activities, at break-neck speed in a variety of formats. Conventional systems struggle to capture, store and analyze such dynamic and large scale data continuously generated. On its own, raw data has little value, but its value and significance is only unleashed when the data is extracted, processed and interpreted.

Visual Analytics attempts to address this challenge by harmoniously combining the strengths of human processing and electronic data processing. While semi-automated processes result in generating visualizations, humans can use visual processing and interactions to quickly identify trends, patterns and anomalies from large volumes of visual data. The growing challenges of analyzing big data, social media, linked data, and data streams have created an excellent opportunity for research in Visual Analytics.

The call for papers attracted high-quality submissions, and each paper was reviewed by at least three members of the program committee. Based on the reviews, we selected six papers for presentation at the workshop, which are included in this proceedings volume. We also reserved time for discussions and a demo session, to encourage dialogue and identify current and future challenges in the topic areas.

We thank all authors for their contributions and the members of the program committee for their valuable work in reviewing the submissions. We are also grateful to the workshop chairs Eva Blomqvist and Valentina Presutti as well as the general chairs Patrick Lambrix and Eero Hyvönen for their suggestions and support with the organization of this workshop.

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