Acknowledgements

Contact

Storing interaction provenance generates a knowledge base with a large potential for recalling previous results and guiding the user in future analyses. However, search and retrieval of analysis states can become tedious without extensive creation of meta-information by the user. In this work we present an approach for an efficient retrieval of analysis states which are structured as provenance graphs of automatically recorded user interactions and visualizations. In the following, we use the Gapminder-inspired prototype from [4] as guiding example (see Fig. 1).

Motivation

Our collaboration partners, who are researchers at a pharmaceutical company, aim to discover cancer genes that can be targeted with future drugs. For the data-driven drug discovery, the analysts use a specialized visual analysis software that records all user interactions as provenance graphs. In such scenarios, analysts work in distributed teams and perform analyses using the same software. Hence, it is likely that an analyst wants to know if she or a colleague has already investigated the same or a similar set of graphs. In such scenarios, analysts work in distributed teams and perform analyses using the same software. However, search suggestions, where they can be spotted easily.

Implementation

The web application is based on the Phovea Platform. Demo: vistories.org/gapminder-retrieval-poster

Acknowledgements

This work was supported in part by Borsiginger Ingegneriheilige Center Vision, the Austrian Science Fund (FWF P27975-NBL), and the State of Upper Austria (FFG 851460). The VRVis Forschungs-GmbH is funded by COMET – Competence Centers for Excellent Technologies (854174) by BMWFW, BMWi, FFG, Stiga, Strian Business Promotion Agency – SFG and Vienna Business Agency. The COMET Programme is managed by FFG.

References


Figure 1: Mockup of a Gapminder-inspired prototype with (1) a captured provenance graph of three stories from Hans Rosling’s presentations [1–3]. The user can query the provenance graph for visualization states using (2) the search field, which suggets visualization properties while typing. Properties of the active state are marked and provide a default value, if available. (3) The selected search terms can be weighted based on the user’s interest. (4) The search results are ranked by the state’s similarity score.