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Supporting Users to Find Appropriate Visualizations of Spatio-Temporal Open Data Sets

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Over the last few years, a broad range of open data portals has been set-up. The aim of these portals is to improve the discoverability of open data resources and to strengthen the re-use of data generated by public agencies as well as research activities.

Often, such open data portals offer an immense amount of different types of data that may be relevant for a user. Thus, in order to facilitate the efficient and user-friendly exploration of available data sets, it is essential to visualize the data as quickly and easily as possible. While the visualization of static data sets is already well covered, selecting appropriate visualization approaches for potentially highly-dynamic spatio-temporal data sets is often still a challenge.

Within our contribution, we will introduce a preliminary study conducted by the mVIZ project which is funded by the German Federal Ministry of Transport and Digital Infrastructure as part of the mFUND programm. This project introduces a methodology to support the selection and creation of user-friendly visualizations for data discoverable via the open data portals such as the mCLOUD. During this process, specific consideration are given to properties and metadata of the datasets as input for a decision workflow to suggest appropriate visualization types. A resulting guideline will describe the methodology and serve as a basis for the conception, extension or improvement of visualization tools or for their further development and integration into open data portals.

The project focuses particularly on the creation of an inventory of open spatiotemporal data in open data portals as well as an overview of available visualization and analysis tools, the development of a methodology for selecting appropriate visualizations for the spatio-temporal data, and the development of a demonstrator for supporting the visualization of selected data sets.