

Designing interaction techniques for the comparison of spatial entities in the context of geodashboards

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August 2023

Abstract

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Chapter 1

Introduction

The growing usage of dashboards to represent data across a range of different fields suggests a need for research on layout and design features of dashboards and their influence on the user experience [12, 9].

Previous research has shown that there is no one-fits-all solution and it has to be experimented with different design decisions in different scopes and purposes. An interesting approach to narrow down the area of investigation is to classify user interaction in a dashboard application for exploration and/or analysis of the dataset [11]. This doesn't exclude the field of geovisualizations and geodashboards. There are many different perspectives that all reasonably try to define taxonomies and or classification models that all have their application for spatio-temporal data exploration and/or analysis [1, 2, 3].

But Roth has shown that a functional taxonomy of interaction primitives can be empirically derived. He identified general tasks users want to accomplish (objective primitives) [8].

An interaction techniques as broadly defined in the Computer Science Handbook from 2004 is "the fusion of input and output, consisting of all hardware and software elements, that provides a way for the user to accomplish a task." [5]. In the context of geovisualizations and geodashboards interaction techniques have been researched [6, 7, 8, 10]. Roth also describes an interaction technique in the context of geovisualizations as the functionality of an given interface and the procedures of manipulating its visualizations [8].

Instead of dealing with layout and design features directly, this work will focus on interaction techniques as they also imply design decisions. As we have seen it is reasonable

to focus on a specific usecase in geodashboards. In this work we will focus on the task of comparison of spatial features in geodashboards.

Sources who proposed comparison as an interactivity task [3, 2, 4].

Distingiushes between two dimensions of comparison. Comparisons of variables or projections, and comparison of subset of the data [2].

Chapter 2

Literature Review

Chapter 3

Methodology

Chapter 4

Results

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