

A benchmark for assessing OLAP exploration assistants

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Abstract. In this demonstration paper, we present *InDExBench*, a benchmark designed and developed for evaluating and comparing Interactive Database Exploration (IDE) assistant systems in the context of OLAP. We briefly recall how *InDExBench* works behind the scenes. Then, we explain how it can be used in practice by considering the case of *Sam*, an OLAP IDE assistant author who wants to evaluate how her system performs, and how it compares to competitors.

1 Introduction

Supporting Interactive Database Exploration (IDE) is a problem that attracts lots of attention these days. Exploratory OLAP (On-Line Analytical Processing) is an important use case where tools support navigation and analysis of the most interesting data, using the best possible perspectives. While many approaches were proposed, a recurrent problem is how to assess the effectiveness of an exploratory OLAP approach. In this paper, we describe *InDExBench*, a benchmark for evaluating IDE approaches, referred to as SUTs (for Systems Under Test), relying on an extensible set of user-centric metrics that relate to the main dimensions of exploratory analysis. Basically, SUTs are evaluated by assessing the quality of explorations they help the user to produce. An OLAP exploration (Aligon et al., 2014) is technically a sequence of OLAP queries over a database instance issued by a given user. *InDExBench* achieves its goal by first simulating a complete OLAP system (DB instance, cube schema, users, ...) and then by giving the SUT the opportunity to play within the system. In this paper, we review *InDExBench* features through a realistic use case. Thorough details can be found in (Djedaini et al.).

2 Benchmark overview

In this section, we describe more precisely the metrics, how *InDExBench* generates the OLAP system, and finally how it simulates and scores explorations.

Metrics *InDExBench* scores explorations using five categories of user-centric metrics borrowed from Exploratory search (White and Roth, 2009). Each category is implemented with a primary metric and a secondary to counterbalance it.

User engagement measures how engaged and invested is a user on a system. For this category, we borrow from web search two popular and intuitive metrics. Query Depth (QD)