Editorial

This second issue of the twelfth volume of JIDM brings seven extended versions of papers published at the Demos Session of the Brazilian Symposium on Databases (SBBD) last editions (from 2017 to 2020), and one regular article. SBBD is the largest venue in Latin America for presentation and discussion of research results and applications in the database domain. In turn, the Demos Session is a discussion forum for exchanging experiences and presenting innovative, practical and functional solutions for relevant problems involving data and information management technology. All the submitted articles for this special issue were extensively revised by active members of the Database Brazilian academic community through several rounds, and the selected ones present and evaluate automatic or semiautomatic tools in a broad range of applications, including geographic and timeless data visualization, relational database design and tuning, management of lifecycle scientific projects and tuning of context-based image retrieval.

This special issue starts with the article entitled "QualiOSM: An Architecture to Improve Data Completeness on OpenStreetMap", by Gabriel F. B. de Medeiros, Lívia C. Degrossi and Maristela Holanda. It focuses on the presentation and evaluation of the QualiOSM architecture. *QualiOSM* is a system that generates an automatic tag adder with the purpose of improving the completeness of address information for OSM objects in Brazil, using the reverse geocoding tools Nominatim, CEP Aberto and the database from Correios.

The second article, authored by João V. O. Novaes, Lúcio F. D. Santos, Luiz Olmes Carvalho, Daniel de Oliveira, Marcos V. N. Bedo, Agma J. M. Traina, and Caetano Traina Jr, is entitled "J-EDA: A Workbench for tuning similarity and diversity search parameters in content-based image retrieval". *J-EDA* is a practical workbench implemented in Java that supports the tuning of similarity and diversity search parameters by enabling the automatic and parallel exploration of multiple search settings regarding a user-posed content-based image retrieval (CBIR) task. It implements a wide variety of classical and diversity-driven search queries, as well as many CBIR settings such as feature extractors for images, distance functions, and relevance feedback techniques.

The next work introduces *PhenoManager*, an approach that aims at helping scientists managing their scientific projects and the cycle of the scientific method as a whole. PhenoManager can assist the scientist in structuring, validating and reproducing hypotheses of a phenomenon through configurable computational models in the approach. The title of this article is "Managing Hypothesis of Scientific Experiments with PhenoManager", by Leonardo Ramos, Fabio Porto and Daniel C. M. De Oliveira.

The fourth article is entitled "Outer-Tuning: an Ontology-based Extensible Framework for Supporting Database Automatic Tuning". Outer-Tuning is a framework that supports (semi)automatic tuning of relational database systems through a domain-specific ontology. Its purpose is to explain and make explicit the tuning heuristics reasoning while enabling the evaluation of new ontology-inferred methods. The authors of this work are Raphael Marins, Rafael Pereira de Oliveira, Edward Hermann Haeusler, Sérgio Lifschitz, Daniel Schwabe and Ana Carolina Almeida.

The history and the main functionalities of the *brModelo* family of tools is the focus of the fifth article. Compared to similar tools, its main differentials are the support to all steps of the classical database design methodology, user interaction during the logical design step, as well as the support to all extended Entity-Relationship concepts. With more than fifteen years of existence, the brModelo was very well-accepted by the Brazilian Database community, which motivated the development and release of several versions of the tool. The article is entitled "brModelo: An Initiative for Aiding Database Design", and the authors are Ronaldo dos Santos Mello, Carlos Henrique Cândido and Milton Bittencourt S. Neto.

The sixth article presents *DCluster*, a web tool that aims to assist data analysts in exploring and visualizing geospatial data properties. Additionally, it has the capability of discovering points of

interest based on data of mobile users and classifying them as *Home*, *Work*, and *Other* locations. The title of this article is "DCluster: Geospatial Analytics with PoI Identification", by Cláudio C. S. Capanema, Fabrício A. Silva, Thais R. M. Braga Silva and Antonio A. F. Loureiro.

The seveth article entitled "Using Visual-Interactive Properties to Support Data Quality Visual Assessment on Abstract and Timeless Data", authored by João Marcelo Borovina Josko and João Eduardo Ferreira, explores a visualization systems additional features and design characteristics (named *Vis4DD*) that uses visual-interactive properties to support data quality visual assessment on abstract and timeless data. This work also conducts a full review and outlines the state-of-art visualization systems related to data quality assessment, fitting Vis4DD into this scenario.

Finally, 2, the article "MediBot: An Ontology-Based Chatbot to Retrieve Drug Information and Compare its Prices", Caio Viktor S. Avila, Wellington Franco, Amanda D. P. Venceslau, Tulio Vidal Rolim, Vania M. P. Vidal, and Valéria M. Pequeno. MediBot is a chatbot for medicines information consultation. The presented system acted as a single access point for natural and simplified information retrieval of drugs, prices, and risks. The chatbot has two modes of operation: Quick Response and Interactive modes. The first answers questions asked in natural language, while the second has three interactive tasks, namely Browser, Query, and Price Comparison.

On behalf of the JIDM Editorial board, we hope you enjoy reading this JIDM Special Issue. We would like to thank everyone who contributed to this Special Edition, particularly reviewers for their valuable comments and authors for their contributions and hard work in preparing their final manuscripts.

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