

# Editorial

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In this third issue of CIT's Vol. 23 we publish six papers from the areas of distributed information systems, decision support systems, data mining and Semantic Web.

The first paper of this issue – “*An Integrated Distributed Storage Design Offering Data Retrievability and Recoverability Using Soft Decision Decoding of Block Codes*” by Coimbatore Kandasamy Shyamala and Tattamangalam Ramachandran Padmanabhan – thus addresses the trustworthiness of distributed data storage with respect to threats represented by corrupted servers which are characteristic of untrusted environments. In this respect the authors tackle a number of issues related to server systems which are vital in guaranteeing retrievability and recoverability for persistent storage and access. They devise a particular scheme supporting active distributed storage which is based on the use of erasure coding for data dispersal (DSS-D). Along with the exposition of the proposed active storage design with respect to known issues with storage systems, the authors also provide its analytical evaluation against response time, availability and communication overhead, as well as its simulation validation for a set of RS codes.

In the second paper “*Towards a Software Tool Supporting Urban Decision Makers in Locating and Sizing the Household Garbage Accumulation Points Within Cities*”, Paolino Di Felice discusses a particular issue in spatial databases, which involves both standard and geographic data, namely the specific problem of locating and sizing the garbage bins for separate accumulation of household solid waste within urban areas. The author proposes a method for solving the problem and discusses its implementation relying on a spatial database, resulting in the development of a supporting software tool for managers of municipal solid waste disposal services. The system provides a dual-view display, a tabular and another based on the metaphor of geographic maps.

The third paper contributes to the area of privacy and understanding of user perception about privacy protection in the context of managing the secondary usage of the respective data. “*Factors Influencing User's Attitude to Secondary Information Sharing and Usage*” by Johnson Iyilade, Rita Orji and Julita Vassileva identifies five such factors: perceived benefits (of secondary information sharing), perceived risks, perceived sense of control, and attempt to gain or protect online reputation on a user's secondary information sharing attitudes. The authors performed an experimental study whose results revealed significant differences in the relative importance of the investigated factors to users of different age groups, hence making it possible to define default user privacy solutions according to a particular group's main privacy concerns and motivations.

The next paper deals with data mining of human history trajectories, which arise from collecting contextual data about people on the move, it being made possible by the pervasive use of mobile technology. Trajectory data, which are thus gathered, can provide a plethora of information on an individual's offline activities along both a spatial trajectory and a timeline, and constitute the basis for Location-Based Services (LBS), eventually forming the basis for extracting personal behavior patterns to be used in e.g. personalized recommendations or precision marketing. In their paper titled “*Mining Individual Behavior Pattern Based on Semantic Knowledge Discovery of Trajectory*”, Min Ren, Feng Yang, Guangchun Zhou and Haiping Wang propose a novel spatio-temporal

data clustering algorithm to find stops in a single trajectory without the influence of noises and isolated points (acnodes).

Lijun Tang and Xu Chen propose a complete ontology-based semantic retrieval approach and framework to be used in managing educational systems in their paper titled “*Ontology-Based Semantic Retrieval for Education Management Systems*”. The authors provide a comprehensive description of the respective ontologies thus constructed and discuss the related semantic annotation method. The experimental evaluation on a real education management system within their home institution shows comparable and better performance results of the semantic retrieval framework with respect to the traditional keyword-based one.

And finally, in their paper titled “*Social Network Analysis on Educational Data Set in RDF Format*”, Bogdan Dragulescu, Marian Bucos and Radu VasIU research the potential of simplifying social network analyses by using RDF datasets. In order to both obtain a coherent data structure and define a simple means of extracting the needed information for different scenarios, the authors use a previously developed educational ontology to model the necessary data from a learning management system based on Moodle. Basing on a unified data structure, they obtain the needed information by running a suitable query pattern in the semantic query language for databases SPARQL. By simply modifying the query, the same data model can be used to obtain social interaction data from archive courses, multiple communication tools, a specific course or the entire academic year.

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Editor-in-Chief