

Course Description

1 COURSE DETAILS

Title: Self-service business intelligence

Lecturer: Jérôme Darmont (Université de Lyon, Lyon 2, ERIC EA3083, France)

Description and Learning goals: In this course, we will present issues related to cloud data warehousing and OLAP, as well as current research solutions regarding data privacy, query performance and accessibility to non-expert users. The BI4people project will serve as a practical example of how such solutions can be implemented. The objective is to provide students with an overview on important issues related to data outsourcing and cloud computing.

Schedule: 8 hours course. 2 sessions on 30th (15:00 to 19:00) and 31st May (14:00 to 18:00), 2017

Place: To be confirmed

Contents:

1. Business intelligence as a service
 - Cloud business intelligence
 - On-demand business intelligence
 - Issues and current solutions
2. Data security in the cloud
 - Cloud security issues
 - Secret sharing based approach
 - Secure database management systems
3. Data access performance
 - Elasticity vs. optimization techniques
 - Cost models
 - Case study: materialized views
4. BI4people research project
 - Open data, self-data and collaboration
 - Issues to be solved
 - Tasks to undergo

ECTS credit calculation: 1 ECTS.

Evaluation: Paper summary presentation.

Bibliography:

J. Kaufmann, P. Chamoni. Structuring Collaborative Business Intelligence: A Literature Review. In Proc. HICSS 2014: 3738-3747.

H. Gonzalez et al. Google fusion tables: data management, integration and collaboration in the cloud. In Proc. SoCC 2010: 175-180.

O. Romero, A. Abello. Automatic validation of requirements to support multidimensional design. Data and Knowledge Engineering, 69:917-942, 2010.

C. Phipps, K.C. Davis. Automating data warehouse conceptual schema design and evaluation. In Proc. DMDW 2002: 23-32.

M.R. Jensen et al. Discovering multidimensional structure in relational data. In Proc. DaWaK 2004: 138-148.

J. Bonaccorsi. The world of Open data: semiotic and aesthetic games of "visualization", rhetoric of transparency. In Proc. IPSA 2014.

S. Lafon, F. Bouali, C. Guinot, G. Venturini. Hierarchical reorganization of dimensions in OLAP visualizations. IEEE Transactions on Visualization and Computer Graphics, 19(11):1833-1845, 2013.

F. Atigui, F. Ravat, J. Song, O. Teste, G. Zurfluh. Facilitate effective decision-making by warehousing reduced data: is it feasible? International Journal of Decision Support Systems, 7(3): 36-64, 2015.

M.A. Aufaure, A. Cuzzocrea, C. Favre, P. Marcel, R. Missaoui. An Envisioned Approach for Modeling and Supporting User-Centric Query Activities on Data Warehouses. International Journal of Data Warehousing and Mining, 9(2): 89-109, 2013.

J.D. Mackinlay. Automating the design of graphical presentations of relational information. ACM Transactions on Graphics, 5(2):110-141, 1986.

K. Aouiche, D. Lemire, R. Godin. Collaborative OLAP with Tag Clouds: Web 2.0 OLAP Formalism and Experimental Validation. In Proc. WEBIST 2008: 5-12.

G. Gavin, J. Velcin, P. Aubertin. Privacy Preserving Aggregation of Secret Classifiers. Transactions on Data Privacy, 4:167-187, 2011.

Organized by: Oscar Romero. To enrol to the course send an e-mail to oromero@essi.upc.edu before the 29th of May