PUBLICATIONS

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Conference publications

A Method for Filtering Large Conceptual Schemas

A. Villegas, A. Olivé. A Method for Filtering Large Conceptual Schemas, in: 29th International Conference on Conceptual Modeling (ER 2010), 2010.

This is the first publication with the main ideas about filtering large conceptual schemas, which is the main contribution of the Thesis. This publication also includes the formal definition of the metrics to compute the interest of the elements in the schema according to specific user requests. The ideas behind this proposal were discussed in the context of this conference and are the base of the work presented in the Thesis. The filtering methodology is explained in detail in Chapter 5 of the Thesis.

Understanding Constraint Expressions in Large Conceptual Schemas by Automatic Filtering

A. Villegas, A. Olivé, and M.R. Sancho. Understanding Constraint Expressions in Large Conceptual Schemas by Automatic Filtering, in: 31th International Conference on Conceptual Modeling (ER 2012), 2012.

This publication presents the filtering request for schema rules from the filtering catalog, which is one of the main contributions of the Thesis. The paper details the main stages of the filtering request and proposes a formal approach to evaluate the effectiveness and efficiency of the filtering proposal when applied to a set of real-world large conceptual schemas, which is extended and described in detail in Chapter 7 of the Thesis. The description of the filtering requests that conform the filtering catalog is included in Chapter 6 of the Thesis.

On Computing the Importance of Entity Types in Large Conceptual Schemas

A. Villegas, A. Olivé. On Computing the Importance of Entity Types in Large Conceptual Schemas, in: 28th International Conference on Conceptual Modeling (ER 2009).

This publication presents the fundamentals for computing the importance of entity types in large conceptual schemas, which is one the main contributions of the Thesis (Chapter 3). This publication describes a set of existing methods from the literature with proposed extensions to improve them. It also includes the analysis of the correlation and variability between methods.

A Tool for Filtering Large Conceptual Schemas

A. Villegas, M.R. Sancho, and A. Olivé. A Tool for Filtering Large Conceptual Schemas, in: 30th International Conference on Conceptual Modeling (ER 2011), 2011.

This paper presents the main features and the architecture of the web-based filtering engine, the tool that supports conceptual schema filtering. This tool is explained in detail in Chapter 8 of the Thesis. This publication also includes the description of the main characteristics of the filtering process, as described in Chapters 5 and 6 of the Thesis.

A Web-based Filtering Engine for Understanding Event Specifications in Large Conceptual Schemas

A. Villegas, A. Olivé, and M.R. Sancho. A Web-based Filtering Engine for Understanding Event Specifications in Large Conceptual Schemas, in: 31th International Conference on Conceptual Modeling (ER 2012), 2012.

This paper presents the main characteristics and provided functionality of the filtering request for event types from the filtering catalog. The details about the catalog of filtering requests are explained in Chapter 6 of the Thesis.

Improving the Usability of HL7 Information Models by Automatic Filtering

A. Villegas, A. Olivé, and J. Vilalta. Improving the Usability of HL7 Information Models by Automatic Filtering, in: IEEE 6th World Congress on Services (SERVICES 2010), 2010.

This publication presents the application of the filtering approach to the healthcare information models of the HL7 standard. The publication demonstrates that the filtering methodology makes it easier to automatically extract knowledge from the HL7 models. This publication covers the research work in Chapter 9 of the Thesis.

Journal publications

Extending the Methods for Computing the Importance of Entity Types in Large Conceptual Schemas

A. Villegas, A. Olivé. Extending the Methods for Computing the Importance of Entity Types in Large Conceptual Schemas, Journal of Universal Computer Science vol.16 no.20 (2010) 3138-3162.

This publication presents the fundamentals for computing the importance of entity types in large conceptual schemas, which is one the main contributions of the Thesis (Chapter 3). This publication describes extensions to existing importance-computing methods in order to take into account additional knowledge from the schema, which are the basis for the filtering methodology described in detail in Chapter 5 of the Thesis.

Book chapter publications

On Computing the Importance of Associations in Large Conceptual Schemas

A. Villegas, A. Olivé, and M.R. Sancho. On Computing the Importance of Associations in Large Conceptual Schemas, in: A. Düsterhöft, M. Klettke, K.-D. Schewe (Eds.), Conceptual Modelling and Its Theoretical Foundations, LNCS, Springer, 2012.

This book chapter presents a method to adapt the existing methods to compute the importance of entity and event types of a conceptual schema to be able to compute the importance of associations. This work is included in Section 4.3 of the Thesis.