

ICWE'06

The Sixth International Conference on Web Engineering

July 11-14, 2006

Palo Alto, California, USA

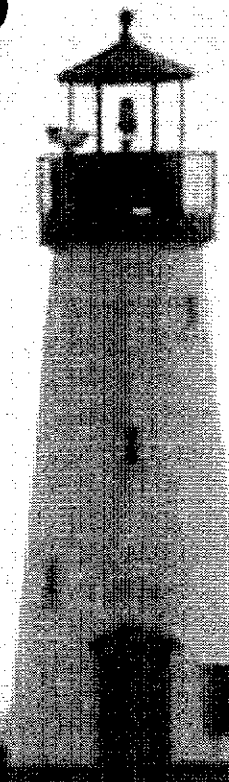


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Editors: Dave Wolber, Neil Calder, Chris Brooks, & Athula Ginige

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Foreword

It is our great pleasure to welcome you to the *2006 International Conference on Web Engineering*.

This year's conference builds on the successes of the previous ICWE conferences (ICWE'05 in Sydney, Australia, ICWE'04 in Munich, Germany, ICWE'03 in Oviedo, Spain, ICWE'02 in Santa Fe, Argentina and ICWE'01 in Caceres, Spain) in establishing ICWE as a premier venue for the presentation of research and applications in Web Engineering.

This year's Call for Papers attracted 103 submissions from around the world; 44 of these were accepted as full papers and 10 as short papers. A program committee of over 100 reviewers evaluated the papers. The accepted papers span a wide range of topics, including measurement and evaluation, Web Services and service composition, security, processes and workflows, and the semantics and persistence of information, to list just a few.

Putting together this year's ICWE required a great deal of effort on the part of many individuals. First of all, we would like to thank the authors and panelists for providing the content of the program. We would like to express our gratitude to the program committee and external reviewers, who worked very hard in reviewing papers and providing suggestions for their improvements. We would also like to thank the organizing committee, including Terence Parr, our Sponsorship Chair, Jim Whitehead, our Treasurer, Neil Calder, our General co-chair, Bebo White, our Local Organization Chair, and Nora Koch and Luis Olsina, our Workshops and Tutorials Chairs. We would also like to thank our sponsors, including ACM, Adobe, Google, and SAP, for their support.

We hope that you will find this program interesting and thought provoking and that the symposium will provide you with a valuable opportunity to share ideas with other researchers and practitioners from institutions around the world.

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Table of Contents

ICWE 2006 Organization	ix
Program Committee	ix
Sponsors	xi
Session 1: Web Metrics • Wednesday, 11:00-12:30	
X • Assessing Quality in Use in a Consistent Way	1
G. Covella, L. Olsina (<i>Universidad Nacional de La Pampa</i>)	
• Effort Estimation Modeling Techniques: A Case Study for Web Applications	9
G. Costagliola, S. Di Martino, F. Ferrucci, C. Gravino, G. Tortora, G. Vitiello (<i>University of Salerno</i>)	
• Usage-based Statistical Testing of Web Applications	17
J. Hao (<i>Provenco Retail Automation</i>), E. Mendes (<i>The University of Auckland</i>)	
Session 2: Web Services I • Wednesday, 11:00-12:30	
• Web Services Customization: A Composition-based Approach	25
Y. Sam, O. Boucelma, M.-S. Hacid (<i>LIRIS-CNRS</i>)	
• Modeling Semantic Web Services: A Case Study	32
C. J. Acuña, E. Marcos (<i>Rey Juan Carlos University</i>)	
• Challenges and Techniques on the Road to Dynamically Compose Web Services	40
M. Fluegge (<i>Institute for Open Communication Systems</i>), I. J. Garcia dos Santos (<i>University of Campinas</i>), N. P. Tizzo (<i>PUC-Minas University</i>), E. R. M. Madeira (<i>University of Campinas</i>)	
Session 3: Adapting and Managing Contexts • Wednesday, 11:00-12:30	
• Clustering Web Images using Association Rules, Interestingness Measures, and Hypergraph Partitions	48
H. H. Malik, J. R. Kender (<i>Columbia University</i>)	
• Modeling Heterogeneous Context Information in Adaptive Web Based Applications	56
R. De Virgilio, R. Torlone (<i>Università Roma Tre</i>)	
• Acquiring OWL Ontologies from Data-Intensive Web Sites	361
S. M. Benslimane, D. Benslimane (<i>Claude Bernard University</i>), M. Malki (<i>University of Sidi-Bel-Abbes</i>), Y. Amghar (<i>LIRIS Laboratory</i>), H. Saliha-Hassane (<i>Quebec University of Montreal</i>)	
Session 4: Modeling and Tools I • Wednesday, 4:00-5:30	
• Precise WIS Development	71
F. J. L. Martínez, F. M. Molina, A. T. Álvarez (<i>University of Murcia</i>), M. V. De Castro, P. Cáceres, E. Marcos (<i>Rey Juan Carlos University</i>)	
• Modeling and Generating Application Logic for Data-Intensive Web Applications	77
M. Jakob, H. Schwarz, F. Kaiser, B. Mitschang (<i>University of Stuttgart</i>)	
X • Generation of WebML Web Application Models from Business Process Specifications	85
M. Brambilla (<i>Politecnico di Milano</i>),	

- **SCORM Metadata in the Context of Bloom-Vincenti Taxonomy and Intelligent Tutoring System** 87
C. B. Bhatt, N. J. Rao (*Indian Institute of Science*)
- **Implementing Example-based Tools for Preference-based Search**..... 89
P. Viappiani, B. Faltings (*Ecole Polytechnique Fédérale de Lausanne*)
- **Generating Semantic Annotations during the Web Design Process**..... 91
S. Casteleyn, P. Plessers, O. De Troyer (*Vrije Universiteit Brussel*)
- **The Quest for the Web Services Stack: A Fast Trip**..... 93
F. O. Silva, P. F. Rosa (*Universidade Federal de Uberlândia*)

Session 5: Web System Architectures • Wednesday, 4:00-5:30

- **FDX – Federating Devices and Web Applications** 95
M. Gaedke, J. Meinecke (*University of Karlsruhe*), A. Heil (*Microsoft Research Cambridge*)
- **SCORM Run-Time Environment As a Service** 103
G. Costagliola, F. Ferrucci, V. Fuccella (*Università di Salerno*)
- **Web Server Performance Analysis** 111
J. Lu, S. S. Gokhale (*University of Connecticut*)
- **An Approach to Generate Test Cases from Use Cases** 113
J. J. Gutiérrez, M. J. Escalona, M. Mejias, J. Torres (*University of Seville*)
- **Defining a Quality Model for Portal Data** 115
A. Caro (*University of Bio Bio*), C. Calero, I. Caballero, M. Piattini (*University of Castilla-La Mancha*)
- **Stakeholder Collaboration – From Conversation to Contribution**..... 117
M. Nussbaumer, P. Freudenstein, M. Gaedke (*University of Karlsruhe*)
- **Chronica: A Temporal Web Search Engine** 119
D. Efendioglu, C. Faschetti, T. Parr (*University of San Francisco*)

Session 6: Web Services II • Thursday, 11:00-12:30

- **An Open and Dynamical Service Oriented Architecture for Supporting Mobile Services**..... 121
E. Sánchez-Nielsen, S. Martín-Ruiz, J. Rodríguez-Pedrianes (*Universidad de La Laguna*)
- **Model Driven Distribution Pattern Design for Dynamic Web Service Compositions**..... 129
R. Barrett, C. Pahl, L. M. Patcas, J. Murphy (*University College Dublin*)
- **Transactional Patterns for Reliable Web Services Compositions**..... 137
S. Bhiri (*National University of Ireland*), C. Godart, O. Perrin (*LORIA-INRIA*)

Session 7: Development Frameworks • Thursday, 11:00-12:30

- **A Platform for the Development of Semantic Web Portals**..... 145
O. Corcho (*University of Manchester*), 145
A. López Cima, A. Gómez-Pérez (*Universidad Politécnica de Madrid*)
- **Rapid Prototyping of Web Applications Combining Domain Specific Languages and Model Driven Design**..... 153
D. A. Nunes, D. Schwabe (*PUC-Rio*)
- **An Adaptation Method by Feedback in an Evolutionary Hypermedia System**..... 161
N. M. Medina, F. M. Ortiz, L. G. Cabrera (*University of Jaén*)

Session 8: Information Sharing and Modeling • Thursday, 11:00-12:30

- **Taking the Community's Pulse, One Blog at a Time** 169
T. Tirapat, C. Espiritu, E. Stroulia (*University of Alberta*)
- **Extended Memory (xMem) of Web Interactions** 177
S. Ceri, F. Daniel, M. Matera, F. Rizzo (*Politecnico di Milano*)
- **Sharing Information on the Web using Bitlets** 185
I. Marmaridis, A. Ginige (*University of Western Sydney*)

Best Paper Session: Best Paper Candidates • Thursday, 4:00-6:00

- **Modelling Information Persistence on the Web** 193
D. Gome, M. J. Silva (*Universidade de Lisboa*)
- **Multimodal Interaction with XForms** 201
M. Honkala, M. Pohja (*Helsinki University of Technology*)
- **Automatic Dialog Mask Generation for Device-Independent Web Applications** 209
M. Book, V. Gruhn, M. Lehmann (*University of Leipzig*)
- **Modeling, Validating and Automating Composition of Web Services** 217
Y. Fu, Z. Dong, X. He (*Florida International University*)

Session 9: Searching • Friday, 9:00-10:30

- **Searchstrings Revealing User Intent: A Better Understanding of User Perception** 225
C. Stolz (*Katholische Universität Eichstätt-Ingolstadt*), M. Barth (*Ludwig-Maximilian-Universität*),
M. Viermetz (*Heinrich-Heine-Universität*), K. D. Wilde (*Katholische Universität Eichstätt-Ingolstadt*)
- **Divide and Conquer Approach for Efficient PageRank Computation** 233
P. Desikan, N. Pathak, J. Srivastava, V. Kumar (*University of Minnesota*)
- **Querying the Web: A Multiontology Disambiguation Method** 241
J. Gracia, R. Trillo, M. Espinoza, E. Mena (*University of Zaragoza*)

Session 10: Security • Friday, 9:00-10:30

- **Modality Conflicts in Semantics-Aware Access Control** 249
E. Damiani, S. De Capitani di Vimercati, C. Fugazza, P. Samarati (*Università di Milano*)
- **Web Engineering Security: A Practitioner's Perspective** 257
W. B. Glisson, A. McDonald, R. Welland (*The University of Glasgow*)
- **Catching Web Crawlers in the Act** 265
A. Lourenço, O. Belo (*Universidade do Minho*)

Session 11: Design and Development Methods I • Friday, 9:00-10:30

- **An Enhanced Conceptual Framework to Better Handle Business Rules in Process Oriented Applications** 273
Z. Kobti, M. Sundaravadanam (*University of Windsor*)
- **Model Transformations from Requirements to Web System Design** 281
N. Koch, G. Zhang (*Ludwig-Maximilians-Universität*),
M. J. Escalona (*University of Seville*)
- **OpenXUP - an Alternative Approach to Developing Highly Interactive Web Applications** 289
J. Yu, B. Benatallah, R. Saint-Paul, F. Casati (*HP Laboratories*)

Session 12: Design and Development Methods II • Friday, 11:00-12:30

- **Combining Software Transactional Memory with a Domain Modeling Language to Simplify Web Application Development**.....297
J. Cachopo, A. Rito-Silva (*INESC-ID/Technical University of Lisbon*)
- X • **Agile Development of Secure Web Applications**305
X. Ge, R. F. Paige, F. A. C. Polack (*University of York*),
H. Chivers (*Cranfield University*), P. J. Brooke (*University of Teesside*)
- **A Survey of Issue Resolution on the Incremental Refinement of the System Scope in Web System Development**.....313
N. Yusop, D. Lowe, D. Zowghi (*University of Technology, Sydney*)

Session 13: Design Methods • Friday, 11:00-12:30

- **A Workflow-driven Design of Web Information Systems**321
P. Barna (*Technische Universiteit Eindhoven*),
F. Frasincar (*Erasmus University of Rotterdam*),
G.-J. Houben (*Technische Universiteit Eindhoven, Vrije Universiteit Brussel*)
- **Modeling and Verification of Adaptive Navigation in Web Applications**329
M. Han, C. Hofmeister (*Lehigh University*)
- **Hera-S - Web Design Using Sesame**.....337
K. van der Sluijs (*Technische Universiteit Eindhoven*),
G.-J. Houben (*Technische Universiteit Eindhoven, Vrije Universiteit Brussel*),
J. Broekstra (*Technische Universiteit Eindhoven, Aduna*),
S. Casteleyn (*Vrije Universiteit Brussel*)

Session 14: Modeling and Tools II • Friday 11:00-12:30

- **Constraint Tuning and Management for Web Applications**345
M. Brambilla (*Politecnico di Milano*), J. Cabot (*Universitat Oberta de Catalunya*)
- **Conceptual Modeling and Code Generation for Rich Internet Applications**353
A. Bozzon, S. Comai, P. Fraternali, G. T. Carughi (*Politecnico di Milano*)
- **Web Application Internationalization and Localization in Action**64
T. Parr (*University of San Francisco*)

Workshops and Tutorials369

Author Index.....370

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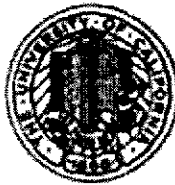
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Defining a Quality Model for Portal Data

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ABSTRACT

Advances in technology and the use of the Internet have favoured the appearance of a great variety of Web applications, among them Web Portals. These applications are important information sources and/or means of accessing information. Many people need to obtain information by means of these applications and they need to ensure that this information is suitable for the use they want to give it.

In recent years, several research projects were conducted on topic of Web Data Quality. However, there is still a lack of specific proposals for the data quality of portals. In this paper we introduce a model for the data quality in Web portals.

Categories and Subject Descriptors

D.2.9 [Management]: Software Quality Assurance.

General Terms

Design, Experimentation, Human Factors..

Keywords

Data Quality, Information Quality, Web Portal, Quality Model.

1. INTRODUCTION

In the last years is growing the number of organizations which establish portals to complement, substitute or widen existing services to their clients. In general, portals provide users with access to different data sources (providers) [11], as well as to on-line information and information-related services [18].

In the literature, the concept of Data Quality (DQ) is often defined as "fitness for use", i.e., the ability of a data collection to meet user requirements [2, 17]. Due to the particular characteristics of Web applications and their differences from the traditional information systems [15], the research community started to deal with the subject of data quality on the Web [7]. However, there are no works on data quality that address the particular context of Web portals [3].

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This paper presents a portal data quality model (PDQM), focused on the data consumer's perspective. PDQM is based in three key elements (1) a set of DQ web attributes identified in the literature, (2) the DQ expectations of data consumers on the Internet, and (3) the functionalities that a Web portal.

To produce the PDQM model, we defined a process with 4 phases: Identification of DQ Web attributes, Definition of a Matrix to classify the DQ web attributes, Classification of DQ web attributes in the matrix and finally, Validation.

The remainder of this paper is organized as follows. In sections 2, 3 and 4 we describe the first three phases for develop PDQM. Section 5 shows how we aim to validate our preliminary model. In section 6 the conclusions and future work are presented.

2. IDENTIFICATION OF ATTRIBUTES OF WEB DATA QUALITY

By means of a systematic review of the relevant literature, we identified 41 data quality attributes which have been proposed for different domains in the context of the Web (Web sites [5, 13], integration of data [1, 14], e-commerce [9], Web information portals [18], cooperative e-services [6], decision making [8], organizational networks [12] and data quality on the Web [7]). The idea was to take advantage of work already carried out in the Web context and apply it to Web portals.

3. MATRIX OF CLASSIFICATION

A matrix to classify DQ attributes was developed on the phase 2. This was defined based on the relationship that exists between:

- The functionalities of a Web portal, identified in [4]: Data Points and Integration, Taxonomy, Search Capabilities, Help Features, Content Management, Processes and Actions, Communication and Collaboration, Personalization, Presentation, Administration and Security.
- The data quality expectations of Internet consumers as stated in [16]: Privacy, Content, Quality of Values, Presentation, Improvement and Commitment.

On this matrix we carried out an analysis of what expectations were applicable to each of the different functionalities that a portal offers to a data consumer represented in figure 1 with a "✓" mark.

		Web Portal Functionalities											
		Data Ports and Integration	Taxonomy	Search Capabilities	Help Features	Content Management	Process and Aachen	Collaboration and Communication	Personalization	Presentation	Administration	Security	
Category of Data Consumer Expectations	Privacy				√	√	√	√			√	√	Privacy
	Content Quality of Values	√	√			√	√						Content Quality of Values
	Presentation Improvement	√	√	√	√	√	√			√	√	√	Presentation Improvement
	Commitment	√	√	√		√	√			√			Commitment

Figure 1. Matrix for the classification of Web DQ attributes.

4. CLASSIFICATION

In the third phase to generate PDQM we classified the Web DQ attributes (shown in section 2) in each relationship (functionality, expectation) established on the matrix created in stage 2 (and presented in section 3). The result of this classification is a set of 34 DQ attributes for PDQM.

5. VALIDATION

The next phase to generate PDQM consists in its validation. For this we decided to carry out a study by means of a survey for data consumer of web portals. We decided to generate independent questionnaires for each one of the functionalities because we thought that to use only a questionnaire for the whole model would be tiring for the subjects. With the results of this validation we are able to fine-tune our model.

6. CONCLUSIONS AND FUTURE WORK

In this paper we have presented a preliminary version of our data quality model for Web portals (PDQM) that consider the data consumers point of view. This has been built on three key elements: a set of Web DQ attributes set out in the relevant literature, DQ expectations of data consumers on the Internet, and the functionalities which a Web portal may offer its users.

As future works we plan: to validate PDQM using surveys and, based on this, to define a framework for evaluating and improving the data quality for Web portals.

7. ACKNOWLEDGMENTS

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