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Message from the WISQ Workshop Chairs

The number of Web information systems (WIS) has grown phenomenally. This in turn has triggered specific research and development focusing on WIS, i.e., information systems (IS) that are integrated in the Web. Also recently new paradigms have evolved such as Web services. The openness of WIS implies that the system developers at development time tend to know the anticipated users of WIS much less well than would be the case for traditional (i.e., non-Web) IS. Determining the functional and non-functional requirements for WIS thus becomes virtually impossible. The functional requirements (at least to some extent) can be considered as being constituted by the key services the vendor wants to have on offer. However, the non-functional requirements have to be replaced by WIS quality. That turns quality into a particular concern with respect to WIS.

From a user's perspective quality can be defined as the suitability for intended or practical use. However, this notion of suitability is subjective and cannot be applied easily in a system under study. A number of quality aspects have been defined already for software systems (and for IS in particular), for simplifying quality related investigations. Competition has led to the fact that for a particular business there are a number of WIS available that implement the key operations. Therefore customers have a choice as to whether to continue using what is not satisfactory or trying something new. New technologies such as Web services seem additionally to suggest that WIS quality should be considered from a different angle or with different concepts, methods and tools than IS in general.

WISQ 2005 was a forum for discussing and disseminating research regarding the quality of WIS and Web services from a holistic point of view and in a comprehensive manner. WISQ 2005 was the third in a series of workshops that commenced in 2003 as the Web Services Quality Workshop (WQW 2003) and continued on in 2004 as the Web Information Systems Workshop (WIS 2004). All three editions of the workshop were held in conjunction with the Web Information Systems Engineering (WISE) conference series.

This year, we received 12 submissions of which 7 papers were accepted. All papers were independently peer-reviewed by the international Program Committee of WISQ 2005.

September 2005

Roland Kaschek
Shonali Krishnaswamy

Message from the WBL Workshop Chair

Recent advances in Internet technologies have rapidly changed our life in various ways. Especially the Web has many positive effects on education. It overcomes the time and space limitations of traditional schools. Teachers and students are now using the Web to access vast amounts of information and resources in the cyberspace. The Web also allows educators to implement a range of new teaching and learning practices, which redefine classroom-learning experiences.

The aim of this workshop was to invite researchers from various fields to present and discuss their ideas on Web-based learning. Areas of interest include various aspects of Web-based learning such as user interface design, learning and content management system, quality management in Web-based learning, the infrastructure of the Web-based learning environment, curriculum design in Web-based learning, assessment strategy in Web-based learning, instructional design methods for Web-based learning, collaborative Web-based learning, and virtual university, etc.

A total of 14 research papers were submitted from 8 countries and were reviewed through 12 program committees. Each paper was reviewed by two internationally renowned program committee members. Papers were rigorously examined and selected based on their significance, originality, technical quality, relevance, and clarity of presentation. Finally 10 papers were selected to be presented at the workshop.

I would like to take this opportunity to thank all the authors who submitted papers to the workshop. I also thank the Program Committee members. Thanks also go to the conference organizers for their support.

September, 2005 Woochun Jun

Message from the SSWS Workshop Chairs

The Semantic Web is an extension of the World Wide Web which seeks to provide data and metadata in a format more amenable for use by intelligent agents and other computer programs. Recent W3C Recommendations for the Semantic Web include the Resource Description Framework (RDF) and the OWL Web Ontology Language. These standards define a graph data model and provide formal semantics for reasoning and inferring additional content. The scale and open world nature of the Semantic Web impose additional challenges beyond those addressed by earlier knowledge base systems.

As deployment of the Semantic Web progresses, scalability becomes increasingly important. The SSWS 2005 workshop seeks to bring together researchers and practitioners to present and discuss recent ideas and results addressing scalability challenges.

Of 21 submitted papers 11 were accepted. These cover a range of topics including existing implementations, benchmarking, interoperability, optimization techniques, approximation methods, experimental results, and lessons learned.

September, 2005

Mike Dean
Yuanbo Guo
Zhengxiang Pan

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Ontology for the Selection of e-Processes

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Abstract. Creating an e-Commerce Information System (eCIS) also creates its quality. The development process used to develop an eCIS thus impacts on the quality of the resulting systems. Developers need to select a development process to be followed from a number of available processes. Their choice might be flawed as a result of insufficient knowledge regarding development processes, the quality characteristics of the processes, or a selection methodology. This paper defines an ontology for development processes of eCIS (e-Processes). It provides characteristics and for each a scale and thus a conceptual framework for quantitatively assessing e-Processes. Furthermore a selection methodology and the architecture of a prototype e-Process selection tool are discussed.

1 Introduction

Computer and cognitive science researchers have been trying to find an answer to the question on how to represent knowledge. In order to represent knowledge it needs to be structured. The philosophical elaborations focus on how knowledge is structured and reasoning occurs. [1] The ontological nature of an IS is that it should be true representations of the world. Initially the computational ontologies were taxonomy systems for the presentation of knowledge but the need arose to have a theoretical basis for knowledge representation. Ontology thus provides us with generic models of the real world [1].

Information Systems consist of functional or non-functional system requirements. Functional requirements address the operations the system implements. Non-functional requirements, however, address the way system operations are accessed and executed. Creating systems with given quality characteristics is therefore an approach to the controlled implementation of non-functional requirements. The e-Process selection method that is introduced in this paper focuses largely on system quality and the extent to which the different e-Processes address that quality.

Different companies use the Web differently. The buying and selling of goods electronically is known as E-commerce. Companies are required to use E-commerce in order to enhance the competitiveness of their businesses and increase the efficiency of their operations, [2]. Web development, especially eCIS development, requires quick completions of the project, while delivering quality software, [3]. E-Processes are different from traditional development processes. Even though none of the features required for development are completely new, development processes that focus specifically on e-Commerce systems are not completely defined [4].

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The development process used to develop an eCIS impacts on the quality of the resulting system. Numerous development processes are available for the development of an eCIS and the developers need to choose, preferably, the most suitable one for the project at hand. System quality is threatened if an inadequate eProcess is followed. This paper introduces an e-Process Selection Ontology and Methodology. Even if the eProcess identified by our methodology is not used this methodology may be beneficial, as it may identify an education need if it repeatedly recommends the use of an eProcess that differs from the in-house standard. The methodology can also be used to make the developers aware of those eProcess characteristics for which the selection is sensitive. This sensitivity information may be used to focus attention on critical development issues regardless of the eProcess that is actually used. Weak point analysis may have the same effect. Spending time to select the best suited e-Process for a system under development requires resources. The author believes that spending these resources is justified as the quality of the system under development is affected. The minimum outcome of following our methodology is increased awareness of critical development issues and of reasons that lead to a particular e-Process being selected.

Paper Outline. See in Section 2 the conceptual background of the work and in section 3 the eProcess ontology. Section 4 discusses the selection methodology and section 5 the architecture of the eProcess selection tool. In conclusion future work is discussed and the references listed.

2 Related Work

Quantification of the software process followed, see e.g., [5] is a well-known approach to controlling the efficiency of IS development. Such quantification can take the form of firstly providing scales, i.e., ordered sets of values, for sensibly chosen dimensions that are supposed to represent the views most relevant for the quantification case at hand. Secondly, the software process is scored in each dimension, i.e., a scale value is associated to the process that expresses the extent to which the particular process has the quality defined by that particular view. In particular with respect to software processes for object-oriented target languages or the comparison of such processes several proposals for lists of dimensions, also called features, are known, see, e.g., [5]. The functionality of software processes is often used for comparison (i.e., the type and number of specified development artifacts) while the quality of the processes (i.e., the particular aid provided for creating the specified artifacts and the quality thereof) is often neglected, [5].

WIS development is a growing part of IT activities within most organizations. The process of WIS development within organizations is still largely uncertain, [6]. This paper publishes the results of a research exercise involving 25 UK companies researching the way that WIS are currently developed within UK based organizations.

Research into the selection of an appropriate e-Process has created a number of approaches. A taxonomy regarding various classification features of methodologies for workflow systems development is discussed in [7]. The E-Processes selection approach in [8] relies on identification of situation patterns that best supported a particular process. This qualitative approach may become inconclusive as at the same time several patterns might apply to a lesser or higher degree.