

**Editorial Preface**

**Special Issue on Intelligent Web Systems**

Dickson K. W. Chiu, Dickson Computer Systems, Hong Kong

Hideyasu Sasaki, Ritsumeikan University, Japan

The global economy and organizations are evolving to become service-oriented and many business activities have moved to the Web. Beyond the Service Oriented Architecture (SOA) and Web 2.0, intelligence in computing is essential to achieve service personalization and excellence for the ever complicating requirements in the rapidly evolving global environment (Chiu et al., 2010). This involves knowledge from various disciplines such as computer science, industrial and systems engineering, management science, operations research, marketing, contracts and negotiations; as well as culture transformation and integration methods based on beliefs, assumptions, principles, and values among organizations and humans.

The creation, operation, and evolution of such research and practice raise concerns that range from high-level requirements and policy modeling through to the deployment of specific implementation technologies and paradigms, and involve a wide (and ever growing) range of methods, tools, and technologies. They also cover a broad spectrum of vertical domains, industry segments, and even government sectors.

Our aim is to help in communicating and disseminating relevant recent research across disciplines, cultures, and communities in Web Intelligent Systems and Services (WISS). We intentionally seek scientists, engineers, educators, solution developers, policy makers, management, analysts, and others who have insight, vision, and understanding of the big challenges in this emerging field. Priory to this special issue, we hold the International Symposium of Web Intelligent Systems and Services (WISS, 2010) in Hong Kong, December 2010, co-located with the 11th International Conference on Web Information System Engineering (WISE, 2010). We thank again the WISE organization committee in supporting our activities.

WISS 2010 was a very successful event with 30 accepted papers. We invited submissions from both WISS authors and open call for papers. Because of numerous high quality submissions, we decided to arrange two special issues to accommodate for the accepted papers. We first launch this first special issue on Intelligent Web Systems and then the next issue on Intelligent Web Services. Here, we introduce the five articles in this issue as follows.

Ying and Miller design and implement a refactoring system called ART (ActionScript Refactoring Tool) to provide automatic support for Flash programmers by rewriting their ActionScript code to speed up their applications. This contributes a lot to rich Internet applications of Web 2.0 because many of them are written in Flash, but Flash programmers often have to focus on other functional design aspects and ignore performance due to tight production schedules.
Yan et al. propose a contextual preference query method of eXtended Markup Language (XML) structural relaxation and content scoring for providing users with most relevant and ranked query results in XML queries. This contributes to resolving the problem of empty or too many answers returned from XML queries, which is widely used in the processing of Web 2.0 contents.

Maleewong et al. introduce their Web-based collaborative knowledge management system, ciSAM, which applies widely-used IBIS and Toulmin’s argumentation schemes, to structurally capture the deliberation and collaboration occurred during the consensual knowledge creation process. As it employs standard Resource Description Framework (RDF) and Web Ontology Language (OWL) as its underlying knowledge representation language, users can easily create knowledge using a simple corresponding graphical notation with machine-processable semantics.

Gong et al. propose the integration of Semantic Web and software agents with a methodology for exchanging rules between the Rule Interchange Format (RIF) of the World Wide Web Consortium and AgentSpeak of the Belief-Desire-Intension (BDI) agent architecture. This contributes to the translation between the two mainstream intelligent technologies for the Web.

Last by not least, Chen et al. propose a concept of background net to capture contextual association of words appeared in the articles recommended by the user through incremental learning. Fuzzy set associations to such words in a background net can therefore personalize keywords that represents different user knowledge background and preferences. This contributes to achieve better performance with integration to existing search engines. The implementation extended to their Knowware System, a knowledge base system development platform, enables further customized deployment and promotes reuse of this approach.

The articles in this issue illustrate some of the current research areas pertinent to Intelligent Web System; while, in many ways, also amplifying the many challenges, which remain to be addressed. It is expected that new topics will emerge while existing research will shift concentration into these areas in the coming years, which are also inline with the journal’s objective towards the goal of achieving service excellence under the current globalized service-oriented economy.

Dickson K. W. Chiu, Editor-in-Chief
Hideyasu Sasaki, Associate Editor
Guest Editors
IJSSOE

REFERENCE
Dickson K.W. Chiu received the B.Sc. (Hons.) degree in Computer Studies from the University of Hong Kong in 1987. He received the M.Sc. (1994) and the Ph.D. (2000) degrees in Computer Science from the Hong Kong University of Science and Technology (HKUST). He started his own computer company while studying part-time. He has also taught at several universities in Hong Kong. His research interest is in service computing with a cross-disciplinary approach, involving workflows, software engineering, information technologies, agents, information system management, security, and databases. The results have been widely published in over 120 papers in international journals and conference proceedings (most of them have been indexed by SCI, SCI-E, EI, and SSCI), including many practical master and undergraduate project results. He received a best paper award in the 37th Hawaii International Conference on System Sciences in 2004. He is the founding Editor-in-chief of the International Journal on Systems and Service-Oriented Engineering and serves in the editorial boards of several international journals. He co-founded several international workshops and co-edited several journal special issues. He also served as a program committee member for over 80 international conferences and workshops. He is a Senior Member of both the ACM and the IEEE, and a life member of the Hong Kong Computer Society.

Hideyasu Sasaki, Esq., Ph.D. is the Editor-in-Chief of the International Journal of Organizational and Collective Intelligence (IJOCI). Professor Sasaki is a graduate of the University of Tokyo, B.A. and LL.B., in 1992, 1994, received an LL.M., from the University of Chicago Law School in 1999, an M.S. and a Ph.D. in Cybernetic Knowledge Engineering with honors from Keio University in 2001, 2003, respectively. He is an associate professor at Department of Information Science and Engineering, Ritsumeikan University, Kyoto, Japan. He was an assistant professor at Keio University from 2003 to 2005. His research interests include decision science and intelligent computing, especially mathematical modeling and simulation of time-critical decision making. Dr. Sasaki has also experienced lawyering and litigations as Attorney-at-Law in N.Y., U.S.A. He is an associate editor at the International Journal of Systems and Service-Oriented Engineering (IJSSOE), International Journal of Swarm Intelligence and Evolutionary Computation (IJSIECA), and a reviewer for the Journal of Information Sciences, Elsevier, in 2008, 2009 and ACM Transactions on Knowledge Discovery from Data (KDD) in 2008. He is active in program committees of the ACM International Conference on Management of Emergent Digital EcoSystems (MEDES), SoCPaR, ServComp, etc.