Preface

The *International Journal of Technology and Web Engineering* (JITWE) outlines a critical dimension of integrating information technology and Web Engineering (WE) systems and tools. In an effort to facilitate and foster such dimensions and viewpoints about integrating the two areas, we selected articles published in the first two volumes of JITWE and organized them into three sections: agent, collaboration and access technologies.

The following provides an overview of the contents of each section in this book material:

- **Section I—Agent Technology:** Agents, multi-agents for Web services and e-commerce.
- **Section II—Collaboration:** Clustering research group collaboration, e-portfolio for virtual learning groups, email filtering.
- **Section III—Access:** Algorithm for continuous queries, text summarization, XML query processing, vertical Web page classification, service-oriented architectures.

Section I: Agent Technologies

Agent technologies are emerging as a mainstream technology in Web engineering. For example, the Web site (Whitestein, 2008) lists the following references extracted for only 2007 and 2008. The titles reflect the increasing scope of agent technologies application domains and development practices and tools.

- Defense Industry Applications of Autonomous Agents and Multi-Agent Systems
- Agent Technology and e-Health
- Issues in Multi-Agent Systems
- Emerging Web Services Technology
- The Agent Modeling Language – AML
- Adaptive Bidding in Single-Sided Auctions under Uncertainty.

Furthermore, the Web site (Magnet, 2008) reports applications of agent technologies in the areas of dynamic resource allocation, planning and scheduling.

Reflecting this important trend, chapters in this section of book material derived from previous issue articles contain research related to agents, multiagents, and mobile agents on Web services and e-business platforms. Chapters employ multiagents to address workflow management of semantic Web services and how to create satisfaction in systems using a specific approach: Allen's Interval Algebra and Probabilities. Follow on chapters handle service composition and provisioning, respectively. Finally, chapters present their research on how to deploy mobile agents in an e-business environment.

Sections II: Collaboration

This section contains chapters on creating collaborative Web based systems. The first two chapters are related to establishing collaborative environments. The first chapter presents an approach to cluster research group members' interests to enhance collaboration among them, while the second chapter presents the use of e-portfolios to enhance virtual learning groups. The last chapter explains how to develop a system to semi-automate emails filtering to help in reading emails more efficiently.

Sections II: Access

Chapters in this section address the issues of information access and retrieval using queries, Web page classification, text summarization technique, service oriented architectures and semantic Web features in a manufacturing setup, increased access through classification of Web services discovery systems, and finally enhanced access through performance analysis of Web site access.

Linking the three areas together may form one scenario for future research:

- From the user point of view, deploy software agents, intelligent and autonomous, to personalize access base of user profiling. These multiagents could be treated as a community of social agents, leading to incorporating social and behavioral factors in controlling the interaction and group dynamics of agents. These issues may include:
  - ° creative and innovative thinking patterns, such as Herrmann Brain Dominance Instrument (HBDI) (hbdi, 2008)
  - ° personal values and cultures, such as gender, religion, education, and family,
  - ° cyber social communities, such as Wikkipedia (Spinellis, and Louridas, 2008), Internet-based gaming (Waldo, 2008), and Open software communities, and
  - ° globalization issues in agents' communication, such as rules and regulations, country characteristics, economic and political stability of regions, and travel requirements,
- By having a harmonious teams (co-located or virtual) or cyber societies of multiagents, collaboration will increase in efficiency and effectiveness, leading to knowledge societies and personal satisfaction form work and life.
- At the third tier, agents and collaboration will alleviate the effects of information overload by retrieving only relevant information pulled from integrated multiple loosely coupled data sources in the Internet and economy in general, or internal and external sources at the enterprise level in particular.

The following figure demonstrates this scenario:
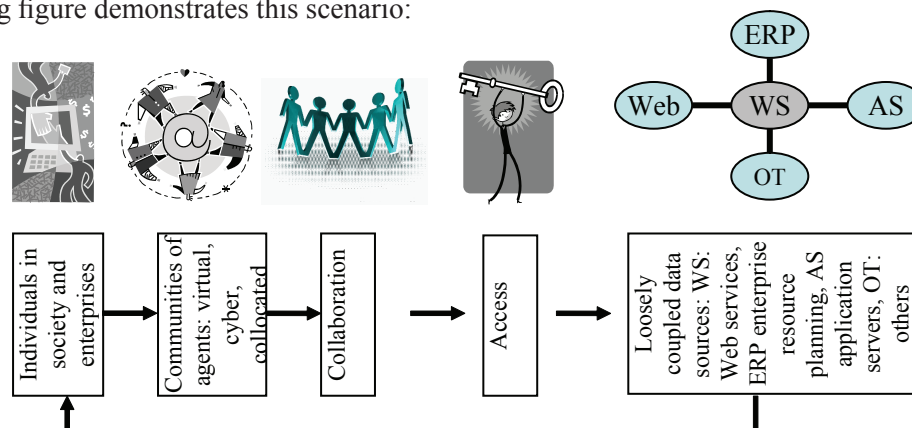
REFERENCES

hbdi.com, accessed September, 2008

Mmagenta-technology.com/en/ solutionsandservices/smartresource/ accessed September, 2008.

Spinellis, D. & Louridas, P. (2008). The collaborative organization of knowledge. *Communications of the ACM, 51*(8), 68-73.

Waldo, J. (2008). Scaling in games and virtual worlds. *Communications of the ACM, 51*(8), 38-44. See other articles on game theory in the same issue.

Wwhitestein.com/ library/whitestein-series-in-software-agent-technologies-and-autonomic-computing), accessed September, 2008.