# Special Issue on Web Intelligence and Virtual Communities. Editorial.

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# Web Intelligence and Virtual Communities.

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Web Intelligence is a multidisciplinary area dealing with exploiting data and services over the Web, to create new data and services using Information and Communication Technologies (ICT) and Artificial Intelligence (AI) techniques. The link to Networking and Virtual Organisations (VOs) is obvious: the web is a set of nodes, providing and consuming data and services; the permanent or temporary ties and exchanges in-between these nodes build the so-called virtual organizations; and the ICT and AI techniques contribute to the process and automate (or partly automate) communication and cooperation processes. One could also speak about Virtual Communities (VCs), slightly putting more focus on the topic or the shared objectives of the participants (nodes, users), or about Virtual Enterprises (VEs), emphasizing then more generally the structure in-between node. VCs, VOs, VEs… The point is not about the vocabulary, rather it is about research projects that tend to increase and improve the use of the Internet to make people communicate with each other in the real life, by means of advanced networked numeric tools and software.

Many concerns should be addressed in the Web Intelligence and Virtual Community area; the papers selected for this special issue address some of these concerns, namely:

- The services and coordination of services in the topic addressed by van't Klooster, van Beijnum, Pawar, Sikkel, Meertens and Hermens. The ageing of the western population (including Japan and Australia), the individualistic way of life, and the cost of care services, constitute strong intencives to provide support for elderly, for instance, by participating in communities where they can find friendship, or get support at appropriate times from their neighbours, relatives or medical care providers.

- The information extraction and the exploitation within VCs of the context data collected from mobile sensors is the issue addressed by Lopez, Shuzo and Yamada. They pursue the concrete example of people suffering from the metabolic syndrome and who can be supervised and effectively supported by homogeneous or heterogeneous groups of healthcare professionals (physicians, psychologists, nurses, etc.). The processes used depend on the context of each of the participants in the VC.

- The Communication protocols dedicated to VCs is the issue addressed by King and Kawash. An XML-based publish/subscribe protocol as been implemented and is described in their paper. Their objective is to encourage information exchanges and interconnections between virtual communities.

This selection of papers covers a representative excerpt of the contribution of the Web Intelligence field for Virtual Communities. This is however a broad field addressing other issues such as multi-agent and knowledge modelling, communities of objects, privacy preservation or social and psychological aspects. Thus, structural and coordinated efforts are carried out at different organizational levels to address these different issues. Internationally this is conducted for instance in the Web Intelligence Consortium, and in France we can cite the Rhône-Alpes regional project "Web Intelligence", as well as the creation of specialized MSc. degrees in Web Intelligence (e.g. University of Saint Etienne).

While many aspects are still under investigation and others need to be taken into consideration, Web Intelligence is situated to play a vital role in the next generation internet applications. Indeed, it is promising to permit more streamlined experience for users and organizations, relying on data analysis and AI techniques that tap into the mine of data collected throughout the communication and cooperation processes.

## References

Ackerman, M., & Starr, B. (1995). Social Activity Indicators: Interface Components for CSCW Systems. Paper presented at the Proceedings of the 8th annual ACM symposium on User interface and software technology, Pittsburgh, Pennsylvania, United States.

El Morr, C. (2007). Mobile Virtual Communities. In D. Taniar (Ed.), Encyclopedia in Mobile Computing & Commerce (pp. 632-634): Information Science Reference.

Hubert, R. (2006). Accessibility and usability guidelines for mobile devices in home health monitoring. SIGACCESS Accessibility and Computing(84), 26-29.

Jigar Patel,W. T. Luke Teacy, Nicholas R. Jennings, Michael Luck, Stuart Chalmers, Nir Oren, Timothy J. Norman, Alun D. Preece, Peter M. D. Gray, Gareth Shercliff, Patrick J. Stockreisser, Jianhua Shao, W. Alex Gray, N. J. Fiddian & Simon G. Thompson. CONOISE-G: agent-based virtual organisations. In Hideyuki Nakashima, Michael P. Wellman, Gerhard Weiss & Peter Stone, editeurs, AAMAS, pages 1459–1460. ACM, 2006. 75, 77, 94

Kristoffersen, S., & Ljungberg, F. (1999). Making place to make IT work: empirical explorations of HCI for mobile CSCW. Paper presented at the Proceedings of the international ACM SIGGROUP conference on Supporting group work, Phoenix, Arizona, United States.

Ludger van Elst, Virginia Dignum & Andreas Abecker (ed) Agent mediated knowledge management, International symposium AMKM 2003, Stanford, CA, USA, March 24-26, 2003, revised and invited papers, Vol 2926 of Lecture Notes in Computer Science. Springer, 2004..

Miao, Y., & Haake, J. M. (2001). Supporting problem based learning by a collaborative virtual environment: a cooperative hypermedia approach. Paper presented at the the 34th Annual Hawaii International Conference on System Sciences.

NatileneBowker, & Tuffin, K. (2002). Disability Discourses for Online Identities. Disability and Society Journal, 17(3), 327-344.

Nolker, R. D., & Zhou, L. (2005). Social computing and weighting to identify member roles in online communities.

Paris, M. (2006). Website accessibility: a survey of local e-government websites and legislation in Northern Ireland. Universal Access in the Information Society, 4(4), 292-299.

Preece, Jenny. (2000). Online Communities: Designing Usability supporting Sociability. USA: John Wiley & Sons Ltd

Subercaze, Julien, El Morr, Christo, Maret, Pierre, Joly, Adrien, Koivisto, Matti, Antoniadis, Panayotis, & Ihara, Masayuki. (2009). Towards Successful Virtual Communities. In J. Filipe & J. Cordeiro (Eds.), Enterprise Information Systems (pp. 677-688): Springer Berlin Heidelberg.

Sylvan, E. (2006). Who knows whom in a virtual learning network?: applying social network analysis to communities of learners at the computer clubhouse. Paper presented at the Proceedings of the 7th international conference on Learning sciences, Bloomington, Indiana.

T.J. Norman, A. Preece, S. Chalmers, N.R. Jennings, M. Luck, V.D. Dang, T.D. Nguyen, V. Deora, J. Shao, W.A. Grayet al. Conoise : Agent-based formation of virtual organisations. Knowledge-Based Systems, vol. 17, no. 2-4, pages 103–111, 2004. 11, 75, 76