
Editorial

Lorna Uden

Faculty of Computing, Engineering and Technology,
Staffordshire University,
Beaconside, Stafford, ST18 0AD, UK
E-mail: L.Uden@staffs.ac.uk

Biographical notes: Lorna Uden teaches computing in the Faculty of Computing, Engineering and Technology of Staffordshire University, UK. Her research interests include technology learning, HCI, activity theory, knowledge management, web engineering, multimedia, e-business, service science, semantic web and problem-based learning. She has published widely in conferences, journals and chapters of books. She is also on many international journal editorial boards and has been a keynote speaker at international conferences. In addition, she is a Visiting Professor to several universities worldwide.

The first paper is 'Web API design considerations for resolving inherent issues in web environment' by Teo and Kadir. According to Teo and Kadir, web development is moving towards exposing the service functionality through an application programming interface (API). This trend can be seen in a variety of service-based applications such as blogging services, online auctions, online shopping and merchandising, social utility and web search. The transition from graphical user interface (GUI) to API means that developers of web applications need to establish proper design methods to produce quality web APIs. This is not a matter of switching development toolkits, but a fundamental change of the computing paradigm. The reason given by these authors is that the web environment is a distributed computing environment and web API design concerns are scoped within the context of the distributed computing paradigm. In this paper, Teo and Kadir proposed a list of inherent issues in the web to which developers should pay attention to describe how web architecture may help to resolve some of these issues. They also suggest design considerations for web API design and demonstrated their approach using a case study from a social bookmarking service. The proposed method is indeed useful and beneficial for API developers because of the rapid growth of web API applications. However, further empirical studies would be needed to validate the effectiveness of the proposed approach.

From web API, we move on to the second paper on machine learning by Zhang, Ye, Li and Law. Their paper, 'Sentiment classification of online Cantonese reviews obtained by supervised machine learning approaches' is concerned with a series of experiments that explore appropriate methods for automatic sentiment classification in a very noisy domain of online Cantonese-written reviews. According to these authors, the internet has provided a virtual environment for consumers to share their experiences with worldwide travellers by the electronic word-of-mouth communication channel. Web opinion mining plays a role in opinion-oriented information seeking. The objective of web information mining is to classify a large number of opinions, using web mining techniques, into bipolar sentiment (i.e., either positive or negative opinion). Given the advances in

machine learning and computing resources, sentiment classification of reviews has become one of the foci of recent research. This paper is concerned with written Cantonese that can be viewed as a written variety of Mandarin Chinese. Zhang, Ye, Li and Law argue that, as written Cantonese lacks corresponding natural language processing tools, they could explore the use of pre-treating Cantonese texts with a Mandarin word segmentation tool and then use support vector machines (SVMs) for sentiment classification. In this paper, they describe the construction of a corpus of written reviews obtained by retrieving diner's reviews from OpnRice.com. OpenRice is a restaurant advice website that provides information regarding restaurants located in Hong Kong. According to these authors, Cantonese text is extremely 'noisy'. A four-fold cross-validation was conducted in their experiments. The experimental results show that in the very noisy domain of Cantonese-written reviews on the web, it was possible to perform sentiment classification by supervised machine learning approaches. They evaluated two models: SVMs and character-based N-gram on various sizes of training data. The results show that the SVMs classified with Cantonese text pretreated by a Mandarin word segmentation tool consistently outperforms the character N-gram classifier. The authors conclude that some existing Mandarin language processing tools can be applied to noisy Cantonese texts. This study no doubt has implications for the Hong Kong travel industry. It is doubtful that this would be of great interest to readers worldwide unless the same techniques can be used for other languages.

The third paper is by Ting, Clarke and Kimble, entitled, 'Identifying web navigation behaviour and patterns automatically from clickstream data'. According to Ting, Clarke and Kimble, user clickstream can be a rich source of data concerning the ways in which a user navigates a site. However, the volume and level of detail found in the logs make it difficult to identify and categorise specific navigational patterns. In their paper, these authors describe a three-step automatic pattern discovery (APD) method – a tool that utilises sequential mining to extract a user's navigation route based on two levels of basic navigational elements. Ting, Clarke and Kimble introduce the concepts of level-1 and level-2 elements of users' navigation behaviour that constitutes a vital part of the APD method. This paper presents descriptions of two studies in which APD was used. The first case study makes use of APD to analyse the usage of an educational website. The second case study describes how APD was used to improve the design of a technical support website in a university department. These case studies have shown that users' navigation patterns can be automatically identified and categorised with a large amount of data. These authors believe that the approach has potential for applications in many areas such as web usage mining and research into users' navigation behaviour. They further argue that APD is also a useful tool when used in conjunction with e-learning environments because navigation strategies and patterns of learners can be identified efficiently. Ting, Clarke and Kimble also pointed out that APD can be used as a tool to help the improvement of website design, either in usability or in conjunction with input from marketing departments as a means to fine tune a site to particular market segments. To be convincing regarding the effectiveness of APD, further research in empirical studies would be needed. Further evaluation would also be necessary to validate its effectiveness.

The fourth paper is 'A study on 'branded servicisation' of manufacturers in the Japanese institutional systems – a conceptual base for empirical studies' by Kikuchi and Kamoshida. These authors attempt to define what service is and look at the history of economics. They also try to categorise services and give a working definition of service. They further classified services into four categories: the knowledge intensive business

service (KIBS), the personal services, the supply-chain service and the context service depending on goods or knowledge orientation and degree of direct value co-creation with customers. They argue that Japanese manufacturers should design and execute systemic services and pursue brandisation. To these authors, unless Japanese manufacturers adopt systemic services and pursue brandisation, they will not be able to compete globally in a service-driven economy. To meet this challenge, there needs to be methodologies for branded servicisation to be developed.

The final paper in this issue is by Zhao, Xin and Perros on education. Their paper, 'How service science management and engineering (SSME) can evolve to an academic discipline?' reviews the current status of SSME in universities and industries in the USA. There exist complex relations between universities, government and industry that have to be explored for the promotion of SSME. Zhao, Xin and Perros argue that the key to the success of SSME is the coordination of relations between universities, government and industry. The development of SSME as an academic discipline requires a coordinated effort between them.