Editorial

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Biographical notes: Lorna Uden is a Professor Emeritus of IT Systems in the Faculty of Computing, Engineering and Technology at Staffordshire University. Her research interests include technology learning, HCI, activity theory, big data, knowledge management, web engineering, multimedia, e-business, service science and innovation, mobile computing, cloud computing, neuroscience, social media, intelligent transport systems, internet of things and problem-based learning.

Iraklis Varlamis is an Associate Professor in the area of Data Management. He holds a PhD from the Athens University of Economics and Business, Greece, and MSc in Information Systems Engineering from UMIST, UK. His research interests vary from data mining and the use of semantics in web mining to social network analytics and knowledge extraction from social media and the news. He is collaborating with several startups, companies, and government bodies as a technology mentor. He is a Scientific Coordinator in several H2020 projects.

Welcome to V 18 N 1 issue of *IJWET*. This issue consists of four papers that bring together four diverse and innovative topics and showcase the latest research in service-oriented software architecture, machine learning and recommender systems, as well as in knowledge management and sharing. Together, these papers offer unique perspectives and insights into the latest advancements in their respective fields.

The first paper, 'An architecture-based modelling of fault-tolerant SOA-based systems' by Swati Goel proposes a fault tolerance policy at an architectural level for service-oriented architecture (SOA)-based systems. The policy is based on the severity analysis of various software services in a SOA-based system, and the proposed model is demonstrated using a 'smart home security system'. The authors identify that fault tolerance is one of the crucial aspects of SOA-based system development for delivering quality software. Fault tolerance provides a mechanism to mask failures in the system

through redundancy. Due to the redundancy cost, it is not practical to apply fault tolerance to all the services in a SOA-based system, so the authors suggest to first identify the system components that require redundancy, based on some criticality criteria. They employ AADL, an architecture design language, to describe the system design using formal semantics and then perform a criticality analysis of various software services in an SOA-based system using the functional hazard assessment (FHA) methodology.

The second paper, 'A novel machine extraction algorithm for implicit and explicit keywords based on dynamic web metadata of scientific scholars' corpus' by Mawloud Mosbah introduces a novel machine extraction algorithm for both implicit and explicit keywords, from a dynamic corpus of similar scientific documents, which is built using information retrieval engines. The algorithm combines keywords extracted directly from the corpus of documents that are similar to the target document with keywords extracted using some basic statistical and machine learning approaches. The paper presents the extracted keywords as condensed versions of the document content and distinguishes between explicit and implicit keywords, using keyword extraction and keyword similarity techniques, respectively. It also highlights the binary categorisation of keywords into specialised and global and proposes a scheme that considers global keywords shared with similar documents to find other specialised keywords from the target document. The preliminary results demonstrate the efficiency of the proposed solution and showcase the importance of automatic keyword extraction in natural language processing applications such as text summarisation, information retrieval and document clustering.

The third paper, 'PRMF: point of interest recommendation method integrating multiple factors' by Ting Yu, Lihua Zhang and Yinhao Zhang proposes a point of interest (POI) recommendation technique, called PRMF, that integrates multiple aspects from the user navigation history, including user check-in records, and the respective POI category, location and popularity. The method employs a neural network algorithm to calculate user preferences, activity centres, and geographical preferences for each POI. The authors use a linear fusion technique to combine these factors and calculate the users' final preferences. The experimental evaluation is based on real datasets, including long-term check-in data for locations in New York and Tokyo collected from Foursquare, and the results show that PRMF outperforms the baselines. The main contribution of the paper is the design of this multi-factor POI recommendation model that considers various contextual factors and can improve POI recommendations.

The fourth paper, 'Communication media as mediators of telework frequency and knowledge sharing in Japan under COVID-19' by Remy Magnier-Watanabe examines the relationship between telework frequency and the use of communication media for knowledge sharing among full-time Japanese employees during the country's fourth COVID-19 state of emergency. The study found that mandatory telework led to lower use of face-to-face meetings and phone calls but higher use of instant messaging and virtual meetings. The study also found that phone call, instant messaging, and virtual meeting frequencies mediated the relationship between telework frequency and knowledge sharing. The paper findings highlight the importance of communication media, both existing and newer, in offsetting the loss of face-to-face meeting opportunities. These findings suggest that government-mandated telework may have accelerated the adoption of new communication tools, such as instant messaging and virtual meetings, which had

not yet gained full acceptance before the pandemic. The paper concludes by suggesting specific countermeasures for firms that can help them to quickly adapt to the emerging needs for knowledge sharing through communication media, such as training programmes or specialised infrastructure.