Editorial

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Welcome to V6N2 issue of IJWET. This issue covers a range of different topics in web engineering and technologies. The first paper, 'Semi-automatic financial events discovery based on lexico-semantic patterns', is by Borsje, Hogenboom and Frasincar. According to these authors, due to the market sensitivity to emerging news, investors on financial markets need to continuously monitor financial events when deciding on buying and selling equities. The semantic web provides the right technologies to classify the information in news items and make it available for both human and machine consumption. Being able to identify financial events from news items would help the trader to make a decision whether to react on the financial market. Borsie, Hogenboom and Frasincar have proposed the use of lexico semantic patterns for financial event extraction from RSS news feeds. These patterns use financial ontologies, leveraging the commonly used lexico-syntactic patterns to a higher abstraction level, thereby enabling lexico-semantic patterns to identify more precisely events than lexico-syntactic patterns from text. They have developed rules based on lexico-semantic patterns used to find events, and semantic actions that allow for updating the domain ontology with the effects of the discovered events. Both the lexico-semantic patterns and the semantic actions make use of the triple paradigm that fosters their easy construction and understanding by the user.

In order to experiment with the proposed approach, these authors have implemented a rule engine that allows rules creation, financial event extraction from RSS news feed headlines and ontology updates. The financial event recognition is a semiautomatic process, where the user needs to manually validate the automatically discovered events before the ontology updates are triggered. In this way, the ontology is not modified based on incorrectly discovered events. The effectiveness of the approach is measured by computing the accuracy, error, precision, recall, F1 measure, and usefulness of the automatically discovered financial events from RSS news feeds. This offers potentials for conducting research on event chains.

The second paper is by Khaled and Miller entitled, 'Chronological fault-based mutation processes for WS-BPEL 2.0 programs'. In their paper, they criticise the lack of research in the area of identifying faults manifested in a WS-BPEL-based system. According to these authors, business process execution language for web services (WS-BPEL) is a powerful language developed to capture the semantics of business processes and to describe the interactions between involved systems. In order to overcome the research problem with identifying faults manifested in a WS-BPEL-based system, Khaled and Miller have proposed an approach to assist in testing WS-BPEL programs, specifically with regard to chronological-oriented faults. This approach

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employs mutation testing to identify and detect mutants introduced into WS-BPEL programs. They describe the steps to generate such mutants for WS-BPEL programs. To reduce the mutant specification into a minimal set of generic mutant specifications, they work directly with the workflow patterns that exist in this language. Further, they utilise an extended version of Backus-Naur form (BNF) to represent a simple subset of communicating sequential processes (CSP) notations, adapted to fit the descriptive needs of WS-BPEL based systems, to provide a complete and minimal set of mutants of chronological-oriented faults that can exist in WS-BPEL systems of the future. However, further empirical studies are needed to verify the work.

From business process execution language for web services we move on to service oriented architecture. Paper three by Mariakalavathy, Rathinam and Seethalakshmi, 'Policy-based self-adaptable service-oriented architecture for providing reliable composite multimedia service', is concerned with the design and development of a self-adaptable service-oriented architecture (SASOA) for providing reliable composite multimedia services through policy-based actions.

According to these authors, distributed multimedia services deployed using service oriented architecture (SOA) can be accessed in heterogeneous environments that are prone to changes during runtime. To provide reliable multimedia services, a powerful self-adaptable architecture with dynamic compositions of multimedia services is necessary that adapts at runtime and reacts to the environment. Adaptability in this proposed architecture is achieved by enabling the service providers to monitor, analyse and act on the defined policies that support customisation of composition of multimedia services. The media services at runtime. The adaptive media service manager (AMSM) takes corrective actions based on the monitored results, through the policies defined as an extension of WS-policy. The effectiveness of the proposed SASOA has been evaluated on dynamic composite real-time video-on-demand web service (DCRVWS) for a maximum of 200 simultaneous clients' and the results were analysed. The analysis of results shows that the proposed architecture provides an improvement in reliability, response time and user satisfaction.

The last paper is 'Designing a usable ambient intelligence system' by Uden and Valderas. According to these authors, there is currently very little research conducted on how to support the design of usable context-aware homes through ambient intelligence. Context is one of the most important aspects that need to be considered when designing AmI systems. Although principles of traditional interface design can be useful, we need to go beyond usability by looking at design parameters that deal with the contextual issues of these systems. Activity theory incorporates the notions of intentionality, history, mediation, motivation, understanding, culture and community into design. Uden and Valderas have developed a framework using activity theory to design an AmI system in which the critical issue of context can be taken into account. In order to validate the system implemented from the AT analysis, they have developed an execution environment that allows one to emulate real deployment scenarios. Evaluation of the system shows that the use of activity theory can be effectively used in designing AmI systems. These authors are currently conducting further work to validate the approach.