
Editorial

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Ubiquitous computing plays an important role in the computer industry and society. It has attracted much attention from many researchers lately.

The most important aspect of ubiquitous computing is 'context-awareness'. By recognising the conditions of its surroundings including human presence, computer systems can optimise operations and offer better services. This is the basic tenet of ubiquitous computing.

The reason ubiquitous computing has attracted a lot of attention is because it can affect many people.

'Context-awareness' has become an important area due to its affordable cost. The contribution of the development of small radio frequency identification (RFID) tags, wireless and infrared devices and other technologies demonstrate the recent advancements of ubiquitous computing. The progress of nanotechnology and other device technologies has made ubiquitous computing more attractive to use. The key aspect of ubiquitous computing technology is that it allows us to work closely.

The paper 'A federated interoperability architecture for health information systems' presents an architecture for federating health information systems (HIS) in a secure manner, and its concrete implementation. The quality of this implementation is assessed by means of several experiments for measuring the time needed for the retrieval and notification of documents. The authors have presented an architecture and its implementation for sharing medical documents among federated HIS. The provided functionalities of this solution are

- 1 the retrieval of clinical document in a pull-based manner
- 2 the notification of clinical data to realise a push-based delivery
- 3 the protection of the offered services and communications.

They have described some preliminary results for assessing the quality of the proposed architecture when retrieving and notifying documents. They are working on a more complete assessment with a higher number of interconnected HIS and more complex data structures. Their future plans are to investigate reliability aspects of this architecture and to evaluate the performance penalties implied by the use of the security mechanisms described.

The paper 'Energy efficient network methods on local area network' explores and reports experimental results on energy consumption. This is an issue that is currently often raised by many households and businesses. One of the items of equipment that takes a lot of energy is the computer. Computer usage has been growing rapidly. However, in addition to energy issues, network quality is often in question. Here, a delay tolerant network (DTN) is used for maintaining data reliability even when the receiver is off to save energy. In addition, the techniques used are tested on a lab-scale network testbed. The final results obtained demonstrate a 60.513% energy savings when compared with the normal use of the testbed.

The paper 'The antecedents and impacts of green eProcurement infrastructure: evidence from the Indonesian public sector' explores and reports on the factors that affect the implementation process of the procurement infrastructure in the Indonesian public sector, and their impact. The concept of green information systems (IS) decision-making and the concept of the triple bottom line of sustainability were used as lenses. The notion of green IS was extended by incorporating the concept of sustainability. Using an interpretive stance, the study found that legal, technological, and managerial factors affect the implementation of the green infrastructure. The impacts of green usage were well captured by the concepts of the triple bottom line of sustainability: planet (such as reduced use of paper, less frequent trips/less CO₂ emission), people (such as a more transparent procurement process, the inclusion of small- and medium-sized enterprises), and profit (such as cost reduction, faster processes).

The paper 'Online educational services searching application using service-oriented architecture technique' explores an e-learning system. The authors designed an OERI application to support the learning material. It uses the technique of service-oriented architecture in the search for educational services in three repositories which are DBPedia, Ariadne and OpenLearn. The application itself will be installed as plugins in Moodle. The focus in the research is on support of the educational material in the three educational repositories used which is about how the repositories can produce a relevant educational material document with the desired query. Measurement using precision shows the accuracy of the query, and alongside it the number of documents retrieved is also measured as well as the number of documents types retrieved. Then these

results will be used to compare the three educational repositories.

We wish to thank all the authors for their great work and for considering the *International Journal of Internet Protocol Technology* for submission of their papers. Special thanks go to all reviewers who helped with the reviews of

the papers and to Professor Sherali Zeadally for his excellent support and advice.

We hope that this special issue will represent a significant source of reference for future researches in the ubiquitous computing area.