

Editors' Introduction

WELCOME to the Spring 2011 issue of the Internetworking Indonesia Journal. This regular issue of the journal brings four (4) papers from a diverse background, covering a range from biomedical signals recognition to CDMA networks.

To our delight one of the papers is written in Bahasa Indonesia, something that is in-line with our aims of promoting the culture of writing good scientific papers in Indonesia. We feel that developing one's ability to express ideas, concepts and research methods/results in Bahasa Indonesia is an important step towards developing the habit of good research reporting – a skill that is transferable later when writing papers in English. As such, we see the IJ also as “bridging” journal that fills a gap. Many Indonesian researchers are already able to produce good scientific papers in English, and thus are able to submit their papers to international conferences (e.g. IEEE sponsored conferences) and have access to these international conferences and journals. However, there remains the need for a national-level journal in Indonesia, one to which researchers who are comfortable writing papers in Bahasa Indonesia are able to submit their papers.

Another aim of the journal is to provide a publishing venue for graduate students who are completing their Masters (S2) or Doctoral (S3) studies. To that end we are delighted that one of the papers in the current issue of the journal was written by a Master's degree student. We feel it is important for the coming generation of students to begin writing papers early in their careers and to obtain experience in submitting papers to journals.

The first paper in the current issue of the IJ focuses on biomedical signals recognition research. The paper describes the identification of *electrooculography* (EOG) signals related to eye movements, and proposes the use of wavelet transforms instead of the usual Fourier transforms. The paper describes the data acquisition environment used to conduct the research work, and suggests that researchers in this field look into the details of the energy and frequency bands distribution (from the eye movement signals) in order to obtain better interpretation of the EOG signals.

The second paper addresses a relevant issue in the area of software engineering. It focuses on the topic of test case generation, in which an automated approach to generating test-cases for a system is performed. The paper proposes the use of a three tier architecture containing several components, including a source code analyzer, an XML parser, a constraint analyzer and a test data generator. The approach employs the branch coverage criteria using the *Generalized Optimization Meta* heuristic (GOM) algorithm and *code constraint graph* (CCG) to efficiently maximize the coverage of all the branches in the test case. The work finds that test case generation is faster than with the simple genetic algorithm. This is due to the fact that the number of iterations for reaching the optimal solution is quick.

Traffic jam reduction and avoidance is the focus of the third paper, in which a literature survey is conducted on technologies that address the problem of traffic jams in highly populated areas. It surveys technical solutions that have proposed and adopted in some countries, including China and in Europe. The overall conclusion of the paper is that a combination of technical systems and regulatory approaches are needed in order to address the needs that are specific to the city or location in question.

Finally, the fourth paper – written in Bahasa Indonesia – looks into techniques to improve channel management in CDMA networks in order to provide a better success rate for SMS message transmissions and therefore better utilization of a given CDMA network. SMS transmissions experience high failures rates in the presence of a high volume of voice traffic. The paper, which is written by engineers and researchers at the TELKOM Research and Development Center (in Bandung, Indonesia), provides some research data that points to the need for CDMA operators to address channel management in anticipation of times of high voice traffic that may impact SMS message transmissions. Seeing that SMS messaging is today an important part of personal communications many developing nations, this topic is very relevant for the telecommunications industry in Indonesia.

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