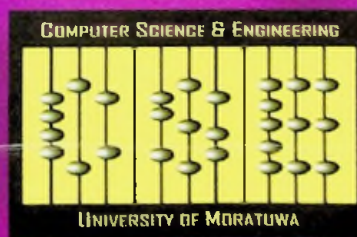




# PROCEEDINGS OF THE CS&ES CONFERENCE 2010



Computer Science & Engineering Society  
C/O Department of Computer Science & Engineering  
University of Moratuwa  
9<sup>th</sup> September 2010

# **Proceedings of the CS&ES Conference 2010**



**Computer Science and Engineering Society  
c/o Department of Computer Science & Engineering,  
University of Moratuwa,  
Sri Lanka.  
9<sup>th</sup> September 2010**

The proceedings comprise the papers presented at the CS&ES Conference 2010 organized by the Computer Science and Engineering Society in collaboration with the Department of Computer Science and Engineering, University of Moratuwa, Sri Lanka on 9th September 2010.

The views and findings in the papers are those of the authors, and are not meant to reflect those of the Department of Computer Science and Engineering, University of Moratuwa.

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## MESSAGE FROM CONFERENCE AND THE EDITORIAL COMMITTEE CO-CHAIRS

Computer Science and Engineering Society (CS&ES) is the forum which brings together undergraduates and the graduates of the Department of Computer Science and Engineering (CSE) and the IT industry. When CS&ES was started thirteen years ago, the objectives were to assist the CSE department to improve the quality of its degree programme, expand the relationship with the industry, enhance the contributions to national IT development and promote the career development of CSE graduates.

Last year when CS&ES decided to have a conference showcasing research carried out at the department we had many doubts about the outcome of the event. The full house we had at the World Trade Centre and the subsequent feedback was very encouraging. Those actually were the major strengths we had in continuing CS&ES conference. Today you witness the Second CS&ES conference encompassing the research done at CSE enriched with the experience we gained last year.

We had 26 papers and our reviewers worked diligently on these papers. We accepted 15 full papers and 6 poster papers. This conference proceedings includes all those 21 papers. This year in addition to the CS&ES conference on the 9<sup>th</sup> September 2010 where all the selected 15 papers are presented you will be able to witness the demonstrations of all these 21 projects at the CSE exhibition which will be held from 9<sup>th</sup> – 11<sup>th</sup> September 2010 which will be held at the CSE Department premises to commemorate the Silver Jubilee of the CSE department.

Our biggest fear when we started this tradition last year was of our ability to find reviewers for this endeavour. Today CSE has a mature community of alumni who have either earned their PhDs or well on their way to earn one! Despite their very busy schedules of post graduate studies all our reviewers enthusiastically responded to our request to review the work of their junior colleagues. Their commitment and passion helped us tremendously improve the quality of work presented here. The editorial committee is extremely grateful to all the reviewers.

All the authors who submitted papers were our strength. If we rejected your paper, do not worry, the feedback you got would help you do better. While congratulating the authors of the selected papers we hope that you will continue to publish, taking the CSE flag to every international fora. Many of the work presented here are from the final year undergraduate projects carried out at CSE. The very hard work by the Project Coordinator, our colleague Dr Shantha Fernando has helped CSE improve the quality of the projects over the years. This proceedings is a tribute to Dr Fernando and all the project supervisors from CSE and the local IT industry.

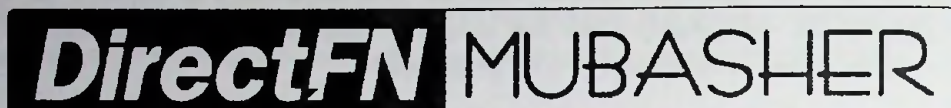
Last but not least the editorial committee worked very hard to make this a reality. Our sincere gratitude goes to all the colleagues and students of the editorial committee. The dividends of all their hard work will come from you learning something and enjoying the work presented here.

Vishaka Nanayakkara – Co-Chair, CS&ES Conference 2010

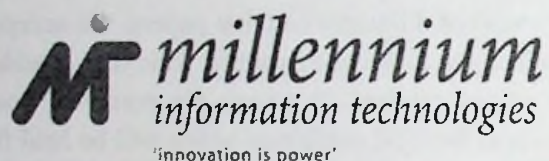
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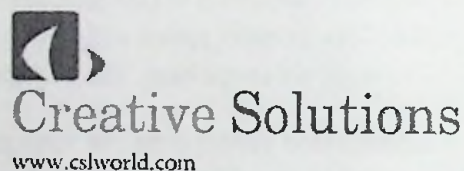
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