PROCEEDINGS OF THE

CSE SYMPOSIUM 2015

Department of Computer Science and Engineering
University of Moratuwa

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The Editorial – CSE Symposium 2015

Welcome to CSE Symposium 2015, the annual research symposium of the Department of Computer Science & Engineering (CSE), University of Moratuwa. CSE Symposium 2015 has given the opportunity to CSE students of the cohort 2011 to publish and present their individual projects carried out for the module CS3202 Software Engineering Project, in 2014. We received 28 submissions qualifying for the review process. These 28 papers were subjected to a stringent, two-part, double blind review process, first by the Editors and then by eminent group of reviewers; eleven high quality papers were selected for the final program resulting in a competitive acceptance rate of 39% for this year.

Today, software suffuses our world, lives and the way in which we explore beyond the technology horizon. We cherish the hard work put by every student in their software engineering projects and for compiling a set of high quality scholarly articles. Your efforts, with a passion towards building these systems, though at exploratory nature, indeed show the prospects of a bunch of great software professionals to be. We believe the papers included in this proceeding timely convey the essence of innovative, high impact and research led development projects carried out by CSE undergraduates.

The first paper titled "Schema.org mapping tool for Drupal 8" presents a novel way of integrating structured data within Content Management Systems. The author has presented two ways of integrating data, which can be used by the users with no expertise on Linked Data or RDF.

"Graph Search Centred Solution for Contact Information Retrieval" is graph based contact information storage and searching solution, which facilitates value added contact information management service for mobile users. The searching algorithm is based on the depth limited breadth first search using cloud based storage facilities, yet ensuring the privacy of the users.

The research work presented in "Computer Vision Library for Western Music Sheet Notations" discusses a system to extract western music notations from images. This is particularly helpful when converting the written music notations into digital storage and preserving them. It identifies a set of key features that is necessary to extract the notes accurately and develop a set of algorithms based on those.

"Task Oriented Torrent Downloading Application: Media Companion" introduces a task based torrent download mechanism where the required episodes of a TV series can be downloaded in a convenient manner. Author has presented the design, implementation of the application as well as its commercial viability in the market as a prospective product.

"Konnected – Synchronize Android Users" presents research conducted on developing an Android based application for synchronizing several android users into a single private network. The goal is to maintain a To-Do list with concurrent access and modification from a group of users. It contains the value added functionalities such as track user locations based on GPS technology. The decentralized system architecture also aims at achieving information security and privacy.

The next paper titled "Crowdsourcing Based Train Tracking" presents a mobile application where the users of the application can be aware of the delays in the trains in advance. This application requires a least amount of additional infrastructure. The author has presented a novel approach to maintain the reliability of the application.

Modular object oriented dynamic learning environment (Moodle) is a learning platform that is used by many universities and educational institutes around the world. This paper, titled to "Blind Quiz: Android Application for Visually Impaired People to Access Moodle Quizzes" has introduced a mechanism where the visually impaired people can access the quizzes in Moodle using an Android application without the involvement of third party software.

"ShopGuru: An SMS-based Shop Detail Discovery Service" titled paper has introduced a Short Message Service (SMS) based solution that can be used by the customers in discovering the locations and other details about the shops around them. The proposed location awareness building can help support customers making affective commerce activities.

The paper titled to "BloodForAll – Android Application for Blood Donors" has introduced an application, which can be used to coordinate the blood donors with the hospitals. The approach suggested in the paper processes donor specific information so that the matching donor with the required blood type and in the closest proximity can be identified.

The paper "Pharmacy Management System for Udupila Pharmacy" extends the available features of a general pharmacy management system. It addresses certain challenges experienced by users with existing systems in the market. The proposed system claims to be usable and efficient in its business process. The paper evaluates the functionalities and features of the new system against the existing systems.

Finally, "Med-lab Report Viewer" presents a web based android application that enables medical laboratories to store details of patients, send medical reports to patients and notify them the availability of their reports. The app facilitates users to collect the medical report remotely through their mobile devices. The advantage of the application is the ability to record medical history in the mobile device.

We would like to extend our appreciation towards many people who made the CSE Symposium 2015 a success and these proceedings possible. A special thank goes to the Head of the department and the staff of CSE for their continual effort to foster student competencies in research and project based learning. The support given by the external reviewers from industry, international universities and research institutes enabled us witnessing a fully-fledged symposium with high quality research work being presented; without their volunteer commitment by giving meticulous review feedback an academic event of this rigor wouldn't have been possible. The members of the programme committee and the organizing committee of CSE Symposium 2015 demonstrated their dedication with time and effort amidst busy schedules; a big thank to every one of you!

We wish the authors all the best for their future research and academic work while looking forward to another great CSE Symposium in 2016.

Akila Pemasiri
Madhushi Bandara
Dulani Meedeniya
Indika Perera

23rd October, 2015

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