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For the Attendance of

**THE INTERNATIONAL POST GRADUATE CONFERENCE ON
SCIENCE AND MATHEMATICS 2013**

On

5-6th OCTOBER 2013

Venue

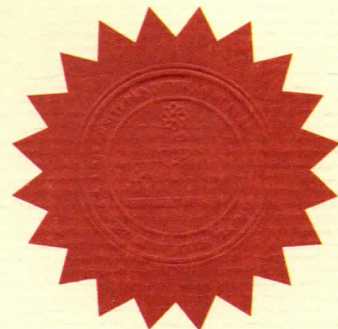
**CONVENTION HALL, E-LEARNING BUILDING
UNIVERSITI PENDIDIKAN SULTAN IDRIS**

Professor Dr. Mustaffa Ahmad

Dean

Faculty of Science and Mathematics

Universiti Pendidikan Sultan Idris





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الجامعة الوطنية للتربية والتعليم
1922

SULTAN IDRIS EDUCATION UNIVERSITY

International Post Graduate Conference on Science and Mathematics 2013

Research in Science and Mathematics Catalyse Sustainable Future

IPCSM2013

Date : Saturday, October 5th, 2013
Venue : Convention Hall, E-Learning Building,
Universiti Pendidikan Sultan Idris
Organised by : Faculty of Science and Mathematics,
Universiti Pendidikan Sultan Idris

www.upsi.edu.my

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Room 3 (Chemistry, Chemistry Education and Mathematic)

Session 1	
Chairperson: Dr. Adila Mohamad Jaafar	
Time	Presenter
10.15-10.30	OR-033: The Optimization Of Nicotine Capture By Using <i>Sansevieria</i> Leaf Active Carbon With The Variation Of Mass And Type Of Activator As An Effort To Reduce The Danger Level Of Smoke
10.30-10.45	OR-034: Isolation and characterization of protein from natural rubber latex concentrate factory effluent.
10.45-11.00	OR-035: Synthesis Of Carbon Nanotubes From Different Preparation Method Of Waste Chicken Fats
11.00-11.15	OR-036: Performance Of Unconfined Compressive Strength Of Stabilized/Solidified Sample Containing Heavy Metals From Incinerated Rubber Sludge Waste
11.15-11.30	OR-077: Waste management, practices and awareness in Vocational College welding workshop
11.30-11.45	OR-078: The Study Of Web-Based Collaborative Assistance Through Edmodo As A Hybrid Learning Model On Chemical Kinetic
11.45-12.00	OR-079: Development Of Five Phase Needham Constructivism Module For Electrochemistry Concept
12.00-12.15	OR-080: The Effect Of Using Jigsaw Puzzles In Writing The Formula Of Chemical Compound Among The Secondary School Students
12.15-12.30	OR-081: The Development Of Java 2 Micro Edition Based Mobile Chemistry Encyclopedia " <i>Chemistlopedia</i> " As Independent Learning Media For Senior High School Students
12.30-12.45	OR-082: The Development Of Mobile Game " <i>Scientist Academy</i> " As Chemistry Learning Media For Independent Experiments
Lunch	
Session 2	
Chairperson: Ms Nor Dalila Abd Rahman	
14.00-14.15	OR-083: The Development Of Java 2 Micro Edition Based <i>Chemistlopedia</i> Application On Chemical Elements For Senior High School Students
14.15-14.30	OR-084: The Development Of Java 2 Micro Edition Based Mobile Application <i>Chemistlopedia</i> On Hydrocarbon And Petroleum As Learning Media For Senior High School Students
14.30-14.45	OR-085: The Development And Response Of Teachers Toward Character-Based Mobile Game " <i>Robochem</i> " On The Reaction Rate Topic
14.45-15.00	OR-075: Strong Convergence Of An Algorithm About Quasi-Nonexpansive Mappings For The Split Common Fixed-Point Problem In Hilbert Space
15.00-15.15	OR-076: Modeling the Churning Tendency among Mortgage Customers using Data Mining Approach
15.15-15.30	OR-111: Synthesis And Characterization Of Ldh-Latex Stimulant Nanocomposite-Chitosan

Room 4 (Mathematics)

Session 1	
Chairperson: Ms. N...	
Time	Presenter
10.15-10.30	OR-59: An Algorithm For C... Parameterized Single Expon... Inferences
10.30-10.45	OR-060: A Study of Station...
10.45-11.00	OR-061: The Schur Multipl...
11.00-11.15	OR-062: The Nonabelian T... of Order p^4
11.15-11.30	OR-063: An Analysis on <i>Tudung Saji</i> Weaving
11.30-11.45	OR-064: Mathematics Mod... to Optimize Water Using a...
11.45-12.00	OR-065: Permutability De...
12.00-12.15	OR-066: Standardized M... Chikungunya Disease Ma...
12.15-12.30	OR-067: Timmer Functio...
12.30-12.45	OR-068: A Bootstrap Ap... of Seahorse Extract on A...
Lunch	
Session 2	
Chairperson: ...	
14.00-14.15	OR-069: A Review Of I...
14.15-14.30	OR-070: The Kernel of Dihedral Point Group of
14.30-14.45	OR-071: Tourist Satisfi... Analysis: A Case Study
14.45-15.00	OR-072: Comparing T... Jenkin For Measuring C...
15.00-15.15	OR-073: Ownership St... Malaysian: Utilizing G...
15.15-15.30	OR-074: A modified s... fuzzy differential equa...

MOBILE ENCYCLOPEDIA “CHEMISTCLOPEDIA” APPLICATION WITH JAVA 2 MICRO EDITION BASED ON CHEMICAL ELEMENTS FOR SENIOR HIGH SCHOOL STUDENTS

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ABSTRACT

The improvement of technology affects the development of learning media, but so far mobile-based learning media is still rarely developed. The purpose of this research was to develop java 2 micro edition based *Chemistclopedia* on chemistry elements for high school students and to know the quality of *Chemisclopedia* based on the assessment of five chemistry teachers and 30 high school students. The model of this development research was in line with Borg & Gall's model, but included only 7 stages of 10 existing stage. The initial product of *Chemistclopedia* was given input by subject matter experts, media specialists and 3 peer reviewers for further revision. After that, the product was assessed by 5 chemistry teachers and 30 high school students. Data calculated from the teachers were analyzed. The analysis showed that the product of *Chemistclopedia* was good in quality. Then the assessment from 30 high school students were very good in quality. This result showed that *Chemistclopedia* can be used as a learning media to help students to learn chemical elements.

Keywords: learning media, mobile application, java 2 micro edition, *Chemistclopedia*

INTRODUCTION

Backgrounds

Science and technology that develop rapidly can make learning activity more effective, efficient and attractive. The development of information and communication technologies can change the location of students to learn anywhere and anytime. Thus, the information and communication technology make the evolution of the location and time to learn. Learning process that happened in the conventional way is usually not effective and do not motivate to lead students understand the material that given by the teacher (Daryanto, 2010).

The presence of many kinds of applications give us options to increase the performance of work, whether they are desktop applications, web or the applications that can be run in the mobile device or mobile phone. The reason why people choose mobile phone for developing application is due to the easiness to operate and to carry anywhere (Amat Santoso, 2012).

Application that was developed in this research aims to make students become more interested to study chemistry especially on chemical elements. This application looks like an ordinary electronic dictionary that was accessed via mobile phones (cell phones) but the material inside not only in general terms such as a dictionary, but rather in the concepts and accompanied by relevant images so that it is called encyclopedia. The chemistry encyclopedia is accessible via mobile phones based on Java 2 Micro Edition (J2ME) and named *Chemistclopedia*. Java 2 Micro Edition (J2ME) program was chosen because few people have made Java-based products yet, mostly Android-based, but still a lot of high school students are using a standard mobile phone based on Java.

Chemistlopedia must meet good criteria of learning media which should be proper with students' needs in learning. All learning contents through the learning media should be easily studied or understood by students. It should be able to attract and stimulate the attention of students