# THE DESIGN OF MOBILE APPLICATION FOR TEACHER AND PARENTS COMMUNICATION IN INDONESIAN SCHOOL

Sholeh Hadi Setyawan<sup>1</sup>, Dhiani Tresna Absari<sup>2</sup>, Susana Limanto<sup>3\*</sup>, Andre<sup>4</sup>

<sup>1</sup>Information System Department, University of Surabaya, Surabaya, Indonesia <sup>2</sup>Information System Department, University of Surabaya, Surabaya, Indonesia <sup>3</sup>Informatics Engineering Department, University of Surabaya, Surabaya, Indonesia <sup>4</sup>Informatics Engineering Department, University of Surabaya, Surabaya, Indonesia E-mail: <a href="mailto:susana@staff.ubaya.ac.id">susana@staff.ubaya.ac.id</a>

## ABSTRACT

One of the success factor to achieve education goals is the good communication between the student's parents and the school. Most of Indonesian schools use written communication in form of communicator book, renewed yearly when the student move to the new grade. All of the important information contained in the conversation will be lost if the book is missing, torn, damaged or replaced by the new book. The response time of the conversation is very slow, parent should wait the answer from the school until the student goes home. A mobile application is designed to replace the communicator book electronically. The application is hybrid, enables the parent to communicate easily to the class teacher, counselors, health services and also the school managements. The design has been reviewed dan feedback given from the users.

Keyword: Electronic communication, School communicator

#### INTRODUCTION

The good communication between parents and teachers plays important role to support the achievements of educational goals. Teachers need to daily inform the parents about the student's activities, achievements, homeworks, events and other official informations from the school. On the other hand, the parents also need to communicate to the school, either to the class teacher, the school counselor, the school administration or the principals about many aspects of the students. The regular bi-directional communication is required both to enhance academic achievements and students mental well-being (Thornton, 2011).

The media of the communication is usually a communicator book. The students should bring the book everyday. The teachers and the parents communicate by writing messages and informations on the book. The content of the book may vary for every school, but the main fields of information are the date of the message, subject, the message body, and the sign of both teacher and parent to verify that both party has already read the message or information.

Because of the nature of the book, some problems may arise. The book can be missing, left at home, torn or damaged. In that condition, the informations stored on the book will also be lost without any possibility to restore. Teachers or parents may have problem with writing by hand. The handwriting message may be difficult to read by other people. The result of this problem may lead to misunderstanding or miscommunication. The example of the written message is shown in Figure-1. The first column is the date of the message, followed by the message content, and the place for teacher and parent's signs.

The communication book is renewed yearly when the students enter the new level. All of the communication records stored on the old book are discarded. The parents usually should rewrite important messages to the new class teacher. On the other side, if the teacher need to send the same message to all of the parents in his class, he should write the same message on each student's book. Depends on the size of the class and the size of the message, this activity may

consume the quality time that the teacher can use to do more important things to his class.

How Schots 11/8/2015 Michaelen Michaelen  I Pa formandern have michaelen  O Forman Mager (Zimeler)  I Cally Parisk Mak   bugh)	raf	Para	P- 1- P-		
Parante on the property of the party of the	OTS	Guru	Berita/Pesan - Tugas		
FEROND MOGEN (ZINGER)  TO COLOR PROTECTION (Dugh)			Hart Sclots 11/8/2015 Nichard 1/20190	7.2	
To Colory Presincul bugh			(2 Gos Hosein (2 bosh)		
		11	To Cacky Platic work   bugh )	1	
	-		Den (1 book)		

Figure-1. The content example of communication book

## MOBILE APPLICATIONS IN EDUCATION

The rapid growth of smart phones and PC tablets usage drives the mobile application development. The mobile applications have the main different characteristics such as the less dependent of space and time, more personalization, and more integrated to other mobile application and services.

Among the many fields of the mobile application development, one of the emerging field is the education. Recent studies and developments of mobile application in education are educational game (Zhang and Loeb, 2013), mobile learning system (Petrova, 2007; Sung, et.al., 2005) and interactive learning table (Wilson, 2011). Studies show that mobile applications give better result than desktop applications in language learning (Jarvis and Achilleos, 2013), help to get better skills in math and writing (Aker, Ksoll and Lybbert, 2011).

Many mobile communication applications are available for free e.g. Whatsapp Messenger, Blackberry Messenger, Google Hangout, etc. and may replace the communication book. But because the applications are not integrated to the school database (teachers, students, classes, and parents records), the messages can not be furthermore processed by the school information system. Therefore the communication application can't contribute to the school data to be utilized for decision support system by the school management.

## REQUIREMENT ANALYSIS

A requirement analysis should be performed before designing the system, to assure that the design meets the actual requirements of the system users. The analysis begin with a survey to the parents. A series of questions were asked to identify the problems to be solved, the requirements to be implemented and the expectation of the mobile application. The answers were processed and analyzed to generate the list of parents' requirements. The respondents were the parents of sampled play group, kindergarten, primary school and junior high school in Surabaya, Indonesia.

The other survey also conducted for the class teachers and the school managements, to identify the requirements of the school users. The answers of the questionnaires were processed and analyzed. Together with the parent requirements, a list of user requirements was written and become the main input of application design.

The common requirements of the mobile application are:

- The application runs on Android smart-phones
- The application should notify the user when there is a new message or reply. The notifications are also copied to the user's email.
- The user accounts and credentials are generated by system, using email address as the login name. The password is randomly generated, and sent to the user's email address. User can change the password after successfully log in to the system
- The user can search the messages by keywords, the date, or the destination
- The message can be marked as "urgent"
- "Calendar" view, so the messages can be grouped and searched by date

Parents need to communicate with the school for several reasons like:

- lack of information details from school letters, reports or announcements.
- To inform the student's condition if required, i.e when the students were in recovery condition after sick, when the student need medical attention from the teacher or schooll health services.

The parents requirements for the communication mobile application are:

- The parent may write messages not just to class teacher, but also to school management, school counselors, or school health services person.
- The parent can attach images taken from the mobile device

 The parent may have more than one students in the school. The conversation should be displayed separated for each student

The requirements identified from the teachers and the school management are:

- Teacher can write message to a single parent, multiple parents or all of the parents in his class in a single process
- There are 3 types of informations sent by the teacher: normal message, announcement, or letter from the school.
- Teacher can attach file to the message i.e. images, office documents, etc.
- The teacher can forward the message from the parent to another teacher or school management.
- The teacher can also access the system using web browser, especially to upload files from his computer.
- The teacher can forward a message from the parent to his colleague or to the school managements if needed
- The teacher can re-post old messages
- The teacher make carbon copy to other parents

#### THE SYSTEM DESIGN

After examining the requirements, the mobile application should be accessible from web browser, to facilitate the teachers to upload files from their computers. Therefore the application should be hybrid, developed using hybrid framework such as Phonegap (Shotts, 2014).

There are 13 entities designed for the application, as shown in Figure-2. and listed in Table-1.

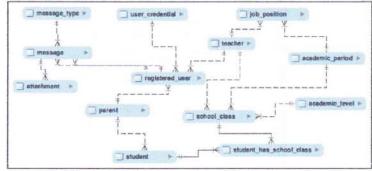


Figure-2. The Entity Relationship Diagram

Table-1. System entities

No.	Entity Name	Description
1.	message_type	Define the types of messages, i.e. announcement, conversation, notice, letter from school, etc.
2.	message	The messages between parents and schools
3.	message_attach ment	Define the multimedia attachement (if required) for each message
4.	registered_user	The central storage for usernames and passwords for each registered user
5.	user_credential	Define the access rights grouping for the users
6.	parent	
7.	student	
8.	teacher	
9.	academic_level	The level/grade of students
10.	academic_period	Yearly set up
11.	job_position	The job position of teachers during an academic_period
12.	school_class	The class opened for each academic period
13.	Student_has_sch ool_class	The assignment of each student for each shool class

The mobile application was designed for several users to handle processes as shown in Figure-3. The users of the applications are the system administrator, the school management, the health services person, the school counselors, the class teachers and the parents.

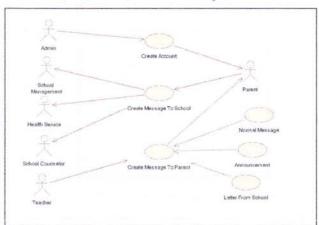


Figure-3. The use case diagram

The mobile application was designed to best suite the major smartphone screens around 4 – 7 inches, using Android

Operating System User Interface standards (Lee, 2012). The design of the user interface includes:

 Login screen: the first screen to show when user first accesses this application, as shown in Figure-4.



Figure-4. The login screen

Inbox: the list of incoming messages, as shown in Figure-5.



Figure-5. The inbox screen

 Conversation screen: the time-line conversation messages between parent and the school, as shown in Figure-6.

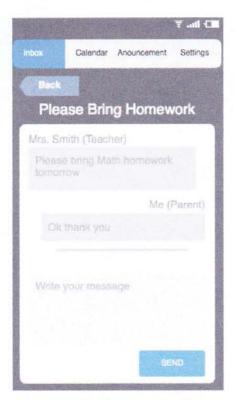


Figure-6. The Conversation Screen

 Calendar view: to facilitate searching messages based on the date, as shown in Figure-7.



Figure-7. The Calendar View Screen

New message creation: user can choose the destination of the message, write the subject and the content, as shown in Figure-8.



Figure-8. The New Message Screen

## CONCLUSION

The system design validation was done by conducting focus group discussion involving the school managements, the class teachers, the school counselors, the school health services and the parents. The feedback from the respondents about the features and the interfaces has been implemented on this design, and reviewed by the related users.

#### REFERENCES

Aker, J.C., Ksoll, C., and Lybbert, T.J., 2011. Can Mobile Phones Improve Learning? Evidence from a Field Experiment in Niger. Medford, Mass., Tufts University; Oxford, UK, University of Oxford; Davis, Calif., University of California, Davis.

http://www.aae.wisc.edu/mwiedc/papers/2011/Aker\_Jenny.pd f [Accessed September 2015].

Jarvis, H., and Achilleos, M., 2013, From Computer Assisted Language Learning (CALL) to Mobile, *The Electronic Journal for English as a Second Language*, 16(4), [online], Available at : <a href="http://www.tesl-ej.org/wordpress/issues/volume16/ej64/ej64a2/">http://www.tesl-ej.org/wordpress/issues/volume16/ej64/ej64a2/</a> [Accessed August 2015]

Lee, W.M., 2012, Beginning Android 4 Application Development. [e-book] Indianapolis: John Wiley & Sons Inc. Available through: <a href="mailto:slogs.wrox.com/files/2013/05/Chapter-8-9781118087299-2.pdf">slogs.wrox.com/files/2013/05/Chapter-8-9781118087299-2.pdf</a>

Petrova, K., 2007,. Mobile learning as a mobile business application, *International Journal of Innovation and Learning*, pp 1--13

Shelley R.T., 2011. Supporting children's mental well-being in primary school: problem solving through communication and action. PhD. Southern Cross University, NSW.

Shotts, K., 2014, *PhoneGap 3.x Mobile Application Development Hotshot*, Brimingham: Packt Publishing.

Sung, M., Gips, J., Eagle, N., Madan, A., Caneei, R., DeVaul, R., Bonsen, J., and Pentland, A., 2005, Mobile-IT Education (MIT. EDU): M-Learning Applications for Classroom Settings, *Journal of Computer Assisted Learning 21*, pp.229–237

Wilson II, G., 2011. Experiences with the Mobile Interactive Learning Table. Master of Science in Computer Science and Application. Virginia Polytechnic Institute and State University.

Zhang, E.Y., and Loeb, L., 2013. *Mobile Applications: Games that Transform Education* .[pdf], Hanover: Dartmouth Computer Science, Dartmouth College, Available at: <a href="http://www.cs.dartmouth.edu/reports/TR2013-737.pdf">http://www.cs.dartmouth.edu/reports/TR2013-737.pdf</a> > [Accessed September 2015]

LEAFLET (PDF)

# MATEC Web of Conferences

**ALL ISSUES** 

SERIES

**NEWS** 

FORTHCOMING

**OPEN ACCESS JOURNALS** 

Web of Conferences

About the journal

For organizers

For authors

Reader's services

EDPS account

Email-alert

DSS food

Crossref

Access by vol/page

DOI resolver

Why publish with us?

Fast publication

Total flexibility

High visibility

Learn more





## **MATEC** Web of Conferences



Open Access proceedings in Materials science, **Engineering and Chemistry** 

MATEC Web of Conferences offers a flexible, fast and efficient publication service to conference organizers specializing in Materials science, Engineering & Chemistry. It provides an open-access record of their events and a wide dissemination of the conference

ISSN (Electronic Edition): 2261-236X

#### Latest issues

Most read articles

Vol. 59 (2016)



2016 International Conference on Frontiers of Sensors Technologies (ICFST 2016)

See the table of contents

Vol. 58 (2016)

The 3rd Bali International Seminar on Science & Technology (BISSTECH 2015)

See the table of contents



Vol. 57 (2016)

4th International Conference on Advancements in Engineering & Technology (ICAET-2016)

See the table of contents



Vol. 56 (2016)

2016 8th International Conference on Computer and Automation Engineering (ICCAE 2016)

See the table of contents

#### FORTHCOMING

CBNCM 2016 - International Conference on Biomaterials, Nanomaterials and Composite Materials (Chengdu, China, 4 - 6 November, 2016)

IMET 2016 - VII Scientific Conference «Informationmeasuring equipment and technologies» (Tomsk, Russia, 25 - 28 May, 2016)

GCMM 2016 - Global Congress on Manufacturing and Management (ZhengZhou, China, November 28 -30, 2016)

More

#### CLIENT TESTIMONIALS

The publication procedure was excellent. All the Authors of the published papers are very pleased from

The guidelines for Authors, and Conference organizers, were very helpful. Thank you very much for the perfect cooperation."

M.G. Skarpetis, Sterea Ellada Institute of Technology, Halkis,

Editor MATEC Web of Conferences vol.41, 2016

All client testimonials

## MATEC Web of Conferences is indexed in















## PARTNERS CONFERENCES



Nanotech France 2016 1-3 June 2016 | Paris - France



European Graphene Forum 2016 1-3 June 2016 | Paris - France



Nano Materials for the Energy & Environment - NanoMatEn 2016 1-3 June 2016 | Paris - France

ALL ISSUES

SERIES

NEWS

FORTHCOMING

LEAFLET (PDF)

**OPEN ACCESS JOURNALS** 

Web of Conferences

Search

Advanced Search

Home | About the journal

About the journal

Aims & scope

Indexed in

Policy on publishing integrity

License agreement

Published by

Recommend this journal

Contact information

For organizers

For authors

Reader's services

EDPS account

LDI D account

Email-alert RSS feed

Crossref

Access by vol/page

DOI resolver

Why publish with us?

Open access

Fast publication

Total flexibility

High visibility

Learn more

Invitation to publish



## Aims & scope

MATEC Web of Conferences is an open-access journal focused on the publishing of conference proceedings dealing with all fundamental and applied research aspects related to Materials science, Engineering and Chemistry.

All engineering disciplines are covered by the aims and scope of the journal: civil, naval, mechanical, chemical, and electrical engineering as well as nanotechnology and metrology. The journal concerns also all materials in regard to their physical-chemical characterization, implementation, resistance in their environment... Other subdisciples of chemistry, such as analytical chemistry, petrochemistry, organic chemistry..., and even pharmacology, are also welcome.

MATEC Web of Conferences aims to increase the visibility and enhance the profile of the scientific events, as well as to highlight the work of the contributors. It provides a safe long-term open-access record of the conferences in order to make the proceedings citable and widely usable by the scientific community. Its services are fast, affordable and suitable to large international conferences as well as small workshops and meetings.

## Benefits are:

- Free online access
- ▶ Swift publication times
- Immediate citability by DOI
- High visibility
- > Total flexibility in size and format of the contributions
- Range of additional publishing options

Proceedings are published under the scientific responsibility of the conference organizers.

ALL ISSUES

SERIES

NEWS

FORTHCOMING

LEAFLET (PDF)

**OPEN ACCESS JOURNALS** 

Web of Conferences

Advanced Search

Home > About the journal > Policy on publishing integrity

About the journal

Aims & scope

Indexed in

Policy on publishing integrity

License agreement

Published by

Recommend this

journal Contact information

For organizers

For authors

Reader's services

EDPS account

Email-alert

RSS feed

Crossref Access by vol/page

DOI resolver

Why publish with us?

Open access

Fast publication

Total flexibility

High visibility

Learn more





## Policy on publishing integrity

#### **Ethical Publication Practices**

Web of Conferences journals are committed to the standards of publishing integrity and academic honesty. Editors, reviewers and authors are encouraged to refer to The Committee on Publishing Ethics (COPE) and to follow its Code of conduct and guidelines.

Serious misconduct (for example, data fabrication, falsification or plagiarism) is taken seriously into consideration and is further investigated. When a suspicion of misconduct turns out to be confirmed, the available sanction is applied.

## Journals' Requirements

The journals make clear their aims and scope, editorial policy and manuscript requirements in terms of presentation and submissions.

- Journals' instructions are available to any contributor.
- > Authors are expected to pursue objectiveness and rigour in all aspects of their work. Authors are obligated to provide retractions or corrections of mistakes.
- ▶ The list of authors should accurately reflect who did the work.
- F Journals only consider work that has not been published and is not being considered for publication elsewhere.
- Editors, authors and peer reviewers are encouraged to disclose interests that might appear to affect their ability to present or review data objectively.
- > Journals recommend the use of a specific copyright and make it available on the journal pages.

#### **Editorial Committee**

Editorial decisions and editorial processes are run by the editors of the proceedings who are members of the organizing committee of the event. The detailed procedures may vary from event to event according to the custom and practice of each community.

- > The editors of the proceedings are committed to ensuring the quality of the publication and that what is reported is ethical, accurate and relevant to the journal.
- > They have full independence and are not dictated to or influenced by any factors (political, commercial, etc.). Their decision to accept or reject a paper for publication has been based only on the merits of the work and the relevance to the journal.
- ▶ When errors are found, the editors should promote publication of corrections or retraction.

#### Peer Review

All published articles are peer reviewed.

- > Journals' policy encourages the use of blinded peer review and, when it is possible, multiple reviewers.
- FReviews should be conducted by expert referees, who have been requested to provide unbiased and constructive comments aimed, whenever possible, at improving the work.
- > Proceedings editors should take all reasonable steps to ensure the quality of the materials they publish.

Starting March 2014, all published proceedings contain a Statement of Peer Review confirming that the editors have conducted the reviewing process in accordance with the journals' Policy on Publishing Integrity.





## Statement of Peer review

In submitting conference proceedings to MATEC Web of Conferences, I certify to the Publisher that I adhere to the **Policy on Publishing Integrity** of the journal in order to safeguard good scientific practice in publishing.

- 1. All articles have been subjected to peer review administered by the proceedings editors.
- Reviews have been conducted by expert referees, who have been requested to provide unbiased and constructive comments aimed, whenever possible, at improving the work.
- Proceedings editors have taken all reasonable steps to ensure the quality of the materials they publish and their decision to accept or reject a paper for publication has been based only on the merits of the work and the relevance to the journal.

Title, date and place of the conference

Title: The 3rd Bali International Seminar On Science & Technology (BISSTECH 2015)

Date: October 15-17, 2015

Place: Grand Inna Kuta Hotel, Bali, Indonesia

Proceedings editor(s):

J. Jamari, Dr. (University of Diponegoro, Semarang, Indonesia) \*

Renanto Handogo, Ph.D. (Sepuluh Nopember Institute of Technology, Surabaya, Indonesia)

Erma Suryani, Ph.D (Sepuluh Nopember Institute of Technology, Surabaya, Indonesia)

Date and editor's signature

March 31, 2016

**ALL ISSUES** 

SERIES

NEWS

FORTHCOMING

LEAFLET (PDF)

**OPEN ACCESS JOURNALS** 

Web of Conferences

Bearch

Advanced Search

fome ▶ About the journal ▶ Contact information

About the journal

Aims & scope
Indexed in

Policy on publishing

integrity

License agreement

Published by

Recommend this

journal

Contact information

For organizers For authors

Reader's services

.........

EDPS account

Email-alert RSS feed

Crossref

Access by vol/page

DOI resolver

Why publish with us?

Open access

Fast publication

Total flexibility

High visibility

Learn more

Invitation to publish



## Contact information

All enquiries about publishing in MATEC Web of Conferences should be directed to:

**Isaline Augusto** 

EDP Sciences

17, Avenue du Hoggar

Parc d'Activité de Courtabœuf

BP 112

F-91944 Les Ulis Cedex A

France

E-mail: matec@webofconferences.org



**ALL ISSUES** 

SERIES

NEWS

**FORTHCOMING** 

LEAFLET (PDF)

**OPEN ACCESS JOURNALS** 

Web of Conferences

Advanced Search

Home > About the journal > Published by

About the journal

Aims & scope Indexed in

Policy on publishing

integrity

License agreement

Published by

Recommend this

journal

Contact information

For organizers

For authors

Reader's services

EDPS account

**Email-alert** RSS feed

Crossref

Access by vol/page

DOI resolver

Why publish with us?

Open access

Fast publication

Total flexibility

High visibility

Learn more

Invitation to publish



## Published by

### MATEC Web of Conferences is published by:

**EDP Sciences - Web of Conferences** 

17, avenue du Hoggar

Parc d'activités de Courtaboeuf

91944 Les Ulis Cedex

France

Phone: +33 1 69 18 75 75

E-mail: contact@webofconferences.org



Web of Conferences is a portal entirely dedicated to scientific events. It provides a complete and flexible proceedings publishing service, and offers solution for promoting conferences.

www.webofconferences.org

Publications manager: Jean-Marc Quilbé

Publishing director: Agnès Henri Publishing editor: Isaline Augusto

Production manager: Dominique Honoré Production editor: Isabelle Houlbert

System manager: Ahmed Mahboub Webmaster: Catherine Vialle

Web designer: Guillaume Drouen





**ALL ISSUES** 

SERIES

**NEWS** 

**FORTHCOMING** 

LEAFLET (PDF)

**OPEN ACCESS JOURNALS** 

Web of Conferences

Search

Advanced Search

Home > All issues > Volume 58 (2016)

About the journal

For organizers

For authors

Reader's services

EDPS account

**Email-alert** RSS feed

Crossref

Access by vol/page

DOI resolver

Why publish with us?

Open access

Fast publication

Total flexibility

High visibility

Learn more

Previous issue

Table of contents

Next issue

Free Access to the whole issue

Export the citation of the selected articles:

Select all

## MATEC Web of Conferences

Vol. 58 (2016)

The 3rd Bali International Seminar on Science & Technology (BISSTECH 2015)

Bali, Indonesia, October 15-17, 2015

J. Jamari, R. Handogo and E. Suryani (Eds.)

Open Access

Statement of Peer review

Published online: 23 May 2016

PDF (232 KB)

▶ Chemical Engineering & Food Technology

▶ Information Technology and Information Systems

▶ Others





Web of

\*Conferences

▶ Industrial Engineering

**Open Access** 

Preface 00001

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165800001

Abstract | PDF (25.85 KB)

**Open Access** 

Opening Address 00002

Dr. Ir. Ni Ketut Sari

Published online: 23 May 2016 DOI: http://dx.doi.org/10.1051/matecconf/20165800002

Abstract | PDF (386.2 KB)

## **Chemical Engineering & Food Technology**

Open Access

Activation of Trass Rock aS Bleaching Palm Oil (CPO) 01001

Laurentius Urip Widodo, Sukirmiyadi, Siswanto and Ely Kurniati

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801001

Abstract PDF (82.89 KB) References

Open Access

Antioxidant Activity and Sensory Properties Carrot (Daucus carrota) Soyghurt 01002

Enny Karti Basuki Susiloningsih, Ulya Sarofa and Fauziah Imroatus Sholihah

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801002

Abstract | PDF (110.8 KB) | References

Sari Ni Ketut, S Sutiyono, E Luluk, Ernawati Dira, Wesen Putu and Tatik Sri Hajati

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801003

Abstract PDF (100.9 KB) References

#### Open Access

## Bioethanol Quality Improvement of Coffee Fruit Leather 01004

Luluk Edahwati, P. Dyah Suci, S. Nana Dyah, Tri Widjaya, Ali Altway, Domas Cahyo and Atika Nandini

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801004

Abstract | PDF (120.9 KB) | References

#### Open Access

## Biogas Production and Removal COD - BOD and TSS from Wastewater Industrial Alcohol (Vinasse) by Modified UASB

Bioreactor 01005

Isni Utami, Sri Redjeki, Dwi Hery Astuti and Sani

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801005

Abstract | PDF (169.7 KB) | References

#### Open Access

#### Synthesis and Characterisation of Struvite Family Crystals by An Aqueous Precipitation Method 01006

S. Sutiyono, Luluk Edahwati, Dyah Suci Perwitasari, Stefanus Muryanto, J. Jamari and Anatasius P. Bayuseno

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801006

Abstract PDF (163.1 KB) References

## Open Access

#### Effect of Calcium Additive on the Crystallization of Struvite 01007

Dyah Suci Perwitasari, Luluk Edahwati, S. Sutiyono, Novel Karaman, J. Jamari, Stefanus Muryanto and Athanasius.P. Bayuseno

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801007

Abstract | PDF (391.5 KB) | References

#### Open Access

#### Effectiveness of Environmental Management Based on Trash in The City of Depok 01008

Ismiyati, Irfan Purnawan and Muh. Kadarisman

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801008

Abstract | PDF (109.9 KB) | References

## Open Access

## Effects of Giving Pedada Fruit Flour (PFF) on Digesta Profile and SCFAs Hypercholesterolemic Rats 01009

Jariyah, Simon Bambang Widjanarko, Yunianta and Teti Estiasih

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801009

Abstract | PDF (81.39 KB) | References

#### Open Access

## Emulsion Copolymerization Of Styrene-Co-Maleic Acid and Incorporation of CU<sub>2</sub>O Into Its Matrix 01010

Yenny Meliana, Sri Fahmiati and Agus Haryono

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801010

Abstract | PDF (123.9 KB) | References

## Open Access

## Estimating Greenhouse Gas Emissions Level of A Natural Gas Pipeline - Case Study from A to B Point in West

Java-Indonesia 01011

Cindy Dianita and Asep Handaya Saputra

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801011

Abstract | PDF (82.25 KB) | References

#### Open Access

## Functional Properties of Leucaena Leucocephala Protein Concentrates Resulted Separation of Ultrafiltration Membrane

01012

Dedin Finatsiyatull Rosida, Nur Hapsari and Taufik Hidayah

Published online: 23 May 2016

#### Open Access

#### Inhibition of Struvite Crystal Growth in the Presence of Herbal Extract Orthosiphon Aristatus BL.MIQ 01013

Stefanus Muryanto, Sri Sutanti and Mega Kasmiyatun

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801013

Abstract | PDF (1.001 MB) | References

## Open Access

### Numerical of Bioethanol Production from Liquid Waste of Rise Flour by Distillation Process 01014

Sari Ni Ketut, I Nyoman Abdi, Wesen Putu and Retno Dewati

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801014

Abstract | PDF (243.8 KB) | References

## Open Access

## Pyrolisator Coal to be Cokes (Coal Cokes) Casting Metal Industry Standard 01015

Sukamto, Didi Samanhudi, Sunardi and Nana Dyah Siswati

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801015

Abstract | PDF (243.9 KB) | References

## Open Access

#### Natural Medium for Growing of Endophytic Bacteria from Solanaceae in Malang-Indonesia 01016

Arika Purnawati, Wiwik Sri Harijani and Wiwin Windriyanti

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801016

Abstract | PDF (143.7 KB) | References

## Open Access

#### Optimization of the Single Staggered Wire and Tube Heat Exchanger 01017

I Made Arsana, Susianto, Kusno Budhikarjono and Ali Altway

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801017

Abstract | PDF (1.359 MB) | References

#### Open Access

#### Effects of the Optimised pH and Molar Ratio on Struvite Precipitation in Aqueous System 01018

Luluk Edahwati, S. Sutiyono, Dyah Suci Perwitasari, Stefanus Muryanto, J. Jamari and A.P. Bayuseno

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801018

Abstract | PDF (482.7 KB) | References

#### Open Access

## Performance of Inclined Baffle Column for Pectin Continuous Extraction Process from Cocoa Peel (Theobromacacao)

01019

Soemargono, Sutiyono, Edi Purnomo Sasongko and Bambang Priyanto

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801019

Abstract | PDF (192.3 KB) | References

#### Open Access

#### Physicochemical and Organoleptic Properties of Dried Synbiotics Yoghurt from Lesser Yam Tubers (Dioscoreaesculenta

L.) 01020

Sri Winarti and Erwan Adi Saputro Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801020

Abstract | PDF (130.4 KB) | References

#### Open Access

## Potassium Silicate Foliar Fertilizer Grade from Geothermal Sludge and Pyrophyllite 01021

Srie Muljani, Bambang Wahyudi, Ketut Sumada and Suprihatin

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801021

Abstract | PDF (343.4 KB) | References

#### Open Access

## Removal of Mg<sup>2+</sup>, K<sup>+</sup>, SO<sub>4</sub><sup>-2</sup> Ions from Seawater by Precipitation Method 01022

Caecilia Pujiastuti, Ketut Sumada, Yustina Ngatilah and Prasetyo Hadi

Abstract | PDF (121.1 KB) | References

#### Open Access

## Removal of Organic Load in Communal Wastewater by using the Six Stage Anaerobic Baffle Reactor (ABR) 01023

Minarni Nur Trilita, Novirina Hendrasarie and Iwan Wahjudijanto

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801023

Abstract | PDF (195.4 KB) | References

#### Open Access

#### The Benefit of Cacao Peel's Lignin as an Adhesive using Multi Function Extractor 01024

Mu'tasim Billah, Titi Susilowati, Susilowati and Diah Hari Suryaningrum

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801024

Abstract PDF (103.6 KB) References

#### Open Access

## The Effect of Fluorescent Pseudomonads Application on the Resistance of Chili Plants Against the Attack of Raistonia Solanacearum and Fusarium Oxysporum in the Field 01025

Yenny Wuryandari, Sri Wiyatiningsih and Agus Sulistyono

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801025

Abstract PDF (159.0 KB) References

#### Open Access

## The Extraction Process of Trimethyl Xanthina in Vitro Culture of Callus Camellia Sinensis with ethyl Acetate Solvent 01026

Sutini, Susilowati, Djoko Agus Purwanto and M. Rasjad Indra

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801026

Abstract | PDF (1.187 MB) | References

#### Open Access

## The Influence of Vibration on CaCO<sub>3</sub> Scale Formation in Piping System 01027

W. Mangestiyono, S. Muryanto, J. Jamari and A.P. Bayuseno

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801027

Abstract | PDF (555.7 KB) | References

## Open Access

## Effect of Humic Acid on Soil Chemical and Physical Characteristics of Embankment 01028

Munawar Ali and Wanti Mindari Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801028

Abstract | PDF (378.3 KB) | References

#### Open Access

#### Calcium Carbonate Scale Formation in Copper Pipes on Laminar Flow 01029

S Raharjo, A Bayuseno, Jamari and S Muryanto

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165801029

Abstract | PDF (671.7 KB) | References

## Industrial Engineering

#### Open Access

## A Study on Home Based Enterprises in Kampoeng Pandean as Supporting Sustainable Architecture 02001

Muchlisiniyati Safeyah and Eva Elviana Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802001

Abstract | PDF (1.344 MB) | References

#### Open Access

#### Accessibility to Public Transport Services (Case Study of Tabanan Region, Bali-Indonesia) 02002

Putu Alit Suthanaya

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802002

Abstract | PDF (314.8 KB) | References

Minto Waluyo, Syamsul Huda, Noer Soetjipto, Sumiati and Handoyo

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802003

Abstract PDF (241.4 KB) References

## Open Access

## Collaboration and Sustainable Agri-Food Suply Chain: A Literature Review 02004

Wike Agustin Prima Dania, Ke Xing and Yousef Amer

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802004

Abstract | PDF (143.0 KB) | References

#### Open Access

#### Distribution Reliability of the Energy Supply Chain 02005

Rachmad Hidayat and Sabarudin Akhmad

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802005

Abstract | PDF (365.9 KB) | References

#### Open Access

## Policy Strategies of Cocoa for Lead up Agroindustrial Food and Drinks in Jember Regency, Indonesia 02006

Eko Nurhadi, Syarif Imam Hidayat, Pawana Nur Indah and Sri Widayanti

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802006

Abstract | PDF (116.9 KB) | References

#### Open Access

#### Sustainable strategies selection in SMEs Using MCDM approach 02007

Ari Basuki

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802007

Abstract | PDF (138.9 KB) | References

## Open Access

## The Implementation of Vendor Managed Inventory In the Supply Chain with Simple Probabilistic Inventory Model 02008

Ika Deefi Anna

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165802008

Abstract | PDF (124.8 KB) | References

## Information Technology and Information Systems

## Open Access

## Analysis of the Effect of Information System Quality to Intention to Reuse of Employee Management Information System (Simpeg) Based on Information Systems Success Model 03001

Tri Lathif Mardi Suryanto, Djoko Budiyanto Setyohadi and Asif Faroqi

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803001

Abstract | PDF (283.1 KB) | References

## Open Access

## Determination of Selection Method in Genetic Algorithm for Land Suitability 03002

Asti Dwi Irfianti, Retantyo Wardoyo, Sri Hartati and Endang Sulistyoningsih

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803002

Abstract | PDF (203.6 KB) | References

#### Open Access

## Fake Review Detection From a Product Review Using Modified Method of Iterative Computation Framework 03003

Eka Dyar Wahyuni and Arif Djunaidy Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803003

Abstract | PDF (201.8 KB) | References

## Open Access

#### Forecasting of Computer Network Performance with Quadratic Equation 03004

Achmad Ubaidillah and S. Ida Kholida

#### Open Access

### Forecasting the Number of Patients Diseases Using Backpropagation 03005

Aeri Rachmad and Devie Rosa Anamisa Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803005

Abstract | PDF (192.5 KB) | References

#### Open Access

#### Gamification Approach to Enhance Students Engagement in Studying Language course 03006

Andharini Dwi Cahyani Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803006

Abstract | PDF (100.6 KB) | References

#### Open Access

## Information Technology Implementation on Socialization of Harmonious Culture in Bali 03007

I Putu Astawa, Ni Putu Wiwiek Ary Susyarini and Ni Nyoman Triyuni

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803007

Abstract | PDF (135.8 KB) | References

## Open Access

## Management of Virtual Machine as an Energy Conservation in Private Cloud Computing System 03008

Akhmad Fauzi, Edy Mulyadi, Abdullah Fadil and Mohammad Idhom

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803008

Abstract | PDF (464.9 KB) | References

#### Open Access

#### Maturity Level at University Academic Information System Linking it Goals and Business Goal Based on Cobit 4.1 03009

Siti Mukaromah and Agung Brastama Putra

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803009

Abstract | PDF (122.2 KB) | References

## Open Access

#### Modification of Hidden Layer Weight in Extreme Learning Machine Using Gain Ratio 03010

Fetty Tri Anggraeny and Intan Yuniar Purbasari

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803010

Abstract | PDF (230.6 KB) | References

## Open Access

## Performance Evaluation of Dsr with Mobility Models 03011

Henni Endah Wahanani, I Made Suartana and Yudhi Nur Hasyim

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803011

Abstract | PDF (196.9 KB) | References

#### Open Access

## Teratozoospermia Classification Based on the Shape of Sperm Head Using OTSU Threshold and Decision Tree 03012

I Gede Susrama Masdiyasa, I Ketut Edi Purnama and Mauridhy Heri Purnomo

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803012

Abstract | PDF (1.059 MB) | References

## Open Access

## The Application of EEMD and Neural Network Based on Polak-Ribiére Conjugate Gradient Algorithm for Crude Oil Prices

Forecasting 03013 M. Latif and Sri Herawati Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803013

Abstract | PDF (247.1 KB) | References

## Open Access

#### The Implementation of Caching Database to Reduce Query's Response Time 03014

Arnaldo Marulitua Sinaga and Poppy Sibarani

#### Open Access

WEB-Based Traffic Ticket Data Processing Information System 03015

Faikul Umam and Rachmad Hidayat Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803015

Abstract | PDF (1.407 MB) | References

#### Open Access

The Design of Mobile Application for Teacher and Parents Communication in Indonesian School 03016

Sholeh Hadi Setyawan, Dhiani Tresna Absari, Susana Limanto and Andre

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165803016

Abstract | PDF (295.9 KB) | References

#### Others

## Open Access

A Comparative Study of Finite Journal Bearing in Laminar and Turbulent Regimes Using CFD (Computational Fluid Dynamic) 04001

Susilowati, Mohammad Tauviqirrahman, J. Jamari, Athanasius P. Bayuseno and Muchammad

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804001

Abstract PDF (928.9 KB) References

#### Open Access

Domestic Wastewater Treatment Miniplan of Institution Using a Combination of "Conetray Cascade Aerator" Technology and Biofilter 04002

Ratni Juliardi A.R Naniek, Rudy Laksmono, Firra Rosariawari and Erwin Chandra

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804002

Abstract | PDF (159.3 KB) | References

## Open Access

Heat Removal Using the Hollow Roof in the Javanese House 04003

Pranoto S Mohammad

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804003

Abstract | PDF (972.4 KB) | References

#### Open Access

Implementing Cleaner Production as an Environmental Management Efforts in Small Industries of Cassava Chips 04004

Erina Rahmadyanti and Dwijanto W. Andre

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804004

Abstract PDF (107.6 KB) References

#### Open Access

Moment Contribution Capacity of Tendon Prestressed Partial on Concrete Beam-column Joint Interior According to Provisions ACI 318-2008 Chapter 21.5.2.5(c) Due to Cyclic Lateral Loads 04005

Made Dharma Astawa, IGusti Putu Raka and Tavio

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804005

Abstract | PDF (918.2 KB) | References

#### Open Access

Temperature Approach Optimization in the Double Pipe Heat Exchanger with Groove 04006

Putu Wijaya Sunu, Daud Simon Anakottapary and Wayan G. Santika

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804006

Abstract PDF (165.3 KB) References

#### Open Access

Analysis of the Contact Area of Smooth and Rough Surfaces in Contact with Sphere Indenter Using Finite Element Method

04007

Kartini, E. Saputra, R. Ismail, J. Jamari and A.P. Bayuseno

Published online: 23 May 2016

DOI: http://dx.doi.org/10.1051/matecconf/20165804007