



## Mobile Device Integration in IIUM Service

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### ABSTRACT

The application of mobile technology in many industries locally and abroad is common nowadays. SMS Service is a basic feature provided by the operator that allows exchange short messages between the users. This technology is already been in IIUM known as IIUM MySMS Service. However, this service is limited for checking the examination result and course registration. In this paper, we will investigate the factor that characterize the mobile service with the system and provide some recommendation to further enhance the service to its optimum and can help to promote students learning.

**Key words :** Communication, Mobile, Technology, SMS.

### 1. INTRODUCTION

The mobile phone or cell phone is already a complementary part of the lives of more than 1.8 billion people worldwide. Mobile usage is increasing in volume as well as diversity [1]. Mobile phone use has been growing sporadically into many areas. The service of Short Message (SMS) and using it is also growing accordingly. SMS offers a mode of communication that is within reach of almost everyone. As such, SMS may be effective in providing two-way feedback. Mobile learning has appeared as a potential educational environment. The university as an educational organization has a lot of important information that can be provided to the students, like grade release, courses registered, enrolment information, and university announcement. If the university can provide them on the SMS service, the students can get the information easier and faster. They can request the information from the service provider at their own convenient time through their cell phones.

Almost every student has a mobile phone capable of sending and receiving SMS text messages and increasingly the mobile phone has become central to their digital world. It is undeniably socially and digitally inclusive and is also recognized as a cost saving device when compared to most other means of communication [2]. The mobile phone has become an essential part of a student's everyday life; it only makes sense to use it as a teaching gadget [4]. The use of SMS is now an accepted part of everyday social communication. SMS messaging is used to provide students with advice on study skills, time management, and examination preparation

[3]. Students always have their mobile phone with them, so text messages can reach them wherever they are [3]. The SMS function can be utilized as an asynchronous form of communication with a student, fostering a sense of connectivity between the lecturer and student and facilitating a supportive learning environment [3].

There are many different kinds of SMS applications on the market today and many others are being developed. Applications in which SMS messaging can be utilized are virtually unlimited. Some common examples of SMS are: Person-to-Person Text Messaging, Provision of Information, Downloading objects, Alerts and Notifications, SMS marketing and education

Along with mobile wireless phones SMS technology has been tested in several institutions of higher education [5]. Students and professors can easily exchange any text material related to their courses. For example, at Kingston University in United Kingdom, the SMS experiment was undertaken to determine its effectiveness for student learning. The results showed that students liked SMS more than any other text message application, such as email. The reason that students prefer SMS to others is that the data they receive and send through SMS is more personal [6]. In addition, the Sheffield Hallam University tested SMS with 67 undergraduate students to support and manage learning activities. The findings were significantly positive because students recognized that SMS is immediate, convenient, and personal [7].

My IIUM SMS is part of the way forward effort to integrate service delivery across agencies in an effective and efficient manner to benefit students, staff and relevant citizen within the university with other numerous online services that are also currently being provided. This article is trying to investigate one example of integrated mobile technology being implemented in IIUM which is Mysms service. All IIUM students excluding CFS, iFLA and other SBU (Advanced Engineering and Innovation Centre, Harun M.Hashim Law Centre, Management Centre, Centre for Human Development and Applied Social Sciences, etc) students are eligible to use the services. They will need a mobile phone and a valid student ID to use these services.

The main purpose of this paper is to answer the following research question: *What are the factors that characterize the implementation of integrated mobile technology (MYSMS) in IIUM*

There are five sections in this research paper. The first section has introduced the research topic in general. Section two is literature review. Section three discusses the research design. The fourth section is the background of the case study. Section five documents the findings. The last section is conclusion and recommendation.

## 2. LITERATURE REVIEW

Even though wireless mobile application has been widely use, the application is limited to some factors that characterize the mobile service with the system. The author in [11] stated that mobile technologies can ‘push’ information to the student which is beneficial for student who spends less time in campus. The author also added that most of the mobile applications in the current university only support the administrative purposes such as checking and receiving examination result rather than the teaching and learning purposes even though there is high level of mobile phone ownership amongst the students.

Furthermore, [12] found that SMS technology is limited to the rule where length of one message is 160 characters and therefore some service are not available through SMS depending on the space or length of SMS needed for those service. The author in [13] also added that since SMS technologies is limited to byte-sized content or interaction, teaching and learning using SMS is not supported.

From the hand phone users survey done by the Malaysian Communication and Multimedia Commission in 2005, most of the Malaysian hand phone user send more than five SMS per day which show that Malaysian mostly use SMS for communication [14]. In addition, students prefer to use the SMS service for communication between the students and the lecturers [15]. The study conducted in [16] also support that students use mobile handheld devices mostly for communication purposes compare to multimedia access, capture, representational, analytical assessment and task management purposes. Meanwhile, a study on the SMS quizzes conducted by one of the university in Malaysia found that SMS as a supplementary in learning tool is feasible to be conducted [17]. These study shows that students are benefited from the SMS service and prefer to use this service considering that the SMS instruction is understandable, easy SMS query and readable from mobile screen.

Besides, SMS can be built as two different services which are independent service and dependent service [18]. The independent service is a service that connects one mobile device with one server. This service is usually created by the university itself. The author in [19] also stated that independent service does not require any SMS provider and it is only based on the mobile phone and the application server. The author in [18] also added that the dependent service requires an agreement between the university and the cellular operator in order to provide the SMS service. This is supported by the author in [19]. The authors stated that the dependent service require the service providers SMS Center (SMSC) to be connected with the server. The authors also

added that the service demand stable connection of internet.

## 3. RESEARCH METHODOLOGY

A single-case-study approach was used in the project. Single case used to confirm or challenge a theory, or to represent a unique or extreme case [8]. We conducted a conversational interview with representative from the internal information technology division (ITD) at the university.

## 4. BACKGROUND OF CASE STUDY

International Islamic university Malaysia was chosen for our study. The University was established in 23 May 1983, founded on Islamic principles with the aim to become the premier Islamic university in the world [9] and its students originate from more than 90 countries representing almost all regions of the world. There are approximately 20,000 students and 1,600 staff in the university. IIUM mySMS Services is an emerging service that allows IIUM students to request for information using SMS. It allows retrieval of information in the IIUM environment, complementing existing method such as using website, poster or announcement. The project is sponsored by DAPAT. DAPAT Vista was established in 2000 to serve the demand for mobile interactivity and to spearhead the development of innovative and dynamic mobile data services and products, DAPAT Vista is able to offer comprehensive and creative mobile marketing and advertising tools to assist organizations in implementing interactivity into their business strategies. Gerbang SMS Kerajaan Malaysia is a project initiated by MAMPU, to provide information to the general public. This project was initiated to take advantage of the benefits using mobile communication technology to provide an effective, fast and economical way for Malaysia to communicate with government agencies. Gerbang SMS Kerajaan Malaysia is using short code 15888 to all agencies in line with government policies to provide services as “one government, many agencies” and to embark on “no wrong door” policies. Currently, the services are only available for Maxis, Celcom and DiGi (prepaid and post paid) users only. The users will be charged RM 0.15 per SMS sent and RM 0.20 (with information) per SMS received ( figure 1)

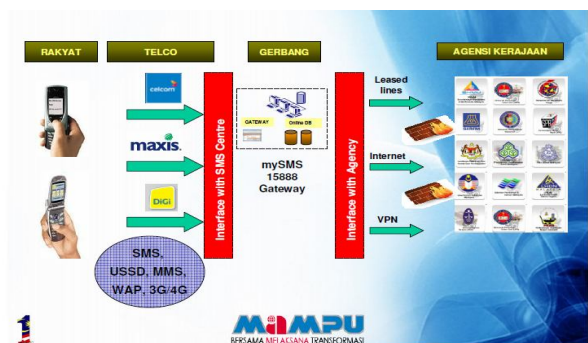


Figure 1: Model MySMS Mampu [10]

The main objectives of the project are:

- Provide information –on-demand (IOD): a concept whereby each requested services (MO-Message Originating) will get one service response (MT-Message Terminating), information to the user who made request for exam results, license check, etc
- Provide document-on-demand: an application which will enable user to request or initiate for a document or a file to be sent to an email. Maximum size of the document is set to 2MB only, documents sent to the user email, for example job vacancy document, training schedule, etc
- SMS Broadcast/ Broadcast based on subscription: a message broadcasting system, fully controlled by assigned user. broadcast message from the agency to user, for example, alert on driving license expiry
- SMS complaint: complains from users to respective agencies

IIUM has been a client of Gerbang Kerajaan Malaysia. The services provided by them are covered in three main categories:

1. MySMS services to IIUM student.
  - Check courses offered
  - Check courses registered
  - Check day and time of courses registered
  - Check venue of courses registered
  - Check results
2. MySMS services to IIUM staff
  - Check payslip
  - Download forms to be sent to staff email addresses
3. MySMS service to the public
  - Check status of application for admission as undergraduate student
  - Check status of application for admission as postgraduate student
  - Downloadable forms to be sent to public ones email address

The first phase of the project started on 2004 with some services to IIUM students only, while the second phase is still under study and investigation which will provide services to IIUM staff and public users as explained above.

Normal SMS broadcast allow agency to broadcast (bulk) information to public mobile phones via the internet and SMS gateway. Broadcasting is one of the most economical methods of sending information in an instantaneous time frame. SMS subscription service delivers content to user mobile phone on periodic bases. User can sign up to subscription service via SMS by type specific mechanic. Content and service provided via subscription service can include news, financial data....

Mysms service system is dependent system integrated with Dapat server system, student database system in order to verify if the request belongs to IIUM student, legal unit system

to make sure that you have no block or compound on your account and other systems in iium.

## 5. FINDINGS

Based on our analysis and discussion, we judged the IIUM MySMS service as following:

### A: Administrative Service

Although the objective of the system is categorized under the suite of Information on demand, the service is only support the administrative service to the students and not involving any kind of help in their learning process. Student can only check their examination results, lecturers and class time and schedule and also the course registered. Moreover, this services only available to registered students with the system and those who use Maxis, Celcom and Digi (both postpaid and prepaid) only.

### B: Dependent Service

IIUM rely on external party which is MySMS, a government service. Every operation of service will be handled by this portal and it is linked with IIUM database to provide information in return to the request. There was an agreement made by the university and MySMS to make this happen. There is also an agreement made by MySMS and some telecommunication operator which limits the service to only Maxis, Celcom and Digi users only.

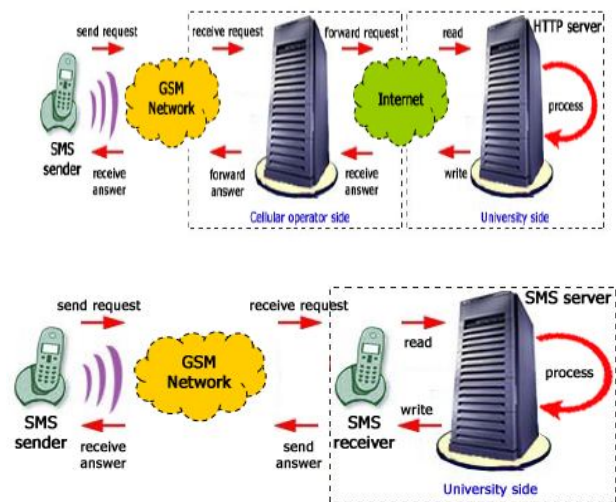


Figure 2: Independent Service

## 6. RECOMMENDATION AND CONCLUSION

In this section, we present some recommendation that would likely further improve and optimize SMS technology to the students to keep them informed, involved and up-to-date. The first is SMS technology could used to support learning [17]. More SMS-based mobile applications can further developed and implemented like SMS quizzes, SMS updates reminders and many more. The second point is to propose the SMS service to become independent service. This means it will less depending to external parties [18]. A significant amount of

investments should be considered to deploy the hardware, and software architecture to have an in house system. An advantage that can be seen are more feature of services can be offered and probably can lower the cost of the end-user since new agreement will be made.

In conclusion, the SMS technology mobile technology is here to stay and always be the most popular feature in basic mobile phone. An optimum use of this lower-end service could bring great benefit in providing service to students which will promote mobile learning and helps to foster more sense of belonging between the students and university and ultimately helps their learning.

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