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SMS Based: Key Word Generated of a Two Way Communication of Student Organizations' Information Dissemination

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Abstract:

Short Message Sevice (SMS) allows text-based messages to be sent to and from mobile telephones on a GSM network. The message from the sending mobile is stored in a central SMS which then forwards it to the destination mobile. The use of SMS for various applications has increased significantly. There is still one area where these services have not been utilized to the right potential: field of academics. Although it has the widest reach of all the technologies in the college campus, it is still very much underutilized in the student services administration. Students' access to mobile phone technology is very high and mobile phone presents a very attractive option to easing communication between the students and the department. Students prefer SMS because it keeps them informed of what is happening in the University. Most students feel happy and connected to the university.

Keywords: auto reply, key word generator, SMS gateway.

1.0 Introduction

The Short Message Service (SMS) technology is one of the most stable mobile technologies around. Most of our tertiary students carry mobile phones with SMS facilities and those can also be used for teaching and learning (So, 2009*).* SMS is one the most basic features and is provided in all mobile phones. It is also one of the easiest and fastest ways of communication.

A study of Kajambula, 2009 has revealed that students' access to mobile phone technology is very high and mobile phone presents a very attractive option to easing communication between the students and the department. Students prefer SMS because it keeps them informed of what is happening in the University. Most students feel happy and connected to the university. This satisfies one of the objectives of student support: reducing the isolation students feel and reducing the 'distance' they feel as a result of being far from the main campus.

The use of SMS communication in education and student support is common in developing countries like The Philippines and Mongolia. The Philippines has been named as the world's texting capital, with more than 2 million SMS sent each day from over 13 million cellular phone subscribers (Pabico, 2003). Cellular phones and SMS have become an important aspect of Filipino life and usage of this communication system is wide -ranging from the more personal use to business and education (Coronel-Ferrer, 2002). Mongolia and the Philippines are some of the

countries where technology has been noted to have the most in terms of using texting as a possible tool in providing education (Ramos, 2006).

Another study conducted by Mengawade and Magul, 2013 cited that use of SMS for various applications has increased significantly. There is still one area where these services have not been utilized to the right potential: field of academics. Although it has the widest reach of all the technologies in the college campus, it is still very much underutilized in the student services administration.

The Supreme Student Council (SSC) is a student Autonomous Governing Body the partner of the institution which actively participates in making every university competent, responsive and accessible to all. Students' organization uses an SMS-based system that helps them to propagate the school events, updates the information to all students through SMS. Since SSC is considered as the highest governing student body of the university, they are the one who is capable of interacting with the students through informing them about the upcoming special events, and important information about the school, in order for the students to know and be aware of those things.

This study designs a mobile android application that will disseminate SMS to the students with just one press of the "send" button. EnvayaSMS is a SMS gateway running entirely as an Android application. It forwards incoming SMS messages to server mode on internet, and sends outgoing messages from the web server to other phones. People with any type of mobile phone can send SMS.

2.0 Methodology

2.1 Design and Development

2.1.1 Designing a keyword generated application

Development process of the study, namely, design a keyword generated application, develop a portable mobile application, and evaluation of the system.

A keyword generated application is designed to integrate keywords to be used in the specific events.

2.1.2 Developing a portable mobile application

The software and programming language used to develop a portable mobile application includes PHP, Bootstrap 3.0, XAMMP, CodeIgniter, and Sublime Text.

2.2 Results and Discussions

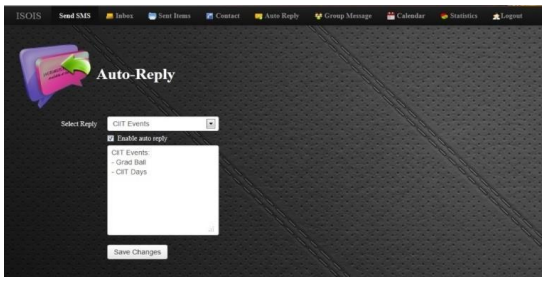

Figure 3. Screenshot of an Auto Reply Messaging

Figure 3 shows the design for auto reply messages on the inquired keywords. The information of the specific keywords can be updated in the interface and retrieved to the database.

Figure 4. Wi-Fi Devices

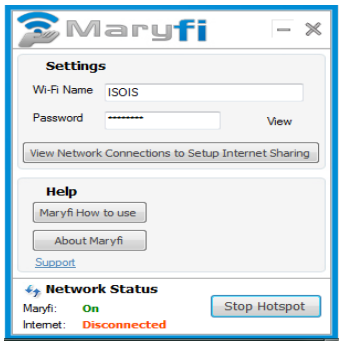

Figure 5.Maryfi

Figure 4 shows Other Wi-fi enabled devices including laptops, smart phones can see and join Maryfi hotspot just like any other Wi-fi access point are kept safe and secure by password-protected WPA2 Encryption.Figure 5 shows the interface of Maryfi Hotspot.

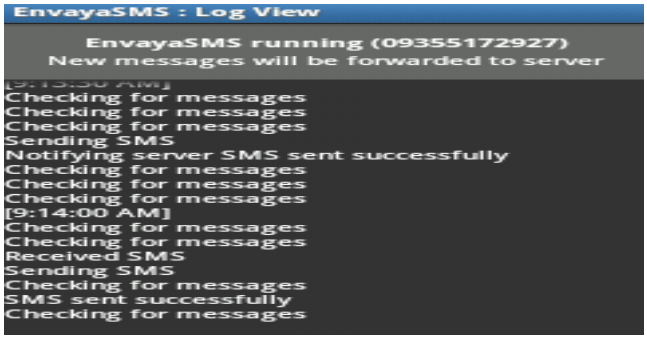

Figure 6. EnvayaSMS Log View

Figure 6 shows EnvayaSMS a SMS gateway running entirely as an Android application. Showing the log view interface of EnvayaSMS in Figure 6, it forwards incoming SMS to a web server, and sends outgoing messages from the web server to other phones.

3. Evaluation Survey

Survey questionnaire were given to selected students of MUST from different colleges namely CIIT, CAS, CEA, and CPSEM to test the functionality and accurateness of ISOIS System.

Table 1. Respondents' response in terms of receiving confirmation message.

Respondents	CIIT (10)		CAS (5)		CEA (5)		CPSEM (5)	
Choices	Yes	No	Yes	No	Yes	No	Yes	No
Relative Frequency	10	0	5	0	5	0	5	0
Percentage	100%	0%	100%	0%	100%	0%	100%	0%

Table 1, shows the responses of the respondents that 100% of CIIT, CAS, CEA and CPSEM received the confirmation message after they have been registered to the ISOIS system.

Table 2. Respondents' responses in texting using the keyword.

Respondents	CIIT (10)		CAS (5)		CEA (5)		CPSEM (5)	
Choices	Yes	No	Yes	No	Yes	No	Yes	No
Relative Frequency	8	2	3	2	3	2	4	1
Percentage	80%	20%	60%	40%	60%	40%	80%	20%

Table 2 shows the respondents who tried texting using their appropriate keyword given. 80% from CIIT selected the appropriate keyword and 20% tried not to text the appropriate keyword, while CAS and CEA has 60% that texted the selected keyword and CPSEM has 80% that tried texting using the given keyword they have received.

Table 3. Respondents' response who received reply from the system.

Respondents	CIIT (10)		CAS (5)		CEA (5)		CPSEM (5)	
Choices	Yes	No	Yes	No	Yes	No	Yes	No
Relative Frequency	8	2	3	2	3	2	4	1
Percentage	80%	20%	60%	40%	60%	40%	80%	20%

Table 3 shows the respondents' response when asked if the system replied to them. Based on the overall evaluation results, 80% of the CIIT and CPSEM students and 60% from CAS and CEA received a reply. Moreover, only 20 to 40% of students from all colleges did not receive a reply, since they did not tried texting the system.

Table 4 Respondents' response in receiving replied message of the specific events.

Respondents	CIIT(10)		CAS(5)		CEA(5)		CPSEM(5)	
Choices	Yes	No	Yes	No	Yes	No	Yes	No
Relative Frequency	8	2	3	2	3	2	4	1
Percentage	80%	20%	60%	40%	60%	40%	80%	20%

Table 4 shows the respondents' response when asked if they received the specific events that they've asked from the ISOIS system. Result shows that 80% of the CIIT and CPSEM students and 60% from CAS and CEA received the specific events. Meanwhile, only 20 to 40% of students from all colleges did not received reply from the system, since they haven't tried texting the system.

Conclusion and Recommendations

Conclusion

Short Message Service (SMS) is a very common communication tool nowadays. It allows us to communicate and connect with others. Using the system, Integrated Student Organization Information Services (ISOIS), the school organization can disseminate events and can send large number of SMS in just one click. Using a Samsung Galaxy Y Android 2.3 version, we able to send 40 messages (each 191 characters long) in 4 minutes & 45 seconds, for an average of 1 message every 2 seconds.

Recommendations

After the research and analysis, these are the following recommendations:

- To have a filtering feature for those who send flood messages.
- It is recommended that the ISOIS system must be hosted to internet for high message throughput and easy deployment.

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