College Activity e-Book System and Residency Notification using Mobile Networking (CABS-RN)

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Abstract—**The integration between web-based systems with Short Message Service (SMS) has been widely applied in various fields for instance business application, educational purposes and management system. Furthermore, the integration has enhances information management efficiency, as well as improves the quality of communication distribution and well-informed knowledge of interest. This paper focuses on the development of a web-based system using mobile networking, with integration of SMS into college web-based system. For the preliminary study, it covers the computerization of current college book system focusing on how to calculate student's merit point, as the upcoming semester residential placement for students will be based on their cumulative merit points. In this paper we introduce CABS-RN prototype and the result of the CABS-RN is discussed. The implementation of CABS-RN took place at one of Universiti Malaysia Sarawak (UNIMAS) residential colleges, Kolej Tun Ahmad Zaidi (TAZ).**

Keywords — **Database system, short message service (SMS), mobile notification, web-based system.**

I. INTRODUCTION

NOWADAYS, information are produced and needed at the fast rate. Such phenomenon will require database and communication mechanism to ensure that the information collected, stored, analyzed and shared between potential users and/or users who have interest to the information. One of the methods to exchange information effectively is by integrating a web-based system with mobile networking; which focus on Short Messaging Service (SMS) technology. Adapting the design functions of SMS notification may increase users' general adaptation and also the flexibility of the system in providing services for the users, anywhere and anytime according to users' preferences [1]. An immediate notification such as SMS technology is important for people, especially during emergency situation. By embedding SMS technology to this system, operations required to complete certain tasks can be done simultaneously, and exchange, manage and

collaboration of information can be done more systematically and consuming less time [2]. Not only that, integrating both web system with the mobility using SMS technology may provide a user-friendly tool, as well as tightening relationship between both-side parties, the service providers and users through bidirectional communication [3].

The current practice that being used in all residential colleges is by calculating student's merit points at the end of every semester, and it is done manually by the administration staff of the respective college. The current system could be upgraded to the computerized system by implementing a web-based system and using mobile networking, with integration of SMS, College Activity e-Book System and Residency Notification (CABS-RN).

This system is aimed to overcome issues existed in the current system such as delay in retrieving and receiving college book activity which resulted in delaying the students residential placement process. Other than that, human errors could contribute to the problem where the book being misplaced or error in calculating students merit points. The implementation CABS-RN system could enhance the current practice by automatically records all activities that students have participated throughout the semester and it keep them updated with their merit points by making the information available and visible to them. The students will be notified on their residency status for the upcoming semester through the web and SMS.

As a result, by integrating the online college book system and the SMS notification, the college administration can work more efficiently in their database performance and information exchange and communicates them better with the students in the future.

The scope of this project will involve users among students who are offered to stay at university's college in UNIMAS and college administration staff. The target user of this project is focused on Kolej Tun Ahmad Zaidi students and its administration staff.

The paper is organised as follows. Section 1 introduces the web-based system and SMS technology usage for university's college in UNIMAS, while Section 2 explains the methodology that been used and Section 3 briefly reviews on