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ODL in a Changing World

Abstract

With the rise of social networking portals such as facebook, twitter and myspace, the masses congregate and exchange ideas, ideologies and knowledge more liberally and more frequently. As an increasing number of learners as well as educators turn to social networking for education, Open Distance Learning (ODL) also needs to evolve to ride the wave in this fast paced flow of information.

Many ODL as well as conventional institutions rely on Learning Management Systems (LMS) such as moodle to facilitate teaching and learning in cyberspace. The success of these LMS are largely dependent on the learners and educators proactively pulling information from them which requires them to access these systems consistently on a regular basis. This has been found to be challenging as the frequency of the users accessing these systems consistently is not vey high. However the frequency of users accessing social networking portals such as facebook has rapidly increased over past few years.

"*faboodle*" or facebook for moodle is a facebook application which enables educators and learners to keep track of their courses and interact on moodle forums from within facebook. The application, built using FBML, ASP.NET and VB.NET utilising the moodle architecture, serves as a gateway between moodle based LMS and facebook where users can (i) securely login to their LMS from within facebook, (ii) check for updates in their courses and (iii) participate in the moodle forums.

This paper describes the rationale, development process and the workings of faboodle. It also discusses the implications of implementing the system in a real world environment.

Keywords: *Social Networking, Open Distance Learning, ODL, facebook, moodle, Learning Management Systems, LMS, facebook applications*

1.   Introduction

Being an Open Distance Learning (ODL) institution, Wawasan Open University (WOU) employs a blended approach for delivering courses to its undergraduate and postgraduate students who are entirely adult learners. In this approach, the use of a Learning Management System (LMS) is absolutely crucial for student support as well as the enhancement of the whole learning experience to compensate for the lack of face-to-face interaction between the students and the academics. *WawasanLearn*, the Open Source moodle based LMS used by WOU, is a comprehensive online tool which enables students and academics to effectively interact in a virtual environment. However, the analysis of data from several semesters shows that the rate of student interaction is low on *WawasanLearn* with respect to sharing of knowledge inside the forums (Teoh et al., 2010).

Looking at other ODL institutions around the world, it becomes apparent that many of these institutions are heavily dependent on online student support systems for the effective delivery of course modules (Macintyre & Macdonald 2011) and that the lack of participation and interaction in online LMS is not a problem isolated to WOU. According to Mason and Weller (2000) more established distance learning institutions such as the Open University of UK too face low numbers when it comes to participation. In order to identify the factors contributing to the rate of participation of students on *WawasanLearn*, a survey was conducted among the undergraduate students studying in various disciplines including science and technology, business administration, liberal studies, education, languages and communication. Feedback regarding what features would increase the rate of participation on *WawasanLearn* was gathered from close to five hundred and fifty students distributed throughout Malaysia. Additionally, this feedback provided insights into why students are drawn to participate more frequently in social networking forums such as facebook (www.facebook.com).

The findings from the survey indicated that 83% of the students are subscribers of facebook and 70% of them login to facebook more than three days a week. As a result of the findings, a pilot project was implemented in the School of Science and Technology to study the use of facebook for supplementing *WawasanLearn*. Facebook groups were adopted as the method of supplementing the LMS as the literature discusses in detail how they facilitate peer interaction (McCarthy, 2009) and promotes emotional connections between classmates (Baird & Fisher, 2006).

Even though many modern institutions are now exploring the possibilities which are made available with Web 2.0 with respect to teaching and learning (Al-Zoube, 2009) and many institutions exploring the use of social networking platforms such as facebook, there is very little research and development conducted with respect to merging conventional LMS such as moodle with Web 2.0 technologies. This has left a gap in the body of knowledge with respect to how more mainstream LMS can be integrated with platforms such as facebook to effectively facilitate teaching and learning especially in an ODL environment.

2.   Development of faboodle (facebook for moodle)

The analysis of the student survey conducted among the undergraduate students at WOU identified four key features which would improve the rate of participation on *WawasanLearn*. After exploring the possibility and implications of implementing these features in the moodle version 1.8 based *WawasanLearn*, it was apparent that it would be more effective to utilise an external system which would facilitate these features as a supplement to *WawasanLearn*. Due to the high rate of student subscription, facebook was found to be the ideal platform for supplementing *WawasanLearn* with respect to the implementation of these four key features as indicated in Table 1.1.

	Key features which would increase the rate of participation on *WawasanLearn*	The features available on facebook
01	A better user interface	☐ User friendly interface which is easy to navigate ☐ The ability to view the profiles of friends and colleagues ☐ The ability to follow the progress of friends and colleagues with respect to research and work
02	More quality discussions	☐ The ability to share images, links, videos easily and the ability to receive comments on them ☐ The ability to interact with friends, colleagues and family in a virtual space ☐ The ease of organising events and inviting friends and colleagues to participate
03	Faster response time	☐ Instant updates via e-mails and SMS with respect to related activities ☐ The ability to send out messages to an individual or a group from within facebook ☐ The ability to see who is online and instantly chat with them
04	A proactive approach to discussions which would e-mail/SMS you as soon as a new post takes place	

Table 1.1: Mapping of the required features of *WawasanLearn* to the features available on facebook

As the pilot study, facebook study groups were created for seven information technology related course modules and were run in parallel to *WawasanLearn* for a duration of two semesters. The students, tutors and academics were encouraged to join the facebook groups and interact within these groups in addition to interacting on *WawasanLearn*. This method was soon identified to be inefficient as it required the duplication of discussions to ensure that all the key stakeholders were involved. As a

result, a more structured approach was taken by directing students to *WawasanLearn* using the facebook study groups. This method was found to be more effective as the duplication of work was reduced and the student login rate onto to *WawasanLearn* was improved. It also addressed the potential legal issues which could arise from using a platform which was not officially endorsed by the University.

According to the follow-up survey conducted among the participants of the pilot study, students preferred to discuss course related matters in the facebook study groups rather than on *WawasanLearn*. The problem however was that the students needed to constantly switch between facebook and *WawasanLearn* to ensure that they are up-to-date on the latest information regarding their course modules. This gave rise to the necessity of a technological solution which will allow students to use both platforms simultaneously.

faboodle was developed as a possible bridge between *WawasanLearn* and facebook to ensure that the students had access to the information available on the LMS from within facebook. This facebook application enables students to login to *WawasanLearn* and check the latest postings inside the forums and continue the course related discussions in the facebook groups without the need to login to *WawasanLearn*.

3.   *faboodle* Technology and Architecture

faboodle was designed as an independent web based ASP.NET application which resides in a Microsoft Internet Information Service (IIS) enabled web server. This independence allows faboodle to be accessed and used through platforms other than facebook, such as Wordpress and Joomla!, allowing it to be implemented in a wide range of scenarios including mobile device applications. The algorithms which process the information received from the moodle LMS are written in VB.NET.

The faboodle facebook application accesses the faboodle web application using Facebook Markup Language (FBML) which ensures secure access. Facebook users can install the faboodle facebook application in their profiles to directly access the moodle based *WawasanLearn* system from within the profile. The users will have to authenticate themselves with *WawasanLearn* by providing their username and password just as they would when login into the LMS directly. Once the authentication is complete the users will be able to request information form *WawasanLearn* through faboodle in a secure manner.

faboodle is completely disconnected from the *WawasanLearn* business classes, web services and MySQL database. Instead, it uses HTTP requests and responses to query information directly from the LMS interface. As shown in Figure 1.1, the system sends requests to the LMS using HTTP and gets a HTML page returned by *moodle* as a response. The information processing algorithms of faboodle then extracts the required information from the HTML page and passes it onto the faboodle facebook app. The security and integrity of the information is constantly maintained using a custom hybrid version of the moodle session management mechanism.
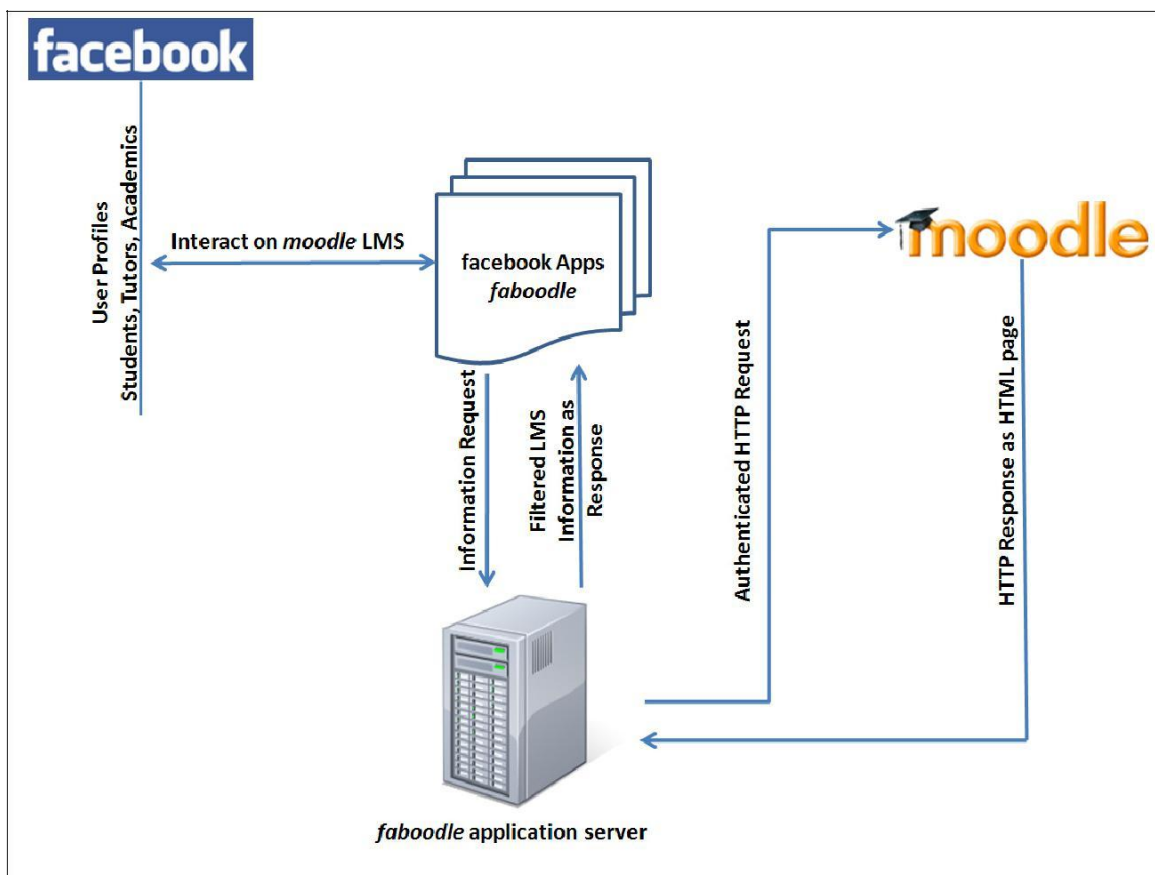
Figure 1.1: faboodle system architecture

4.   Features of *faboodle*

The key features of faboodle can be summarised as shown in Table 1.2.

	Feature	Description
01	**Course list**	Provides a dynamic and easily navigable list of course modules the user is enrolled in.
02	**Forum list**	Dynamically generates a list of the forums available to a user under a given course.
03	**Discussion threads**	Provides a real-time breakdown of the discussions taking place in a particular forum. It also indicates the number of "unread" threads. The user has the ability to view the complete discussion under each discussion thread.
04	**Mark read**	The user is able to mark individual threads as "read".
05	**Secure access**	Provides secure access to moodle based LMS via *facebook*.
06	**moodle authentication**	Uses the same authentication process of the moodle based LMS.

07	**moodle session and user privilege management**	Harnesses the moodle session management mechanism to protect the integrity of the information.
08	**Information on demand**	The user is in charge of what information needs to be requested from the LMS. This reduces the bandwidth required to retrieve the information.

Table 1.2: Key features of faboodle

The user interface of faboodle, shown in Figure 1.2, is designed to be a basic HTML based interface. It is purposely kept to a minimum to enhance the efficiency, reduce loading times and to facilitate the use of faboodle through mobile devices.
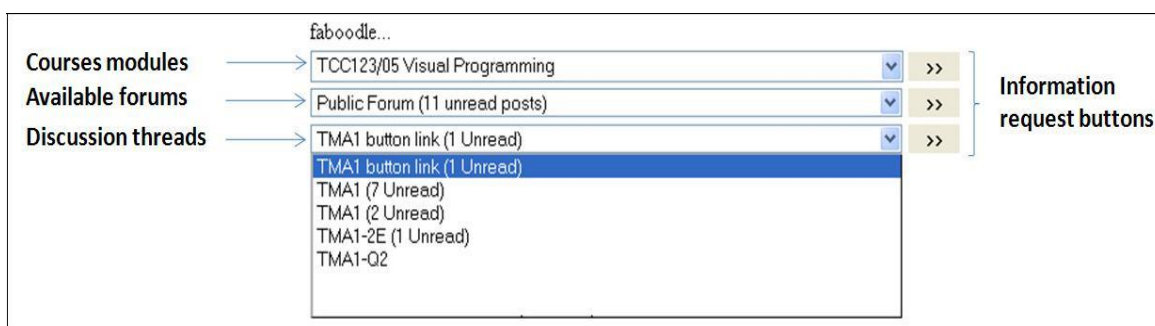

Figure 1.2: Interface of the faboodle prototype

5.   Advantages and limitations of faboodle

The defining feature of faboodle is its independence of the moodle backend. i.e. faboodle does not need to have access to the backend database or business classes of moodle in order to authenticate users or extract information. The rationale for using this architecture is to grant faboodle the ability to access and use any moodle based LMS without any integration or technical support from the moodle administrators. Thus, faboodle becomes a powerful teaching and learning tool which can be used by any individual who has access to facebook. This provides academics as well as students the ability to easily monitor their moodle based LMS via facebook.

To the end users in WOU, the key advantages of using faboodle for interacting on *WawasanLearn* include:

- ☐ Easy access to the LMS from within the facebook profile;
- ☐ The ability to engage in related academic discussions more often;
- ☐ The ability to continue discussions which were initiated on the LMS inside the facebook study groups;
- ☐ The flexibility of checking updates on the LMS on the go using mobile devices;
- ☐ The convenience of using a single platform for all teaching and learning needs with respect to support.

faboodle version 1.1 is currently in the prototype alpha testing stage. One of the main limitations of the current version is its inability to provide users with access to files such as images, documents as presentations which are uploaded onto the moodle forums as part of a discussion. As a result, the users are forced to login to the LMS directly to view the attachments. Alternatively, the attachments need to be placed inside the facebook group pages which lead to duplication.

6.   Implementation

The faboodle facebook application will be made available to WOU users in the first semester of 2012. As the use of facebook study groups as supplements to *WawasanLearn* is becoming more mainstream at WOU, students and academics will be introduced to the use of faboodle through the facebook study groups. The key stakeholders will also be briefed on the limitations of using the facebook app and will be trained on how to facilitate discussions on the LMS which are faboodle friendly.

7.   Conclusion

A web application named "faboodle" or facebook for moodle was developed to act as the bridge between moodle based Learning Management Systems (LMS) and the popular social networking platform facebook. The necessity for this application arose from the pilot project conducted in the School of Science and Technology at Wawasan Open University which explored the use of facebook study groups as supplements for *WawasanLearn* which is the moodle version 1.8 based LMS of the University. The follow-up survey of this pilot project indicated that the students preferred to use the facebook study group for discussing course related matters. However the students found it inconvenient to switch between the two platforms to keep up-to-date on the latest information regarding their course modules. faboodle provides a solution to this problem by ensuring that the students are kept aware of the activities of *WawasanLearn*, which is the official LMS of the University, through facebook.

faboodle is designed as an independent web based application which is capable of interacting with any moodle based LMS without any integration or technical support from the moodle administrators. The application, built using FBML, ASP.NET and VB.NET, uses HTTP requests to extract information from the LMS whilst maintaining the integrity and privacy of the information using a hybrid version of the moodle session management mechanism.

The next move for faboodle is to allow users to access files which have been uploaded as attachments in forum postings.

References

Baird, D.E. & Fisher, M. (2006). Neomillennial user experience design strategies utilizing social networking media to support "Always On" learning styles. *J. Educational Technology Systems, 34(1), 5-32*

Macintyre, R & Macdonald, J. (2011). Remote from What? Perspectives of Distance Learning Students in Remote Rural Areas of Scotland. *International Review of Research in Open and Distance Learning, 12(4)*

Mason, R. & Weller, M. (2000). Factors Affecting Students' Satisfaction on a Web Course. *Australian Journal of Educational Technology, 16(2), 173-200*

McCarthy, J. (2009). Utilising Facebook: immersing Generation-Y students into first year university. *The Journal of the Education Research Group of Adelaide*, 1(2)

Al-Zoube, M. (2009). E-Learning on the Cloud. *International Arab Journal of e-Technology, 1(2), 58*

Teoh, A.P., Aw,Y.C. & Manoharan, K. (2010). Students Interaction in the Online Learning Management Systems: A Comparative Study of Undergraduate and Postgraduate Courses. *Proceedings of the 24th Asian Association of Open Universities Annual Conference, Vietnam*