A Preliminary Study of Electronic Publishing in the University of Malaya

Norjihan Abdul Ghani
Information Science Department,
Faculty of Computer Science & Information Technology
University of Malaya, 50603 Kuala Lumpur Malaysia
Tel : 603-7967 6351
E-mail : norjihan@um.edu.my

Suriawati Suparjoh
Information System Department
Faculty of Information Technology & Multimedia
University of Tun Hussein Onn
Beg Berkunci 101, 86400 Parit Raja,
Batu Pahat, Johor, Malaysia
Tel : 607-453 8114
E-mail : suriati@kuittho.edu.my

Fariza Hanum Md Nasaruddin
Information Science Department,
Faculty of Computer Science & Information Technology
University of Malaya, 50603 Kuala Lumpur Malaysia
Tel : 603-7967 6342
E-mail : fariza@um.edu.my

ABSTRACT

Academic communication has changed over the past decade, with the arrival of the Internet; authors and researchers now communicate nearly at the speed of thought. Printed version of publishing or also known as conventional publishing remains a very slow process with a great deal of time dedicated to copyright transfers, layout, typesetting, and printing. There is a fundamental change in the world of scholarly publishing represented by a shift away from the medium of print. Information technologies have facilitated the publication of scholarship on the Web. Electronic publishing is certainly improving scholarly communication. Electronic Publishing in the University of Malaya or E-PUM will be developed in order to take granted of advantageous of electronic publishing. By using E-PUM, all the parties involved in this communication such as readers, authors, editors and reviewers can take a granted from this electronic publishing.

Key Words : Electronic publishing, E-PUM, publishing

1. Introduction

The advent of Internet technology had brought a very deep impact on overall main activities all over the world. Internet as the result of global computer network has created a complex communication system that has significantly changed the way we exchange information. One of the activities which had been influenced by the existence of internet is formal scholarly publication activities or known as scholarly communication. Electronic publishing can be viewed as the new opportunities among the scholars to distribute and share knowledge effectively. The electronic medium creates value for research, education and publication in a number of ways. Scholarly works such as research, book writing, article, journal or any academic papers can be disseminated, collected and archived easily. Publishers, librarians, university press, technologists and other authorities directly and indirectly can obtain some advantages on it. Therefore, Electronic Publishing in the University of Malaya is a website project which will be developed by implementing the concept of electronic publishing to encourage and promotes scholarly communication activities in University of Malaya to public.

Electronic Publishing in the University of Malaya or E-PUM consists of three main functions which enable subscription of any University of Malaya's scholarly publications, the one to enable the University of Malaya's scholars to submit their related works (paper, journals, research findings, and etc.) and a function to support peer-review process or academic discussion towards the published documents.

2 Problem Statement

Academicians and scholars are always pushed and expected by their academic institution to work on research, papers, journal and other scholar activities for at least one publication per year. They have to disseminate the result of the research as broadly as possible because their reputation and career depend on the work widely known and credited. In traditional scholarly communication, their ideas and findings are usually published through journal, conference papers, articles or academic book. Others can access and review the scholars work by borrowing the journal from the library which are limited to certain condition or register for conference. As for the scholars themselves, it is hardly difficult to acknowledge, expose and disseminate their findings to public and other authorities unless they involved in the journal writing organized by the university press or individually seek for conference held by other institutions. There is no such an appropriate medium to acknowledge public their works and combine all the scholarly works in an easily and accessible platform. For them to create and maintain their individual website requires a lot of time and expertise in website and content management. The existing electronic publishing such as Electronic Journal of University Malaya (EJUM) has its limitation for users to achieve and access as it use close system concept where users have to pay for each journals they are willing to subscribe.

3 Why Electronic Publishing?

Academic communication has changed over the past decade, with the arrival of the Internet; authors and researchers now

communicate nearly at the speed of thought. According to Al-Hawamdeh & Hart (2002), electronic publishing can be defined as document which is distributed primarily through media (CD-ROM, diskette or networked publishing) or refer to the publication of e-books, electronic articles and the development of digital libraries. These include articles posted to discussion group on the net or disseminate via electronic mail, journal, conference papers, research findings, monograph, academic books and etc.

Nowadays, the development of electronic publishing is become as an alternative to the conventional publishing system. Those involved in developments in e-publishing commonly use terms such as (Bell, 2002):

- "free online scholarship" and
- "open access to research information".

Electronic publishing is more than online journal management system but it's also focusing in other aspects such as, printing, storing and editing. The evolution of scholarly communication towards an electronic format is driven by two main factors (Bell, 2002):

i. potential cost savings, and
ii. attractive new features

This evolution is also inhibited by the huge inertia of the academic system. As a result, movement is slow, and we are likely to reach a stable state for many years. (Odlyzko, 1999)

4 Electronic Publishing vs Conventional Publishing

4.1 Conventional publishing

A very substantial industry emerged from the innovations of Gutenberg and Caxton. It evidences many of the hallmarks of the industrial age, such as specialization of labor and enterprise, and economies of scale. It has naturally resisted, and then sought to accommodate, the various forms of information technology.

Figure 4.1 strips it to its bare essentials, and presents it in a form that enables subsequent phases to be distinguished.

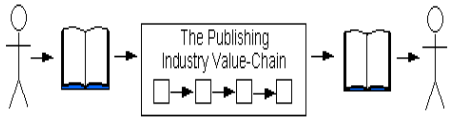

Figure 4.1: Conventional publishing, 1450–1995

4.2 Electronic Publishing

Desk-top publishing essentially electronic aspects of the production process for conventionally printed materials — see Figure 4.2. During the early to mid-1990s, it became increasingly feasible to publish materials using media. CD-ROMs were an early mover, but various forms of Internet-reticulated soft-copy emerged, and the explosion of the World Wide Web, commencing in 1993, quickly settled the argument about the medium of choice

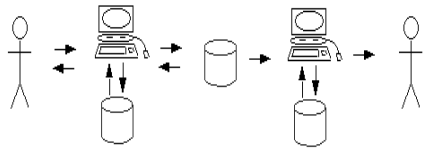

Figure 4.2 : Electronic Publishing, 1990 – 20..

5 Objectives

The key main objectives for the development of Electronic Publishing for University of Malaya (EPUM) are:

i. Promotes scholarly communication using new media technologies

The idea of developing Electronic Publishing for University of Malaya is to support and promotes academic publications which can be access openly within the community. The use of electronic publishing allows for virtually instantaneous feedback and commentary from readers. Thus, it can be used as a measurement platform for the scholar works to be reviewed and credited by the target audiences. The above objective can be achieved through the development of E-PUM where users can share and achieve the academics publication online at any time and anywhere they are connected to the network.

ii. Develop high quality online publication tailored to discipline-specific content needs

Issue regarding on online publication enterprises is currently concerned with the qualities of the digital contents from the aspect of format quality, presentation quality and content quality. Control for the quality of the scholarly publication being published online is also taken into consideration. It should involve the responsibilities of publishers, scholars and technologies as the authors, the librarians and the webmaster to ensure the online publications meet the high standard of academic and scientific community. Peer-reviewed enabling system could also afford in assessing the relevance of the online publication. This would be achieved by designing a web page that contains a function that can validate and determine the original submission.

iii. Create partnership among academicians, technologist, publishers and University of Malaya's library to create digital resources

Collaboration effort between authorities involved in the online publication is essential in creating and contributing resources for the digital content.

Every party could acquire good advantage through the partnership. Scholar and technologist provide scholarly publication as content resources to the electronic publishing while publishers manipulate their knowledge on publishing to monitor the quality of the digital content and also contribute actively in giving information of current and latest publication materials. Librarians can play their vital part in online publication by consolidating and providing information and access to scholarly publications. The above objective can be achieved through E-PUM where the web site would enable any University of Malaya's staff to submit and publish their publication through the use of matrix card's identification function.

6 Preliminary Investigation and Analysis Outcome for E-PUM

System analysis involves investigating the requirements for system development. It is an essential step in any system development which provides

references and sources for system's structure. We have reviewed several current Website which practicing online publishing concepts. The systems were reviewed to identify the different features and functionalities to be implemented in this study which fulfilled the online scholarly publishing system requirements. Several features which are identified from the selected existing systems which will be the basis for EPUM system development with amendment are summarized in the following table (Table 4.1)

Table 4.1
Features/function included in main front of EPUM System

Features/function	Description
Login and Registration	Login functions as the boundary of access level between registered user and unregistered user. Registered users would have the authority to access certain functions provided in EPUM system. To enable users to login, registration functions as the interface for system to collect user's detail such as username, password and email.
Search and Browse Mechanism	Search function provides readers with the ability to find articles based on author, title and keyword. Browse function enables user to find articles based on journal published by several faculties in University of Malaya.
Forum or discussion board	Forum is part of EPUM system which performed as the discussion board for users to discuss or share ideas, information and knowledge of their expertise based on the topic highlighted. Users could post and reply to every topics issued in the forum.
Submission	Article can be submitted by registered users (or author) based on certain rules and regulation to be published in the related journal through online submission. Authors need to upload file of articles through online submission form. Editors would check the submission and send the application to reviewers to review the article before it is accepted to be published in EPUM system.

6.1 Functional Requirement for E-PUM

Functional requirement describe what a system does or referred as its functionality (Bennet et.al, 2002). This step involves with establishing what the system must do and define its capabilities.

Based on the literature reviews discussed in previous chapter, a set of functional requirements for EPUM Web-based system has been established. To achieve the objectives for developing EPUM Web-based system, four main modules must to be developed and integrated. The modules are consisting reader module, author module, editor module and reviewer module. In addition, several sub module or functions also have to be integrated with each main modules mentioned above. The functional requirements for EPUM Web-based system are described clearly by modules such as reader, author, reviewer and editor modules.

6.1.1 Reader Module

The Reader module must be displayed as the front page or main page of EPUM Web-based system. It shall be accessed anywhere at any time by any users. Through this module, users shall be allowed to access certain functions provided in the system such as search and browse article by journals, view journal articles, join forum discussion and etc. Users shall register and login to the system first to access advance features and function provided in the system. Functions of this module are including:

- Registration
- Login
- Search and browse
- Forum
- Submission

6.1.2 Author Module

EPUM Web-based system must have Author module as an intermediary interface for authors to manage their articles submission to the system. Each registered authors shall have a personalized author's site which assist to track their articles submission progress from review process till publication process. This module must have:

- online form which enable authors to send their articles information and upload the articles' document in PDF or word document format file.
- progress report function which will display acknowledgement or letter of response from editorial board regarding on the submission and publication status.
- detail instructions which shall guide authors step by step of submission process.
- acknowledgement mechanism which will acknowledge authors about their article's submission status within 24 hours of submission.
- enabled function to respond to the editorial's progress report.
- additional function for authors to edit or update their personal details.

6.1.3 Reviewer Module

EPUM Web-based system must provide Reviewer module for reviewer to handle the peer review process for the submitted articles assigned by editorial board. This module shall assist reviewers in the following aspects:

- Showing list of newest submitted articles to be reviewed based on double blinded peer review.

Authors of the articles shall not be revealed to the assigned reviewers.

- Provide acceptance function which allows reviewers making their own decision whether to accept or to reject the editorial request to review articles or paper.
- Have online review report form for reviewers to evaluate the articles being reviewed. The report form must include standard evaluation criteria for peer review and enable reviewers to evaluate articles based on Likert Scale method which is using 1 to 5 rating scale values. The report form must also provided reviewers with option to determine recommendation for the articles status. Option for the recommendation shall consist of publication without revision, publication with major revision, publication with minor revision or rejected. The report form must also required reviewers to enter their reviewer code which is received once they registered as reviewer for EPUM. The reviewer code is to authenticate whether the review was made by the right reviewers.

6.1.4 Editor Module

EPUM Web-based system must have Editor module to assist the process of managing article's publication. It begins from its submission until the articles have fulfilled the criteria and requirements to be published in the journal publication handled by EPUM Web-based system. Through this module, editors must check newest article submission and assigned it to specific reviewers which have expertise in the related field. The system must help to acknowledge the editors to assigned three reviewers for each article which is to be reviewed. Several considerations for functions which must be included in Editor module are as follows:

- Function which displays list of new article submission and marks the newest one based on submission date.
- Function which demonstrates queued of articles which are in review process and reviewed articles.
- Pre-checking checklist function for newest article submission which must be selected by editors to check whether the article has fulfilled particular publication requirements.
- Functions which is to assigning articles to reviewers and rejecting articles from being published in EPUM Web-based system.
- Function to select reviewers for an article based on their expertise and relevance of knowledge with article's content.
- Function to manage list of authors, editor and reviewers registered with EPUM Web-based system. These are including view, add and delete record of users to and from system database.
- Function for editors to send feedback messages to authors about the article submission status after reviewed process.

Each module might have similar functions as they might relay with each other. Author module, reviewer module and editor module must function as reliable modules in the part of peer review management system for EPUM Web-based system.

7 Conclusion

Electronic publishing is a frontier looked upon with great peculiarity in academic circles in Malaysia. The current stage of analysis will help the development of good E-PUM. In every system development, it's important to fulfill the analysis of the system before start to design and develop it. In the future years, by the good analysis perhaps E-PUM will help all the academician from University of Malaya to share their knowledge and expertise among them. The greatest challenge of E-PUM faces is acceptance among academician. All the University of Malaya's academician need to contribute to digital publications and realize the value of this medium for scholarly communication. A large number of academicians are petrified by the magnanimity of the Internet and what it bears.

References

[1] Al-Hawamdeh, S., & Hart, T.L. (2002). Information and Knowledge Society. Singapore: McGraw Hill.

[2] Bailey, Charles W., Jr. (1994). *Scholarly Electronic Publishing on the Internet, the NREN, and the NII: Charting Possible Futures*. Serials Review 20, no. 3, p. 7-16.

[3] Baldwin, C. (1999). *Electronic Journal Publishing: Meeting User Need*. 64th IFLA General Conference.

[4] Bell, A. *Electronic publishing: issues and trends.* Report on USTLG meeting John Rylands Library, University of Manchester, 28th November 2002.

[5] Bennet, S., McRob, S. and Farmer, R. (2002). *Object-Oriented Systems Analysis and Design Using UML*. Second Edition. McGraw Hill.

[6] Herring, S.D. (2002).*Use of Electronic Resources in Scholarly Electronic Journals: A Citation Analysis*. College and Research Library, p.334 – 340.

[7] Hitchcock, S. *Perspective in Electronic Publishing*.

[8] Odlyzko, A. M. *The evolution of electronic scholarly communication*, pp. 3-4 in *Science Editing and Information Management (Proc. Second Intern. AESE/CBE/EASE Joint Meeting, Sixth Intern. Conf. Geoscience Information, and Thirty-second Annual Meeting of Assoc. Earth Science Editors)*, C. J. Manson, ed., Geoscience Information Society, 1999.

[9] Odlyzko, A. M. On the road to electronic publishing, Euromath Bulletin, vol. 2, no. 1 (June 1996), pp. 49-60. Available at <http://www.research.att.com/~amo>.

[10] Open eBook Forum (2000). *A Framework for the Publishing Ecology*. Public Comment Draft, vol. 0.78.

[11] Ramzi, N. & Kamal, A. *Problems and the Epistemology of Electronic Publishing in the Arab World: The Case of Lebanon.* First Monday, volume 6, number 9 (September 2001).

[12] Zhao, J.L. and Resh, V.H. (2001). *Internet Publishing and Transformation of Knowledge Processes.* Communication of the ACM, vol. 44, no. 12, p. 103 -109.