

A FRAMEWORK FOR JOMS: A PROPOSAL

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Abstract: Lately, there has been increasing number of research and development (R&D) on innovative and interactive web-based application using the latest software technology in various fields. Web-based management system is one of the promising fields for exploration. This paper discussed a framework for Journal Online Management System (JOMS). JOMS is a web-based management system for journal publishing that will support several activities such as paper submission, reviewers' assignment, content listing and journal subscription. The existing practice for journal publishing was conducted manually. Hence, some problems has arise such as slow and time consuming, outdated information, promotional process is limited and lack of interaction. After completed, JOMS will benefits many parties including publication committee/editors, authors, reviewers/technical committee/evaluators, and subscribers.

Keywords: Journal Online Management System, Web-based Management System, Web-based Application

1.0 INTRODUCTION

The technology of the World Wide Web (WWW) is evolving rapidly and unpredictably. As the WWW becomes the most popular medium for communication, variety of web-based application research and development has also rapidly increasing. Gal *et al.* (1999) and Gal & Mylopoulos (2001) for example discussed the potential of web-based technology and its importance toward application development and services via web.

With dramatic and rapid growth of developments in the Internet and web-based technologies, online management system is one of a web-based application could help organizations in enhancing their productivity, encouraging greater customer participation, and enabling mass customization, besides reducing costs (Andam, 2003). Recently, journal publishing process has gained attention (Yoag, 2004). According to Roberts (1999) with growing specialization and continuing pressure to publish, academics have been producing ever-greater numbers of articles every decade. Most of authors want the submitted articles are published in tiny time in order to ensure their articles widely accessed around the globe. Roberts (1999) again, stated that journal publishing is really time-consuming.

Another issue is handling and reviewing process (Syamsul Bahrin *et. al.*, 2003). Selecting the best articles from hundreds of submitted articles is really time consuming and difficult task. Thus, the journal management system is potentially to be integrated with the web application. With the need of faster publishing process

and complexity of management process, an online management system for journal is proposed.

The system is an interactive web-based application to support all management activities, which typically have to be performed by editorial board in managing, retrieving and analyzing journal processing information and other decision related information. The system gives a significant decrease of the workload of the editorial board and the ease of communication between authors, editorial board and reviewer instantly in online system. There are many advantages of online management system for journal especially for the authors, editorial board, reviewers and readers as well.

2.0 LITERATURE REVIEW

Journal has become a major independent voice in the worldwide scholarly debates about new knowledge and technology. Its purpose is to stimulate and disseminate theory-aware research and scholarship in various fields throughout the international academic community. The main functions of scholarly journals are dissemination of information, assurance of quality standard, preservation of the archive, and recognition of authors (Rowland, 1997 cited Stemmer, 2000).

Open Journal System (OJS) for example is a free web-based journal management system with publication process support which is developed by Public Knowledge Project (2004). OJS assists with every stage of the refereed publishing process, from submissions through to online publication and indexing. OJS has features such as online submission, online reviews, online management of publishing, comprehensive indexing of published articles, research support tool for each article published; and email notification and commentary for reader. In addition, Nierstrasz (2000) introduced the notion of "championing" for papers submitted to the program committee in order to reduce time and effort. It should be introduced early in the review process of the paper. The approach is using a small pattern language that captures successful practice in several review process.

There are other similar systems that facilitate management in online version. CyberChair is also a free web-based paper submission and reviewing system with PC meeting and proceedings preparation support (Stadt, 1997 cited Wan Hussain et. al, 2003). It was originally developed in 1996 for the European Conference on Object-Oriented Programming (ECOOP). The system was then renewed and improved with more features such as electronic review forms and uploading papers. The approach not only saves time but also cuts the operation cost.

WintanWeb also provides almost the same facilities as CyberChair (Johnson & MacKay, 2000). WintanWeb was developed to meet a recurring need, which is to facilitate the communication associated with the paper submission and review process for the conference. It supports interaction between conference secretariats, contributors and reviewers. It was originally set up in 1997 and evolved a great deal in supporting the requirements of several conferences such as CASCON'97, WWW8 and ICSE 2001. MCP or *Managing Conference Proceedings* is a tool to help conference secretariats prepare and manage their conference proceedings (Fellner &

Zens, 2001). The implementation of MCP can minimize the secretariat time and reduce the process of preparing electronic conference materials.

3.0 JOURNAL PUBLICATION PROCESS

In this paper we present the overview of the journal publication process, which is currently being developed at the Faculty of Information Technology, UUM. This web-based management system involved varies parties and process, that is more efficient compared to manual approach. There are two types of activities involves in journal publication, the manually approach and web based. Figure 1 shown here is the manual workflow of journal publication. The authors submit the article to the editor through the e-mail or by posting. The process will go through the evaluation by the editor and reviewer. Only the acceptable article will be format and edit before the publication process are take place. At last, the promotion activities involved to readers and library.

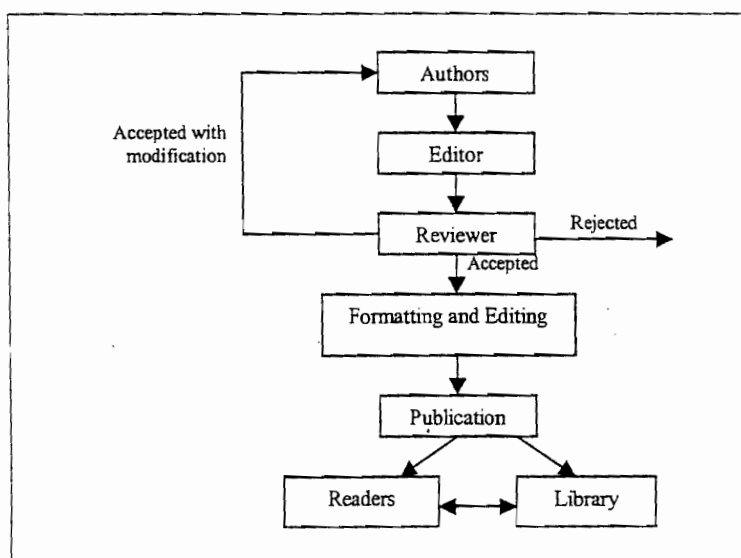


Figure 1: The manual workflow of journal publication

Hence, Figure 2 represent the workflow of JICT publication activities. JICT publication process are more complex and involved varies activities via web technologies. Beginning with the submission of the articles by the authors to chief editor, the filtering process will take place. As a result, either the article will accepted with modification or rejected. Editorial board will assemble the recommended article by chief editor to the reviewer for the second selection process. Reviewer will give the commend for accepted article and do listing for rejected article, back to editorial board. Next step, the editorial board will informed the authors about the status of the article. The authors will do some modification and return back to editorial board with completed articles as a camera ready. Editorial board will assigned the complete articles to printing group through the desktop publishing for editing purposes. The journals as printed version will send back to desktop publishing for quality checking before submit to promotion group. Some activities involved in promotion group are

selling the journal to the readers and also provided a complimentary copies of journal to each authors with the reprint copies.

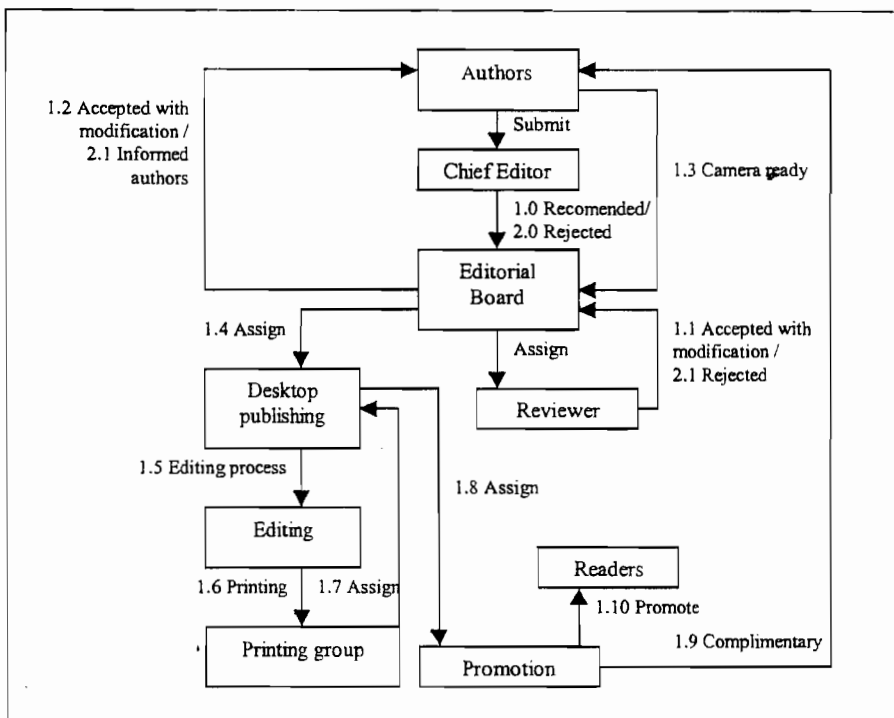


Figure 2: The workflow of JICT publication activities

4.0 JOMS FRAMEWORK

JOMS (Journal Online Management System) is one of the initiatives to support the Faculty of Information Technology journal publications activities. JOMS is an online system, which support the current journal publishing processes. JOMS is not an E-Journal, but rather act as a management tool to manage journal publishing. Hence, E-Journal can be one of the outputs produced by JOMS.

Currently, the faculty journal, Journal of Information Communication Technology (JICT) published as a printed journal. The journal is peer-reviewed by experts from different regions. To date, most of the contributions to the journal come from local researchers. The faculty has taken all the effort to promote and invite foreign researchers to contribute their research report. However, the current manual practice of publishing process limits the promotion and participation from foreign researchers. Therefore, JOMS is design to replace most of the manual processes in JICT publishing. Figure 3 illustrated the interaction in JICT publishing through WWW. JOMS is proposed to facilitate with the following features:

- online submission and resubmission,
- online assignment to reviewers,
- online feedback,
- online status update,
- online order form,
- email confirmation, automatic reply or notification, and
- updated announcement through website with the list of current papers title.

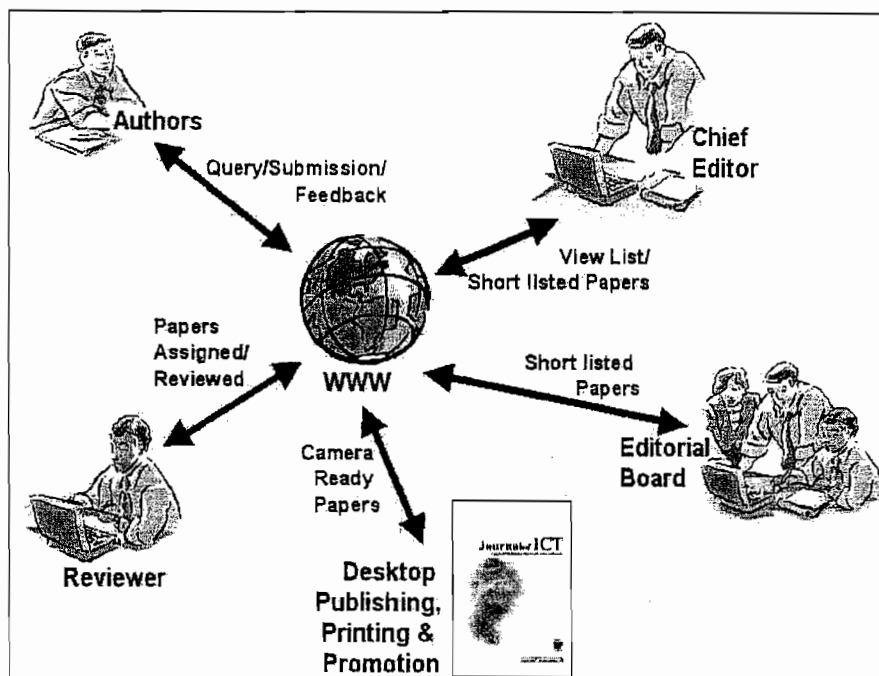


Figure 3: Authors, chief editor, editorial board, and reviewer interact through WWW

Online submission will enable contributors to submit their papers via JICT website. This facility is expected to reduce contributors' time and money and also reduce the cost for sending the papers especially the international contributors. In addition to the submission support, JOMS will also allow the resubmission as if the contributors did not satisfy with their first submission. In order to avoid confusing among contributors and editorial board, the resubmission facility will be blocked after the editorial board assigned the paper to the reviewers.

The assignment to the reviewers will be through online assignment. Technically, an account will be created under the reviewer ID. Through this account, reviewers may read the papers and submit the comments through online form. This online feedback facility will enable the editorial board to supply the quick feedback to the chief editor and the immediate decision could be made. The editorial board will update the paper status and published it on the website. In addition, notification email with the paper status will be sent to the correspondence author. The finalized accepted paper title and abstract will be made available on the website for promotional purposes. The interested reader may order the journal through online order form and the editorial board will arrange the postage.

5.0 DISCUSSION

JICT publishing as discussed in Section 3.0 is a complex step-by-step processes. In each steps the tasks were handled by a group of peoples who specialized in that task. The workflow and organization of the tasks are perform in traditional operation

mode. This approach required a lot of time and team members' effort. As illustrated in Figure 1, the traditional JICT publishing processes are too complex and time consuming. Even at the beginning of the processes, the contributed paper takes several days to reach the chief editor.

JOMS is one of the approaches being proposed to minimize the time and team members' effort when publishing JICT. JOMS utilized the internet facilities and the World Wide Web (WWW) browser for communication between contributors, editor, reviewers, and readers. As a management tool, JOMS provide support for chief editor and her team members. Communication in each steps is perform through online connection. Paper submission for example, can be handled through WWW and also the assignment to the reviewers. The authors may get the update on their paper status through JICT website (JOMS interface) and the email.

Updated information on JICT website will benefit many people especially the readers. The list of papers and abstracts can be made available for readers pre review before purchasing the printed journal version, which can be made through online order form. Other facilities such as email notification will keep contributor and chief editor updated on new submission. The complex workflow in JICT publishing will be hidden as most of the tasks are perform by the JOMS.

6.0 CONCLUSION

In this paper, Journal Online Management System (JOMS) has been discussed. With unlimited global access, opens up a new dimension in managing journal. The system has been designed with various dynamic features which is specifically facilitates Journal of ICT publishing management process. The features manage the process from receiving of article from author until the journal is ready to be promoted. Hopefully JOMS will be the most complete and efficient system for handling the journal publication process and reduces editorial board workload.

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