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DESIGN OF MARUNDA E-JOURNAL METEOR STIP USING THE OPEN JOURNAL SYSTEM IN SCHOOL OF HIGHER SCIENCE OF JAKARTA SHIPPING

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ABSTRACT

The management process of the Marunda STIP Meteor journal is still conducted conventionally. The process of publishing journals is done separately, takes a long time and makes it difficult in the coordination process. In addition, the article published by the Marunda STIP Meteor Journal cannot be accessed online. The e-journal application is an application that is able to accommodate the needs mentioned above. In this study about the design of the e-journal Meteor STIP Marunda using Open Journal Systems (OJS). The purpose of this study is the implementation of the Marunda STIP Meteor e-Journal using Open Journal Systems (OJS). The stages in this study refer to web development methods which include: (1) Analysis, (2) Design, (3) Generation, (4) Implementation. From the research results obtained management of Marunda STIP Meteor e-Journal by using the Open Journal System can serve every business process in publishing a journal starting from receipt of manuscripts from authors, manuscript distribution, manuscript editing, manuscript editing to journal publishing.

INTRODUCTION

One of the Tri Dharma of higher education is research and community service (Lee, Carucci Goss, & Beamish, 2007). In its implementation, research and community service conducted by lecturers are not only internal consumption of tertiary institutions but must be disseminated to the wider community through scientific publications. The scientific publication of a lecturer is the most important thing in a lecturer's performance besides teaching, researching and serving. Scientific publications are currently undergoing major changes, due to the transition from the print publishing format to the electronic format (Chassot et al., 2010). Scientific publications through electronic journals provide easy access for anyone, anytime and anywhere, more quickly and efficiently. In addition, the publishing process is faster, the costs of publishing and management are cheaper, distribution is faster, and journals are better known to the public. Electronic journals can also enhance the image, reputation, promotion, credibility, and appreciation of both the institution and the writer. The advantages of electronic journals compared to print journals include: found quickly through search engines, easy to link (linking) with other articles, supporting material can be added, and article users can be calculated easily (article impact).

At present, the scientific journal that has been published regularly at the Jakarta College of Shipping (STIP) is the Marunda Meteor STIP journal. This journal has become a media for publications for lecturers and teaching staff in the shipping field and has been registered with the Indonesian Institute of Sciences with ISSN number 1979-4746 since 2009. The Marunda Meteor STIP Journal is a print journal managed by involving bestari partners with several reviewers from universities high in Indonesia. But until now, the publication of the Marunda Meteor STIP journal has not been maximized. This is due to the lack of writing that goes to the Marunda STIP Meteor, the authors are mostly internal and the distribution is less extensive. Therefore, it is very important to improve the management of the journal so that it is more optimal.

The STIP Jakarta Research and Community Service Center (P3M) has been conducting research management until journal publications are still using the manual method that is still registering through registration forms, assessments, consulting with reviewers still using forms and publications are still using print media only. The disadvantage is that it is difficult for a lecturer to meet directly with reviewers to consult his research, the dissemination of the results of publications is still too narrow and a long time span. During this time the method used is very not save a lot of time and stages. With a computer-based information system, these problems can be overcome because starting from registration, assessment and research consultation to the publication of research results conducted online. So expect the performance of reviewers and

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researchers (lecturers) at STIP Jakarta to be effective and efficient as well as providing convenience and comfort of research. Now universities, study centers, or research institutes that want to publish scientific publications efficiently can use Open Journal Systems (OJS) as an alternative.

This study examines the design of the Marunda Meteor STIP e-journal system using the Open Journal Systems (OJS) Content Management System (CMS). The purpose of this research is to develop the Marunda STIP Meteor e-journal application using CMS. The aim of this research is to overcome the issue of journal publication in STIP Jakarta and accelerate the implementation of e-journals without doing in-depth coding. While the benefits of this research are the results of the study can be used to describe the management of the existing journal system at STIP Jakarta. Then, as a contribution of thought in developing web-based applications with the use of CMS and as a reference for further research.

LITERATURE REVIEW
The journal is a scientific publication that contains information about the results of activities in the field of science and technology. At a minimum the existing information must include a collection of new knowledge, empirical observations, or the development of ideas or proposals (Klabi, 2012). Thus, the journal is a representation of new knowledge about the development of science that is carried out empirically and usually is the latest idea. Journal media can use print or online, the characteristics of both are presented in the following table 1 (Shokri, Theodorakopoulos, Le Boudec, & Hubaux, 2011).

Table 1. Comparison of Print and Online Journals

No	Criteria	Electronic	Printed out
1	Update	Up to date	Up to date
2	Speed accepted	Hurry up	Slow
3	Storage	Save place	Take place
4	Utilization	24 hours	Limited opening hours
5	Access Opportunity	can be simultaneously	Queued up
6	Search	Easier	Must be made
7	Search time	Hurry up	Long
8	Security	Safer	Not safe
9	Manipulation of documents	Very easy	Difficult
10	If a subscription with the same funds	More titles	Fewer titles
11	The total price of the subscription	Much cheaper	More expensive

From Table 1 it can be seen that electronic journals (e-journals) have many advantages compared to printed journals both from the aspects of up-to-date, storage, and utilization. With the advantages possessed by e-journals can make it easier for users to find information, especially in terms of online (electronic) journal search. But in addition, e-journals have a weakness in which to access the journal must be through the media, which is a computer which certainly requires electricity, so in the event of a power outage online journals cannot be accessed.

Open Journal Systems or OJS is a web-based content management system specifically created to handle the entire process of scientific publication management from the process of call for paper, peer review, to online publishing. OJS facilitates the roles of journal managers, administrators, contributors, editors, reviewers, writers, and readers. OJS as intended by its drafter is replacing or as an innovative journal management model from conventional or traditional to online journal models. OJS is made by the Public Knowledge Project from Simon Fraser University and licensed by the General Public License (GNU) (Hinman & Schahczenski, 2009). OJS can automate the process of sending articles, editing, reviewing and others related to journal management. The features of OJS (Chakiso, 2015) are as follows::
   a. OJS is installed and controlled locally.
   b. The editor can set the needs, parts, review process.
   c. Registration and management of all content online.

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d.   Subscription module with options for open access.
e.   Broad indexing of content.
f.   Available tools for reading content, based on the choice of title and author.
g.   Notification via email and comments feature for readers.
h.   Complete online help support.
i.   Payment module for journal fees (articles) received.

METHODOLOGY
The research method used was design. Research begins with existing problems, maps existing processes, looks for sources of problems, and finally designs and develops a system that can be used to reduce or eliminate existing problems.

To obtain an overview of the data needed in the development of the system used data collection methods as follows:

Primary Data
Primary data is data obtained by conducting direct research on the editor of the journal publishing STIP Marunda. The data collection technique used is the method of interviewing journal managers who are considered to be able to provide the information needed in this study.

Secondary Data
Secondary data were obtained by means of data collection is done by studying the theories that exist on the books of literature, reference, print media and electronic media as a support associated with these problems.

The Marunda Meteor STIP journal design design method used refers to the following stages (Grewal, Iyer, Kamakura, Mehrotra, & Sharma, 2016):

1) Stage 1 - Analysis. At this stage it relates to setting strategic goals for web development and analyzing how websites can achieve these strategic goals. This analysis is divided into 6 types, namely:
a.   Technology Analysis, identify all technological components and equipment needed to build and support this site.
b.   Information Analysis, identification of information needed by users, both static (web pages) or dynamic (based on requests to the database server).
c.   Skill Analysis, identify the various skills needed to complete a project.
d.   User Analysis, identify all users of the site in question. This is a much more complex process than with the development of traditional information systems as user reach, and the technology used by users, can vary greatly.
e.   Cost analysis, estimated costs for site development are calculated, or estimates of what can be achieved with a predetermined budget.
f.   Risk Analysis, an analysis of the main risks associated with developing this site.

2) Stage 2 - Design. The design of the system is based on the purpose documents generated from the first stage, including information design that illustrates the web structure, data structure and functions of each feature as well as graphic design which includes layout, colors, images and animations. At this stage also tested the design to find inconsistencies or errors that are not in accordance with the goals and objectives described in the first stage and to ascertain whether the system can produce the information needed by the user correctly.

3) Stage 3 - **Generation**. At this stage includes the construction of web sites based on design documents. All resources for site development, such as hardware and software will be selected during this step. A number of different applications and servers may need to be integrated, so technical specifications must be checked to ensure compatibility. The coding step looks at the generation of all software linked to the site and installs it on the relevant Web server. This might only involve posting the site to a Web server, but it could also involve more complicated tasks, such as database connections. Testing is one of the most complex and difficult fields of any web

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project. This is even more complex than traditional information systems, because Web applications are often developed for a large (often unknown) group of users in different technological environments. Websites must be tested against as many environments and combinations of these technologies as possible in order to maximize potential audiences.

4) **Stage 4- Implementation** The **implementation** phase is perhaps the simplest, but arguably one of the most important phases. To ensure visitors feel the benefits of the website, the presence of a site must be felt and its contents must be considered valuable. During this stage, the site must be listed in the major search engines, along with other promotion methods such as notifying relevant newsgroups, printing the domain address of the website on the agency header, and business cards. At this stage also carried out maintenance or system maintenance. As the site grows, maintenance costs will increase significantly. Information presented on the website must be timely. For this reason, it is important that the site is monitored regularly to ensure that information and links, especially external links, must be up-to-date. There is an ongoing process for Web developers to adopt the new technology available. This can be assessed in relation to the objectives outlined in Phase One, especially those that could not be implemented at the time and are documented in the Wishlist

Repeat the whole process can be done to implement new features and add website functionality. The four stages above show how Web site development methodologies must be iterative and used nonlinear. The purpose of the review can be carried out in stage three and the conformity evaluation is rechecked, if it does not meet, it can return to stage one.

RESULTS AND DISCUSSION
Based on the stages carried out in accordance with the research method obtained the following results:
Stage 1 - Analysis. The strategic aim of developing the Marunda Meteor STIP journal system is the availability of a system for managing electronic journals that can serve every activity that exists in publishing a journal that can be accessed by all stakeholders, from receipt of manuscripts from authors, manuscript distribution, manuscript editing, manuscript editing to journal publishing, all can be done online and all users involved in journal publishing (writers, editors, reviewers, etc.) will use the system online, without having to meet each other directly but connected in one application that can be accessed globally. Furthermore, the results of the analysis are obtained::

    a. The technological components needed (minimum requirements) are
        1. Operating System: Windows 8 ;
        2. Open Journal System version 3.1.2
        3. PHP $> = 5.5$ with MySQL or PostgreSQL support MySQL$> = 4.1$ or Postgre SQL$> = 9.1.5$ Apache $> = 1.3.2x$ or $> = 2.0.4x$ or Microsoft IIS 6 ;
        4. Notepad ++ version 6.3 ;

    b. The identification of information needed by the system user is in the form of a work flow chart which is presented in the following figure 1 (Hartami & Handayani, 2012).
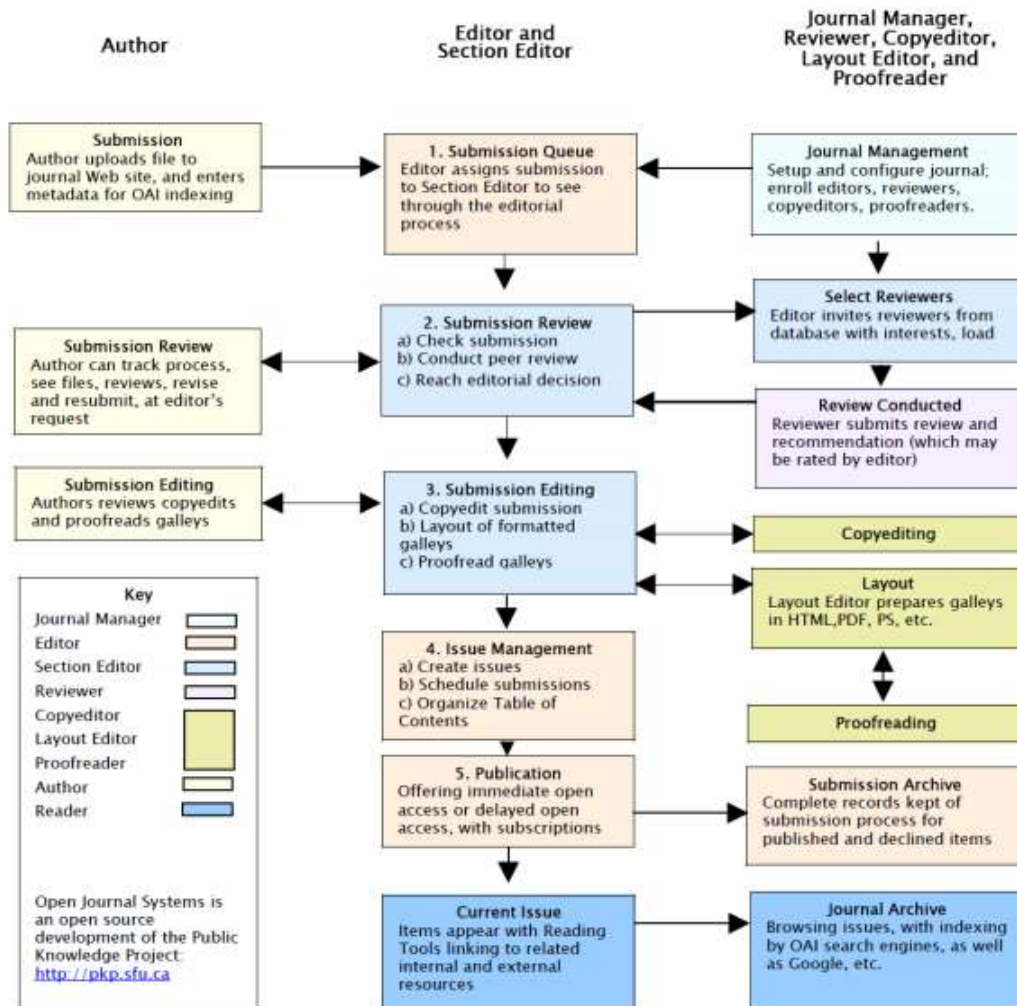
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Figure 1. OJS work flow chart

c. The skills needed for system development consist of Systems Analysts who are tasked with working on the analysis and design stages, Programmers tasked with doing programming (coding) following web server installation, and Operators who then operate the system on an ongoing basis.

d. Users of the system is the electronic journal which consists of journaling manager, journal editors, production editors, section editors, guest editors, copyeditor can enter in the journal article. Then the designer can design the look of the website, the indexer helps in the indexation process. Translators and reviewers can provide comments related to incoming articles. Author and reader can freely view and download information and articles on the Marunda Meteor STIP website without having to log in first. Users can access the system using a computer that has an internet network including mobile computers such as notebooks, netbooks, ipad and smartphones.

e. Of the four stages in web development, the biggest cost is needed at the Generation or system development stage, therefore an open source based system and a Content Management System (CMS) are chosen to minimize the costs required to make the system.

f. The main risk associated with developing the system lies in the lack of commitment from the top management regarding the development and implementation of the system in a sustainable manner in this case is the manager of P3M STIP Jakarta.

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Stage 2 - Design. System design includes making system architecture and site maps.
   a.   The system architecture consists of e-journal server and client. Through internet access, clients consisting of smartphones, tablets, notebooks, laptops or computers can access and download journals stored on the server IN Figure 2.

Figure 2. System Architecture

   b.   The Marunda STIP Meteor site map is presented in the following Figure 3 (Munnich & Iacono, 2016).
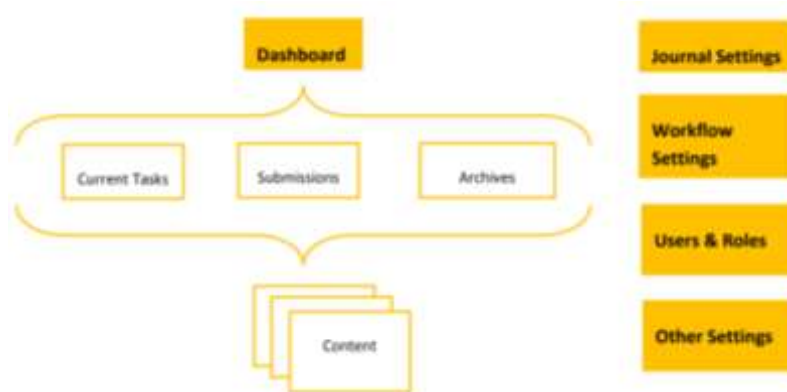
Figure 3. OJS site map

In Figure 3, we can see that the initial appearance of the Marunda Meteor STIP journal site consists of the current task containing the articles currently published, submissions to submit articles, archives to find out the list of articles published from the beginning to the present, then content that contains titles and article writer. When logging in as a journal admin, the initial display consists of a dashboard, journal settings, workflow settings, user & roles and other settings.

Stage 3 - Generation. At this stage includes web site design based on the results of the design of the system by writing the source code of the program to build the system using HTML and CSS as interface design and PHP as the programming language that forms the logic of system processing. For e-Journal systems created using open source based software, Open Journal Systems (OJS). In making the system interface is made by modifying the CSS file and adding a header, footer and sidebar menu, so that the interface design is adjusted to the editorial background of the Marunda STIP Meteor Journal publication. The results of the application of OJS in the journal Marunda STIP Meteor can be seen in Figure 3. At this stage, testing is done, both testing the system while it is still offline and already online. From the tests conducted based on the results obtained that each system user can access system features in accordance with the specified permissions in Figure 4.

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Figure 4. Portal E- J o urnal Meteor STIP Marunda

The page that first appears when the program is run is home, this page can be accessed by visitors without having to log in first. The home page contains the posting of the journal article that just appeared. It contains article titles that can be accessed and downloaded for free by visitors. Submission menu is used to find out ways to send articles, download templates and an explanation of the ethics of publication. Then the archives menu to access all articles in the journal, starting from the first year created until the current year. About menu to see a description of the Marunda Meteor STIP journal, the editorial team and contact and publisher address. The login page is used to enter the e-journal as a user. On the sidebar of the home page, there is a guide menu for the writer, a guide for the reviewer, about the journal, journal policy, journal search, and other information.

Stage 4 - Implementation. Entered the stage of implementation of the system is done by way of the installation and configuration of software applications OJS to version 3.1.2 to the server, and set up in accordance with the Journal editorial Meteor Marunda STIP. Due to hardware limitations for server computers, the application of e - Journal servers uses dedicated servers whose management is carried out by the STIP Jakarta management information system unit. This is done on the consideration that the e-Journal server has a higher data growth rate and thus requires greater storage capacity. In Phase 4, a maintenance process is also carried out which is an ongoing process for web development that adopts new technology that is available and adapted to the addition of user requirements for system facilities.

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CONCLUSION
From the results of this study it can be concluded that:
1) There is a similarity between the methods of developing e-journals with the methods of developing traditional information systems namely there are stages of goal setting, defining needs, analysis, design, system development (coding) and implementation.
2) Management of electronic journals using the Open Journal System can serve every business process that exists in publishing a journal from receipt of manuscripts from the author, distribution of manuscripts, examination of manuscripts, editing of manuscripts to publication of journals.

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