

ACTA AVIONICA JOURNAL MANAGEMENT AND PUBLISHING INFORMATION SYSTEM

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Summary. The Faculty of Aeronautics as one of the centers of scientific research in the field of aviation in Slovakia is trying by different ways to promote their research results. A very common way of promotion is in the form of contributions in other various scientific journals or through their own Acta Avionica scientific journal, which seeks with its quality integrate into one of the international professional databases and become the media of major importance in aviation fields. To achieve this objective, however, a journal must fulfil certain requirements and support of electronic publishing. The paper deals with the transformation process of scientific-reviewed journal Acta Avionica to a modern magazine with supporting the electronic publishing. For this process is used an Open Journal System as a tool for fully supporting the editorial and publishing process to improve both the scholarly and public quality of refereed research. The open access to Acta Avionica journal has substantially increased its legibility and its citation, which is an important factor which indicates the quality of the journal and makes it possible integrate to a professional journal database as Thomson Reuters Master Journal List and Scopus lists.

Keywords: open journal system; Acta Avionica; Faculty of Aeronautics, open access, themes

1. INTRODUCTION

The mission of the university in addition to providing education should be also gathering and publication of new scientific knowledge. This is an effective way to inform the professionals and the general public about the research activities of the faculty and the results obtained. Disclosure of these results does not have an only informative character, but it also has an impact on the status of the University within the scientific community and on the evaluation process in a comprehensive accreditation of universities. This knowledge may be published by means of scientific articles in scientific journals, through scientific monographs or through conference papers. Scientific publications are generally divided into four groups: Current Contents of fundamental importance publications, magazines with an international citation index (figuring in international professional databases), scientific and professional peer-reviewed journals and scientific and professional non-reviewed journals. Therefore, the Faculty of Aeronautics seeks to promote the results of its development through its own scientific journal Acta Avionica Journal, which seeks to step by step enforce magazine figured in one of the international professional databases and ranked among the media and publications of major importance in aviation fields. To achieve this objective, however, must fulfill certain requirements and support of electronic publishing.

2. ACTA AVIONICA JOURNAL

Acta Avionica is a scientific-reviewed journal, published since 1999, that aims to publish original, unpublished scientific and professional works in the field of basic and applied research of aviation experts and researchers. The journal comprehensively covers the aviation issues of all positions in industry, research and academic institutions, as well as through actual information on important

practical results and innovations of the aviation industry with the gradual extension of the area of aerospace and space technologies. Acta Avionica is included in category of scientific and professional peer-reviewed journal, which is published by the editorial board once or twice a year. Unlike conventional journal, scientific-professional journal has to pass strict quality control i.e. methodological correctness. The authors do not receive royalties for their publications. Scientific and professional reviewed journals are characterized in that, prior to publication there must be made so called. "peer-review" process. This is an anonymous assessment by several experts in the field concerned. The result is a peer-review whether the article will be published or not.

Currently, the magazine is presented only as a passive web site. The process of editing and publishing was based solely on email communications between editors and authors, which prevented effective way of electronic publishing. Likewise, format of providing information and unsupported metadata structure did not allow the Website to integrate an electronic version of journal to the other professional indexes and databases. Therefore, it was necessary to change this situation and to adjust to current standards and trends.

3. OPEN JOURNAL SYSTEM

Access to results of scientific activity in an electronic format provides many benefits. It is the most advantageous, most economical and most efficient way of publishing scientific information. When choosing a publishing system for Acta Avionica journal we examined the various existing open-source information technology as Digital Publishing System developed by the University Library Cornell University and University Library Penn State University in USA, Hyperjournal developed by the University of Pisa in Italy, GNU EPrints project based at the Department of Electrical Engineering and computer Science at the University of Southampton in the UK and the Open Journal Systems developed by University of British Columbia.

Based on its research and testing different versions of the journal systems, we decided to Open Journal System as an advantageous alternative mainly due to the fact that it is an open source platform based on professional solutions from experts with extensive experience in publishing.

Open Journal Systems (OJS) is open source journal management and publishing system that has been developed, supported, and freely distributed by the Public Knowledge Project (PKP) under the GNU General Public License through its federally funded efforts to expand and improve access to research. OJS assists with every stage of the refereed publishing process, from submissions through to online publication and indexing. Through its management systems, it's finely grained indexing of research, and the context it provides for research, OJS seeks to improve both the scholarly and public quality of refereed research [2].

OJS Features:

1. OJS is installed locally and locally controlled.
2. Editors configure requirements, sections, review process, etc.
3. Online submission and management of all content.
4. Subscription module with delayed open access options.
5. Comprehensive indexing of content part of global system.
6. Reading Tools for content, based on field and editors' choice.
7. Email notification and commenting ability for readers.
8. Complete context-sensitive online Help support.

OJS is made freely available to journals worldwide for the purpose of making open access publishing a viable option for more journals, as open access can increase a journal's readership as well as its contribution to the public good on a global scale [1].

This system uses five other science magazines in Slovakia. Here is one example such as Computing and Informatics from Institute of Informatics of Slovak Academy of Sciences, which is a peer-reviewed journal, indexed in Thomson Reuters Master Journal List and SCOPUS. Based on the above

text, OJS is an obvious choice for the implementation of electronic publishing for Acta Avionica journal.

4. REALIZATION OF ACTA AVIONICA JOURNAL SYSTEM

Full implementation of Acta Avionica OJS was necessary to divided into five separate stages. In the first stage, we are designed and implemented own custom graphical theme, which color-tuned with the "faculty colors" and with colors of the original Acta Avionica website pages. In the second stage it was necessary to assign different functions and roles to individual persons authorized in system to make it possible to maintain editorial and publishing process in Acta Avionica journal. In the third stage we filled the system with the provided information, which will be further navigate the readers and subscribers in publishing process. Finally, we re-filled old issues of the journal and linked them with OJS Google Scholar database. It was necessary to reprogram and modify the source codes of incorrect sites too.

4.1. New graphics theme

Whereas the OJS can generate own theme, was necessary to correct original graphics theme to new because originally available graphics themes absolutely did not suit our needs. The implementation of a new graphics theme (see Figure 1) consumed a lot of time. It was necessary to create virtually from scratch, because currently there is not available an open solution of professional graphic design site for OJS. All professional solutions are only for a fee, therefore we proceeded to our own solutions. It was necessary to redefine almost of all the parameters of graphic design through changes in cascading style sheets (CSS) as a general extension of (X)HTML for the purpose of visual formatting of Web documents. In the present design and implementation of new theme correspond to the actual graphic design of magazine in its printed form.



Figure 1 New graphic theme of Acta Avionica journal

4.2. Acta Avionica users and user roles

In the second stage of implementation, it was necessary to design and implement assignment of roles to individual users. Administration of system users is the responsibility of the system administrator. He may also define in the system more journals with various focuses. For each

individual journal must assign independent journal manager. Journal manager uses a list of users enrolled in his journal. This list includes everyone who is registered to the journal. The main responsibility of the journal manager is to assign roles to individual users based on by determining management committee depending on the relationship between users and based on precisely defined schedule editing and publication process, which you can see in the picture below.

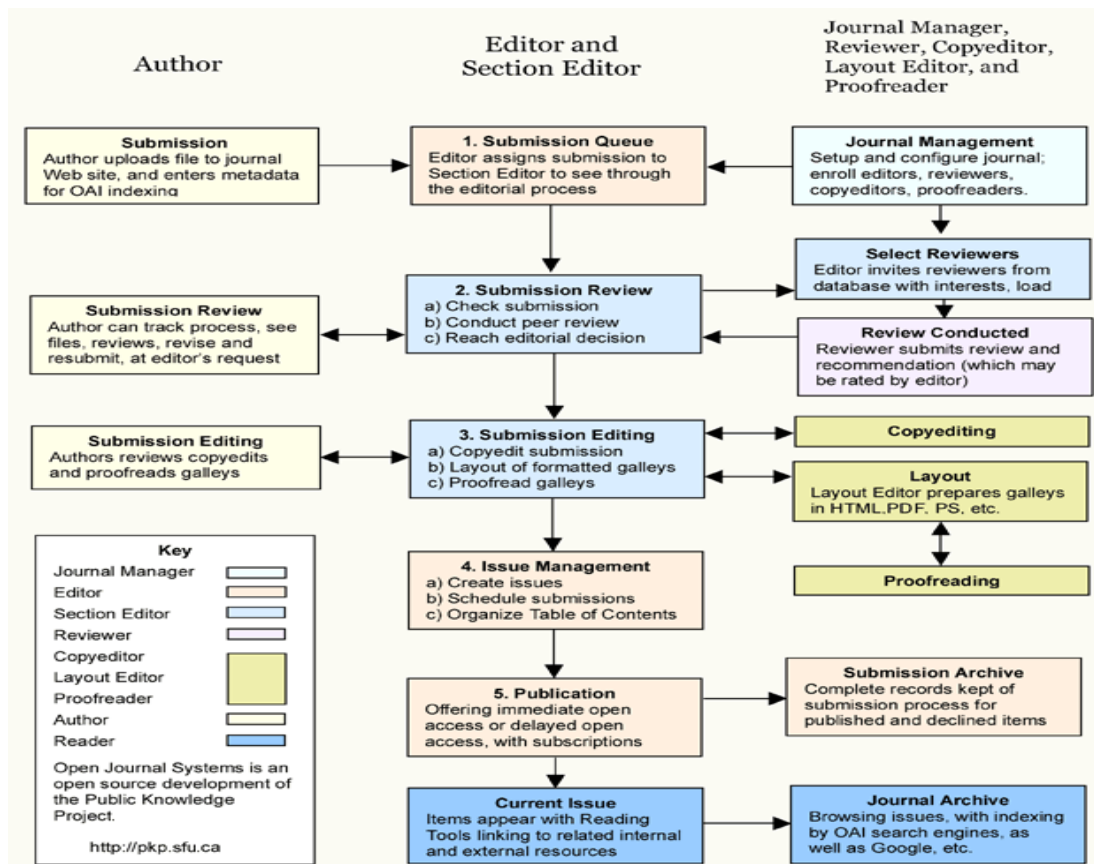


Figure 2 OJS editorial and publishing process [2]

Following this process, each user knows what to do. All activities of users working under the strict supervision of journal manager, which is responsible for the full cycle of activities from editing of contributions registered through the process of editing, peer-review process and typography up to the publication of issue of the journal. Based on the individual actions in the journal, it was necessary to define the following roles:

Journal Manager is responsible for managing the entire publishing system and the setting of the journal. It also has access to other management system journal, he can create new sections in the journal, edit the default settings of e-mails that the system uses, manage reading tools that are available in the journal, etc.

Editor oversees the full editorial and publishing process. He cooperates with the journal manager and establishes policies and procedures for the journal, which is contained in its settings. In the editorial process the editor assigns contributions to the Section Editor which oversee the review of contributions and adjusting the contributions. Editor helps with any problems through typography adjustments and corrections of the text, he assign contribution to publishing, organizes content of each issue and publishes the specific issue as part of the publication process. *Section Editor* takes care of the reviews and adjusting the contributions which have been allocated.

Copyeditor adjusts the contributions so that the content of the contribution was a clear and grammatically correct. Communicates with authors, ensures strict adherence to the bibliographic and text editing rules. He is sending carefully edited copies to typography, which has the task of

typesetting text, text wrapping and DTP of journal that will be in the final published version of the journal. *Layout Editor* converts edited versions of contributions to the desired file format like PDF to use for electronic publishing. *Proofreader* carefully views text wrapping in different formats in which the journal publishes. He recorded typographical or format errors to repair by typography. In some cases the role of copyeditor, layout editor and proofreader, carries editor or section editor.

Reviewers are asked by editor to submit reviews of selected article to the web page form. He can upload the annex files with review of article or with corrected file of article.



Figure 3 Issue submission

Authors can register and upload articles directly on the website of the journal. The author is asked to insert metadata for indexing the article. Metadata improved search function for online research. The author can upload additional files that enrich the article quality. After login into the journal website he can take part in editing and proofreading contributions received for publication. Authors at registration have the opportunity to be enrolled as readers.

Readers can access individual articles by subscription or by immediate open access or open access later. Readers who are registered will receive an email notification with the release of each issue that includes content specific number issued. *Subscription Managers* manages the magazine subscription and subscription types.

After defining the functions for the editorial board members it was necessary to fill the required information to the information system for authors and readers, basic information about the journal and set the system itself into its final form.

4.3. Final journal settings

The journal manager shall supervise the all aspects of the journal management, which includes consultation with editors, central system settings, creating users and their roles, setting various journal sections and many other management tasks. Pages for journal management include various items. Each of them we devoted sufficient attention because they are important to the overall operation of the magazine.

OJS allows to send *notifications* to all users who visit the site. Announcements appear at the notification box or on the homepage of the journal. OJS can be available to users in any of the supported *languages* too. Currently OJS does not support Slovak language, but we actively working on translating.

The magazine uses a variety of *prepared e-mails* directed to the editorial and publishing process to the beneficiary (or beneficiaries). They can also be e-mails edited by the user before they are sent. Before a user sends e-mail, the system automatically inserts relevant and specific information into an email (e.g. name and abstract of the paper or the due date of reviews and etc.).

Reading tools are designed to help skilled as well as new readers by providing a rich context of related materials from a wide variety of open access resources. Tools used keywords which automatically find relevant open access database with related materials. The most exploited tools are mainly about the author, as quoted article, print article, etc.

Given the focus of the journal we set *three different sections* - the journal section, where we can to distribute individual contributions by their focus. Contributions can be strictly breakdown to purely scientific articles with benefits for theory in the field on specialized articles with helpful only for practice and finally the article of review, which are mainly for information.

All articles in all sections are indexed. The possibility of indexing allows authors to specify metadata in related article when it is registered. Once the article is published, metadata will be available through research search engines that adhere to the Open Archives Initiative Metadata Harvesting protocol and by other indexing services. Authors of indexed articles will also be included in the list of authors and will be linked to the reader's tools which were selected for the magazine by journal manager.

SECTION POLICIES

Scientific articles
A scientific article presents research results and is written by researchers and aimed at an academic readership. The article must have been reviewed by experts within the same subject area before publication.
Scientific articles can be divided into different types:

1. Original articles where the author presents empirical studies and for the first time describes the results of research work.
2. Review articles are critical reviews of previously published studies.
3. Theoretical articles aim at developing new theories from existing research.

Open Submissions Indexed Peer Reviewed

Specialized articles
 Open Submissions Indexed Peer Reviewed

Articles of review
 Open Submissions Indexed Peer Reviewed

Other articles
This section contain other types of articles such as book reviews, opinion articles and commentaries.
 Open Submissions Indexed Peer Reviewed

PEER REVIEW PROCESS
A scientific journal has a council of referees consisting of experienced researchers within the journal's field. These experts review the submitted articles and assess their quality, both scientifically and according to content. They decide if the article is to be published directly, should be amended or refused. This process is known as peer review and the aim is to ensure scientific quality.

Figure 4 Section policies

As the Acta Avionica is reviewed journals, we had to create the adequate *peer review forms* for submitting reviewers' entries. After assigning reviewer to the article, will be sent him a request via email in which the reviewer must in due time fill peer review form to complete review procedure.

HOME ABOUT USER HOME SEARCH CURRENT ARCHIVES PUBLISHER

Home > User > Journal Management > Review Forms > Referees report > Preview Form

Preview Form

REVIEW FORM FORM ITEMS PREVIEW FORM

REFEREES REPORT

Overall Rating:*

poor
 marginal
 good
 excellent

Recommendations:*

accept as it is
 accept if minor revisions are made (rereview annecessary)
 accept onlz if required revisions are made (rereview necessary)
 reject (reasons on the reverse side)

Type of paper:*

...

INFORMATION

- For Readers
- For Authors
- For Librarians

USER

You are logged in as...
jgalanda

- My Profile
- Log Out

JOURNAL CONTENT

Search

Search Scope
All

Search

Browse

- By Issue
- By Author
- By Title

Figure 5 Peer review form

Setting up a list of *editorial board / board of reviewers* and was very important and necessary. Both contain a list of names that partially determines the quality of the magazine. It is verified that the potential author selects target publishing journal on the basis of people who are devoted to him. So the scientific composition of editorial team, especially members of Scientific Advisors determines the level of the magazine.

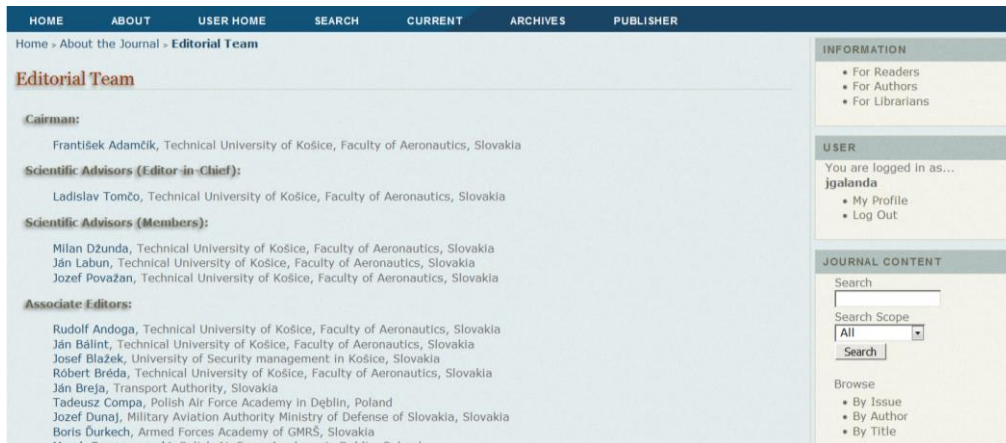


Figure 6 Editorial team

Main setup of journal is the most important part of the journal, because through its features we put all the necessary information that will be visible on the web portal of the journal. It was necessary to enter information as the main contact to the editors of the journal, technical support contact, focus and scope of journal, section policies, further explanation during the peer review process and the guidelines for reviewers and policy of open access to individual articles. Support for open access has clear advantages such as speeding up the exchange of scientific information, enhancing accessibility of scientific information, increase the visibility of scientific information and base of journal readers. Equally important is the actual submission of information about Copyright Transfer Agreement, information regarding of subscriptions and additional information regarding of Abstracting & Indexing of journal and the policy of subscription. The next section was necessary to consistently insert additional instructions for submission of articles for authors to avoid any ambiguity later. We very closely approached the copyright policy and the privacy statement, as there was significant change in the method of distribution of the journal, which will be available electronically on web site and not only in printed form. OJS system also includes a powerful management tools for article citations that helps editor to modify reference to specific articles and allows them to export several formats of citations.

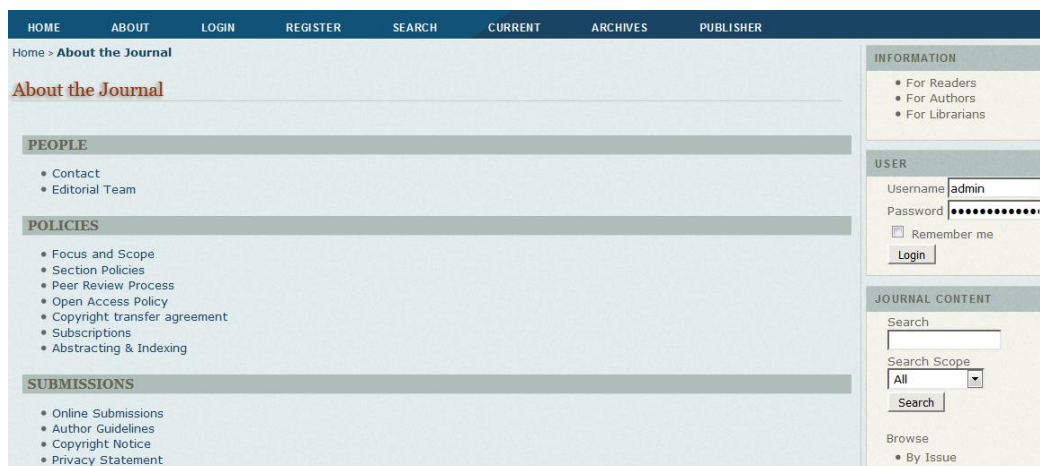


Figure 7 About the journal section page

OJS also supports the option of magazine subscriptions through components for managing subscriptions and the password protection view the online journal content and articles. We does not using this feature because the journal does not charge reading fees.

4.4. Archive of old journal issues

Finally, we filled all the old issues of the journal from the current number to the first issue published in 1999. The goal of open access to journal issues is to raise awareness about the journal and the allow metadata indexing of articles in a variety of professional databases and lists. Currently, indexed articles are available in Google Scholar database. Individual issues can be found in the journal archive. In this archive you can search for individual articles by author, by the very title of the article or according to issues of the journal.



Figure 8 Old journal issues archive

5. CONCLUSION

By transformation from initial website of the journal to a new form with the support of electronic publishing, we have transferred the entire the journal into a new era, which should be, as we hope, better. It is highly assumption that thanks to open access to Acta Avionica we significantly increase readability of the journal and the especially such an important increasing numbers of citation of articles, which is an important factor which indicates the quality of the journal and makes it possible to enforce in a professional journal databases like Thomson Reuters Master Journal List and Scopus lists.

OJS also is part of a whole family of systems called Public Knowledge Project (PKP), a package of separate systems such as Open Journal Systems, Open Monograph Press - management system for publishing procedures necessary for viewing monographs, anthologies and scientific publications through internal and external review, which is also used for editing, cataloging, production and publications. Open Monograph Press can work as a Web publishing, catalog or such distribution or sales capacity. Open Conference Systems lets you create complete web presentations to scientific conferences and Open Harvester Systems is a system for collecting and indexing metadata of articles. Using the Public Knowledge Project we want to link all scientific outputs of Faculty of aeronautics into one sophisticated system. But it is for future.

6. LITERATURE LIST

- [1] Open Journal Systems. British Columbia's west coast: Simon Fraser University Library. 2014. Available at: <http://pkp.sfu.ca/ojs>
- [2] Acta Avionica Journal. Kosice: Faculty of aeronautics. 2015. Available at: <http://acta-avionica.tuke.sk/ojs>