

Acknowledgements

The author wishes to express his sincere gratitude to the numerous reviewers of his own work and the editors who have had faith in his reviewing skills.

References

- 1 International Committee of Medical Journal Editors. Responsibilities in the submission and peer-review process. Available at: <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/responsibilities-in-the-submission-and-peer-review-process.html#three> (accessed 21 June 2017)
- 2 Palmer-Cooper E. Bad Press for Peer Review: is it deserved? *European Science Editing*, 2016, 42(3):70.
- 3 Wiley- Learned Publishing. Guide for Reviewers. 2017. Available at: [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1741-4857/homepage/guide_for_reviewers.htm](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1741-4857/homepage/guide_for_reviewers.htm). (accessed 16 June 2017)
- 4 Pain E. How to Review a Paper. *Science Mag*. September 2016. Available at: <http://www.sciencemag.org/careers/2016/09/how-review-paper>. (accessed 16 June, 2017)
- 5 Committee on Publication Ethics. COPE Ethical Guidelines for Peer Reviewers. March 2013. Available at: https://publicationethics.org/files/Peer%20review%20guidelines_0.pdf (accessed on 21 June 2017)
- 6 Hernandez L. Becoming a reviewer is good for you- the Peer-review process. *Gastrointestinal Endoscopy*, 2009, 70(6): 1159-1160.
- 7 Annesley T. Seven reasons not to be a peer reviewer-and why all these reasons are wrong. *Clinical Chemistry*, 2012, 58(4): 677-679.
- 8 Elsevier. 2016 Best Reviewers. 2016. Available at: <https://www.journals.elsevier.com/international-journal-of-electrical-power-and-energy-systems/news/2016-best-reviewers>. (accessed 16 June 2017)
- 9 Springer. 2016 Excellence in Review Awards for Frontiers of Environmental Science & Engineering. 2016. Available at: <http://www.springer.com/environment/journal/11783>. (accessed 16 June 2017)

European Association of Science Editors 14th General Assembly and Conference

University of Bucharest, Romania
8-10 June 2018

Balancing Innovation and Tradition in Science Editing

Call for Posters

EASE welcomes the submission of abstracts for the poster session at the forthcoming conference in Bucharest. These may address any aspect of scientific editing or publishing. Posters will be displayed throughout the conference. Prizes for the best medical and non-medical posters have been donated by *The Lancet* and the *Annals of Botany*, respectively.

Each abstract should include an informative title and be about 200 words.

Submission deadline is 1 April 2018.

Email to: Tea Marasovic, EASE Secretariat
secretary@ease.org.uk

A smart editorial board system: an effort to enhance the quality of manuscripts, scientific journals and publishers

Masoud Negahdary

Department of Research and Development, Lexis Publisher, Iran; Yazd Cardiovascular Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran; Nanomedicine and Nanobiology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
editor@lexispublisher.com

DOI: 10.20316/ESE.2018.44.17010

Abstract

In scientific journals, smart management systems play a crucial role in qualitative progress of publishing. Journals and publishers have different strategies for accepting papers in order to maintain and enhance publishing quality. A new smart and efficient system to manage the editorial board of journals has been implemented and is introduced in this essay. This system is designed on a web-based platform and uses advanced software technologies for needs assessment, designing, and implementation. This system has many advantages, such as: higher quality management of journals and publishers; identifying and ranking editorial board members; evaluating the accuracy of journals; and providing a system for smart scientometrics of journals, publishers, editors and reviewers. This system is designed to be compatible with future extensibility and can be used as a global database for managing an editorial board in journals and publishing houses.

Keywords: editorial board, smart journals, quality of publishing, promotion of scientometrics, journal management system.

Introduction

Currently, editorial board members of journals are asked to evaluate submitted manuscripts according to traditional methods, such as the editor-in-chief's opinion and their specific competence, then the manuscripts are sent to peer reviewers.^{1,2} In multidisciplinary journals that cover broader topics or in journals with a large number of editorial members, the choice of reviewers is a complicated task. In this situation, there is a greater risk for human errors.^{2,3} Professional and fair evaluation of submitted manuscripts, evaluation of editors' and reviewers' activities and ultimately evaluation of any further activity related to submitted manuscripts are only possible through a smart system for managing editorial boards. The best known and most widespread systems for managing journals are: Editorial Manager, Scholar One and the Elsevier editorial system. In this essay, I introduce an advanced and applicable journal management system (Lexis Publisher system) for smart management of editors and reviewers in journals that can be an important step in journal development.

Features of the designed system

Basic and infrastructure features

This system is designed on the web-based platform using the most advanced programming languages and techniques and is currently in use in all hosted journals in *Lexis Publisher*.⁴⁻⁶ An advanced communication has been established between users including the applicant's membership, editors, reviewers, and editor-in-chief. It is noteworthy that the highest person in charge of controlling the editorial board management of a journal is the publisher first and then the editor-in-chief. Classification, analysis, integration and meaningful use of imported data are some of the important features of this system. With regards to connections with Scopus, PubMed and Web of Science (WOS) databases via application programming interface (API), it is possible to provide live updated curriculum vitae (CV) of editorial members and offer accurate representation of the CV for all of them in each journal.⁷ Figure 1 shows the relationship between different roles in the system.

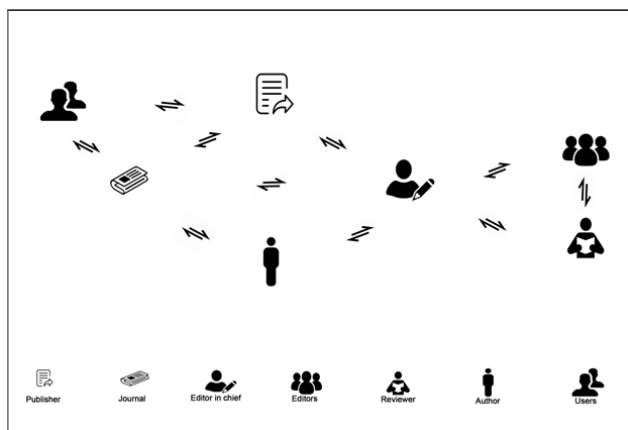


Figure 1. Schematic algorithm of various roles in smart system for managing editorial board.

Data are provided from people who apply for cooperation as editorial board members, authors and scientific databases. Then, imported data into the system are analyzed on the basis of combining semantic web technologies such as extensible markup language (XML), hypertext markup language (HTML 5) via cascading style sheets (CSS3) etc. In a further step, the analysed data are classified according to their type. Users can send specific requests to the system server on the basis of its defined filters. All submitted requests are analyzed initially, and then responses are sent to the users of this system. All information contained in the system database can be updated periodically (automatically) or instantaneously (manually).

One of the important items in web-based systems that should be considered seriously is protection and security of hosted information.^{8,9} We use secure sockets layer (SSL) for all applied domains and subdomains for establishing encrypted links between system server and all clients in their internet browsers. All password entries for login to user profiles are hashed through an advanced hashing algorithm. After login to each user profile, internet protocol address (IP address) is recorded separately; each

IP is monitored for ever as several significant information including times for login, period of using the system and all login with similar IPs or different IPs for a specified user.

Other significant features

The designed system has advanced features that can be used as key elements in scientific publishing. The features are listed below and the characteristics are presented in Table 1. The importance of each listed feature in Table 1 is categorized into "high" and "moderate" types. The accuracy percent of each feature in this system is fully investigated and evaluated. The accuracy was calculated as the mean point of 300 times evaluation while each successful test was considered as one item and each unsuccessful test was considered as zero. Then, the sum of all successful tests was inserted in an equation in which 300 corresponds to 100%. Then we can calculate the percent of each value with this method. For example, 95% corresponds to 285 successful tests of performance and 15 times unsuccessful tests. Unsuccessful performance was that based on some errors related to the server, analysis of data, display results, etc. Providing the ability to develop in all aspects is a very important feature of this system which can be shared for global using as a novel editorial management database.

Features of designed system:

1. Live CV: Providing live CV is based on defined scientific databases (like Scopus, PubMed, WoS, etc). CVs are received directly from databases, they are completely updated and reliable, and can be used in ranking of editorial board members. Accuracy is high but not perfect because of some incorrect information in the databases, not because of the system.
2. Automatic reviewers' suggestion. Those who intend to collaborate as scientific editorial members in journals should apply through a special system (Join Us). In the application form the fields related to their scientific expertise are selected and determined by themselves. During the manuscript submission process the authors should select some covered subject area which are exactly the same as those selected by editors and reviewers before (in Join Us). In this way the system can easily suggest the most relevant reviewers on the basis of the subject area of submitted manuscripts.
3. Automatic ranking of editorial board members based on CV. The number of authors' publications in various databases is classified and counted; the ranking is calculated on the basis of the total number of publications. It is possible to define a specific coefficient based on validation in a database. For example, for WOS it can be considered a coefficient 2.
4. Automatic ranking of editorial board members based on activity. All activities carried out by editorial board members are completely and accurately recorded. The date of Join Us request, the date of membership confirmation, the number of peer reviewed papers, the number of submitted manuscripts, the number of accepted manuscripts and of those rejected are accurately recorded separately for each member along with each date. According to these records, active

Table 1. Characteristics of designed smart system for managing editorial board.

Characteristic	Importance	Accuracy (%)*	Extensibility
1. Live CV	High	90	Yes
2. Auto reviewers suggestion	Moderate	100	Yes
3. Auto ranking of editorial board based on CV	High	90	Yes
4. Auto ranking of editorial board based on activity	High	100	Yes
5. Auto ranking of editorial board based on editor in chief comment	Moderate	100	Yes
6. Exporting editorial board information	Moderate	100	Yes
7. Advanced search	High	100	Yes
8. History of editorial activities	High	100	Yes
9. Auto selection of editors and reviewers	Moderate	95	Yes
10. Suspension or removing editorial members from database	Moderate	100	Yes
11. Improving the quality and management of journals	High	100	Yes
12. Alerting system	Moderate	98	Yes

* The accuracy percentage is calculated on an average of 300 times test for evaluating performance during 2016-2017.

and productive members of an editorial board can be distinguished from others.

5. Automatic ranking of editorial board based on the editor in chief comment. Editor in chief, as the highest editorial manager of the journal, can easily rank the editorial members according to defined criteria and his/her own discretion.
6. Exporting information on a journal editorial board. One of the applicable and useful advantages of this system is its ability of exporting information on a journal editorial board including e-mail address, phone number and other related items.
7. Advanced search. The editor in chief, the publisher and other journal managers can search editorial board members according to the topic of the journal, the type of application role (associated editor, assistant editor, reviewer) and also according to the profile details (name, nationality etc).
8. Register of editorial activities. According to point 4.
9. Automatic selection of editors and reviewers. This application can help to make this international

publishing system smart. In the case that the editor in chief changes the selection of reviewer to the automatic mode, the submitted manuscripts will automatically be sent to professional reviewers based on specialized competences.

10. Suspending or expelling editorial members from the database. The system provides the capability to temporarily suspend or definitely remove editorial board members. The system will store all information about deleted editor so that he/she is not allowed to reapply at future.
11. Improving the quality and management of journals. Saving time and efforts and use of classified data of editorial board members and their best optimization. Finally, improving the quality of manuscripts' evaluation, leads to increasing the quality of journals and publishers.
12. Alerting system. Features provided in this system that can help better planning and managing; if some editorial members are less active, the system will warn them automatically.

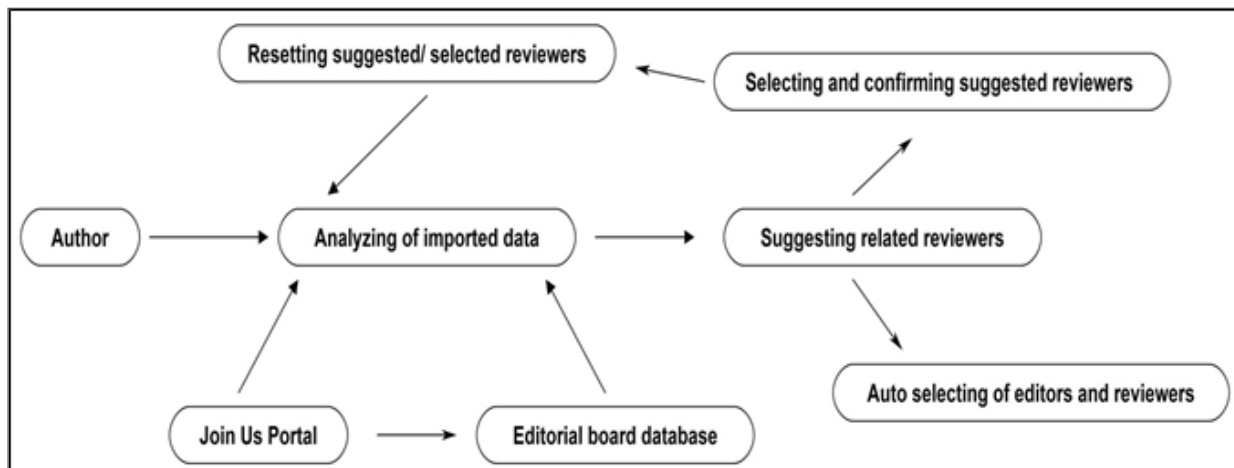


Figure 2. Schematic algorithm for automatic suggestion and selection of reviewers in a smart system for managing editorial board

Other important and effective features of this system are including the ‘Auto Reviewers’ suggestion” and “Auto-selection of editors and reviewers”. This process and the relationship among all involved roles are schematically shown in Figure 2.

During the process of submission, registered authors in the manuscript system should select at least 1 up to 3 covered subjects related to the manuscript (Figure 3). In the next step, analysis of imported data is performed. After the submission process the manuscript will be sent to the journal and the selected subject (s) by the author will be analyzed via the system. According to the analyzed data and the direct relationship between the reviewers’ field of competence and the subjects of submitted manuscripts, information on reviewers related to that manuscripts will be exported from this smart system. Any information on suggested reviewers by the author as well as any information from other people (eg, editorial applicants through “Join Us” portal) who want to collaborate in the journal editorial board, will be firstly analyzed and categorized and then recorded in database. This system sorts the qualified reviewers based on their CV and their collaboration to the journal. In addition, the reviewers suggested by the author are also categorized. Editors can select a maximum of two reviewers to perform peer review process of submitted manuscripts. Selecting and confirming reviewers suggested by the editor in chief occur when the editor chooses directly the reviewers and manuscripts are sent to peer review. One option of this system relates to sending the manuscript to reviewing process without needing a reviewers’ selection by the editor in chief. If the editor in chief changes the reviewers’ selection method on automatic mode, the system sends the manuscript to qualified reviewers automatically. Delivering reviewers’ comments to authors would require approval by the editor in chief. Resetting suggested/selected reviewers is possible; if a reviewer does not respond to a request to review a manuscript, or if the lack of quality or competence is detected, the editor in chief can select other reviewers via resetting the reviewers’ suggestion system.

“Automatic reviewers suggestion” in a smart editorial board system has many advantages that can have direct impact on improving the quality of journals and publishers. The presence of this applicable feature in this system can be a great progress in order to increase the quality of reviewing process of scientific manuscripts. Surely, journals that are

able to use this system will be more successful in scientific evaluations. Some features of a smart system for managing editorial board here presented are unique; like live scientific CV for all editorial members, automatic ranking of editorial board based on CV and automatic ranking of editorial board based on other elements. Also, the automatic selection of editors and reviewers is another advanced and exclusive feature as previously described.¹⁰

The designed smart editorial board system can be used as one of the most important and applicable achievements in the field of scientific publishing. Professional and smart reviewing process of manuscripts will lead to increasing the quality of journals through saving time and cost and enhancing accuracy of referees’ reports. Another advantage of this system is providing a scientometrics data sets that can be used for the scientific evaluation of editorial board activities separately at any time. If this system is considered globally, certainly the scientific development will advance along with the increase of the scientific quality of publications.

References

- 1 Bohannon J. Who’s afraid of peer review. *Science*. 2013;342(6154).
- 2 Resnik DB, Wager E, Kissling GE. Retraction policies of top scientific journals ranked by impact factor. *Journal of the Medical Library Association: JMLA*. 2015;103(3):136.
- 3 Wiwanitkit V. Retraction policies: standardization. *Journal of the Medical Library Association: JMLA*. 2016;104(2):179.
- 4 Yang Z, Cai S, Zhou Z, Zhou N. Development and validation of an instrument to measure user perceived service quality of information presenting web portals. *Information & Management*. 2005;42(4):575-89.
- 5 Fowler M. Patterns of enterprise application architecture: Addison-Wesley Longman Publishing Co., Inc.; 2002.
- 6 Negahdary M. Live Curriculum Vitae (CV) of Researchers Based on Scopus and PubMed Databases; a New Method in Scientometrics. *Publishing Research Quarterly*. 2017;33(3):297-301.
- 7 Atkinson W, McDuff R, Baxter C. Telephony server application program interface API. Google Patents; 2001.
- 8 McGraw G. Software security: building security in: Addison-Wesley Professional; 2006.
- 9 McGraw G. Software security. *IEEE Security & Privacy*. 2004;2(2):80-3.
- 10 Dadkhah M, Lagzian M, Borchardt G. Information systems in journal management: the ugly duckling of academic publishing. *European Science Editing*. 2017;43(1).