Databases and ontologies

iAnn: an event sharing platform for the life sciences

Rafael C. Jimenez¹, Juan P. Albar², Jong Bhak³, Marie-Claude Blatter⁴, Thomas Blicher⁵, Michelle D. Brazas⁶, Cath Brooksbank¹, Aidan Budd⁷, Javier De Las Rivas⁸, Jacqueline Dreyer¹, Marc A. van Driel⁹, Michael J. Dunn¹⁰, Pedro L. Fernandes¹¹, Celia W. G. van Gelder¹², Henning Hermjakob¹, Vassiliis Ioannidis¹², David P. Judge¹³, Pascal Kahlem¹, Eija Korpeinen¹⁴, Hans-Joachim Kraus¹⁵, Jane Loveland¹⁶, Christine Mayer¹⁷, Jennifer McDowell¹, Federico Moran¹⁷, Nicola Mulder¹⁸, Tommi Nyronen¹⁴, Kristian Rother¹⁹, Gustavo A. Salazar¹⁸, Reinhard Schneider²⁰, Allegra Via²¹, José M. Villaveces²², Ping Yu²³, Maria V. Schneider²⁴, Teresa K. Attwood²⁵ and Manuel Corpas²⁶,*

¹EMBL-EBI, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, CB10 1SD, UK, ²National Center for Biotechnology-CSIC, Darwin 3, Campus de Cantoblanco, 28049 Madrid, Spain, ³Theragen Bio Institute, TheragenEtex, Suwon, ⁴SIB Swiss Institute of Bioinformatics, 1 Rue Michel Servet, Geneve, Switzerland, ⁵NNF Center for Protein Research, Blegdamsvej 3b, DK-2200 Copenhagen N, Denmark, ⁶Ontario Institute for Cancer Research, MaRS Centre, South Tower, 101 College Street, Suite 800, Toronto, Canada, ⁷European Molecular Biology Laboratory, Meyerhofstraße 1, 69117 Heidelberg, Germany, ⁸Cancer Research Center (IBMCC-CSIC), Campus Miguel de Unamuno, 37007 Salamanca (Spain), Spain, ⁹Netherlands Bioinformatics Centre, P.O. Box 9101, 6500 HB, Nijmegen, Netherlands, ¹⁰Conway Institute of Biomolecular & Biomedical Research, School of Medicine & Medical Science, University College Dublin, Dublin, Ireland, ¹¹Instituto Gulbenkian de Ciencia, Apartado 14, 2781-901, Oeiras, Portugal, ¹²SIB Swiss Institute of Bioinformatics, Génopole-UNIL, CH-1015 Lausanne, Switzerland, ¹³SBS Bioinformatics Teaching Faculty, Department of Genetics, Downing Street, University of Cambridge, Cambridge, CB2 3EH UK, ¹⁴CSC-Scientific Computing Ltd., PO Box 405, FI-02101 Espoo, Finland, ¹⁵Wiley-VCH Verlag GmbH & Co. KGaA, Boschstr. 12, 69469, Weinheim, Germany, ¹⁶Welcome Trust Sanger Institute, Wellcome Trust Genome Campus, Hinxton, Cambridge, CB10 1SA, UK, ¹⁷Facultad de Ciencias Quimicas. Universidad Complutense de Madrid. 28040 Madrid, Spain, ¹⁸Dept. Clinical Laboratory Sciences, Institute of Infectious Disease and Molecular Medicine, UCT Faculty of Health Sciences, Observatory 7925, University of Cape Town, South Africa, ¹⁹Academia Training, Illstrasse 12, 12161 Berlin, Germany, ²⁰Luxembourg Center for Systems Biomedicine, Campus Belval 7, avenue des Hauts-Fourneaux, L-4362 Esch-sur-Alzette of Luxembourg, Luxembourg, ²¹Sapienza University, P.le Aldo Moro, 5 00185, Rome, Italy, ²²Max Planck Institute for Biology of Ageing, c/o ZMMK, Robert-Koch-Straße 21, D-50931, Germany, ²³Itico, 41 Haggis Gap, Fulbourn, Cambridge, UK, ²⁴The Genome Analysis Centre, Norwich Research Park, Norwich, NR4 7UH, UK and ²⁵Faculty of Life Sciences and School of Computer Sciences, B1077, Michael Smith Building, University of Manchester, Oxford Road, Manchester M13 9PT UK

Associate Editor: Alfonso Valencia

ABSTRACT

Summary: We present iAnn, an open source community-driven platform for dissemination of life science events, such as courses, conferences and workshops. iAnn allows automatic visualisation and integration of customised event reports. A central repository lies at the core of the platform: curators add submitted events, and these are subsequently accessed via web services. Thus, once an iAnn widget is incorporated into a website, it permanently shows timely relevant information as if it were native to the remote site. At the same time, announcements submitted to the repository are automatically disseminated to all portals that query the system. To facilitate the visualization of announcements, iAnn provides powerful filtering options and views, integrated in Google Maps and Google Calendar. All iAnn widgets are freely available.

Availability: http://iann.pro/iannviewer

Contact: manuel.corpas@tgac.ac.uk

Received on January 5, 2013; revised on May 10, 2013; accepted on May 24, 2013

1 INTRODUCTION

Getting a clear overview of bioinformatics events is not a trivial task (Schneider et al., 2010). Although several efforts have been made in this direction (e.g. Schneider et al., 2012), ensuring that information is accurate and reliable, yet secure from malicious attack, requires curators to sift carefully through Internet content...
to identify and annotate pertinent events. In addition to collecting information from other portals, emitting sources typically create announcements about their own events. Current methods for dissemination of events in the life sciences are, however, fragmented and uncoordinated: some announcements never reach parts of their intended target audience, and many spam unintended recipients. Ideally, announcements should reach all potential event participants, without troubling those for whom they are irrelevant or inappropriate. In practice, however, announcements are typically posted simultaneously to several different sites in an attempt to reach the widest possible audience. This process is both time-consuming for those posting the announcements and bombards recipients with duplicate information about the same event from multiple sites; it also makes it difficult to change the announcement details (e.g. a deadline extension for submission of posters), as it is practically impossible to ensure that updates are propagated to every resource to which the original announcement was sent. In consequence, recipients may be misinformed or confused by announcements of the same event with contradictory dates, speaker changes and so on, which may ultimately damage the reputation of the emitting source. A central point that collects data from event organizers would address many of these problems and provide a valuable resource for life science event organizers and participants, course trainers and so on.

2 THE IANN PLATFORM

The iAnn platform provides an integrated coherent solution that coordinates efforts between announcement-emitting sources, maximizing dissemination of relevant information in an up-to-date fashion. iAnn only displays minimal information, such as title, date and location of an event; the majority of information must be gained from the event site itself, which should be accurately maintained by the emitter. iAnn’s philosophy is that an event should be curated only once. The filtering functionality of iAnn allows reported events to be tailored to better fit a given target audience.

To accomplish our philosophy, iAnn provides (i) a common gateway for entering and annotating announcement information (the interface to annotate announcements is only accessible to authorised curators); (ii) a centralized repository of annotated data; and (iii) a suite of Web services and widgets that can be embedded in external websites, and display pre-programmed filtered lists of announcements, with no need for manual input from the external website maintainers. Features like this are already available in news portals, such as Research Gate (http://www.researchgate.net/) or Lanyrd (http://lanyrd.com/), including the use of submission forms for events and community curatorship. Such portals, however, do not provide the richness of different filtering options, the complete access to all events via Web services, or the ready-made integration iAnn offers through Google Maps and Google Calendar. iAnn is thus unique in that it provides easy integration and access to event data either through Web services or widgets. These widgets are specifically designed to work with some of the most popular content-management systems, including Drupal, Joomla and WordPress. The functionality currently provided includes (i) a list view, showing details of the name of the event, the date and the institution submitting the event; (ii) a map view, integrated in Google Maps, displaying all relevant events as clickable pivots (once clicked, the corresponding event information is released, as illustrated in Fig. 1), with a link to the original event or course page; and (iii) a calendar view, where iAnn-filtered events can also be viewed in Google Calendar.

Events are never deleted from the system; widgets by default hide out-of-date events, although users can disable this filter and see all deposited events. By 1 May 2013, the total number of deposited events in the iAnn registry since the beginning amounted to 1273. Curation of events follows a two-step process, with one curator recording the event information and a different one validating the information entered before making it public to the registry. A robust monitoring procedure is also in place that checks potential failures of iAnn services. This is done through a daemon program that has the capacity to automatically reboot the service should it go down.

3 IANN COMMUNITY

Announcement data can be posted via the iAnn event-reporting form (http://iann.pro/node/12) or can be directly emailed to events@iann.pro. Once received, iAnn curators review and annotate the announcement if the event does not exist in the central repository. Posts are welcomed by any individual or organization involved in the life sciences. The iAnn project officially started in summer of 2011 and has since garnered strong support. Working with diverse organizations has given us first-hand experience with community-driven input from the fields of bioinformatics, computational biology, biocuration and proteomics. As part of this community-wide support, we are developing a standard sharing protocol for announcement exchange. Future versions
of iAnn will thus include an agreed exchange format, an ontology and a minimum specification for scientific announcements.

ACKNOWLEDGEMENTS
The authors are grateful to all users who have submitted events to iAnn.

Funding: European Union grants Enfin (18254) and PSIMEx (contract number FP7-HEALTH-2007-223411); Korean Bioinformatics platform development for NGS: 10040231; the British Society for Proteomics; ProteoRed (Spain); and Wiley-VCH.

Conflict of Interest: none declared.

REFERENCES