Title: Bio2RDF mobile: an app for biological semantic web databases

Authors:
Déraspe M[1], Rheault J-F[1], Joly-Beauparlant C[2], Emonet V[2], Belleau F, Droit A[2]
[1]Département de Biochimie, de microbiologie, et de bio-informatique, Université Laval, Québec, QC, Canada
[2]Département de médecine moléculaire, Faculté de Médecine, Université Laval, Québec, QC, Canada

Abstract

Bio2RDF provides one of the largest networks of Linked Data for Life Sciences. Herein, we describe a new way to navigate into the large flow of biological and medical databases through a mobile web application. Mobile applications are increasingly important tools in the everyday life of a scientist. Bringing a collection of reference databases uniformly into their pockets was the main motivation of this project. We therefore developed Bio2RDF-mobile and published it in the Android Play Store and the iOS App Store.

Since 2008, Bio2RDF is a well-recognized open-source project that provides linked data for life sciences using Semantic Web technologies (Belleau, 2008). More recently RDF[1] databases have grown in popularity with big data providers like the EBI[2] and the NCBI[3] institutions. One of the beauties of open RDF databases is they can be queried with the SPARQL query language directly throughout the Web. They offer a lot of flexibility on how scientists can fetch information of their interest. Moreover the data can come from several sources and be linked together; easy-to-use mashups can thereby be created. However, for the uninitiated biologist, SPARQL queries can be repellent and long URIs in the results are not always appealing. Mobile platforms are a good niche for which to propose simple, intuitive, uniform and user-friendly interfaces. To our knowledge, not a lot of attempts have been made to provide such an application combined with Semantic Web technologies. We can see agreements in Kumar (2012) for the usefulness of mobile apps in science by allowing a quicker access to scientific data mainly by avoiding the use of a personal computer. Several circumstances could take advantage of this : meetings, conferences, scientific discussions and so on.
The source code can be find at https://bitbucket.org/zorino/ionic2rdf/

References

Belleau, F., Nolin, M. A., Tourigny, N., Rigault, P., Morissette, J. (2008). "Bio2RDF: towards a mashup to build bioinformatics knowledge systems." J Biomed Inform 41:706-716.

Kumar, S., Boccia, K., McCutchan, M., Ye, J. (2012). "Exploring spatial patterns of gene expression from fruit fly embryogenesis on the iPhone." Bioinformatics 28:2847-2848.

---

[1] Resource Description Framework
[2] European Bioinformatics Institute
[3] National Center for Biotechnology Information