Enhancing the Galaxy Experience through Community Involvement

Daniel Blankenberg[1,2] and the Galaxy Team[2]
[1]Department of Biochemistry and Molecular Biology, Penn State University, University Park, PA 16801, USA
[2]http://galaxyproject.org

Project URL: http://galaxyproject.org

Galaxy (http://galaxyproject.org) is an open, web-based platform for accessible, reproducible, and transparent computational biomedical research. Galaxy makes bioinformatics analyses accessible to users lacking programming experience by enabling them to easily specify parameters for running tools and workflows. Analyses are made transparent by allowing users simple access to share and publish analyses via the web and create Pages, interactive, web-based documents that describe a complete analysis. Extending Galaxy with new tools, datasources, and external resources has been designed to be a plug-n-play process.

Among Galaxy's greatest strengths and assets is the involvement of its community. Here, we discuss several recent developments that are aimed at further engaging and incentivizing the involvement of community members.

Galaxy enables experimental biologist access to powerful analysis infrastructure through the web. However, this access is limited by the ability of users to obtain answers regarding the use of the available tools. Currently, the Galaxy Project provides this support through the use of several mailing lists. These mailing lists have been instrumental in supporting the Galaxy community. However, there are several areas that could be improved upon, including frequent reposting of common questions and better engagement of the Galaxy community in answering questions. Towards these ends, we have integrated BioStar (doi:10.1371/journal.pcbi.1002216) into the Galaxy framework as a Q&A support application. BioStar takes a Stack Exchange-based approach, where a participant asks a specific question and the other participants provide direct answers to the posed question. Other users can then vote on the correctness of each provided answer with the original poster given the option of approving one or more answers; the most positively voted answers rise to the top of the page. Participants are granted points and awards based upon the community assessment of their contributions. This has the positive effect of providing access to concise answers to specific questions, which can be easier for users to find and follow.

The Galaxy ToolShed (http://toolshed.g2.bx.psu.edu) serves as an appstore to all Galaxy instances worldwide. It is a free open service that hosts Galaxy Utilities including Tools and Workflows. The ToolShed allows Galaxy administrators to install thousands of freely available tools into their instances. It also manages the tool external dependencies and tool updates thus making their life easier. Moreover it allows the tool developers to easily share, update and manage their tools. There are dozens of Galaxy public servers and hundreds of private ones. By depositing an analysis tool within the ToolShed, developers gain free and instant click-to-install access to a large and active user base. More users → more citations → more grants.