

OpenBio-C: An Online Social Workflow Management System and Research Object Repository

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Today there is a plethora of Open Source Workflow Management Systems (WMS) aiming at organizing research, automating analysis, discovering valuable Research Objects (ROs) and, ultimately, battling the reproducibility crisis. Despite the technical maturity of these tools and the efforts of communities like OBF to spread their use, we can roughly estimate that less than 1% of the published analysis that combine multiple ROs use any WMS. Besides, there are still important features that are in the best case partially supported by existing WMSs, thus limiting their applicability. In brief, these features are: (i) steep learning curve from non-IT experts, (ii) custom Domain Specific Languages, (iii) requirement for local installation, (iv) inability to cooperate with other WMS, (v) lack of rewarding to scientists that add content, (vi) lack of a single, browsable repository with easily downloadable and executable ROs that also contains usage statistics and resource requirements, and (vii) inability to rate and comment existing ROs. To remedy these issues, we present the first version of OpenBio-C, which is an online WMS, workflow composer, RO repository, and Q&A site, targeting all science enthusiasts. It requires no IT knowledge and supports RO import and export from a variety of existing WMS.

Availability: <https://www.openbio.eu>

Source code: <https://github.com/kantale/arkalos>

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