

## **Reviewer Report**

**Title: Watchdog 2.0: New developments for reusability, reproducibility and workflow execution**

**Version: Revision 1**      **Date: 5/12/2020**

**Reviewer name: Jan Forster**

### **Reviewer Comments to Author:**

The authors present their revised manuscript describing the workflow management system "Watchdog 2.0".

The manuscript seems to tackle the reviewer comments quite well, improving both the software itself and the writing and comprehensiveness of the manuscript.

Comments from my original review have been addressed satisfiedly.

An important major change in the Watchdog implementation is the possibility to automatically deploy software when using Watchdog modules.

Here, with the use of so-called execution wrappers, Watchdog is able to use predefined Conda environments and Docker images to install software. Conda environments need to be defined in the modules they refer to and can be versioned, allowing to redo analyses using different/older software environments. Execution wrappers for other package management or containerization tools are not implemented to date, but the authors claim they could be easily added using Watchdog's plugin system. This is an important step and improvement of Watchdog in terms of usability and reproducibility.

The topic of automated software deployment has also been added to the comparison with other WMS, together with the assessment of how to repurpose workflows for new datasets.

Furthermore, the authors increased overall user-friendliness by fixing path variables during installation and improving accessibility of helper scripts and similar executables.

The reference book of available Watchdog modules allows a nice and up-to-date overview for users.

### **Level of Interest**

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Please indicate the quality of language in the manuscript: Choose an item.

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