Towards a Research Software Directory

GFZ Research Software Meet-up

14. September 2022

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A Typical Research Software Citation

"We did this and that using the software Someproduct (Author et al. 2011, 2019)."

The initial peer-reviewed paper presenting *Someproduct* and the algorithm.

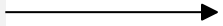
A conference presentation about more recent features of *Someproduct*.

Reasons why this should not be done

- Cited
  - method paper
  - talk with new features
- What would make the software citation more **FA**I**R**?
  - Specific software version
  - Link to a permanent storage of the software

> "We did this and that using the software Someproduct (Author et al. 2011, 2019, **2022**)."

Author et al. 2022, Someproduct v1.3.124,
https://linktodoiprovider.org/10.123/123123123

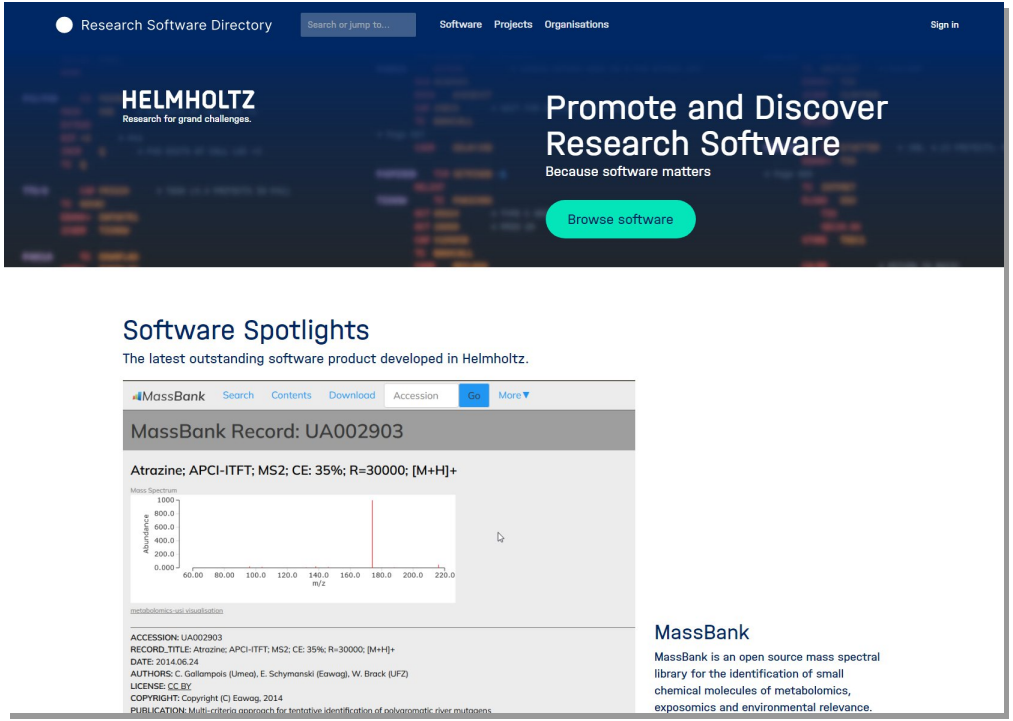


Permanent storage of DOI provider with access to actual software.

More needs for improvement

- Licenses
- Findability outside of scientific literature
- Value recognition in scientific community
- Impact measurement
- Research software catalogues
- Incoherent metadata submitted to DOI providers

Research Software Directory



- Originally developed by Netherlands eScience center
- Collaborating with HIFIS
- For RSEs
  - Promote your software
  - Become a Helmholtz software spotlight
- For Researchers
  - Browse software by topic or keywords
  - See whether software is maintained and estimate their impact
- Pilot online https://helmholtz.software

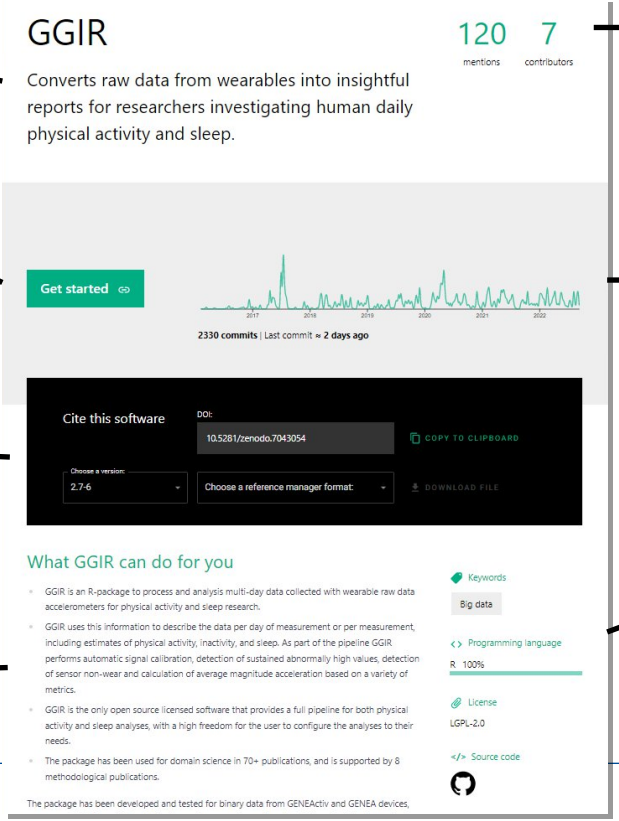
The Software Page

Title and excerpt

Link to get started

Helper for correct citation

Description

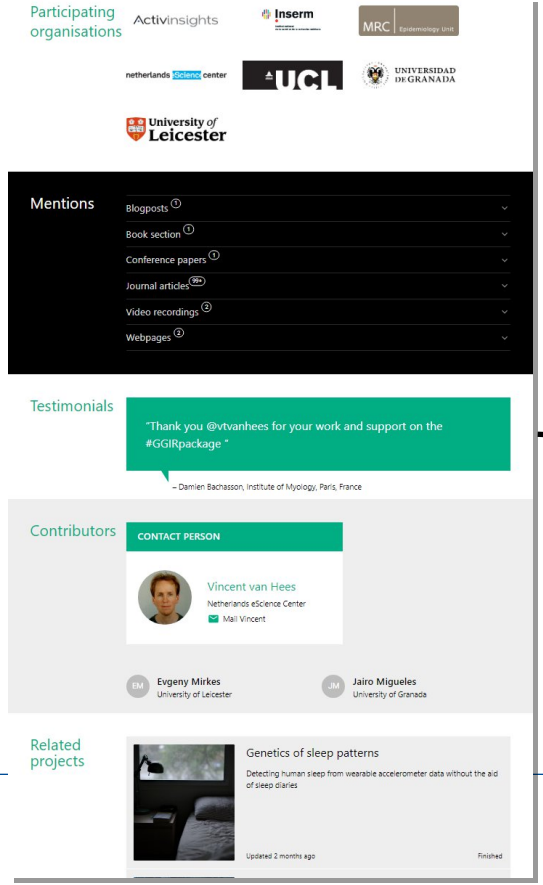


No. of citations and contributors

Commit activity graph

Keywords
Programming Languages
License
Link to repository

The Software Page



Participating organisations

Links to citations of the software

Testimonials

Contributors

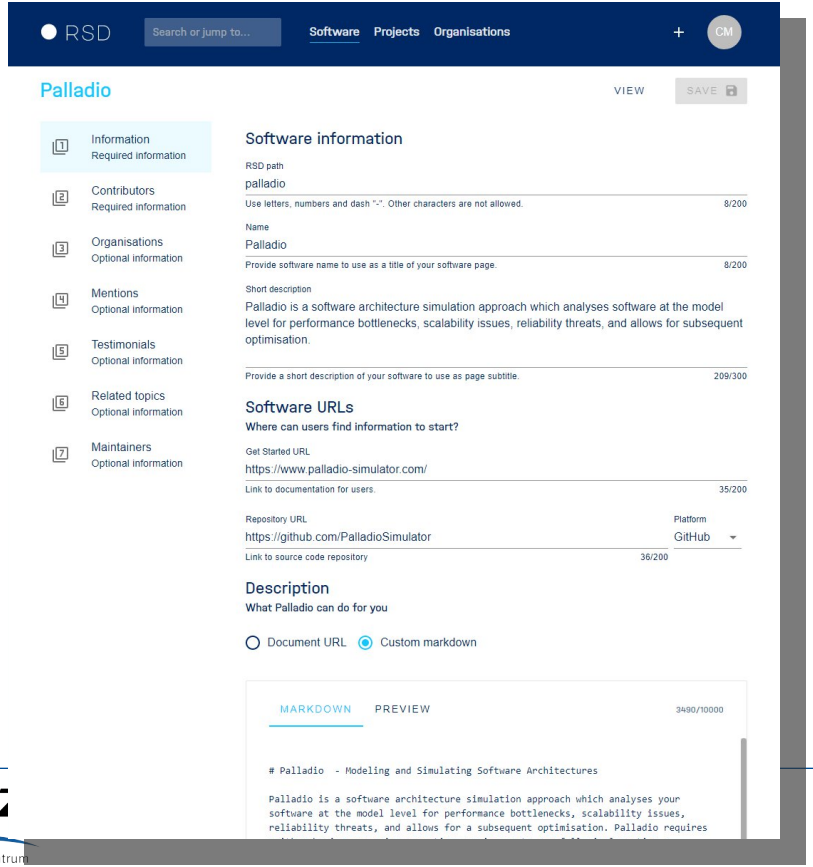
Related projects or software

GFZ Helmholtz-Zentrum Potsdam

netherlands eScience center

HIFIS HELMHOLTZ FEDERATED IT SERVICES

Software Maintainer View



- Fully elaborated web frontend
- Aim for high degree of automation
- Auto-import metadata from DOIs
- Auto-fill contributor information from DOIs
- Invite others to maintain entries

Status and plans

- Currently in public testing stage
- Provide more services for RSEs
  - License consultation
  - Automated software analysis (code style, security, dependency licenses)
  - Automated citation scraping
  - Prepare metadata and directly send to DOI minting providers for publication
- Software impact measurement
- Central research software catalogue in Helmholtz
- Allow application as Helmholtz Software Spotlight
- Awards for best open source projects

Resources

- Netherlands Research Software Directory
  - https://research-software-directory.org
- Helmholtz RSD pilot
  - https://helmholtz.software
- Helmholtz GitHub repository
  - https://github.com/hifis-net/RSD-as-a-service