

# Software reusability – what is needed?

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NL-RSE Meetup, February 11, 2021

10.5281/zenodo.4533776

<https://zenodo.org/record/4533776>



# This talk...

is not

- a lesson
- will not draw conclusions about research software reusability

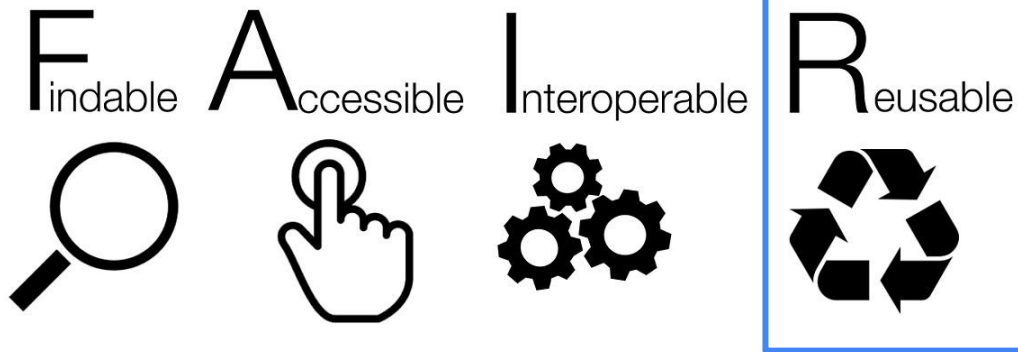
is

- to share eScience Center RSEs' experiences
- to have an open discussion on
  - what can be done to increase awareness on software reusability
  - how can we do this together

# What is reusability for research software and why do we need it?

**What ?:** software reusability determines whether another RSE can easily install and use the software

**Why ?:** simple: to save time, energy and cost. This is in line with the ideas at the heart of the FAIR principles.



# How can we improve software reusability?

## Brainstorming:

Think about 3 things that can improve for software reusability.

<https://tinyurl.com/2021-02-11-nl-rse>

### Brainstorming notes

Faruk:

- 1- Idea 1
- 2- Idea 2
- 3- Idea 3

You:

- 1- Idea 1
- 2- Idea 2
- 3- Idea 3



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# eScience Center study: Minimum requirements list for software reusability

- Software quality
- Checklists can help
  - Software related information
  - User documentation

# NLeSC reusability checklist: the software

- ... is in an accessible repository, preferably version controlled (GitHub/Gitlab/other)
- ... has a licence that allows for reuse (including dependencies)
- ... depends on any sort of data, the data should be available, has a permissive license

# NLeSC reusability checklist: documentation

## Software details

- ... explains what the software does
- ... explains \*why\* one should (re)use the software
- ... specifies which OS the software has been tested on
- ... describes special hardware requirements if needed (e.g. GPUs, FPGA)
- ... has a good description of software requirements (dependencies, environment settings, etc.)

## Usage

- ... has documentation of how to install it and get it to run
- ... has usage documentation
- ... has examples of how to run it
- ... describes options/parameters available

# NLeSC reusabilathon: testing NLeSC reusability checklist

Investigated reusability of a few software developed by NLeSC

It took 1 hour per use case.

## Some findings:

- User friendly descriptions
- Better documentation
- Better installation instructions (requirements, dependencies, hardware requirements)
- More tutorials
- Visibility of license conflicts



# Sprint proposal

Reusabilathon: We check reusability of each other's research software

RSEs try to install and use a research software that they are not familiar with.

- a single day sprint
- randomly pick software
- report findings--come up with some requirements/recommendations

Any volunteers?

Add your name to the shared document

<https://tinyurl.com/2021-02-11-nl-rse>

# Call to collaborate


Let's work on a blog post to show the importance of software reusability and software quality.

Any volunteers?

Add your name to the shared document

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# Let's stay in touch

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