

Code Review

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What is Code Review?

Some one is reading my code?

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....Erm, yes. 😊

What is Code Review?

- Reviewing code to check for defects or inefficiencies
- Think of it as peer review for software (Gruel et al, 2017)
- Supports sustainability and reproducibility (Vable, Diehl, and Glymour, 2021)

Why?

- Ongoing peer review of code
- On-boarding new team members:
 - Learn coding style and culture
- Learning about what other people are doing

Models of Code Review?

- One reviewer who does it
- Peer based with an open repository to look at code and raise issues

Risks of **Not** Reviewing

- Bugs creep in
- Inconsistencies – naming, patterns, and style used?
- Bus factor is reduced
- RSE specific – has the problem been understood?

How?

- Expectations of the review - purpose of the review and reviewer expectations.
- Explain - why something is bad? The reviewee may have a counter argument.
- Examples - include an example in the review comment to help understanding, especially with someone new to a field or less experienced.
- Are there specific issues? - is it code style? Is there a serious issue?
- Run a build and tests to pick up any issues **before** review. Automate these?
 - Add linter on the command line as part of the tests

Names, Style, and Lint

- Is there a naming convention?
 - R is unopinionated about names (Bååth, 2012 , R Trader, 2018)
- Is there a common style?
 - Tidyverse has the most re-used style guide:
 - <https://style.tidyverse.org>
 - <https://google.github.io/styleguide/Rguide.html>
- RStudio uses lintr to help identify infelicities.
 - Vim and emacs have ways of adding it.

Software Sustainability Institute Code Review

<https://codereviewworkshop.netlify.app>

Or keep an eye on @softwaresaved

Thanks for listening

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