Ten simple rules for selecting an R package

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Abstract

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Author summary

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Text based on plos sample manuscript, see   1
http://journals.plos.org/ploscompbiol/s/latex   2

Introduction   3

Explain what R is and how its package ecosystem works.   4
 Points: 5

- Open source project, where many people contribute with their own extensions   6
- Large variation in the quality of different extensions (packages)   7
- That some R users, particularly new ones, struggle with finding and picking which   8
  packages to use.   9

Ideas of 10 things   10
Finding packages: 11

- CRAN task views   12
- Textbooks ("[x] with R"). May not be latest...   13

- Google searches, social media (#rstats) [14]
- Conferences (and online streams of those). RStudio, UseR. [15]

Picking a good package: [16]

- On a public repository like CRAN or Bioconductor. Explain more about these [17] repositories and what their standards are. Explain their role in the community. [18] Give the alternative ways that R packages can be shared (GitHub, zipped file [19] posted somewhere else). How these regularly check code and help with managing [20] the web of dependencies. [21]
- Quality of the documentation. Types of documentation (help files, vignette, [22] packagedown website, bookdown book). [23]
- Coverage by tests. Explain about unit testing and how it can help control quality. [24]
- Peer review. ROpenSci. Associated with a peer reviewed paper. Associated with [25] a book put out by a scientific publisher? [26]
- Looking up package authors. Is there role in R development (RStudio, some big [27] bio labs)? Is the work part of their work from an academic lab? Do they have a [28] history of a lot of R development? GitHub profile. Google scholar profile. Also, is [29] it a team of developers? Robust team? [30]
- Evidence of established package. Lots of version. Clear NEWS providing [31] explanations of changes. History of Issues and those being resolved. [32]
- Exploring the code yourself. How open source framework provides this. GitHub [33] mirror of CRAN if you don't want to download the zipped package file yourself. [34]

Here are two sample references: [1,2]. [35]

References [36]

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2. Dirac P. The lorentz transformation and absolute time. Physica. 1953;19: [40] 888–896. doi:10.1016/S0031-8914(53)80099-6 [41]