Why Build & Share an R Package?

rOpenSci OzUnconf

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Why Make an R Package?

- Encapsulation and order
- Natural mechanism for distribution
- Documentation!
- Reproducibility

Why Share on GitHub?

- Using git for tracking and organization
- Platform for distribution
- Collaboration & Community
- Services

Before We Go Further: Asking for Help

- Sticky notes!
- YELLOW = “All is well!”
- RED = “I need help!”
- Stick them on your laptop at any time

Are We GO for Launch?

- Is **R** installed (version 3.4.2)? (`R --version`)
    - https://cloud.r-project.org
    - `R.version.string`
- Is **RStudio** installed (version 1.1.383)?
    - https://www.rstudio.com
    - `RStudio.Version()$version`

Are We GO for Launch?

- Is **Git** installed? (`git --version`)
  - Mac: Download Xcode command line developer tools
  - Windows: Download installer from https://git-scm.com
- Is **devtools** package installed?
  - `install.packages("devtools")`
- Is **roxygen2** package installed?
  - `install.packages("roxygen2")`

What are We Building?

```
R version 3.4.2 Patched (2017-10-12 r73560) -- "Short Summer"
Copyright (C) 2017 The R Foundation for Statistical Computing
Platform: x86_64-apple-darwin16.7.0 (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

  Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> library(praiseme)
> praise()
[1] "You're the best!"
>
```

Building R Packages with RStudio IDE

- RStudio is an interactive development environment (IDE) for R built by RStudio, Inc.
- Many useful tools designed for package development
- Clean and simple workflow with GUI elements
- Automated processes for the boring stuff

R Package Project Launch

1. Click on **Project** —> **New Project…** —> **New Directory** —> **R Package using devtools** (at the bottom)
2. Enter package name “praiseme”
3. Verify that project **subdirectory** path does not contain any spaces
4. Click "**Create Project**”
5. In **File** browser, click on the package name to go to the top level directory
6. Click **Build** tab in environment browser
7. Click More ---> “**Configure Build Tools…**”
8. Click the "**Configure...**" button
9. Check “**Build & Reload**” in the Roxygen Options —> Click OK
10. Click OK in Project Build Tools Options
11. “Install and Restart” from the Build tab