

My Organization's First R package

Teach your package

`rstudio::conf(2020L)`





`open 05-teach/05_avalanchr.rproj`



`open module 05-teach`

Your Turn 1: Discussion

What do you do when you want to learn a new package?

Learning new packages

- 1 Examples
- 2 Vignettes/pkgdown
- 3 README
- 4 Blog posts
- 5 Books

Learning new packages

- 1 **Examples**
- 2 **Vignettes/pkgdown**
- 3 **README**
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Learning new packages

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Guiding users

document	scope
Vignettes	User-friendly, deeper introductions and complex topics
README	Simple introduction, installation. Get users going
Documentation and examples	Granular, function-specific details and examples

Examples revisited

If you don't want to run examples, wrap them in `dontrun{}` or `donttest{}`

```
## [other roxygen code]  
## @examples  
##  
## dontrun{  
##   get_data("daily_active_users")  
## }  
get_data <- function(x) {  
  ## code to get data  
}
```


Examples revisited

Don't mess around with the user's directory. Use `tempfile()` or `fs` if you need to.

```
library(fs)  
dir <- file_temp()  
dir_create(dir)
```

```
create_package(path(dir, "temp.package"))
```

```
## ✓ Creating '/var/folders/03/9x7925g54mncswxx06wpkx100000gn/...
```

```
## ✓ Setting active project to '/private/var/folders/03/9x7925...
```

```
## ✓ Creating 'R/'
```

```
## ✓ Writing 'DESCRIPTION'
```

```
## Package: temp.package
```

```
## Title: What the Package Does (One Line, Title Case)
```

```
## Version: 0.0.0.9000
```

```
## Authors@R (parsed):
```

```
##      * Malcolm Barrett <malcolmbarrett@gmail.com> [aut, cre] (<https://
```

```
## Description: What the package does (one paragraph).
```

```
## License: MIT + file LICENSE
```

```
## Encoding: UTF-8
```

```
## LazyData: true
```

```
## Roxygen: list(markdown = TRUE)
```

```
## ✓ Writing 'NAMESPACE'
```

```
## ✓ Writing 'temp.package.Rproj'
```

```
## ✓ Adding '.Rproj.user' to '.gitignore'
```

```
## ✓ Adding '^temp\\.package\\.Rproj$', '^\\.Rproj\\.user$' to...
```

```
## ✓ Opening '/var/folders/ 03/9x7925g54mncswxx06wpkx100000gn/...
```

```
## ✓ Setting active project to '/private/var/folders/03/9x7925...
```

Vignettes

Long-form documentation, written in **R Markdown**

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Great for general introductions and complex topics you don't want buried in the documentation

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`use_vignette()`

```
use_vignette("intro-to-shinRa")
```

```
shinRa
```

```
├── .Rbuildignore
```

```
├── .gitignore
```

```
├── DESCRIPTION
```

```
├── NAMESPACE
```

```
├── R/
```

```
│   ├── themes.R
```

```
├── man
```

```
│   ├── theme_mako.Rd
```

```
├── tests
```

```
│   ├── testthat
```

```
│       └── test-themes.R
```

```
│   └── testthat.R
```

```
└── vignettes
```

```
    └── intro-to-shinRa.Rmd
```

```
└── shinRa.Rproj
```

```
use_vignette("intro-to-shinRa")
```

```
---
```

```
title: "intro-to-shinRa"
```

```
output: rmarkdown::html_vignette
```

```
vignette: >
```

```
%\VignetteIndexEntry{intro-to-shinRa}
```

```
  %\VignetteEngine{knitr::rmarkdown}
```

```
  %\VignetteEncoding{UTF-8}
```

```
---
```



```
use_vignette("intro-to-shinRa")
```

```
---
```

```
title: "intro-to-shinRa"
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```
output: rmarkdown::html_vignette
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```
vignette: >
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%\VignetteIndexEntry{intro-to-shinRa}
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```
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```
  %\VignetteEncoding{UTF-8}
```

```
---
```

lightweight R Markdown output



```
---  
title: "intro-to-shinRa"  
output: rmarkdown::html_vignette  
vignette: >  
  
%\VignetteIndexEntry{intro-to-shinRa}  
%\VignetteEngine{knitr::rmarkdown}  
%\VignetteEncoding{UTF-8}  
---
```

Need a Markdown refresher?

Interactive, 10-20 min tutorial:

<https://commonmark.org/help/tutorial/>

The R Markdown [website](#) or [book](#)

Your Turn 2

Create a new vignette with `use_vignette()`. Set the name argument to "intro-to-avalanchr" and title to "An Introduction to avalanchr".

Knit the vignette

Open the other vignette, `vignettes/system-setup.Rmd` and knit.

Stretch goal: Use `install(build_vignettes = TRUE)` to build the vignettes and use `vignette()` to open them.

README

A quick overview of your package

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A good place for installation instructions

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Becomes the homepage for a pkgdown site

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`use_readme_md()` **or** `use_readme_rmd()`

What should I put in the README?

- 1 **Badges** (?use_badge()), where applicable.
- 2 **Installation instructions**
- 3 **A few examples**
- 4 **Maybe: how to contribute**
(use_tidy_contributing())

R Packages: ggplot2's README

README.md

ggplot2

build: passing build: passing coverage: 81% CRAN: 3.2.1



Overview

ggplot2 is a system for declaratively creating graphics, based on [The Grammar of Graphics](#). You provide the data, tell ggplot2 how to map variables to aesthetics, what graphical primitives to use, and it takes care of the details.

Installation

```
# The easiest way to get ggplot2 is to install the whole tidyverse:
install.packages("tidyverse")

# Alternatively, install just ggplot2:
install.packages("ggplot2")

# Or the development version from GitHub:
# install.packages("devtools")
devtools::install_github("tidyverse/ggplot2")
```

Cheatsheet



Usage

It's hard to succinctly describe how ggplot2 works because it embodies a deep philosophy of visualisation. However, in most cases you start with `ggplot()`, supply a dataset and aesthetic mapping (with `aes()`). You then add on layers (like `geom_point()` or `geom_histogram()`), scales (like `scale_colour_brewer()`), faceting specifications (like `facet_wrap()`) and coordinate systems (like `coord_flip()`).

Other READMEs: Zhi Yang's TidyTuesday repo

README.md

Data Visualization Gallery

Twitter

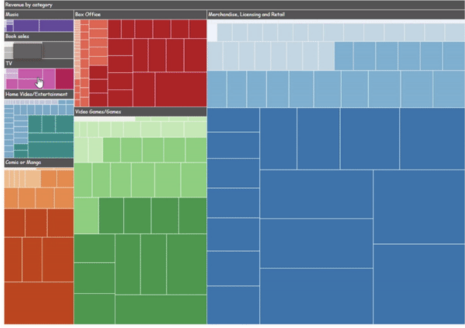
LinkedIn

GitHub

Website

► Table of Contents (click to expand)

How to make an interactive treemap using `treemap` and `d3treer`



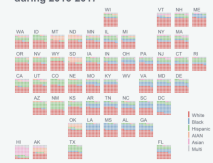
Data: introduction of #TidyTuesday media franchise data [here](#)

Code: click [here](#)

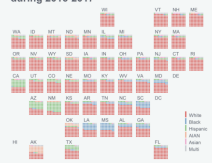
Note: to interact with the treemaps, please go to the [post](#)

How to make an geofacet waffle chart using `geofacet`

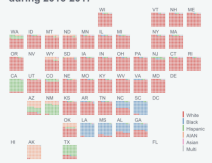
Population distribution by race/ethnicity among diverse school districts during 2016-2017



Population distribution by race/ethnicity among undiverse school districts during 2016-2017



Population distribution by race/ethnicity among extremely undiverse school districts during 2016-2017



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Other READMEs: Zhi Yang's TidyTuesday repo

Check out "Building a Better README"

README.md

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Twitter

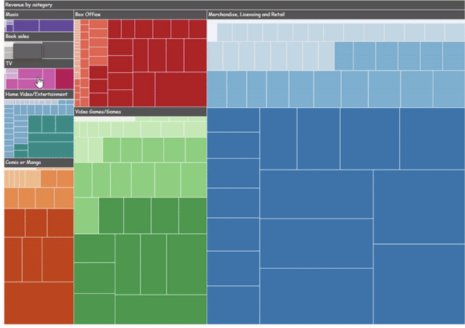
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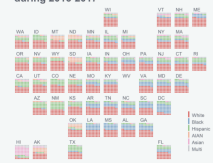
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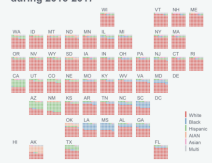
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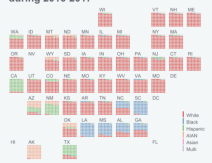
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Your Turn 3

Run `use_readme_rmd()` **to setup a**

Spell check with the **spelling** package

`use_spell_check()`