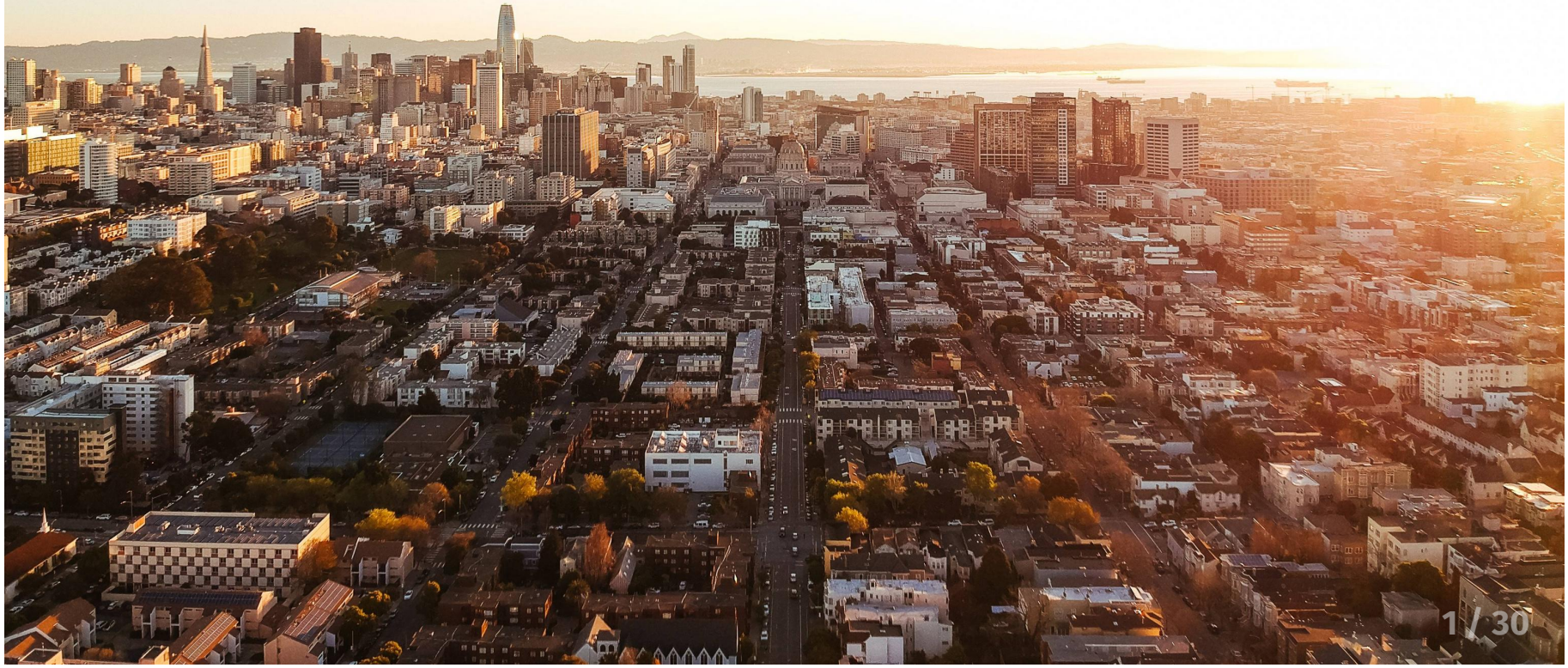
My Organization's First R package

Teach your package

rstudio::conf(2020L)



local

```
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**

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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 revisted

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 revisted

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/03/9x7925g54mncswxx06wpkxl00000gn/...
## ✔ 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/ 03/9x7925g54mncswxx06wpkxl00000gn/...
## ✔ 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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Get rendered on pkgdown sites. See also use_article()

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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"
output: rmarkdown::html_vignette
vignette: >

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

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.

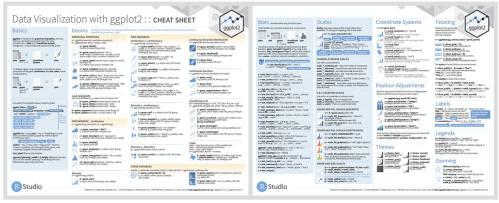
Installation

```
# 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)

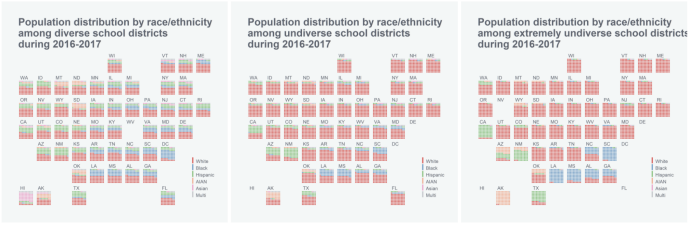
How to make an interactive treemap using `treemap` and `d3treeR`

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`



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Check out "Building a Better README"

README.md

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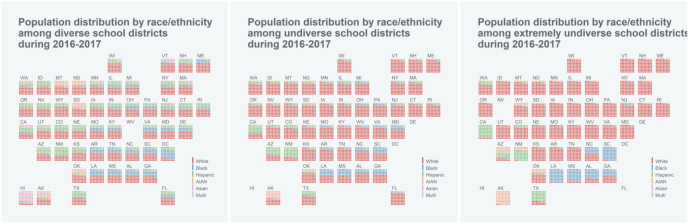

Your Turn 3

Run use_readme_rmd() **to setup a**

Spell check with the spelling package

use_spell_check()