



SoCal All Hands UseR Meeting Highlights 11/23/2019

Who am I?

About Perry

- Motivates, mobilizes, and connects cross-functional teams with technical solutions and support
- Provides customer-focused Computer Professional services with Data Science / Systems Engineering experience in commercial and non-profit industries.
- Delivers system, network, and security support in a wide variety of business and home environments.
- Partners with clients for training and end-developer support efforts, especially in the areas of configuration management, operating system integration.

In Our Last Episode...

SoCal All Hands UseR Meeting 11/23/2019

- Held in sunny Burbank at Warner Brothers training office
- Sponsors:
 - Warner Brothers (Provided continental breakfast)
 - UC Irvine MSBA (Provided a delicious lunch)
 - RStudio (Hex Stickers)
- CAUTION: 1 slide has strong language

SoCal All Hands UseR Meeting 11/23/2019

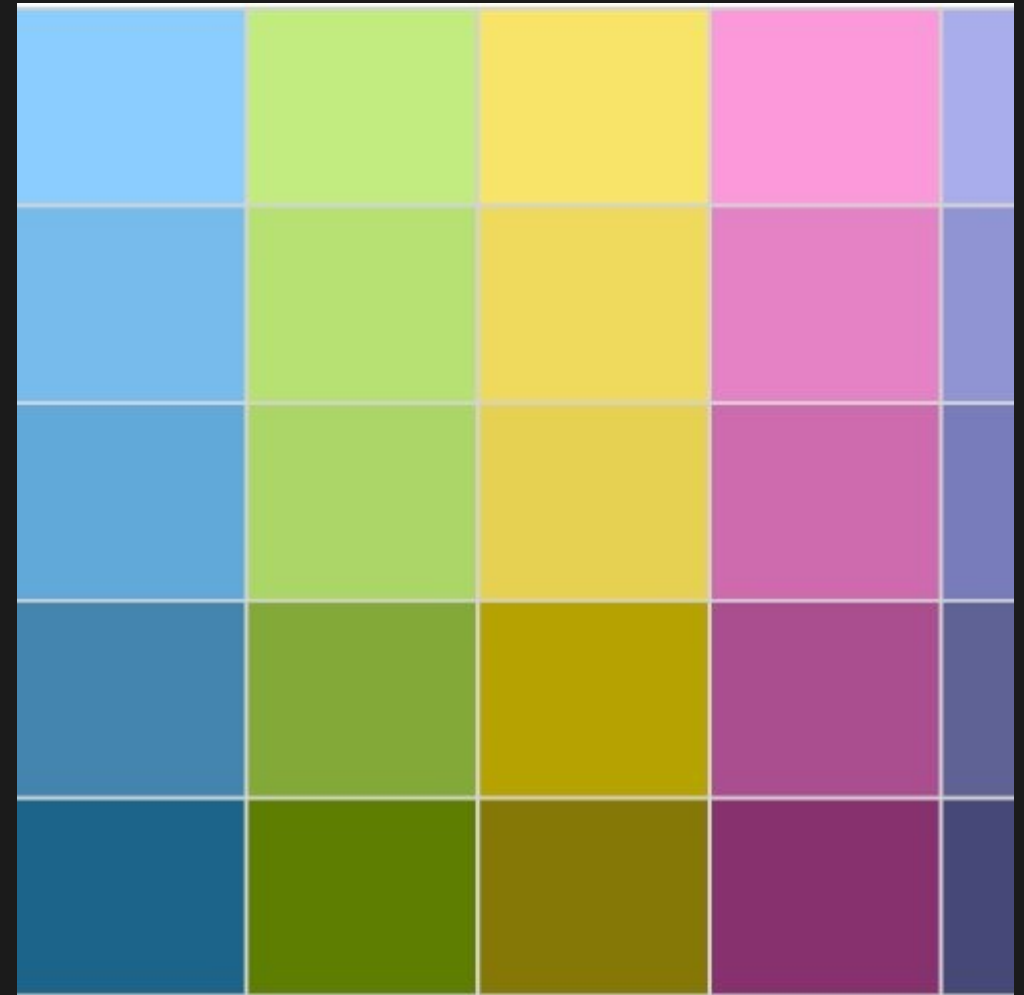
- An entire day of R presentations including a tutorial
 - Full materials for the talks at this GitHub repository:
<https://github.com/laRusers/socalr2019>
 - Tweets:
<https://zhiyang.netlify.com/post/socalr2019/>

Pre Meeting Tutorial: Designing ggplots

- Presenters:
Malcolm Barrett, Emil Hvitfeldt
- Tutorial notes here: https://bit.ly/design_gg
- Github:
 - <https://github.com/malcolmbarrett/designing.ggplots>
- Slides:
 - <https://designing-ggplots.netlify.com/>
- Examples in slides are meant to be self-learning exercises
 - “Your Turn” sections facilitate learning

Pre Meeting Tutorial: Designing ggplots (Part 2)

- Introduced themes
- Introduced the Okabe-Ito color-blind friendly palette
- Use the developer version of ggplot2 (not the stock version)
- Use warm colors to focus attention



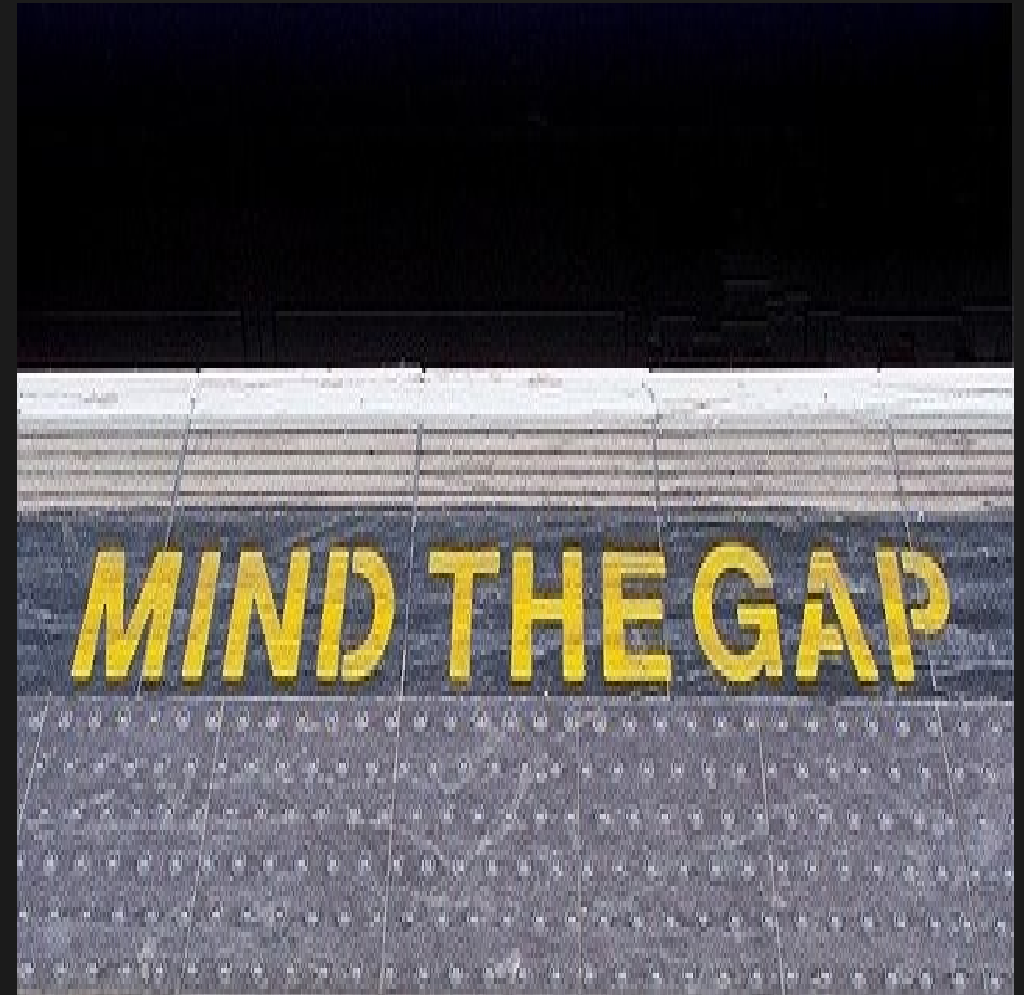
Pre Meeting Tutorial: Designing ggplots (Part 3)

- Gray 50 is not the middle gray from a human perspective
 - Try Gray 69 instead
- Legends introduce mental burden
 - Use only if necessary
 - If unneeded, `legend.position=none`
- SLIDE 19, 20:
First data set: Roman emperor death date and cause



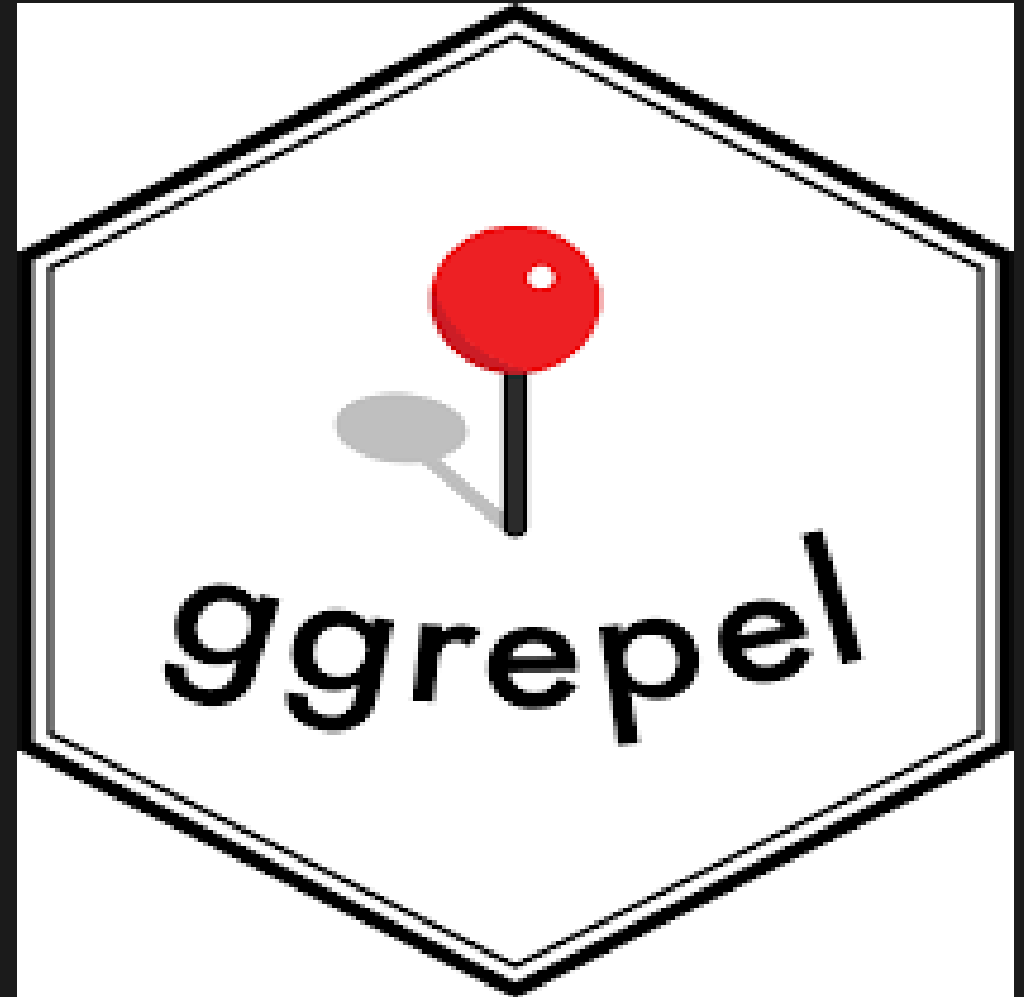
Pre Meeting Tutorial: Designing ggplots (Part 4)

- SLIDE 36:
Second data set: gapminder
 - Great for data visualization



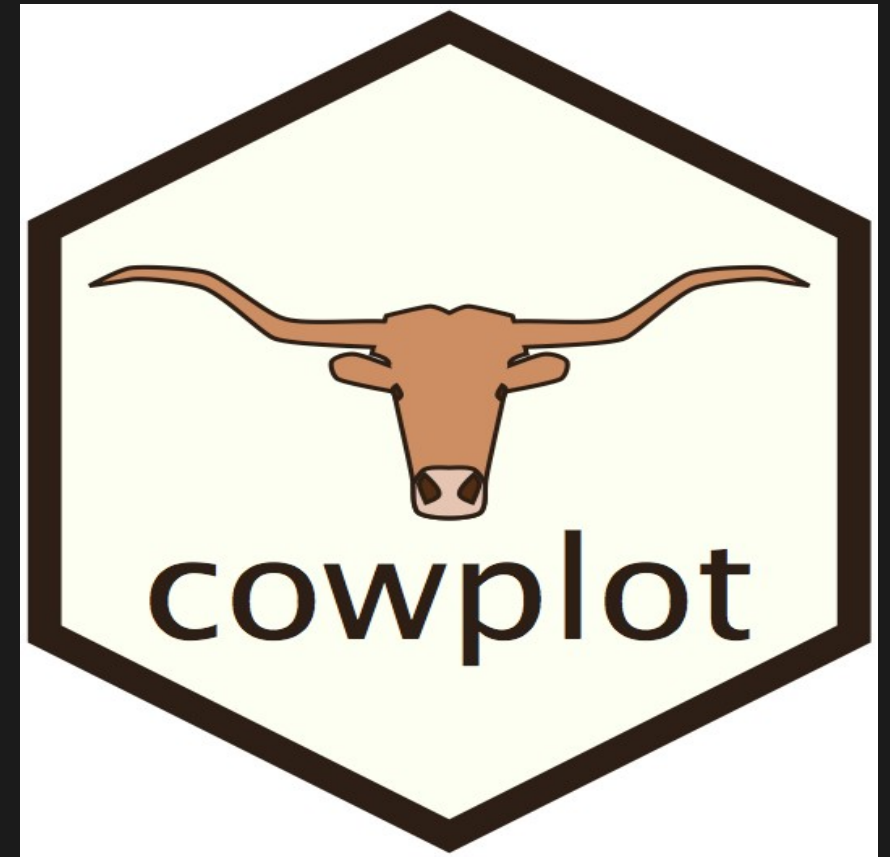
Pre Meeting Tutorial: Designing ggplots (Part 5)

- SLIDE 43
ggrepel
 - Repel overlapping text
 - Your Turn 2
 - hjust=0
 - Left justify
 - nudge_x=0.06
 - Overwrites push pins
 - Number on the right varies depending on the scale



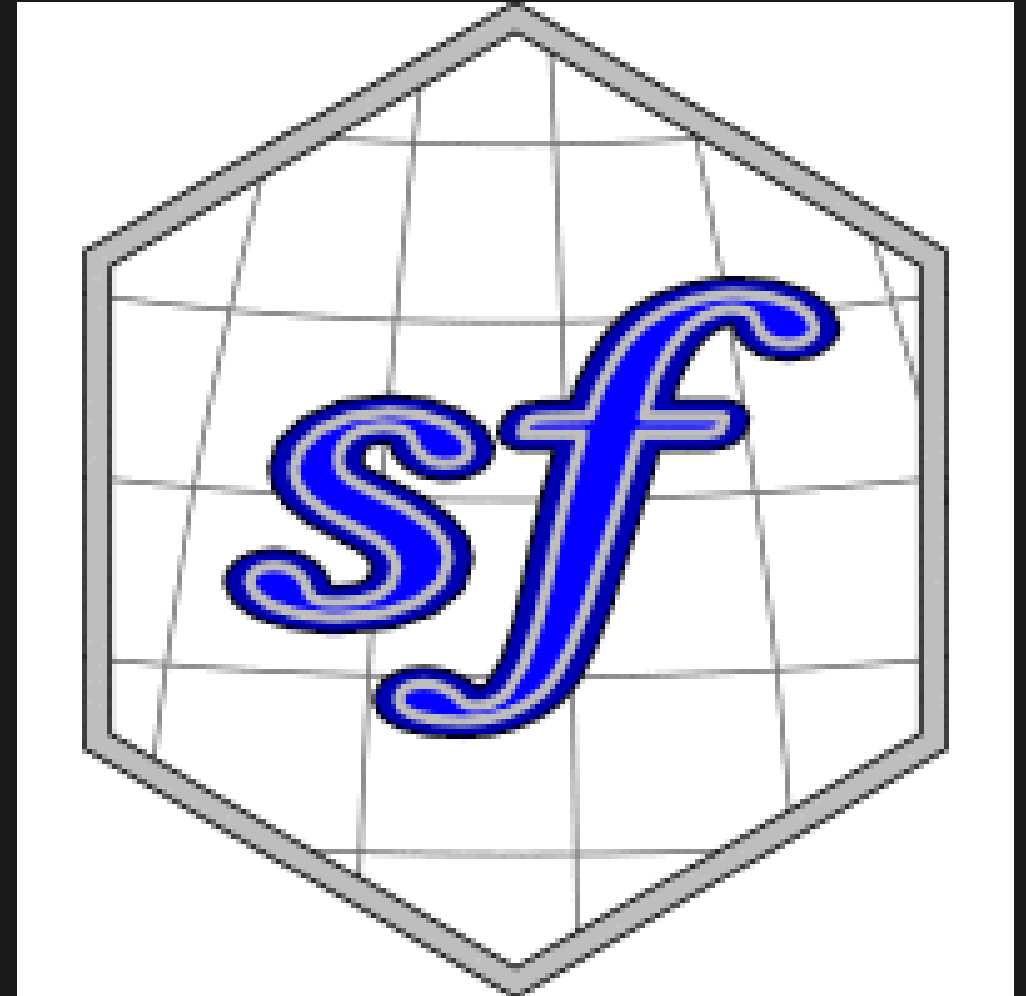
Pre Meeting Tutorial: Designing ggplots (Part 6)

- SLIDE 54:
cowplot Package
 - Great for annotations
 - No need to go into Illustrator
 - This produces grob's – Graphical Objects
 - Use ggsave to save your diagrams
 - Claus O. Wilke (c o w)
 - Book:
Fundamentals of Data Visualization
 - <https://cran.r-project.org/web/packages/cowplot/vignettes/introduction.html>



Pre Meeting Tutorial: Designing ggplots (Part 7)

- sf – R spatial package
 - Briefly discussed, check it out..



Pre Meeting Tutorial: Designing ggplots (Part 8)

- SLIDE 68-77:
facet_wrap
 - You can now give variables without a leading tilde (~)
 - Remove:
 - Data shadow
 - Highlighted geom



Pre Meeting Tutorial: Designing ggplots (Part 9)

- (running outta time...skipped some slides...)
- SLIDES 108-120:
Patchwork
 - Glue it all together



Welcome: Malcolm Barrett

- Welcome Slides:
 - <https://socal-allhands.netlify.com/>



An Aside: Networking Tip → The Pac Man Rule

- Designed by Eric Holscher
 - @ericholscher
- Great video demonstrating this:
<https://twitter.com/i/status/1111619036809449472>
 - @dylanbeattie



Join SoCal R Users Group

- <http://socalrug.herokuapp.com/>
- Interact with others:
 - @la_Rusers
 - @ocrug



Sponsors

- Warner Brothers
- UC Irvine (Lunch)
- Rstudio (Hex Stickers)



Alan Dipert – Software Development

- Bio:
 - Software Engineer
 - RStudio
 - @alandipert
 - Background not in R but originally in Web Development
- Shiny rocks



Alan Dipert – Software Development (Part 2)

- Useful Links:
 - <https://happygitwithr.com>
 - <https://environments.rstudio.com>
 - <https://environments.rstudio.com/docker>



Alan Dipert – Software Development (Part 3)

- Debugging Readings:
 - Review Advanced R (Debugging Section)
 - Mastering Software Development in R
 - How to Interpret Stack Traces in Shiny Apps



Alan Dipert – Software Development (Part 4)

- Other tips:
 - Enlist rubber ducks:
 - Explain your ideas to a rubber duck
 - Keep a work journal and lab notes
 - Diagram/whiteboard copiously
 - Take a break
 - Sleep!



Alan Dipert – Software Development (Part 5)

- Simplify functions
 - Keep them small
 - Greater than 10 lines, reduce!
- Isolate any code that interacts with externals / world-facing
- Test!
 - Use shinytest
 - Screenshots



LA R Users Groups

- @RLadiesLA
- @RLadiesRiversd
- @RLadiesIrvine
- @RLadiesSB
- Wayne
 - ws@csun.edu
 - <https://tinyurl.com/socalrugslack-signup>

WB Presentation

- WB is hiring!
- Bachelors of Science (or equivalent) and up
 - Business problems
 - Computer Science
 - Stats/Inference

WB Presentation (Part 2)

- R @ WB
 - Creation and distribution of content
 - DC
 - Consumer products
 - Shiny apps
 - R & Python
 - SQL (Snowflake)
 - Example Q: Which movie theaters would maximize sales (w/o empty theaters)
 - Optimization

Dr. Song – Software Development

- Studied in UW Madison
- Pharm
- Kite, A Gilead Company
- Talked briefly about Shiny and Markdown
 - Biomarker explorer:
clinplot(?)

Dr. Song – Software Development (Part 2)

- Tips – Know:
 - Stats
 - Computations
 - Biochem
 - Simulations vs. Analysis
 - Exploratory vs. Confirmatory
- Packages to know:
 - Shiny
 - RMarkdown

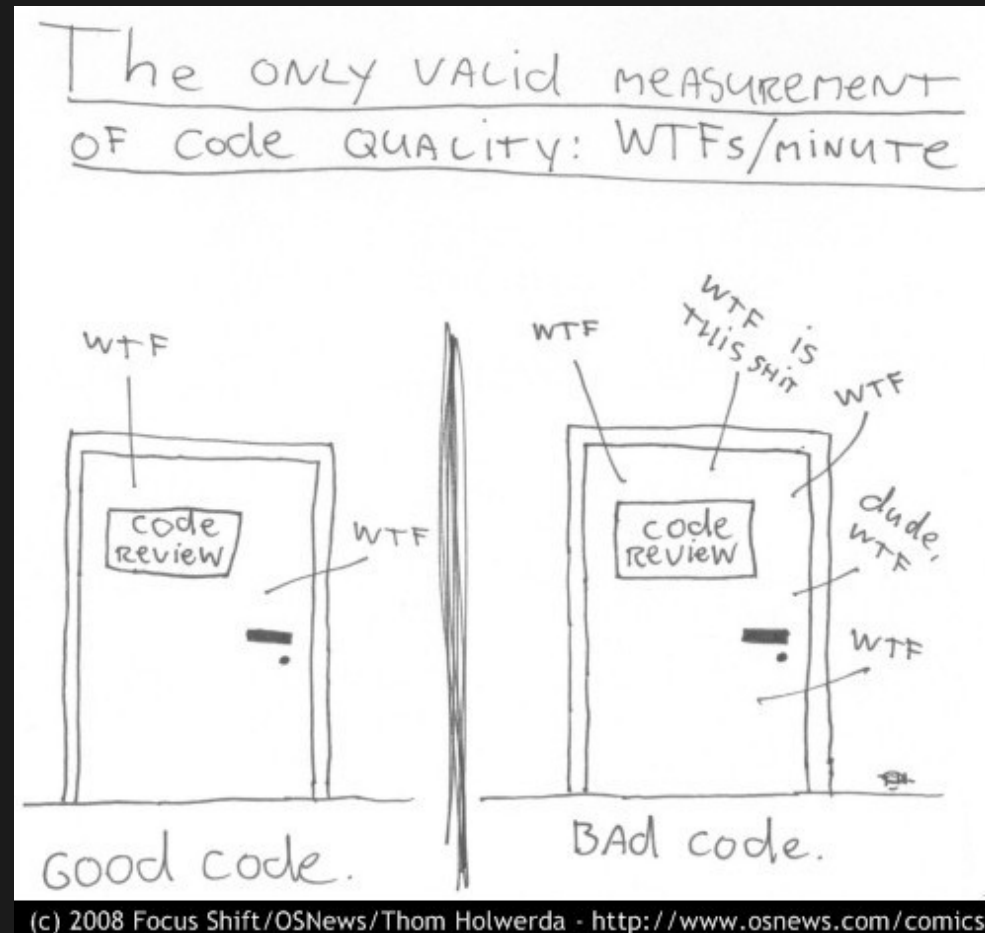
Dr. Song – Software Development (Part 3)

- ML:
 - XGBoost
 - Line
 - Interpretation
 - Deep Learning

Peter Foley – Code Reuse

- Slides:
https://github.com/peterfoley/clean_and_dry/blob/master/presentation/presentation.pdf
- Don't repeat yourself
 - Doing so yields side effects
- Reading: Clean code – Robert C. Martin
 - Video series wonderful, per the speaker
 - Costume changes were awesome

Peter Foley – Code Reuse (Part 2)



Peter Foley – Code Reuse (Part 3)

- Organizing:
 - There's a wonderful intermediate layer
 - Utility scripts
 - Shared configuration for shared needs
 - Action scripts



Peter Foley – Code Reuse (Part 4)

- Reading: Wickham – R Packages
- Use:
 - `Devtools::load_all()`
- Tests what you're testing:
 - `use_coverage`



Lightning Talk # 1

- Speaker: An Bui
 - @anbui
- Vegan package
 - Site by species matrix
- Cheese dataset
- Multivariate Datasets (MDS)
 - Use community analysis and community data to explore patterns within



Lightning Talk # 2

- Speaker: Stevan Slezak
 - Cal Poly retired instructor
- Use linear algebra to practice calculation of batting average
- Social Media:
 - Github: `seslezak`
 - LinkedIn: `stevan-slezak-a3243914`



Lightning Talk # 2 (Part 2)

- $BA = H / AB$
 - BA: Batting Average
 - H: Hits
 - AB: At Bats
 - VCV: Variance/Covariance



Lightning Talk # 2 (Part 3)

- Red Line: slope – m
- Package Stargazer:
Tables in a readable way



Lightning Talk # 3

- Speaker: Wendy Christensen
 - Github.com
wendychristensen
 - Email:
wchrister@gmail.com
- “The Assignment Problem”
 - Python guy chimed in with random offtop, who let this guy in???
- Use R to allocate employees into work shifts



Lightning Talk # 3 (Part 2)

- 20 hours of code for initial release



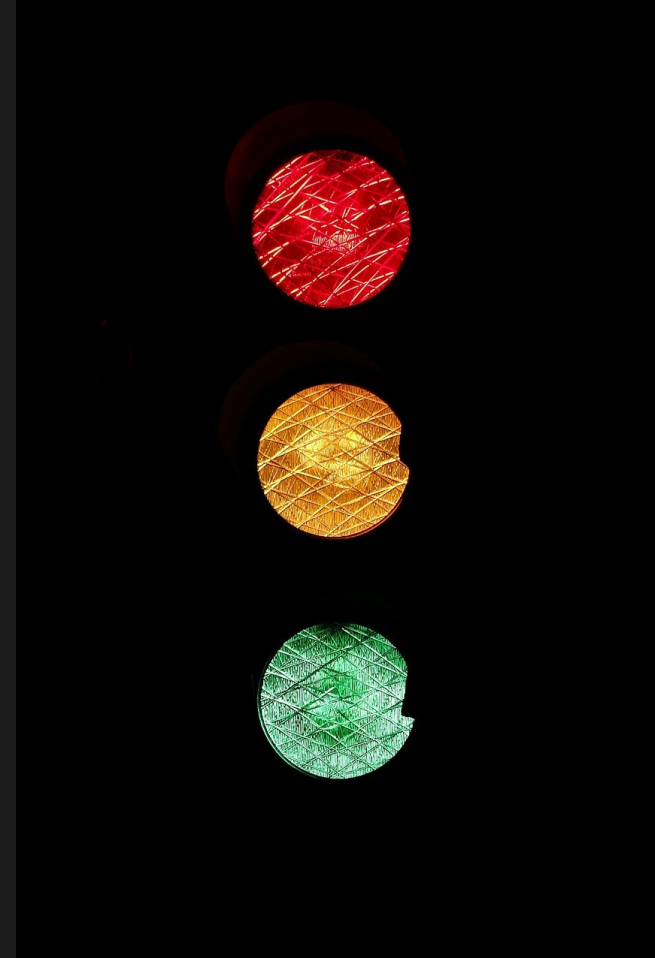
Lightning Talk # 4

- Speaker: John Peach
- Slides:
<https://github.com/laRusers/socalr2019/blob/master/2017-01-26-%20SoCal%20R%20All%20hands%20-%20Condition%20System%20in%20R>



Lightning Talk # 4 (Part 2)

- Condition system in R
- Signaller – Throw Exception Handler / Catch
- Restart scheduler in call stack
- Throw → signal condition
- Signal condition → goes up the call stack



Endnote Talk: R for Better Science in Less Time

- Julia Lowndes, PhD
 - @juliesquid
 - lowndes@nceas.ucsb.edu
 - <http://openscapes.org/media>
 - Build experiences
 - Mentorship
- Squid Explosion
 - They eat a lot of things we like
- Great art: @allison_horst:
Example: <https://openscapes.github.io/slides/betterscience/socalR#8>



R for Better Science in Less Time (Part 2)

- Ocean Health Index (OHI)
 - <http://www.oh-science.org>
- Project Mission: Our path to better science in less time
- OHI Toolbox
 - Tidy data principles
 - Bookdown
 - Keep costs down
 - The carpentries
 - RopenSci



R for Better Science in Less Time (Part 3)

- Additional Goals for the Project
 - Art & Storytelling
 - Big Missing Piece
 - How to work w/ the Data
 - If outside of the spiral, how do you enter the spiral?
 - Open Data Science is a Must



R for Better Science in Less Time (Part 4)

- Data Wrangling 50-80% of Data Scientist's Time (Lohr 2014, NY Times)
- Data Science Mindset:
<https://openscapes.github.io/slides/betterscience/socalR#20>
- Key: Separate Pieces



R for Better Science in Less Time (Part 5)

- Model
 - Recipes
 - Parsnip
- Visualise
 - ggplot2
- More....

See:

<https://openscapes.github.io/slides/betterscience/socalR#22>



R for Better Science in Less Time (Part 6)

- Speaker admits she is a recovering perfectionist
 - Build trust around shared needs
 - `janitor::clean_names`
 - `redoc::redoc_diff()`
- Other resources:
 - Seaside chats
 - `Eco_data_science`
- Slides:

<https://openscapes.github.io/slides/better-science/socallR#27>



R for Better Science in Less Time (Part 7)

- Vocab
 - Transposing
- Bayside chats
- #TidyTuesday
- Main goal:
 - Vertical and Horizontal Leadership
 - Openscapes champions – Remote
- ~22 participants



R for Better Science in Less Time (Part 8)

- Thanks:
 - RopenSci
 - Rstudio
 - RLadies



R for Better Science in Less Time (Part 9)

- Feedback Loop:
<https://openscapes.github.io/slides/betterscience/socalR#39>
- @openscapes: “We’re excited to share tips”
- Cute monsters – LOL
- rccp: Seamless integration of R/C++
- Every data is heterogeneous
- Bayside chats
 - #TidyTuesday



R for Better Science in Less Time (Part 10)

- Main goal:
 - Vertical and Horizontal Leadership
 - Openscapes champions – Remote
 - ~22 participants
- Thanks:
 - RopenSci
 - Rstudio
 - RLadies



Questions???

Recap

- Full day of thought-provoking R tutorial, lightning talks, and endnote presentations

Perry Rivera

- Slides:
 - Part 1: <https://github.com/perryrivera/alldayuserconfhighlights.pdf>



- Github:
 - <https://github.com/perryrivera/alldayuserconfnov2019>

Perry Rivera

- E-mail: perry-rivera@alumni.calpoly.edu
- LinkedIn: [@pvrconsulting](#)
- Slides:
 - Part 1: <https://github.com/perryrivera/alldayuserconfhighlights.pdf>



- Github:
 - <https://github.com/perryrivera/alldayuserconfnov2019>



Thank You!