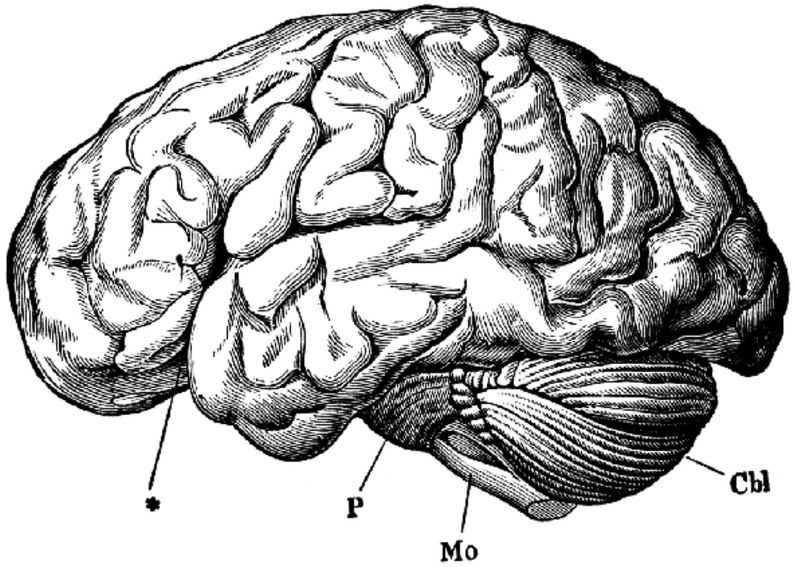
Make Interactive Web Tutorials with

learnr and R



Garrett Grolemund

Educator, RStudio

March 2018

Video at
vimeo.com/261761874

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Educator, RStudio

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learnr

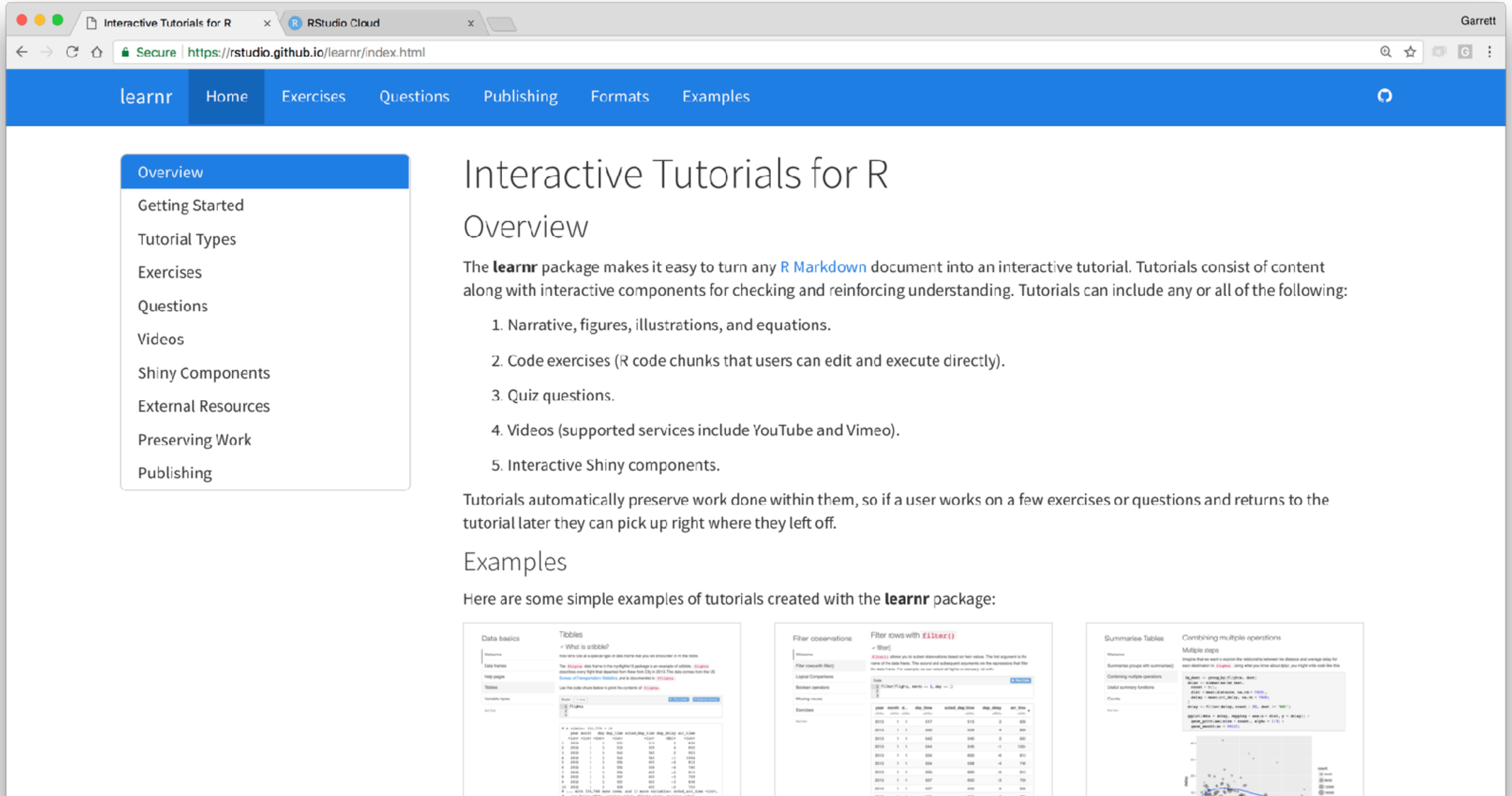
Uses

1. Flipped classrooms
2. Lab-like supplements
3. Self-learning
4. Learn by doing
5. Package tutorials
6. Workshop follow ups

To install

```
install.packages("learnr")
```

rstudio.github.io/learnr



Where next?

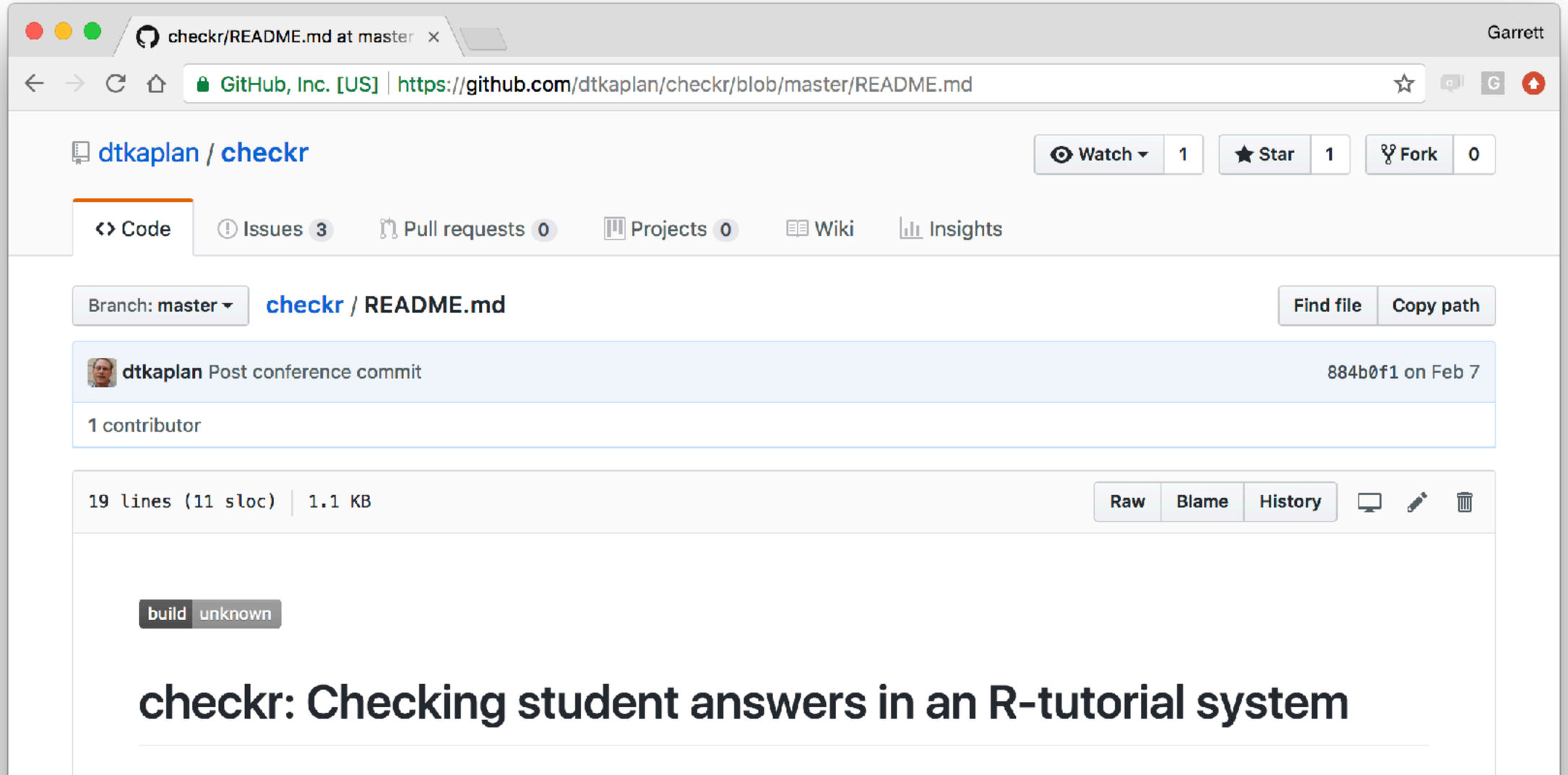
Challenges

1. Code checking

Exercise Checking

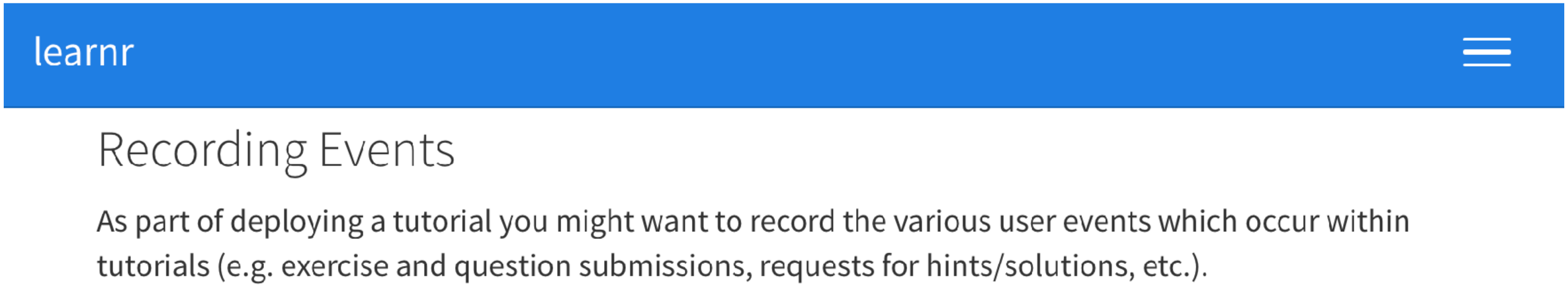
The **learnr** package doesn't directly include features for checking exercise inputs however it does include lower-level hooks that enable other packages to provide tools for exercise checking. You can provide an external function for exercise checking by setting the `exercise.checker` knitr chunk option within the `setup` chunk of your tutorial, then adding a "-check" chunk for any exercise you want to check. For example:

checkr


checkr/README.md at master
Garrett
GitHub, Inc. [US] https://github.com/dtkaplan/checkr/blob/master/README.md
dtkaplan / checkr
Watch 1
Star 1
Fork 0
Code
Issues 3
Pull requests 0
Projects 0
Wiki
Insights
Branch: master
checkr / README.md
Find file
Copy path
dtkaplan Post conference commit
884b0f1 on Feb 7
1 contributor
19 lines (11 sloc) 1.1 KB
Raw
Blame
History
build unknown
checkr: Checking student answers in an R-tutorial system

Challenges

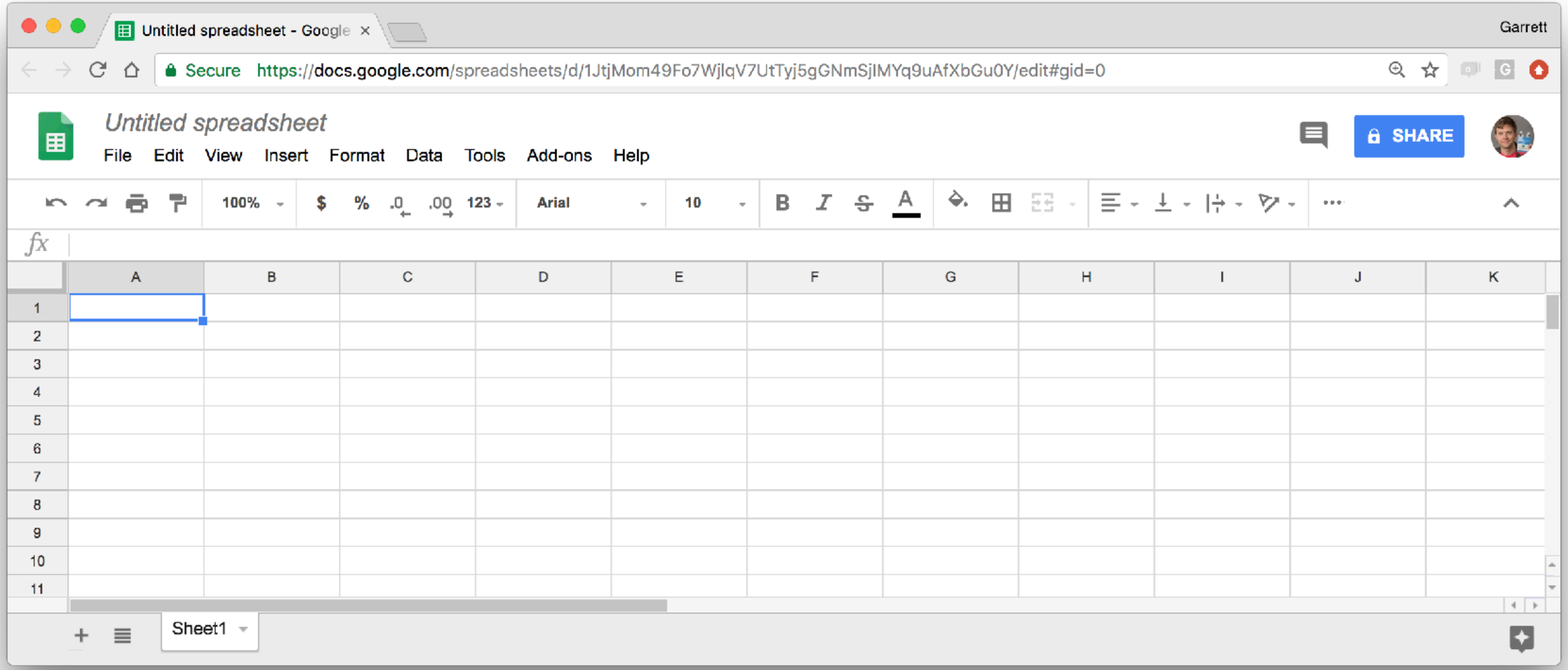
1. Code checking
2. Recording Events



simple checking

```
> user <- quote(map(lists, mean))
> solution <- quote(map(lists, mean, na.rm = TRUE))
> strict_check(user, solution)
I expected your code to include na.rm = TRUE. You may have
referred to it in a different way, or left out an important
argument name. Please try again.
```

Record to Googlesheets

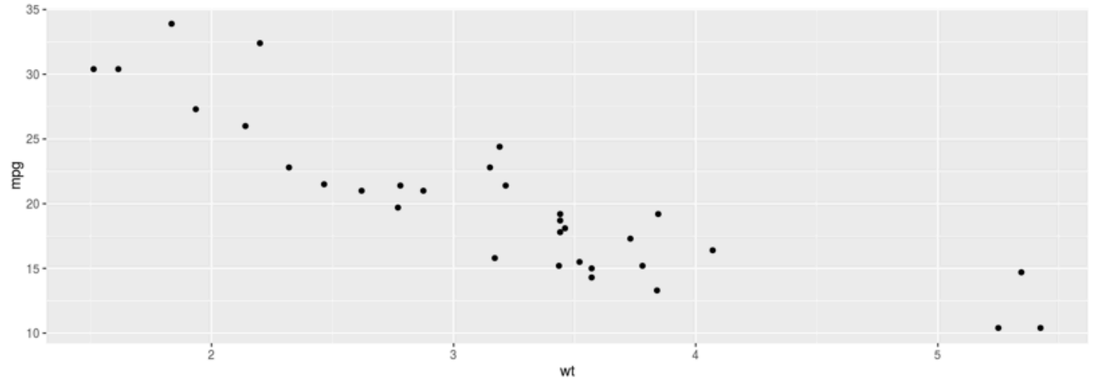


Display events in dashboard

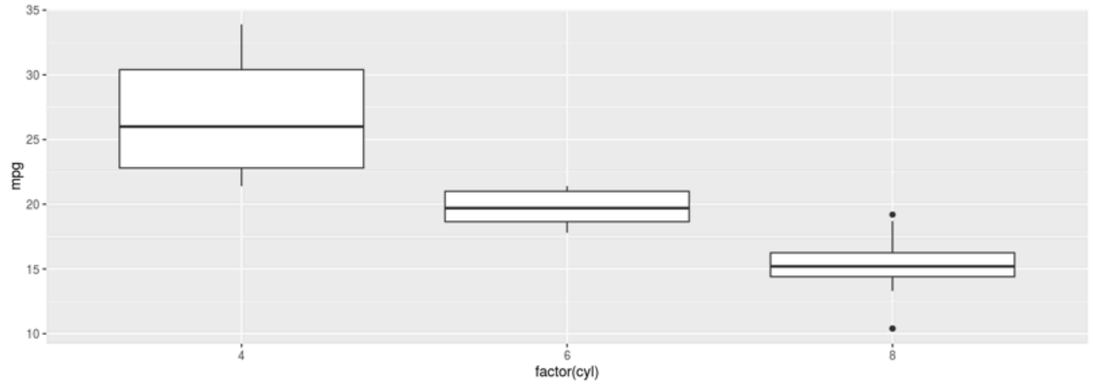
ggplot2 Brushing

Source Code

Miles Per Gallon vs. Weight



Miles Per Gallon and Cylinders



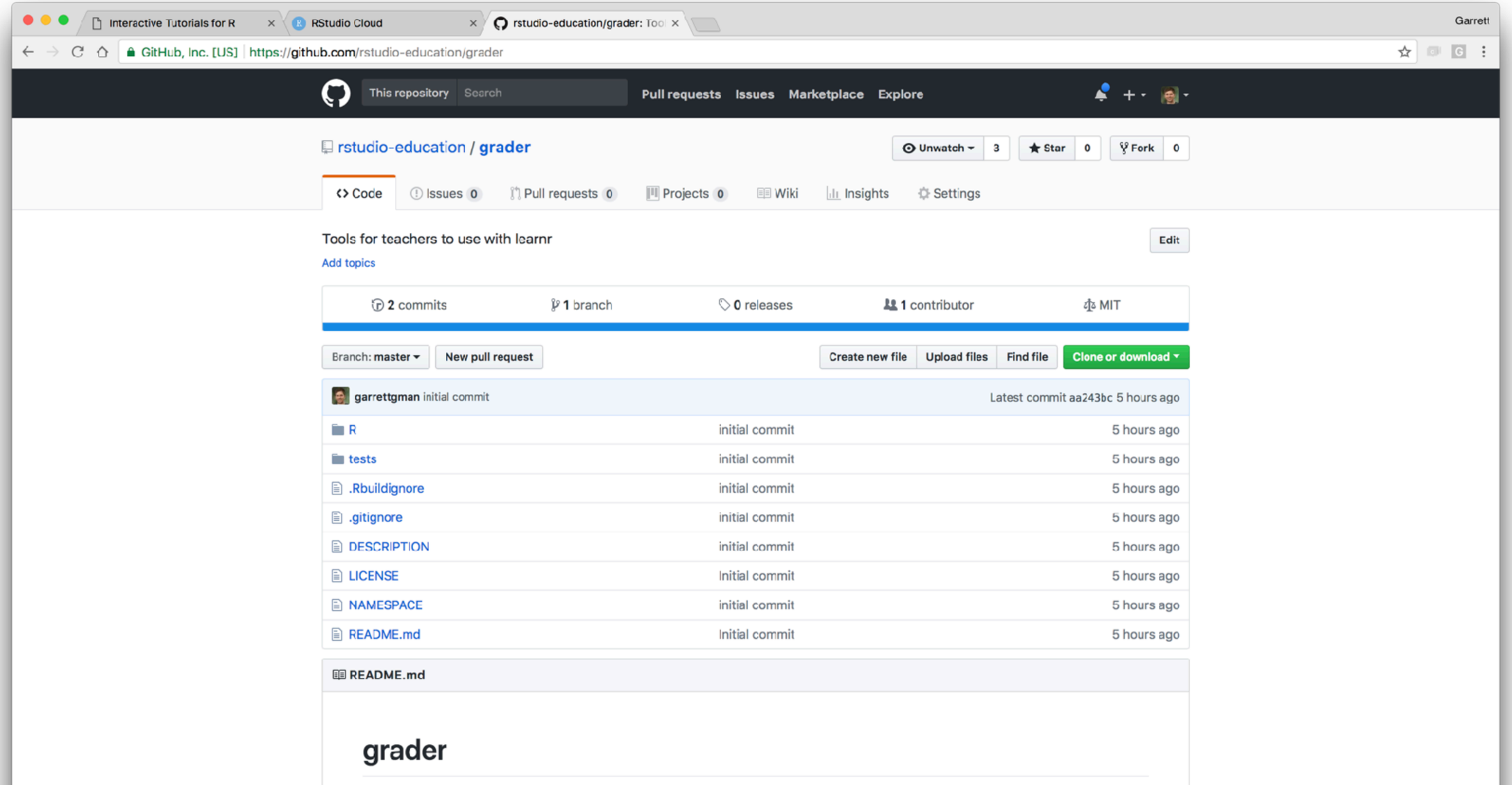
Car Details

	mpg	cyl	wt
Mazda RX4	21.00	6.00	2.62
Mazda RX4 Wag	21.00	6.00	2.88
Datsun 710	22.80	4.00	2.32
Hornet 4 Drive	21.40	6.00	3.21
Hornet Sportabout	18.70	8.00	3.44
Valiant	18.10	6.00	3.46
Duster 360	14.30	8.00	3.57
Merc 240D	24.40	4.00	3.19
Merc 230	22.80	4.00	3.15
Merc 280	19.20	6.00	3.44
Merc 280C	17.80	6.00	3.44
Merc 450SE	16.40	8.00	4.07
Merc 450SL	17.30	8.00	3.73
Merc 450SLC	15.20	8.00	3.78
Cadillac Fleetwood	10.40	8.00	5.25
Lincoln Continental	10.40	8.00	5.42
Chrysler Imperial	14.70	8.00	5.34
Fiat 128	32.40	4.00	2.20
Honda Civic	30.40	4.00	1.61

Run all solution chunks

````
```{r boxplot-solution}
boxplot(Petal.Length ~ Species, data = iris)
```
````

github.com/rstudio-education/grader



Thank you

rstudio.github.io/learnr/

rmarkdown.rstudio.com

rstudio.cloud

github.com/rstudio-education/grader

github.com/rstudio-education/primers