

ggplots -> interactive loon plots

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Contents

The `ggplot2` graphics package (part of the `tidyverse` package collection) uses the base `grid` graphics package to produce publication quality graphics for data analysis. Based on a grammar for graphics, `ggplot2` also provides a lot of functionality (e.g. `facets`) that can be extremely useful in data analysis.

The `loon` graphics package provides **interactive** graphics especially valuable in any **exploratory data analysis**. This includes programmatic and direct manipulation of the visualizations to effect interactive identification, zooming, panning, and linking between any number of displays. Of course, `loon` also provides publication quality static graphics in `grid` via `loon`'s functions `grid.loon()` and `loonGrob()`.

The `loon.ggplot` package **brings both these packages together**. Data analysts who value the ease with which `ggplot2` can create meaningful graphics with many facets and layers will also value the ease with which **ggplots can be turned into interactive loon plots** through a simple translation function `loon.ggplot()`.

Basics

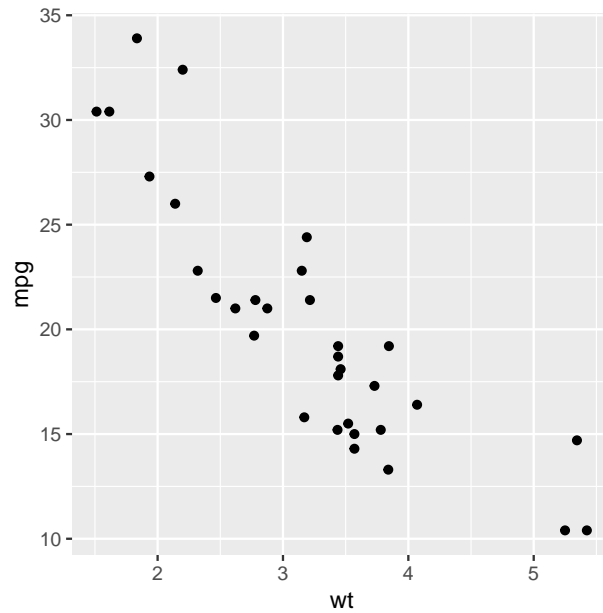
`ggplot()`

Consider the `mtcars` data set and suppose we draw a scatterplot of the mileage `mpg` (miles per US gallon) versus the weight of the car `wt` in thousands of pounds. In `ggplot2` this would be constructed as

```
library(ggplot2)
p1 <- ggplot(mtcars, aes(wt, mpg)) + geom_point()
```

and displayed by printing the "ggplot" data structure `p1` as

```
p1
```

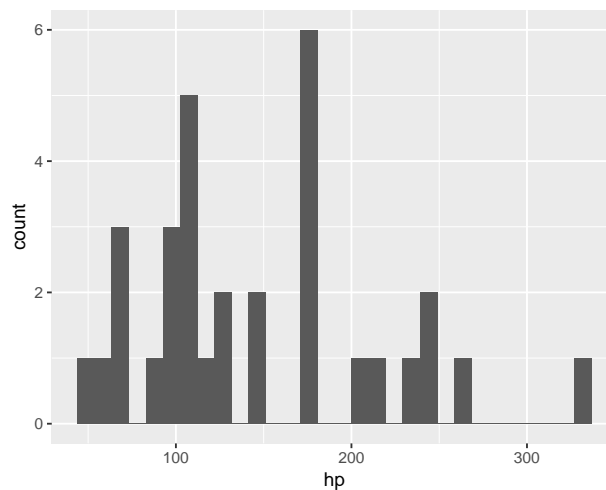


We might also display a histogram of some other variate, say the engine's horsepower `hp`. In `ggplot2` this would be constructed as

```
h1 <- ggplot(mtcars, aes(hp)) + geom_histogram()
```

and displayed as

```
h1
```



loon.ggplot() and grid.loon()

Using the `loon.ggplot` package, the "ggplot" data structures `p1` and `h1` can be **turned into an interactive loon plot** using the `loon.ggplot()` function:

```
library(loon.ggplot)
l_p1 <- loon.ggplot(p1) # the scatterplot
l_h1 <- loon.ggplot(h1) # the histogram
```

These loon plots should look very much (though not exactly) like the ggplot from which it was constructed.