HUDK 4050: CORE METHODS IN EDM

10/1/19 3:40 PM

News

EDWEEK Market Brief

doubled but still < 20%

K-12 Companies Improve on Data Privacy, But Questionable Practices Abound, Report Finds

Verizon pledges to bring 5G to 100 Title 1 schools for AR/VR powered curriculum

TechRepublic

EdTech Focus On Higher Education

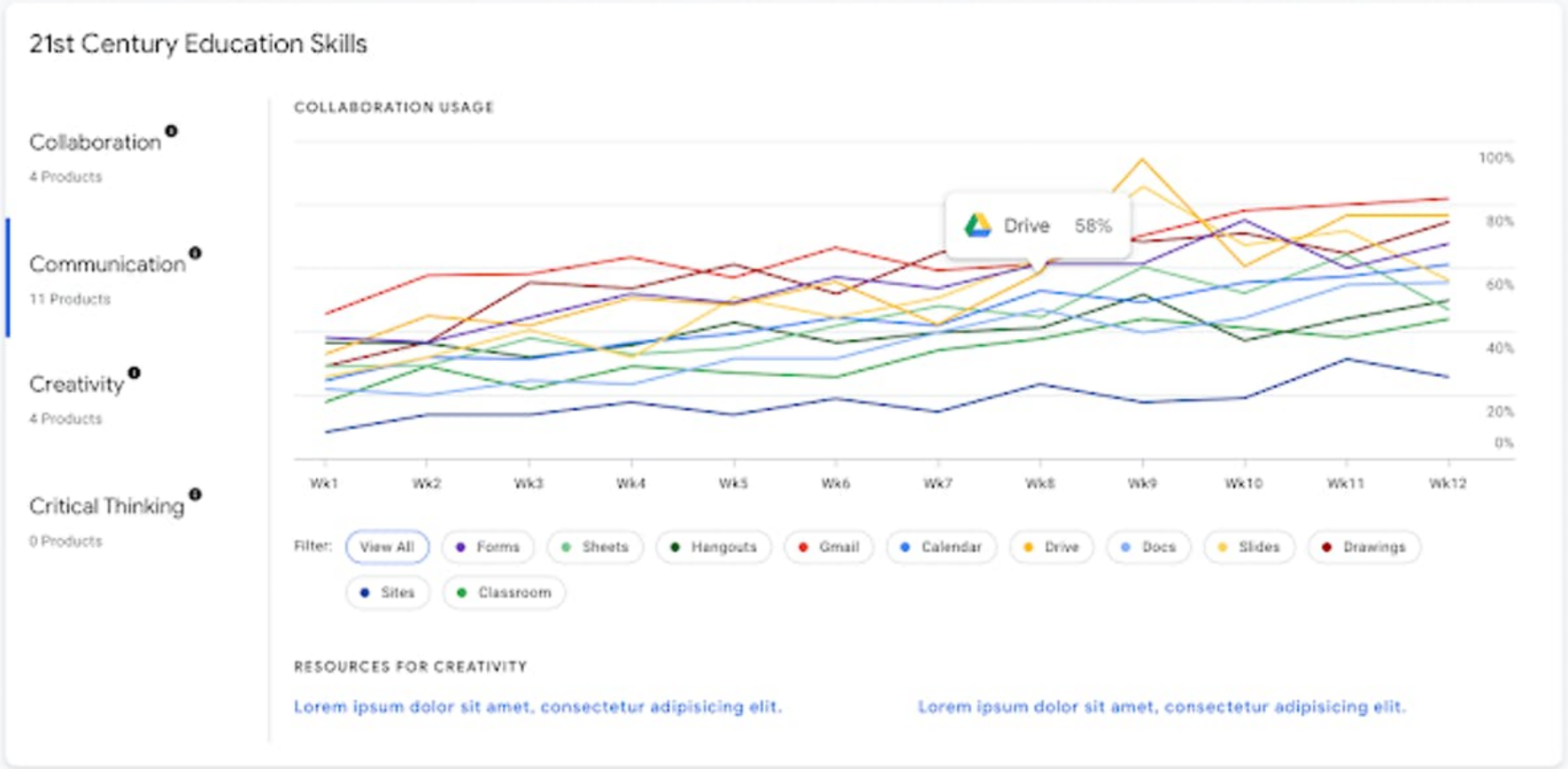
Higher Education Institutions Leverage Real–Time Data Analytics to Keep Students Safe

EdSurge

Google Apps Are Used Widely in K-12. A New Tool Will Show Just How Useful They Are.

News

Product Usage Overall
OVERALL SUMMARY
100%
80%
60%
40%
20%
0%
Form
Sheets
Slides
Drawings
Sites
Docs
Hangouts
Gmail
Calendar
Drive
Classroom
Spring 2018
Fall 2018


21st Century Education Skills
Collaboration
4 Products
Communication
11 Products
Creativity
4 Products
Critical Thinking
0 Products
COLLABORATION USAGE
Drive 58%
100%
80%
60%
40%
20%
0%
Wk1
Wk2
Wk3
Wk4
Wk5
Wk6
Wk7
Wk8
Wk9
Wk10
Wk11
Wk12
Filter:
View All
Forms
Sheets
Hangouts
Gmail
Calendar
Drive
Docs
Slides
Drawings
Sites
Classroom
RESOURCES FOR CREATIVITY
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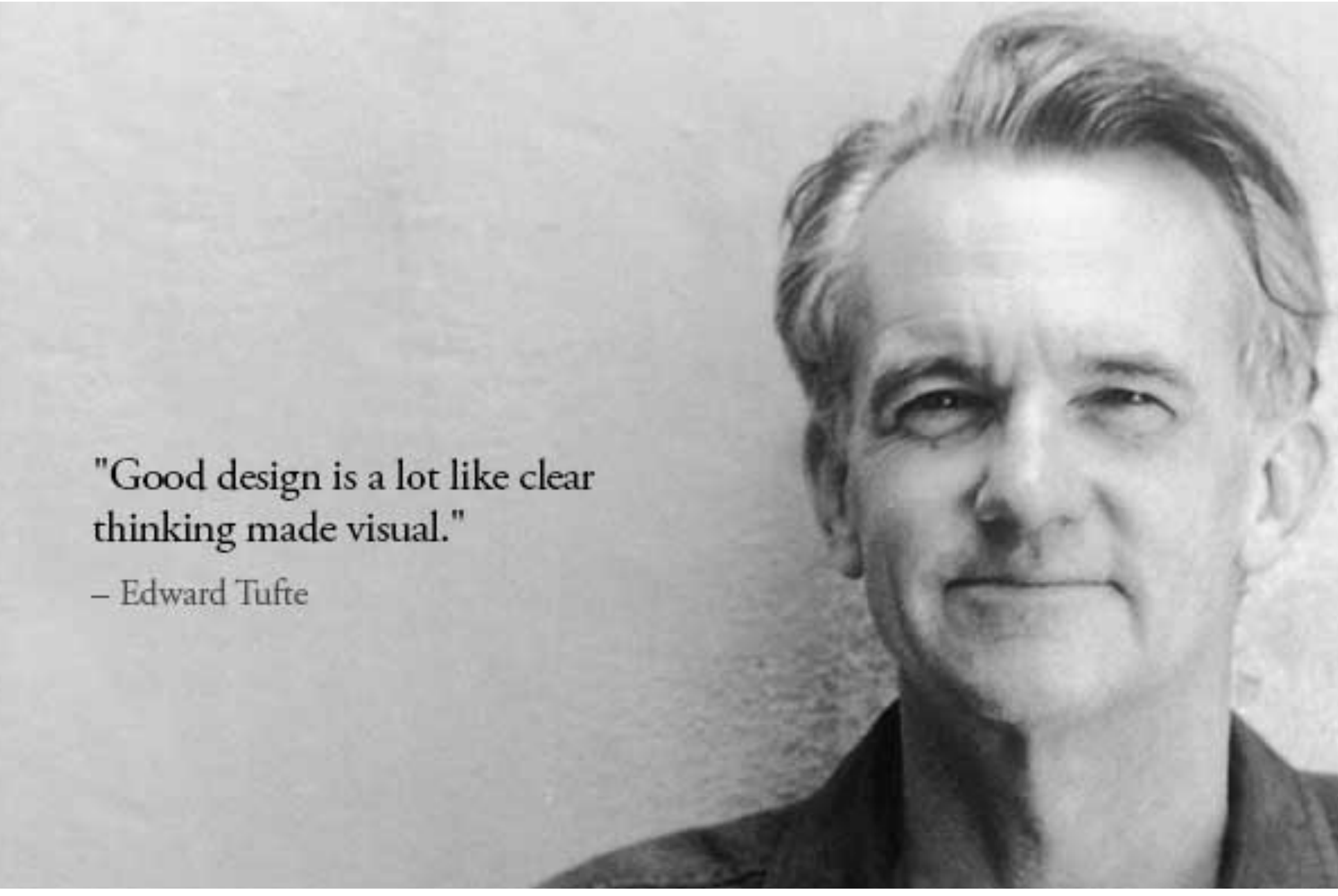
Lorem ipsum dolor sit amet, consectetur adipisicing elit.

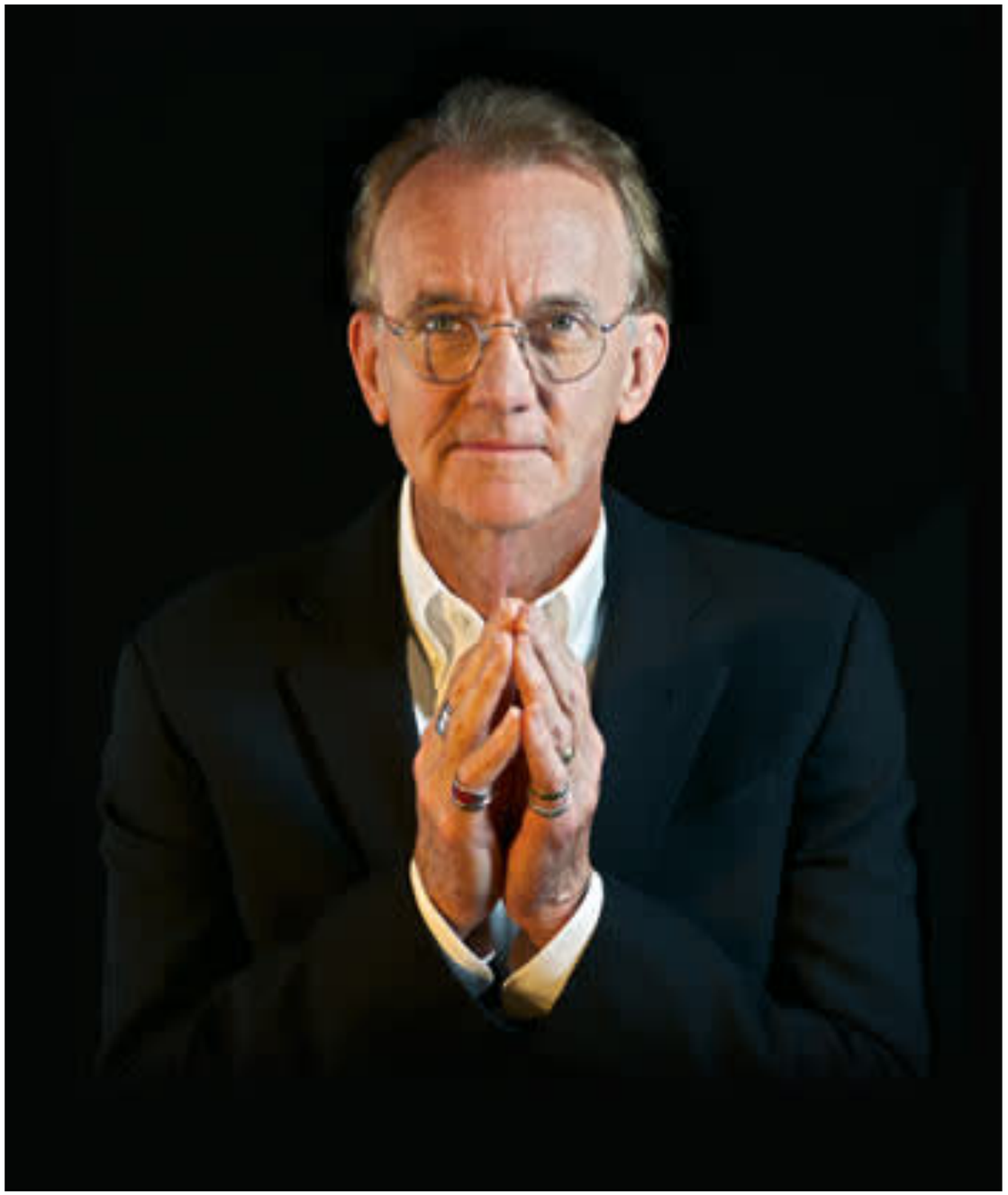
Events

Title	Date - Time	Location
Columbia Curricular Innovation Fellows Info Session	10/01 - 12:00 10/03 - 4:00	Butler 203 Butler 523
Machine Learning for Scientific Inference	10/9 - 5:00pm	Davis Auditorium
Formal & Informal LA (lunch)	10/4 - 11:00am	GDH 449
Cornell Tech: Day of Data	10/15	Cornell Tech
Where on Earth is AI Headed?	10/25 - 2:00pm	Davis Auditorium
Robotics to Retrain & Restore Human Movements	11/1 - 12:00pm	NWB Rm 1406

Class Activity 2

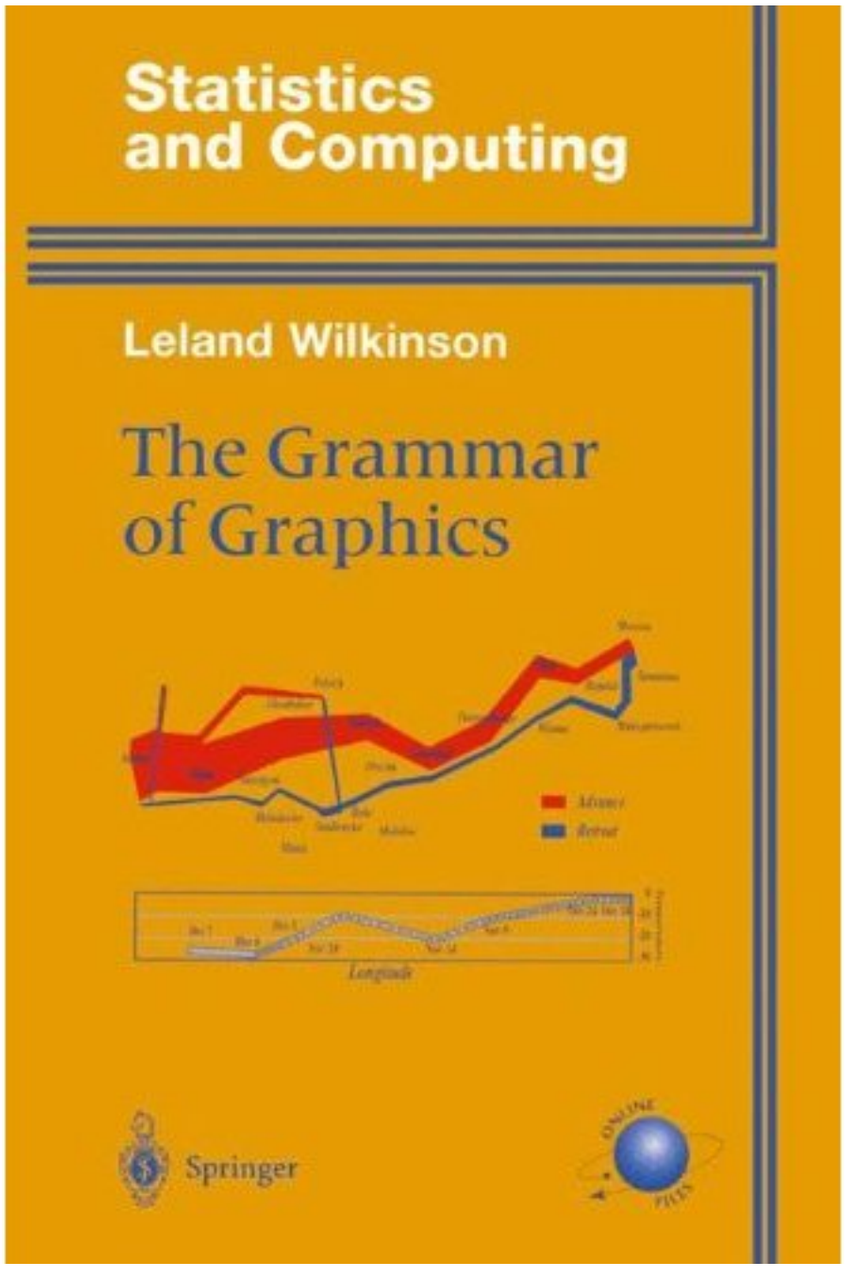
Visualization II


"Good design is a lot like clear
thinking made visual."
– Edward Tufte



Edward Tufte

- Got his start when he taught stats
- Hates powerpoint
- Chartjunk
  - Non-informative or obscuring parts of charts
- Lie factor
  - If something changes by a factor of 2, and the graphic shows that it changed by a factor of 4, then the lie factor is 2.
- Data-Ink Ratio
  - Portion of the graphic that can be erased without loss of meaning
- Data density
  - Portion of graph that is devoted to displaying data

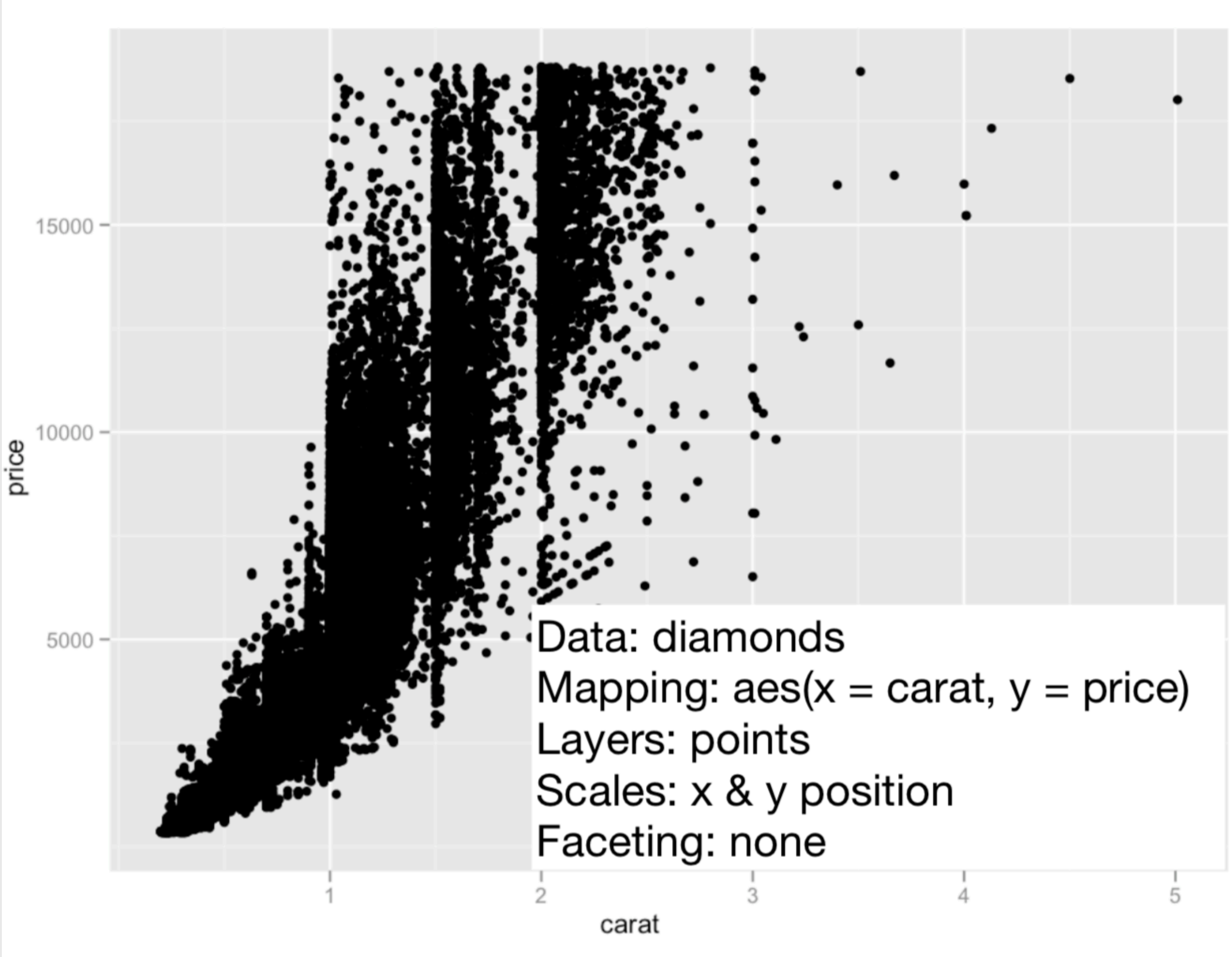


Leland Wilkinson

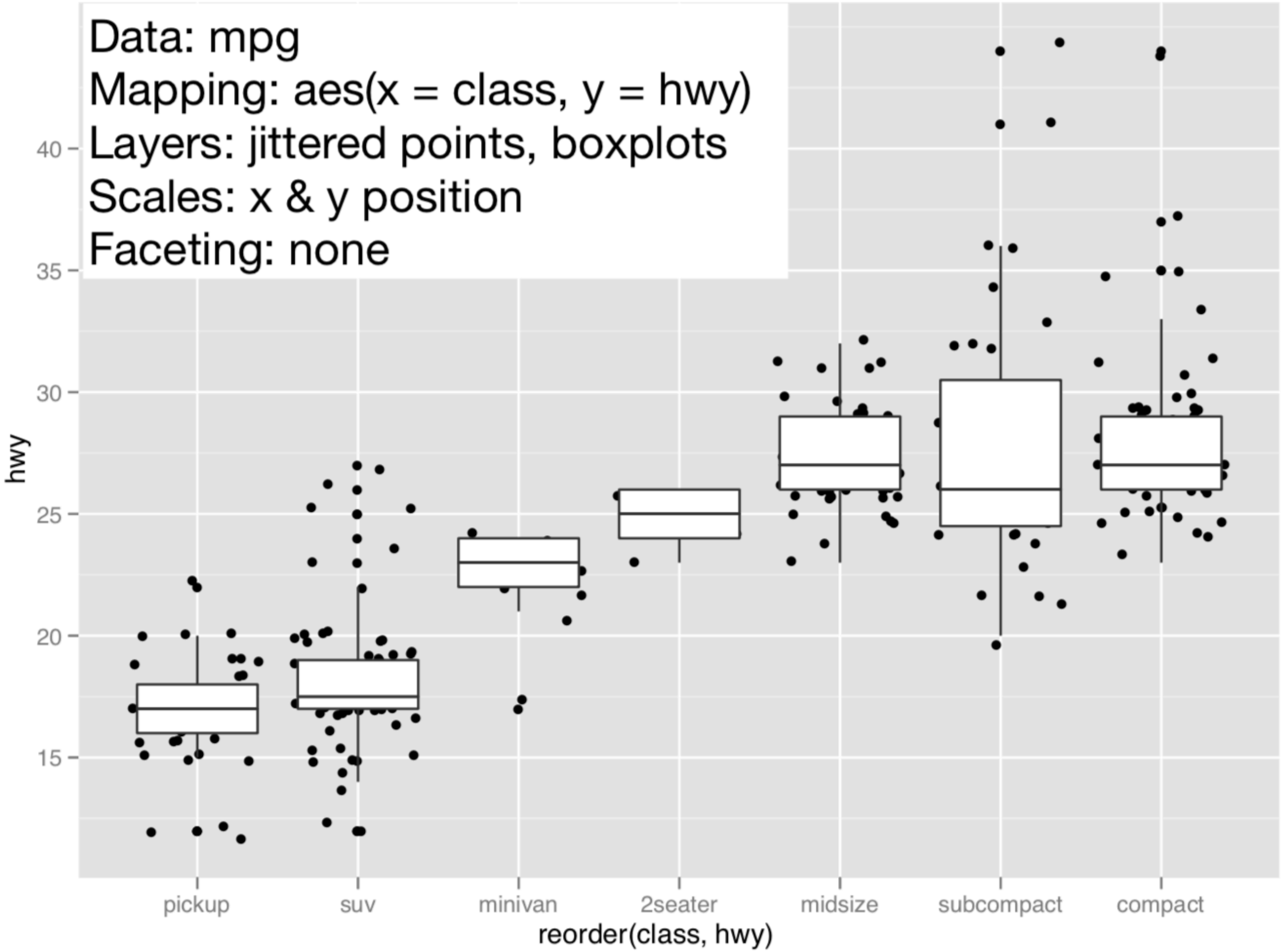
- Grammar of Graphics
- Make sense of/order graphical elements
- Make learning, testing and communicating about data easier

Hadley Wickham

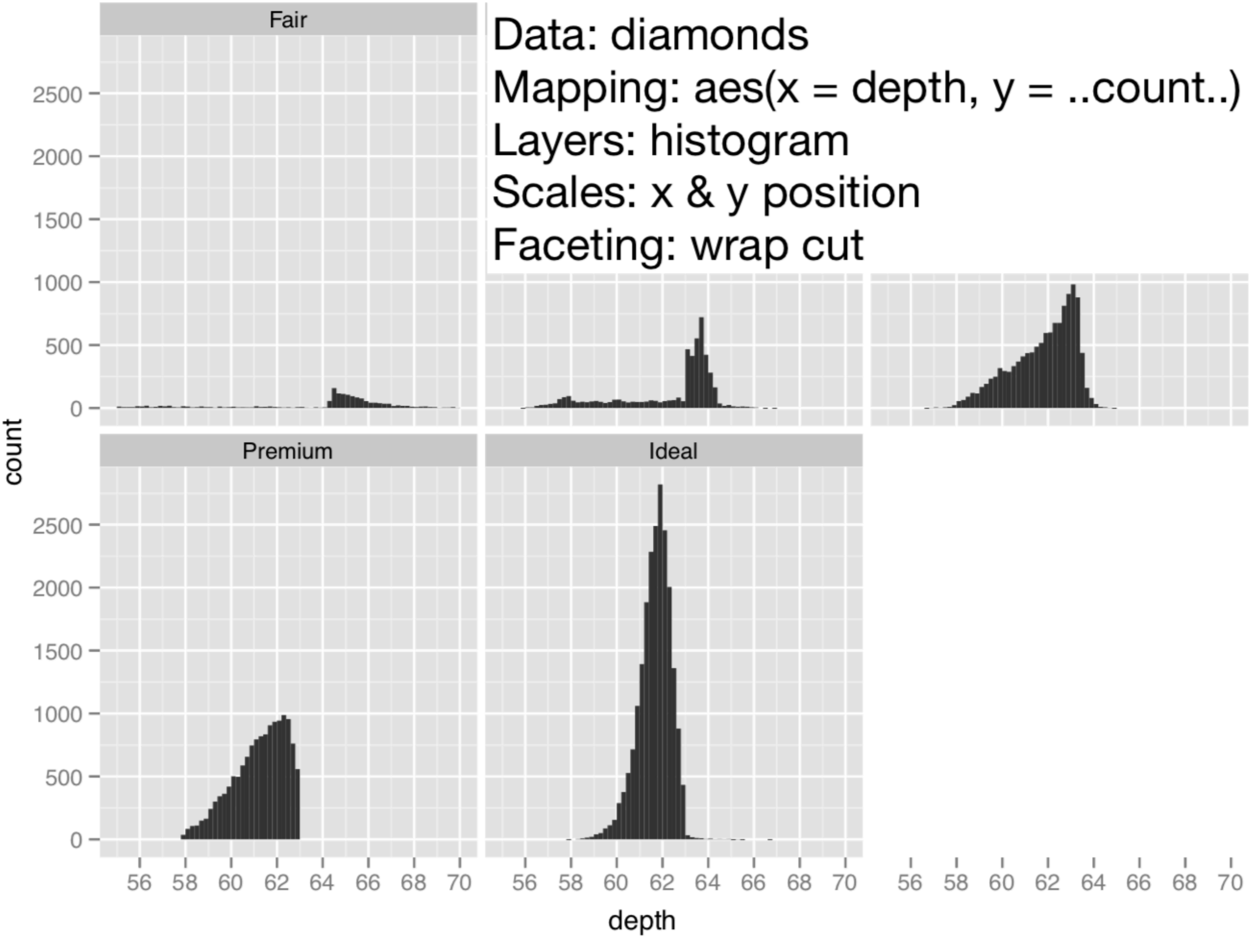
- ggplot2
- Tries to implement the Grammar of Graphics in code
- Plots are made of: Layers
  - Data set
  - Aesthetic mapping
  - Scales for each aesthetic
  - Facets
  - Coordinate systems


15000
10000
5000
price
1
2
3
4
5
carat
Data: diamonds
Mapping: aes(x = carat, y = price)
Layers: points
Scales: x & y position
Faceting: none

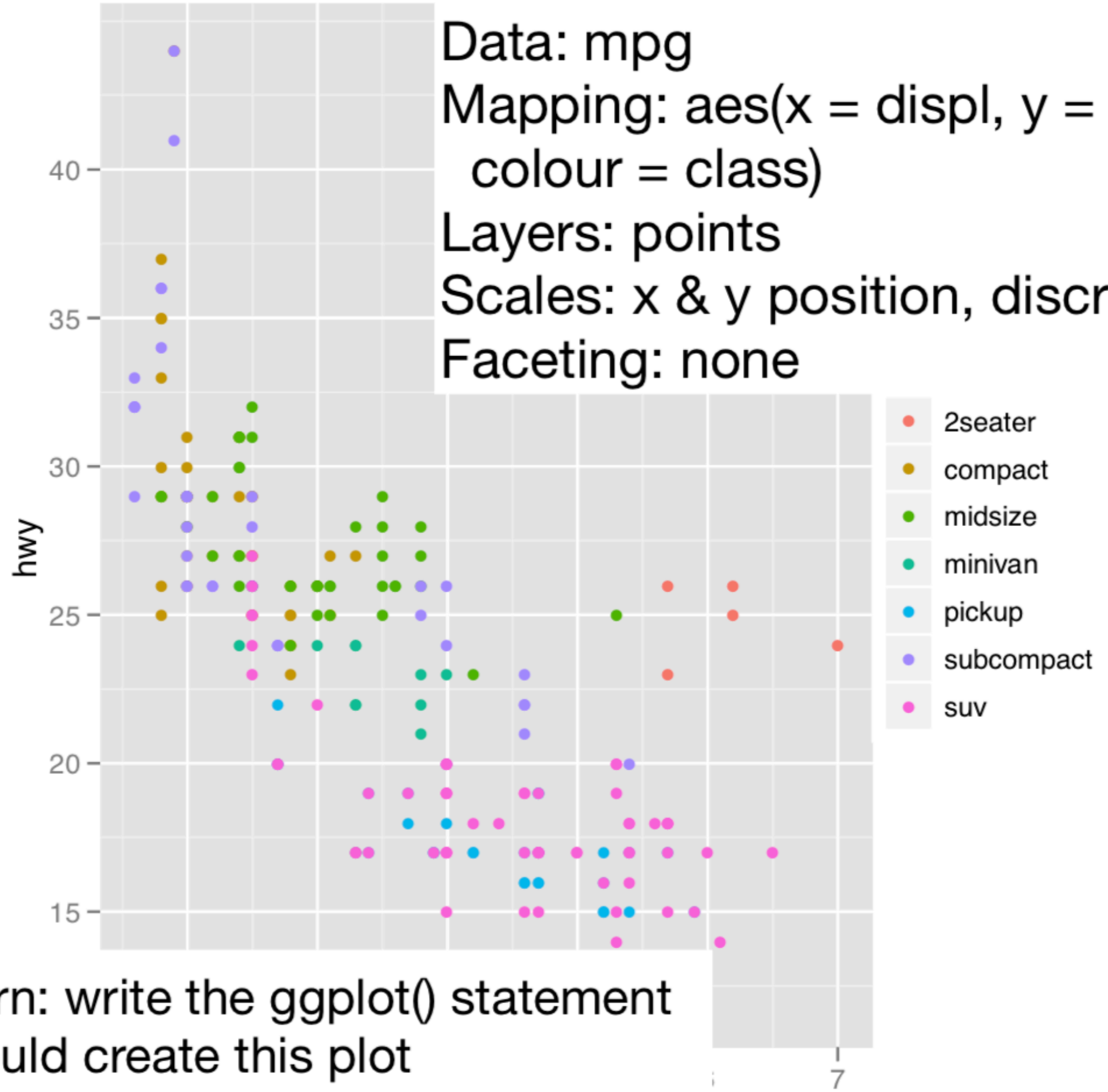
Data: mpg
Mapping: aes(x = class, y = hwy)
Layers: jittered points, boxplots
Scales: x & y position
Faceting: none



Data: diamonds
Mapping: aes(x = depth, y = ..count..)
Layers: histogram
Scales: x & y position
Faceting: wrap cut



Data: mpg
Mapping: aes(x = displ, y = hwy,
colour = class)
Layers: points
Scales: x & y position, discrete colour
Faceting: none



Your turn: write the ggplot() statement that would create this plot

/class-activity-3

https://ggplot2.tidyverse.org/reference/geom_dotplot.html

https://ggplot2.tidyverse.org/reference/index.html

http://www.cookbook-r.com/Graphs/