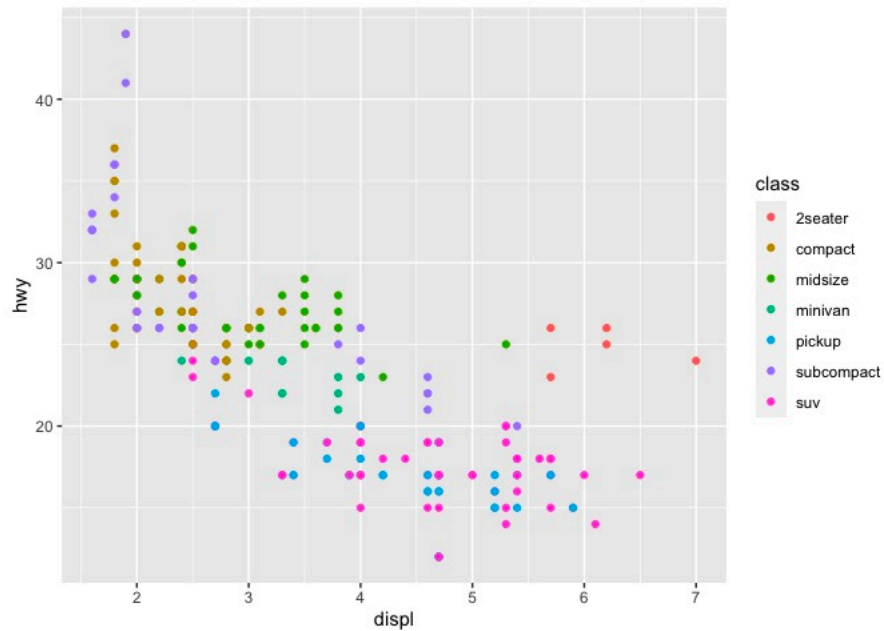**Digital Humanities**
UNIVERSITY OF GEORGIA

Data Visualization Series

Introduction to ggplot2

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What is ggplot2?

- Ggplot2 is a part of the R tidyverse and based on Wilkinson's *Grammar of Graphics.*

- Incredibly useful, flexible, and relatively easy to implement with practice!

- It is maintained internationally by a team of developers through CRAN.

Advantages of using ggplot2

Creates beautiful visualizations, with lots of options for colors, chart types, and more

Works with many data types

Useful for simple and complex data visualizations

Excellent documentation; used extensively worldwide!

Ggplot2 Syntax

- Is simple and intuitive

- Graphics are creating by layering

- Includes options for storing your visualizations as R data objects, and for exporting them in different formats.

Ggplot2 Components

- Data

- Mapping (aesthetic attributes):
  - Layers: geometric elements and statistical transformations
  - Scales: map the values of the data to the values in the aesthetic space
  - Coordinate system: how the data coordinates are transformed to the plane of the graphic Ex: Cartesian coordinate system
  - Facets: how to subset or divide the data
  - Themes: the font size, background colors, etc

Basic parts of ggplot

- No matter what visualization you are creating, it all begins with the basic function: ggplot()

- Ggplot(yourDataHere, aes() + moreFunctions()

- Works through layering and adding on each component of your plot.

- Today we will use geoms (geometric elements) to create line charts, boxplots, scatterplots, and bar charts.

Web-based Resources

- Ggplot2: Elegant Graphics for Data Analysis

- Ggplot2 cheat sheet

- Plotting anything with ggplot2 webinar

- R Graphics Cookbook

Resources at UGA

- Linked-in learning tutorials

- Previous and upcoming tutorials at the DigiLab

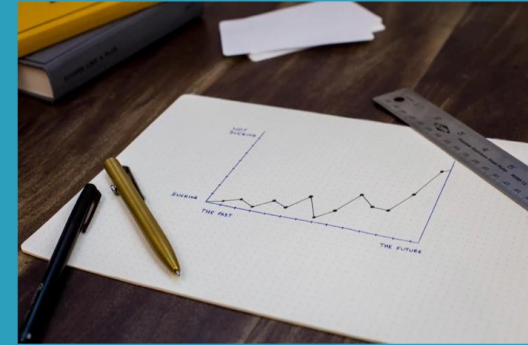- DigiLab Data Consultations

DigiLab Data Consultations

Consultations for Data Cleaning, Structuring, and Visualizing

Whether just starting your work, or trying to make sense of your research, schedule an appointment for our Data Consultations and bring your data (text, archival information, numerical data, etc.) for advice and guidance on your project. Expertise in corpus linguistics, Excel, and R, among other tools for data structuring and visualization.

To schedule an appointment visit:

DIGI.UGA.EDU/RESOURCES

Coming up next

| Oct 6 | Oct 13 | Oct 20 | Oct 27 |

Advanced ggplot2

Introduction to network analysis

Network analysis in Cytoscape

Mapping Geographical Data

Thanks for listening!

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