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Module 4 Notes

IST 687

Chapter 13/Module 7- Map Mashup

- Mashup
    - Anything that brings together disparate influences or elements.
    - In the application development area, mashup often refers to bringing together various sources of data to create a new product with unique value."
    - Example:
        - HousingMaps (http://www.housingmaps.com), a web application that grabbed apartment rental listings from the classified advertising service Craigslist and plotted them on an interactive map that shows the location of each listing.
- Question: Is the visualization useful? If so, how?
    - The visualizations are very useful because one, it is much easier to read data visually as it saves time and it can be a little more clear to the human eye. The San Francisco crime map would be extremely useful for professionals in crime by having an overview of the crimes taking place in certain areas, which areas have the most crime that may need more surveillance or protection. Magnificent was a little confusing for perhaps, maybe a tourist who is not familiar with a city and does not know their geographic surroundings.
- GGplot - Mapping Key Concepts
    - map_data
        - Get the data on the region to be mapped
    - geom_map
        - How to render the map (colors, heat maps, etc.)
    - coord_map
        - To make sure the map is not stretched

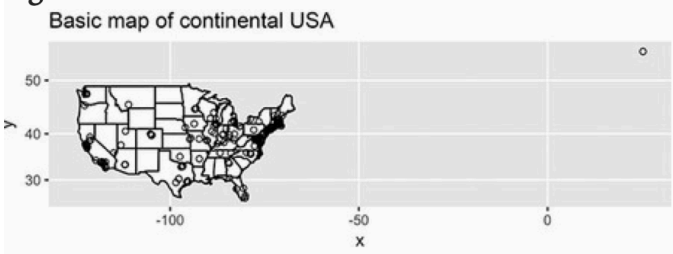
- Showing Points on a Map
  - > map.simple + geom_point(aes(x = -100, y = 30))
    - Showing a made-up point somewhere in Texas
    - Used geom_point to create that single point, specified by x (longitude) and y (latitude) within the geom_point function.
- Geocodes
  - first create a new column that combines the city and state, and then pass that info to the geocode function.

```
> od.companies$cityState <- paste(od.companies$city,
+       od.companies$state)
> od.companies$geoCode <-
+       geocode(od.companies$cityState)
```

```
> map.simple +
geom_point(data=od.companies,
+ aes(x = geoCode$lon, y = geoCode$lat),
shape=1)
```

A Map Visualization Example

Figure 13.6



R Functions Used in This Chapter

map_data()	Finds a map to be used by ggplot.
data.frame()	Creates a dataframe.
tolower()	Changes all uppercase letters to lowercase.
gsub()	Substitutes one string for another.
geocode()	Gets the latitude and longitude for an address.
read.csv()	Reads a CSV file.
as.character()	Treats a variable as a string.
paste()	Combines multiple strings into one string.
brewer.pal()	Creates a list of colors.
ggplot()	Creates a ggplot.
geom_map()	Creates a map visualization.
geom_point ()	Adds point(s) to a visualization.
expand_limits()	Defines the x and y for the map.
coord_map()	Makes sure the map does not show up stretched or distorted.
ggtitle()	Adds a title to a visualization.