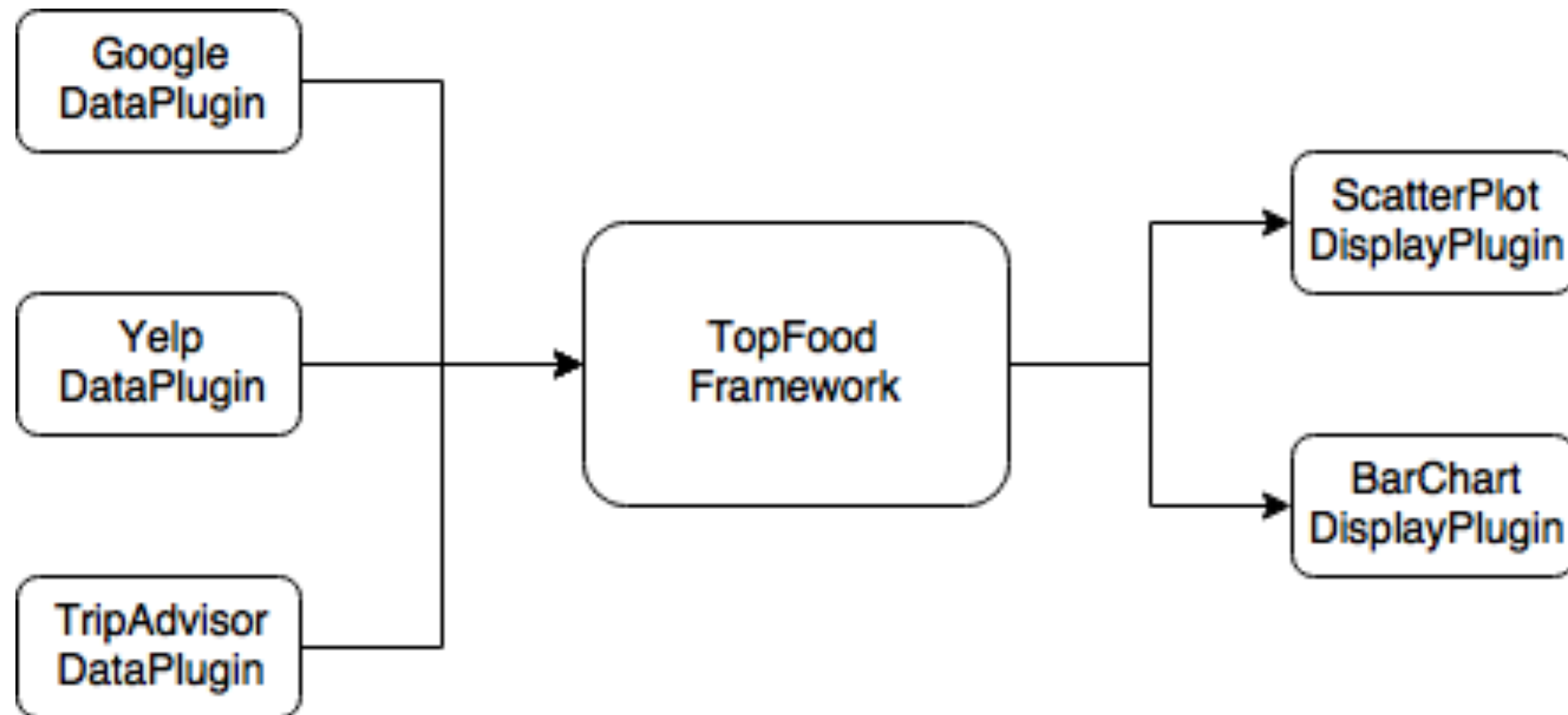# TopFood

An extensible data visualization and analysis framework for restaurants

Domain

How many reviews have been made for this restaurant?
What is the distribution of the number of reviews of restaurants?

Framework & Plugins

- The Google Places API provides a JSON object for each restaurant, which includes all comments made on the restaurant.

- The Yelp Database provides a JSON list in the "business" database, which includes a variable names "review count" that tells how many reviews have been made on the restaurant.

- We want to use JFreeChart for bar charts and histograms.

- **What's reused?**

  - The control flow that takes the list of all restaurants in a city from an arbitrary source by providing a city name, manipulate the data, and display an arbitrary visualization.

Project Structure

- **Main Project**
  - edu.cmu.cs.cs214.hw5.framework
    - core
      - <interface> TopfoodFramework
      - TopfoodFrameworkImpl
      - <interface> TopfoodChangeListener
    - gui
      - TopfoodFrameworkGui
  - edu.cmu.cs.cs214.hw5.plugin
    - <interface> dataplugin
    - <interface> displayplugin

- **Data Plugin Project**
  - edu.cmu.cs.cs214.dataplugin
    - YelpDataPlugin
    - GoogleDataPlugin
    - TripadvisorDataPlugin

- **Display Plugin Project**
  - edu.cmu.cs.cs214.displayplugin
    - BarChartDisplayPlugin
    - ScatterPlotDisplayPlugin
    - PieChartDisplayPlugin

UML Diagram

<Interface>TopfoodFramework

+parse(dataSource: T): void
+getRestaurants(): List<Restaurant>
+getTopRestaurants(comparator: Comparator<Restaurant>): List<Restaurant>
+getTopCuisines():Map<String, Integer>
+getImageCount(restaurant: Restaurant): int
+getReviewCount(restaurant: Restaurant): int
+getCheckinCount(restaurant: Restaurant): int
+getCuisine(restaurant: Restaurant): String
+getName(restaurant: Restaurant): String

<Interface>TopdishChangeListener

...

Main

+main(args: String[])
-createAndStartFramework(): void
-loadDataPlugins(): List<DataPlugin>
-loadDisplayPlugins():List<DisplayPlugin>

TopdishFrameworkGui

-currentDataPlugin: DataPlugin
-currentDisplayPlugin: DisplayPlugin
-core: FrameWorkImpl

...

TopdishFrameworkImpl

-changeListener: ChangeListener
-currentDataPlugin: DataPlugin
-currentDisplayPlugin: DisplayPlugin
-restaurants: List<Restaurant>

...

Restaurant

-name: String
-cuisine: String
-numOfReviews: int
-numOfImages: int
-numberOfCheckins: int

...

<Interface>DisplayPlugin

+showPlot():void
+setXAxisLabel(label: String): void
+setYAxisLabel(label: String): void
+setXAxisData(data: List<T>): void
+setYAxisData(data: List<T>): void
+setTitle(title: String): void

<Interface>DataPlugin

+setCity(city: String): void
+getCity(): String
+processQuery(): T

BarChartPlugin

-framework: Framework
...

HistogramPlugin

-framework: Framework
...

ScatterPlotPlugin

-framework: Framework
...

YelpDataPlugin

-framework: Framework
...

GoogleDataPlugin

-framework: Framework
...

TripAdvisorDataPlugin

-framework: Framework
...