

CS 2334: Project 5

Graphics

Project 4 Lessons

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- Graphical User Interfaces
- Event-driven programming
 - Non-linear flow of control
- Multiple threads
 - One thread can throw an exception while others keep executing
- Debuggers are your friends
- Unit testing is critical
- Creating an object instance from another instance

Project 5

Enable the user to explore the data:

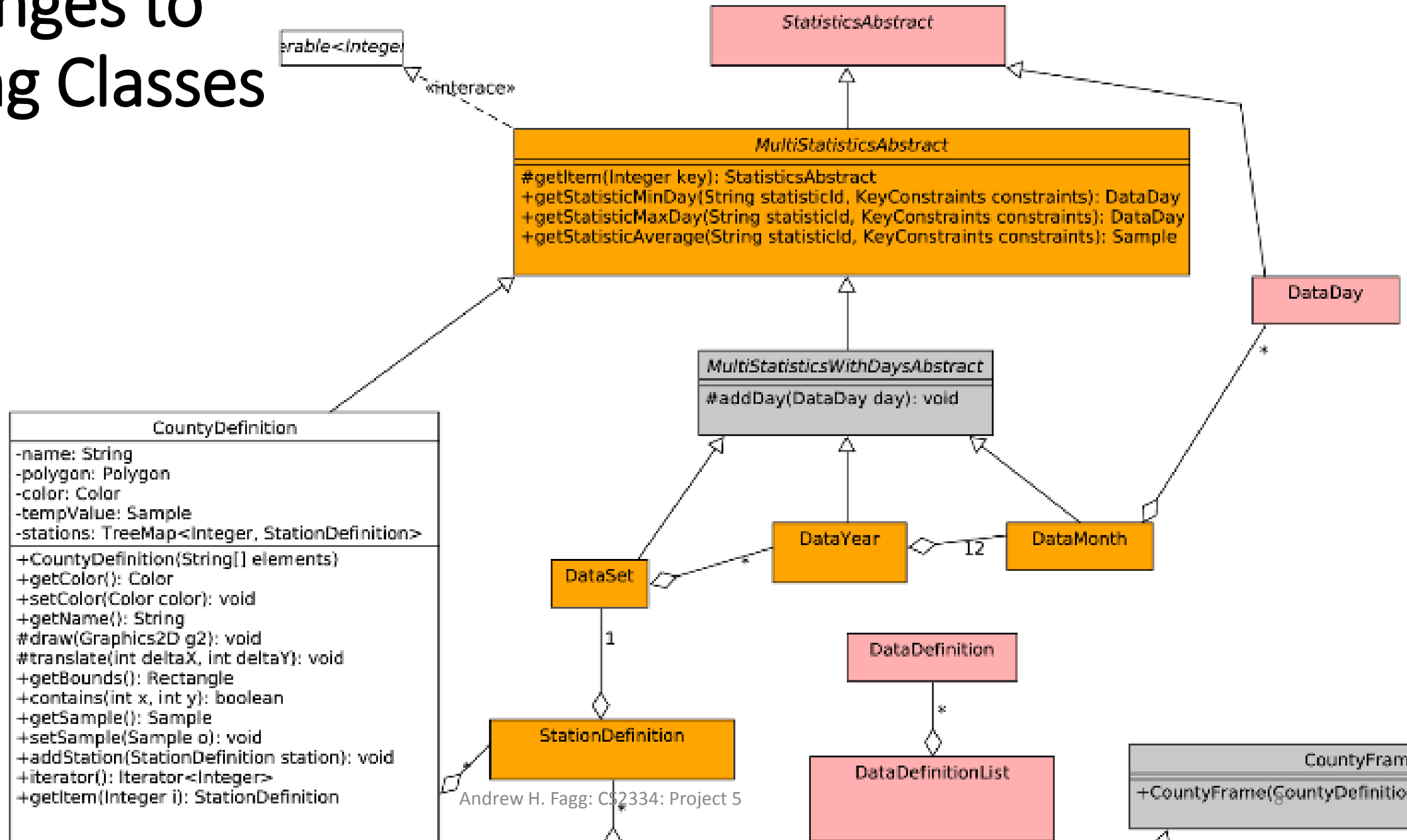
- Select single variable
 - Select a statistic: max, min, average
 - Select one or more years, months and days
-
- For each county in Oklahoma, paint the county with a color that represents the statistic for the county

- Demonstration

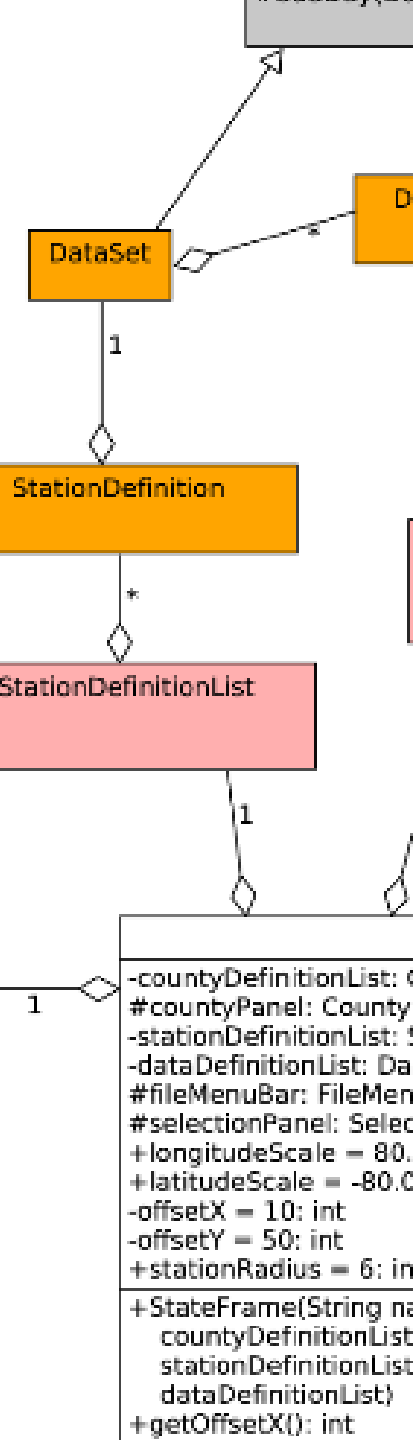
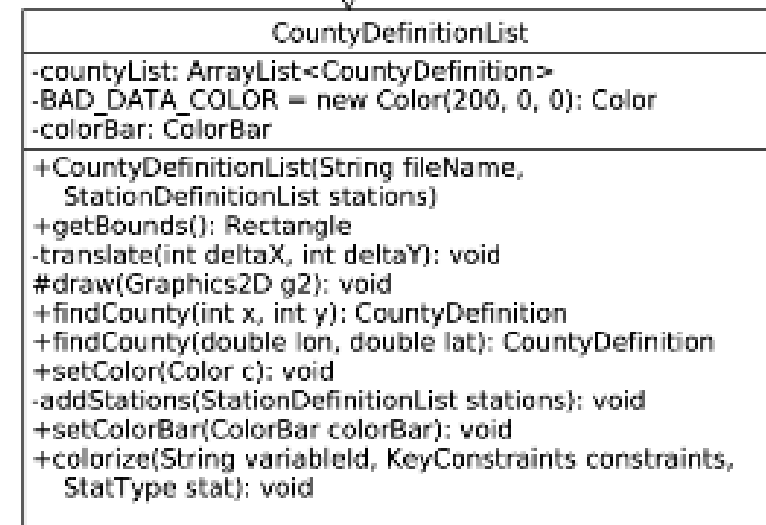
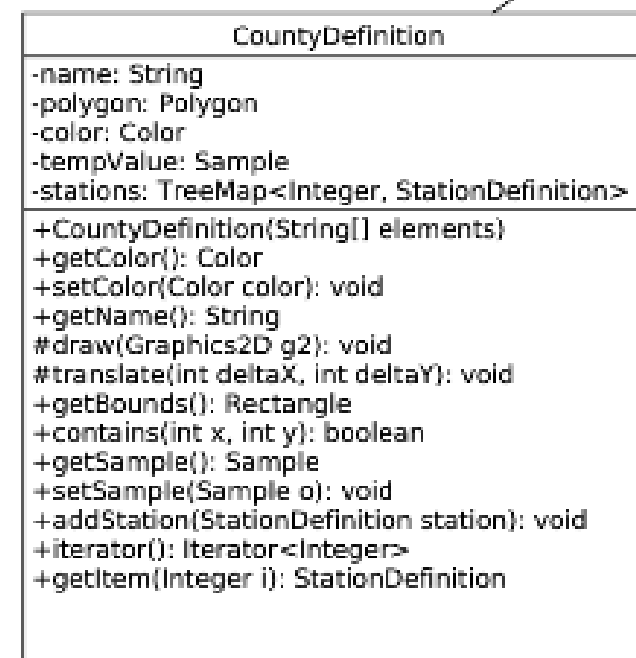
Objectives

- Representing complex 2D shapes
 - Rendering
 - Detection of shape selection by a mouse click
- Compute min/max/avg statistics over a set of stations in a county
- Pop-up windows that have a structure that is data-driven

Changes to Existing Classes



Supporting Data Structures



Supporting Data Structures

CountyDefinition

- Represent polygonal shape of a county
- Represent the containing stations
- Selecting counties by mouse clicks
- Compute min/average/max for county
- Rendering:
 - Paint the county on a panel based on statistic
 - Paint station locations

Supporting Data Structures

CountyDefinitionList

- Load configuration file and create counties
- Configure polygon set for representation in a panel
- Translate screen or long/lat into a selected county

Graphics: CountyPanel

- Render state map
- Display selected variable information (name and units)
- Display color bar

GUI: CountyFrame

Pop-up window for a county

- Display all stations within the county
- The number of stations will vary: so structure is dynamic

Notes

- Some project 4 code (our solution) will be released after the final project 4 deadline
- Implement and test your code incrementally

Deadlines

- Project must be submitted by Monday, Dec 5th @1:29pm
- Code review must be completed by Friday, Dec 9th