

IST 256
Assignment 4
INDIVIDUALLY DESIGNED INFORMATION APPLICATION
Assignment 4 due Tuesday, May 6 by midnight

The final assignment will be an individual project. Each person will design an information application and implement the design in Java using NetBeans. The design of the project must be described in a project report.

The information application will be of your choice, but a typical project must include (relatively) large amounts of data that can be read from a file and a user interface where the user can interact with the data or perform some task on the data, using some searching and sorting. Since the data is assumed to be large, one of the design goals will be ways in which the user can view smaller portions of data. The basis of the project will be similar to the StudentData project we have done in lab, or assignment 3, but you will choose an extension of this type of project for your individual focus.

Project Technical Requirements

You will implement a user interface and the application in NetBeans Java. The functionality of the application must include the following three elements in some form:

- Reading data from the file and storing it into an array, whose elements are objects of a class designed to fit the data, being able to display a restricted portion of the data
- Searching the data, based on a user request

The technical constraint on the project will be that you must use at least one of the following new things:

- Use ArrayLists or HashMaps to store the data from the file
- Use a Comparator to sort data, displaying the results, or partial results
- Use at least two of the easy additional user interface elements such as ComboBoxes, and Lists, (scrollable) TextAreas or other GUI elements
- Using multiple forms for the user interface
- Manually create large amounts of data (100 or more)
- Use multiple classes to hold the data, possibly reading 2 input files
- Significant methods in the classes (not just accessor or display functions)
- Using an external API for data [the RSS feed or Twitter API]
- Writing data to a file
- (you may propose alternatives)

Example Project

A standard project would use some data easily obtained, either a smaller amount of manually created data (around 20) or a larger amount, such as can be downloaded from an ipod. (Note that

one way to create data is to put it into an Excel spread sheet and then to save it to a .csv file. For this, you need to make sure that there are no commas in any text field.)

Then the standard project would focus on the user interface. An example of one new GUI element would be to use a combo box to select music genre, and then the application would list only those songs. In this example, additional interface elements would be required, using searching and another way to select or access data, either another GUI element or sorting.

Feel free to invent data and user applications, as long as the design of the application meets the technical requirements given.

Project Results and Report

Each student will submit a project report to the iLMS along with a functioning project. The report should be 1-2 pages long and include

- Problem Statement

- Description of the data

- Description of the user interface design and functionality

- Description of the main structure of the code, including the data class, and how the project meets the technical requirements

If you want feedback on your project report, you can email it to me by the end of the day on Friday, May 2, and I will review it and give you feedback for revision before submission to Blackboard.

Submitting the Project

By the due date, each student should make a submission to Blackboard that gives their zipped NetBeans project and their project report.