

## **Assignment #2: Revealing Relationships and Presentation**

Worth: 10%

Note: You may do this assignment individually or in groups of two. But, if you do it in groups please follow these three rules:

1. Your group of two must not also work together on the project;
2. Your group of two must not have worked together on another assignment; and
3. Your group of two must combine data collected individually and fully synthesize your individual work into a single, joint work.

Note: You must come to the **lab on Oct 28 to collect the data necessary** for Problem B of this assignment. If you do not come to the lab, then points will be taken off. (If, for some reason, you cannot attend the lab, please inform the instructor to make alternative arrangements.)

### **Problem A: TreeMap**

TreeMap provides methods for structuring data and exploring it dynamically. Install TreeMap. (See course website for help.)

While you learn TreeMap, monitor your own learning by keeping notes of your goals and your progress in completing them. You should note what you are doing every two minutes or so and record significant events (either progress or frustration). You should expect to spend approximately 30 – 60 min learning TreeMap.

For the crime data found on the course website, use TreeMap to answer these questions:

1. Does it appear that crimes are differentially committed by one gender or another in different states?
2. Which state seems to have the most number of different crimes?
3. Do crimes by Native Hawaiians or other Pacific peoples seem to occur more frequently in one state or another?
4. Using gender as an example, comment on identifying cases that occur infrequently.
5. As you learned to use TreeMap, briefly discuss three learning phases that you progressed through.

Notes:

1. TreeMap may be more difficult to learn than you might expect. In particular, there are hidden dependencies between options in the legends, filters, and hierarchy. Thus, when learning about the settings, manipulate one at a time while holding the others fixed.
2. If you encounter unexpected effects, click 'Restore default settings' on the main menu tab.

### **Fisheye Evaluation**

In the lab on October 28, we will perform an empirical evaluation of a fish-eye menu system. In this experiment, we will collect performance data on the use of a fish-eye menu system and compare results to other systems. The performance data will include time to complete the task and the number of errors made.

Your task is to graph the data collected in the class and draw some conclusions about the performance of fish-eye menus. Additional details for conducting this experiment will be reviewed in class.

**(Please turn over to page #2)**

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**What to hand in?**

Your report should consist of two sections:

**Treemap**

1. For each question, give the answer and illustrate your answer with a screen shot and appropriate commentary.
2. Include a timeline of your learning. The timeline reveal the significant stages of your learning. Briefly, reflect on the ease or difficulty of learning Treemap.

**Fish-eye menus**

1. In your own words briefly summarize the experiment, stating the **hypothesis** and the **method**.
2. Then, present the **results** in the form of one or more graphs. Briefly discuss the results with the aim of drawing some conclusions about the merits of the fish-eye interaction technique.

**Grading Guidelines**

1. All answers should demonstrate the principles of good information design. Clarity and conciseness of presentation are valued.
2. You answer the Treemap questions correctly and clearly incorporate graphics into your answers.
3. The timeline of your learning reveals interesting features and structure about your learning. For example, the timeline might show the number of records logged, when significant positive (and negative) events occurred, and the major phases of your learning.
4. The fish-eye menus experiment is introduced and summarized.
5. The data for the fish-eye menus is graphed clearly and the implications of the data are discussed.