STAT 515-003 Applied Statistics and Visualization for Analytics (Fall 2016)

Assignment 1

Due Date: 09/20/2016 Tuesday 11:59 PM

1. (15pts) Music Sales Tableau Exercise: Visualizing Music Store Sales.
Download and open the Tableau Packaged Workbook "**Introduction to Tableau – Music Sales.twbx**". The problem descriptions are introduced on "Introduction" dashboard.

Your Task: Follow the instructions on each sheet to re-generate the visual graphs and the dashboards. (Note: there are more sheets "hidden", click Next Sheet icon to find them. Do not miss any sheet).
Submission: Save the file as Tableau Packaged Workbook and rename it as your name "LastName, FirstName-Music.twbx" (for example, "Ji,Ran-Music.twbx") and submit it on blackboard.

2. (35pts) Laptop Sales Tableau Exercise: Visualizing Laptop Store Sales.
Download the file "**LaptopSales.csv**", which is a comma- separated file with nearly 300,000 rows. ENBIS (the European Network for Business and Industrial Statistics) provided these data as part of a contest organized in the fall of 2009.
Scenario: You are a new analyst for Acell, a company selling laptops. You have been provided with data about products and sales. Your task is to help the company to plan product strategy and pricing policies that will maximize Acell's projected revenues in 2009.

Your Task: Using Tableau to visualize data with appropriate graphs, answer the following questions.
a. Price Questions

i. At what prices are the laptops mostly selling? (Hint: box-plot)

ii. Does price change with time? (Hint: Make sure that the date column is recognized properly. The software should then enable different temporal aggregation choices, e. g., plotting the data by weekly or monthly aggregates, or even by day of week.)

iii. Are prices consistent across retail outlets?

iv. How does price change with configuration? (Hint: show a broad overview, and then dig into each attribute for comparisons)

b. Location Questions

i. Where are the stores and customers located? (Hint: Use columns customer X and customer Y as the location coordinates of customers. For example, for the first customer, his/her location is (532041, 180995) on X-Y axis Cartesian coordinate system. Similar for store location.)

ii. Which stores are selling the most? Which sells the least?

iii. How far would customers travel to buy a laptop?(Hint: calculate the distance between the customer location point and the store location point).

More Hint: Build an interactive dashboard with filters, try to use the coordinated highlighting between multiple visualizations in the same page, for example, select a store in one view to see the matching customers in another visualization dynamically.

c. Revenue Questions

i. How do the sales volume in each store relate to Acell's revenues?

d. Configuration Questions

i. Do all stores sell all configurations? (Hint: use the measure Count(Distinct).)

Submission:

1. Prepare a pdf (or MS word) file with answers to above questions, brief explanations for the visual analysis you perform, and any insights that you can derive according to the analysis. Name the file as "LastName, FirstName-Laptop.pdf" (for example, "Ji,Ran-Laptop.pdf") and submit it on blackboard.
2. Save the visualization file as Tableau Packaged Workbook and rename it as "LastName, FirstName-Laptop.twbx" (for example, "Ji,Ran-Laptop.twbx") and submit it on blackboard.