Project title: **Information Visualization of Titanic Passengers**
Access page: http://www.pitt.edu/~lew64/Project.html

Project Description:
This project aimed to visualize how the factors such as age, gender, and cabin class impacted whether the passengers survive or not on the Titanic. It consists of two parts. First, it visualized the passengers' data. Specifically, when the passengers' age, gender, and/or cabin class changed, the survival rate varied accordingly. Second, it uses the four indicators (gender, age, cabin class, and siblings aboard) to predict the passengers' survival rate if they were on the Titanic.

This project is mainly coded using D3.js and JavaScript. The data is collected from Kaggle[1], and we wrapped it to JSON format.

Visualization:
Demo page: http://www.pitt.edu/~lew64/InfoVisFinal/visualization/passengerinfo.html
The code is under the "TitanicProject/visualization" folder.

We found that the most influential factors determining whether the passengers will survive or not are gender, age, and the cabin class. The passengers' gender is signaled by different colors. As we can see, the male passengers are represented in blue, and the female passengers are marked in orange. The nodes with varying sizes are used to indicate the passengers' age – the larger the node is, the older the passenger will be. The figures "1, 2, 3" indexed the cabin class: 1 represents the highest class, and 3, the lowest. In addition, the nodes above the sea level suggest those who survived from this disaster, and the nodes below the sea level indicate those died in this accident.

And finally, we added the filters of age and gender to increase interaction with our users. Users can slide the filter bar on the right top of the page to see how gender and age affect the survival rate and also the effects that cabin class has on the survival rate.

Prediction:
Demo page: http://www.pitt.edu/~lew64/InfoVisFinal/prediction/prediction.html
The code is under the "TitanicProject/prediction" folder.

In addition to the three factors mentioned above, the data revealed that having siblings aboard will also influence the survival rate. It is found that the more siblings one traveled with, the more likely they will die together. Traveling with parents or children, in contrast, only exerted minor effects on the survival rate.

Unfortunately, we could not illustrate this information clearly on the visualization page. Therefore, we designed this prediction page to increase interaction with the users and to approximate authentic data. Users can provide their gender, cabin class, age, and how many siblings they are traveling with, and we show the results computed from Logistic Regression classifier to predict the users would survive or die when this accident happens to them.

[1]: The data is retrieved from Kaggle. (https://www.kaggle.com/c/titanic-gettingStarted)

Please contact me if there is any question or if further information is needed.

Thank you very much.

Best Regards,

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