CS 495 - Introduction to Web Science

Fall 2014

Assignment 7

by

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Honor Pledge

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Signed: Eric Littley

Contents

1 Introduction

The task for this assignment was to create a D3 graph of the classical Zachary Karate Study. The Graph had to show weighted associations between group members and show how the group split after a button click.

2 Design

The data used to create the graph was extracted from the “karate.GraphML” file located in the igraph python tutorial.[2] A D3 project called "Molecule" by Micthell Bostock was used as a starting point for this assignment.[1] My solution to this assignment can be viewed at http://www.cs.odu.edu/ elittley/programs/graph.html.

Before the split, all the nodes are colored yellow, and after the split the nodes representing the group following Mr. Hi turn blue and the nodes of the group following John turn red. The edges vary in thickness based on the weight of the relationship between actors. Actors with a closer relationship have thicker lines connecting them. Two scripts were used to extract data from the “GraphML” file to create a JSON file used by the D3 program. Screen captures of the graphs can be seen in the next section.

3 Graphs and Results

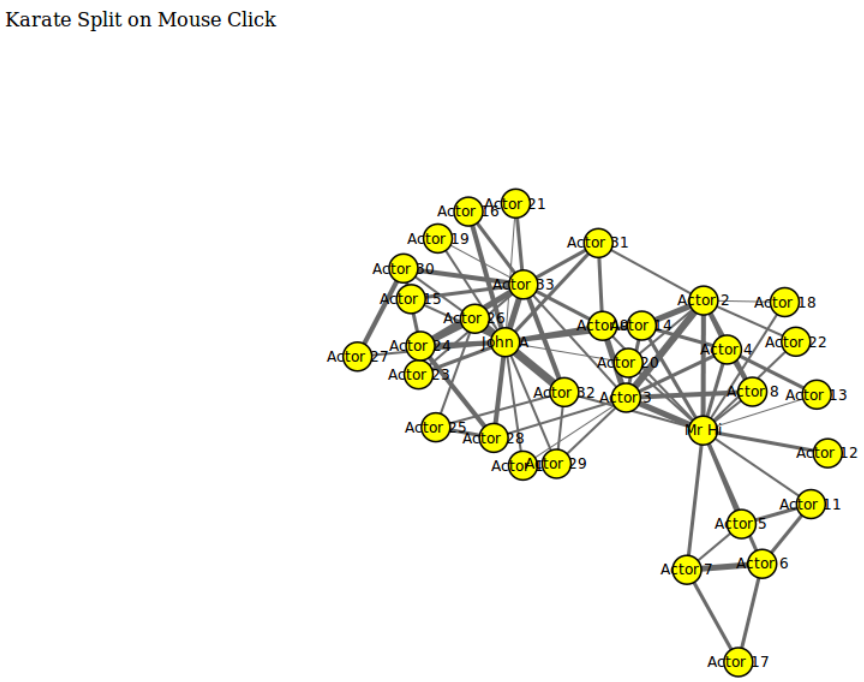

Figure 1: Before Mouse Click

Karate Split on Mouse Click

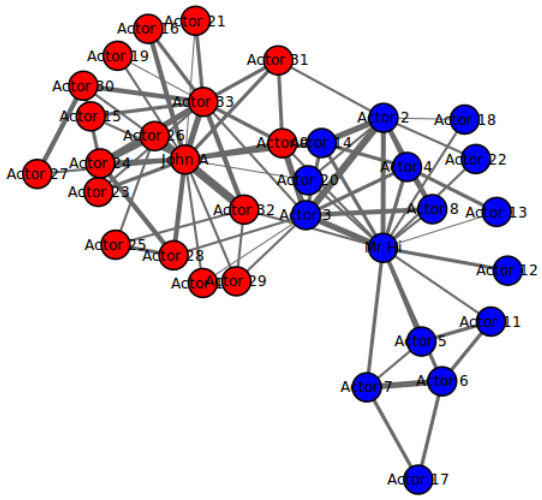

Figure 2: After Mouse Click

References

[1] M. Bostock, *Molecule*, webpage (2014), available at `http://bl.ocks.org/mbostock/3037015`.

[2] T. Nepusz and P.P. Setany, *python-igraph manual*, webpage (2014), available at `http://igraph.org/python/doc/tutorial/tutorial.html`.