Software Studio Assignment 6

Perception of the *Star Wars* Interaction Network

(80% programming, 20% version control, 20% bonus)

Write a program to make users perceive the interaction between characters in the movie *Star Wars* for each episodes (in visualization or audiation). In this program, users expect to understand the network structure, such as the interaction of the two specified characters, in a format other than just texts. The data set was organized by Evelina Gabasova [1], in JSON format on Github and will be explained in the next section. You are able to parse the data using existing methods provided by *Processing*, as taught in the lab. To encourage more creativity in this assignment, we provide 20% bonus scores for students who come up with different interaction/visual design.

Explanation of the Data Set

There are 7 files in total (e.g. *starwars-episode-N-interactions.json*). Each contains the social network extracted from Episode *N*, where the links between characters are defined by the times the characters speak within the same scene. The data set is already included in the project's repository; you do not need to re-download them again.

The JSON structure of the data set is as follows:

```
{
  "nodes":[     // this object contains a list of nodes
    {
      "name": "name1",      // the name of the character
      "value": 60,          // you can just ignore this key:value
      "colour": "#4f4fb1"   // the color for users to distinguish the character
    },
    {
      "name": "name2",
      "value": 18,
      "colour": "#808080"   // the color for users to distinguish the character
    }
  ],
  "links":[     // this object contains a list of links
    {
      {
        "source": 0,   // the index of the source node in the “nodes” object
        "target": 1,   // the index of the target node in the “nodes” object
        "value": 2     // the times of the interaction of two nodes within the same scene
      }
    }
  ]
}
```

Grade Criteria

Programming (80%):

- (65%) Basic requirements
  1. (30%) Visualize/Audiate the network structure based on the data set. Users should be able to identify the connection between two independent characters. Also, users can differentiate the levels of interactions (who and who interact with each other more frequently). (see **Figure 1**)
  2. (30%) Users are able to interact with the network. The interactions are defined as follows:
     i. add a character to the network.
     ii. remove a character from the network.
     iii. add all the characters into network
     iv. clear all the characters from the network

     You can decide how users can interact with the interface, no need to be *Drag & Drop*, a simple click is also fine) (see **Figure 2**). If your submitted assignment contains only a static graph, you won't be able to get the scores of this part.
  3. (5%) Switch between different episodes.
- (10%) Programming Technique
- (5%) Comments & Completeness of Readme

Version Control (20%):

- Download the assignment's repo from the reference [2] and find a partner to finish this assignment using git (Each team can only have 2 members).
- We will check your commit history and code contribution on your repo (comments and interface design are excluded), so collaborative with your partner properly and do not commit and push all the codes at the same time.

Bonus (20%):

- Design your own interaction/animation, and explain your design in Readme.md.

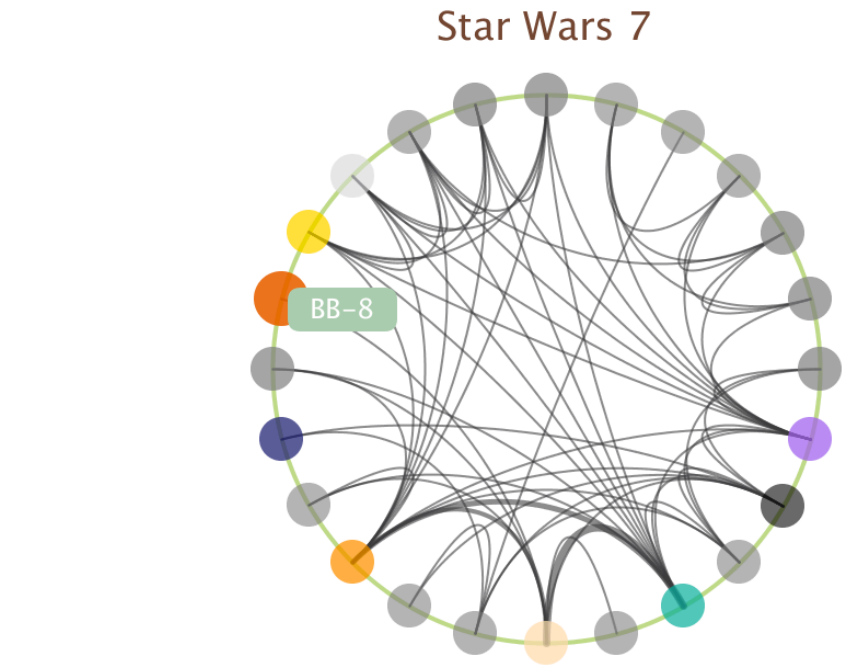

Figure 1. A static network visualization.

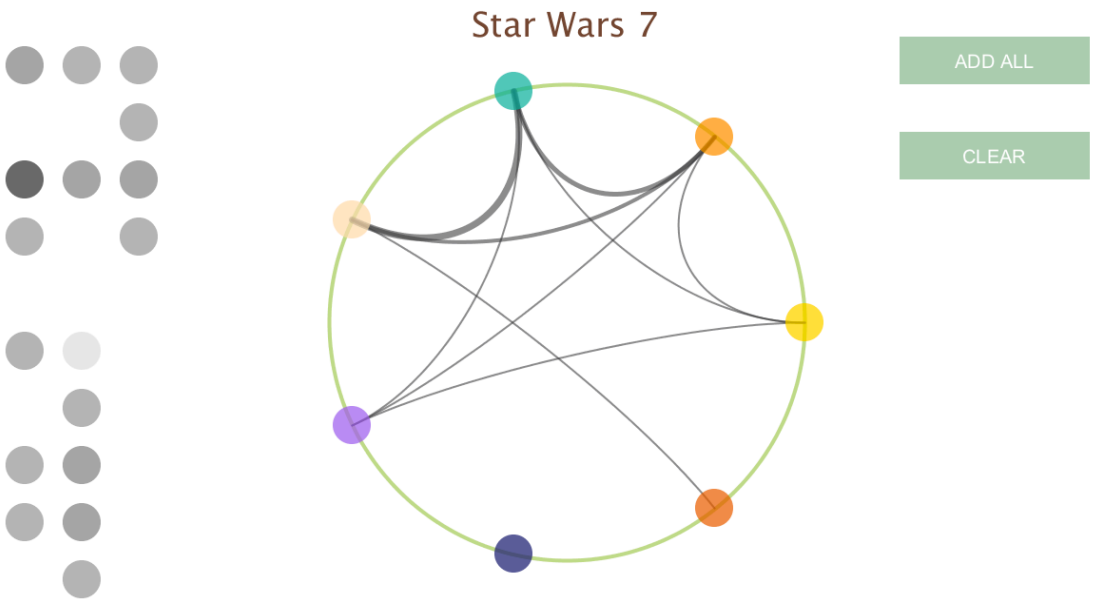

Figure 2. Interactivity of the program.

References

1. Date set: https://github.com/evelinag/StarWars-social-network

2. Assignment's repo: https://github.com/RichoHan/SoftwareStudioAssignment6

Notice

1. Deadline: 2016/05/11(Wed) 23:59 (If you submitted in 05/12 00:00~23:59, you will get partial credits (80% of the original score). No credits if submitted afterward.)
2. For each source file, you should add some comments to explain your code. And you should explain your visualization in Readme.txt.
3. Zip the source code (with the whole project in a folder) to a zip file, the file name is ”ID_Assignment6” and uploads to iLMS. If you don’t send the whole project but just the java files, 10 points will be deducted for the assignment.
4. You also need to submit the link of your repo when you upload to iLMS. Both of your team members need to submit the homework to iLMS.
5. If you have any question about Git, you can check the slide of Lab 4. (http://lms.nthu.edu.tw/course.php?courseID=24817&f=doc&cid=922233)

Honor Code:

Any cheating will be handled seriously in compliance with the university rules. All assigned work is expected to be individual, except where explicitly written otherwise (e.g., term project). You are encouraged to discuss with your classmates; however, what you hand in should be your own work.