Project 2: Gilmore girls: Characters and Connectedness

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2/21/19

1 Views

1.1 Chord Diagram of Character Connectivity

This view shows the connectivity of each character in *Gilmore girls* by representing each reference from one character to another as a chord. The larger the chord is on one side, the more that character references or talks to the character it is connected to. It also shows the most relevant characters in the show: Lorelai, Rory and Emily (mother, grandmother, and daughter respectively). I find this visualization to be significantly more informative that an adjancency matrix simply because it's easier to follow lines from one end to another than to trace boxes back to two separate axes. I wanted to be able to show the connections between characters because *Gilmore girls* is all about growing and changing relationships. I added hovering to the arcs to make smaller characters' connections easier to distinguish. A smaller, buggier interaction allows users to choose characters from the legend on vis. 2 and it will show only the connections that the selected characters share. However, this conflicts with the hover interaction, so it is hard to see if you are not looking for it. Clicking on a character's outward arc moves the user to the second visualization with the selected character's line highlighted.

1.2 Character Lines by Episode

This view plots the number of lines a character has in each episode as a multiline graph. The data can be highlighted/filtered via the legend or the chord diagram. Hovering over a line will show exactly which character and season/episode the mouse is on. I felt this would be a great format for showing how characters' story lines track and interact with each other. The line colors coordinate with the first visualization. I also found that the yellows and greens were so similar that they were hard to distinguish, so on selection, the lines and legends for those characters actually darken. It's not a perfect solution, but it's hard to find a good way to incorporate separate colors for so many characters. Clicking on one of the lines will take the user to the third visualization.

1.3 Script Tree

This view (somewhat poorly) mimics the word tree we saw in class. When a season-episode-character is chosen, a word tree is generated from that script to show the character's script for the episode. I decided to have the tree start with 3 levels un-collapsed (including the character's name), to give the

user a fuller sense of the options before choosing to expand certain lines. I also decided that a full line would expand when the user clicks a node because it was extremely tedious to continue clicking out an entire line of individual words. The node color coordinated with the first two visualizations; it doesn't add anything really except continuity. I wanted to show this to see what words or phrases were used most often. Originally, I had hoped to do the full script for a character over seasons 1-5, but it was way too much data for the program. While the sample size is smaller, it's still very possible to get a feeling for the character's attitude from a few lines. The user can continue looking at different characters or different episodes by re-selecting on the second visualization.

2 Natural Language Processing

I opted to use the TextBlob NLP tool within a python script to help distinguish who a character was referring to in a particular line for the chord diagram. While Lorelai refers to Emily as 'Mom', Rory refers to Lorelai as 'Mom', so I trained a classifier to distinguish between these contexts as well as other nicknames or titles. The results were made into the adjacancy matrix that became the chord diagram. I was really excited to see all of the different tools the TextBlob unit did have. My goal for the final visualization could have probably been better accomplished with a sunburst visualization of the different words organized by parts of speech. But the tree diagram does preserve the spirit of the words. I would also love to explore the idea of training a classifier to identify the cultural references in the scripts, which is a huge theme in the show.

3 For the Novice User

Visualization 1:

1. Open the webpage and read the title to see that you are now learning about the best TV show ever made: *Gilmore girls*
2. Noodle around, hover over some of the character's outside arcs, notice how talkative Lorelai is and how much she talks about and to her mother Emily.
3. Take a break, watch a couple episodes on Netflix (recommend season 5: episode 7)
4. Select a character and be zoomed down to the second visualization

Visualization 2:

1. Read instructions, recognize you're looking at character relevancy per episode.
2. Unselect the character you chose in the first visualization, indicated by their bolded name by clicking the box or the text.
3. Try out some of the suggested selections, notice how Luke's character is very relevant, even though he and Lorelai are not together for most of the series.
4. Click on any character-season-episode combination with more than 0 lines or be told to do so by a pop up text in the upper right corner.

5. Check out the tree graph

Visualization 3:

1. This one is all exploration. Click on any of the little nodes that show up in the character's color to reveal the full character's full line.

2. Read some funny lines, notice how a character starts a lot of their sentences in the same way.

3. Maybe go up to the second visualization and choose a new combination and start over.

4 Student Evaluation

I asked Vaish to look at my system again this time and she didn't have many negative comments. She mentioned I needed more labels and instructions (I did not have any at the time) and that it would help if clicking on the first visualization immediately scrolled to the second. I had initially had that implemented, but I thought it might have been a little too involuntary. I do agree that it helps to be prompted to see what the click initiated. For the general public, I would add more information on each character as a sidebar to make it accessible for non-Gilmore fans. She also noted that the tree should look better and be more interactable, so I made it collapsible and a bit more intuitive. It was a very fair critique.

5 Insights

There are a lot of cool insights that you can find about the show. In the first view, Emily (Lorelai's mother) is actually the person Lorelai talks to or about the most and vice versa, even though they have an estranged relationship for a lot of the show. Their relationship is more prevalent than Lorelai and her daughter, Rory, or Lorelai and her soulmate boyfriend, Luke. In a similarly weird, discovery, Luke actually talks to or about Lorelai much less than she does about him. He even talks to or about Taylor and Kirk, two townspeople and general annoyances, more than Lorelai. However, he is the character with the largest/strongest network outside of the immediate Gilmore clan (Lorelai, Rory, Richard, Emily). In the show, Luke owns a diner and really develops his own story line.

The sequence of the boyfriends is interesting because you can see exactly when each relationship falls apart. There's a moment where Christopher makes a brief appearance at the end of season 2, triggering the end to Max and Lorelai's engagement. More interesting, Dean's relevance in the show is not particularly affected by the introduction of Jess, Rory's to-be second boyfriend. In fact, for most of Jess's time on the show, Dean and Rory are together, despite Jess's increasing screen time and their growing relationship. People like Jackson and Taylor are linked, possibly hinting at the eventual plotline where Jackson runs against tyrant Taylor for Townselectman. You can see the ups and downs of Richard and Jason's business relationship, as well as the turbulent relationship between Luke and Jess.

6 Extra Credit

I was able to create my own dataset by scraping https://crazy-internet-people.com/site/gilmoregirls/ for each episode's transcript. I constructed a scraping tool using Scrapy, a new skill I learned for this project. I'm hoping to go back and get the final two seasons to update my project after it's turned in. The data had to be cleaned and reconstructed to work with TextBlob and then JavaScript, but I think it was really worth it for the enjoyment I got from this project.