

Using interactive data visualization to explore non-linear movie narratives

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KEYWORDS

Interactive data visualization; movie narrative; narrative visualization; non-linear narrative; arc diagrams

ABSTRACT

In storytelling, various narrative structures have been explored to make a simple story more interesting to the audience. A non-linear narrative is one such structure. While techniques such as *in media res*, flash-backs and flash-forwards have been used since ancient times; such techniques have been extensively used in several movies in the past two decades. Such movies keep the viewers interested even after they leave the theatre, and lead to several in-person and online discussions. This paper highlights how data visualization can also help extend the movie experience and aid in discussions around the narrative. Apart from letting users relive special moments from a movie, such a visualization can also summarize the overall structure & timing of the non-linear narrative, and explore cues & elements of continuity used. For the purpose of demonstration, this paper uses the non-linear narrative of the movie *500 days of summer* to create an interactive data visualization using the D3.js JavaScript library.

URL

<http://rasagy.in/500days/>

TECHNOLOGIES

Microsoft Excel

Popular spreadsheet tool, used for data collection, data cleanup & preliminary analysis. Basic functions like Conditional Formatting & Charts were used to study the overall structure of the narrative.

D3.js JavaScript library

D3 (Data-Driven Documents) is a JavaScript library for manipulating elements in a document based on data. It uses SVG (Scalable Vector Graphics) for the visualization graphics, HTML (HyperText Markup Language) & CSS (Cascading Style Sheets) for embedding the graphic on a webpage, and JavaScript functions for transitions and interactivity. This library was used to create the arc diagrams for visualizing the narrative.