fandom-walk: Data Visualization as Choice-Driven Narrative Exploration

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ABSTRACT

This paper details the creation and design behind fandom-walk, a choice-driven narrative data visualization that centers around the experience of writing content in a fandom. Through explicit visual encodings that draw direct connections between the process of writing fanfiction and the choices made when designing a data visualization, and specifically-designed interactions that further cement the tangible presence of normally-hidden labor, fandom-walk encourages the user to consider both the deliberate processes that go into construction of these final processes–and the instinctive reactions that arise when certain expectations for success go unmet.

Author Keywords

fandom; fanfiction; interactive narrative; human-driven visualization

INTRODUCTION

Since the turn of the century, fandom has become a cultural phenomena inescapable in the present day. "Fandoms", a new term in the modern dictionary, denotes a fan community built around an existing body of entertainment. There are anime fandoms, band fandoms, idol fandoms–at this point, fandoms exist for virtually everything, if you know where to look. The growth of fandom comes as no surprise; humans are notoriously social creatures, and communities have existed for as long as man has been sentient, for practicality if not pleasure. However, it is worthwhile to take note of why fandoms have grown so animatedly in recent years. With the rise (and subsequent exponential growth) of PCs and widespread internet access, it has become easier than ever before for communities to convene together from across the globe. Websites like Twitter, Tumblr, Pixiv, and Weibo are but a few of the many media-sharing sites that allow users to upload and access content from anywhere in the world; and it is such sites that allow fandom to thrive.

Fandom is built around the central concept of expanding a universe to include non-canon possibilities. It relies upon the continuous creative efforts of those within it; and it is their fanmade writings, artworks, and derivative projects that keep a community alive. And in the present day, the literary art of fanfiction exists as of the central tenets that support these online fan communities. Websites like fanfiction.net and ArchiveOfOurOwn.org (AO3) are but a few of the major sites that boast large repositories of exploratory, non-canon fan-written work. Within the creations of fandom authors, there exist droves of alternate universes, modified endings, and spared character deaths. Likewise, within the creations of fandom authors, we experience in full effect how vast the possibility space of one fandom's universe may be.

The Garden of Forking Paths [1] is a work familiar to literary and data visualization minds alike; though the phrase itself comes from Jorge Luis Borge's short story by the same name, the concept has been adopted by other fields. In data visualization, it refers to the fundamental tension between exploration and confirmation. Often, a data visualization is constructed by way of exploration; and in doing so, the visualization is subject to the natural bias of the creator who developed it across various iterations. To treat such a visualization as an objective work, with the authority to confirm and reaffirm what one may have already believed, is a dangerous game to play; especially since the colloquial idea of "data" comes pre-loaded with a (sometimes unfounded) connotation of rational objectivity. Hence, the motivating goal of fandom-walk was to construct a visualization that would blur one's preconceived notions of data visualization as a linear objective, embedding the conclusion of a series of choices within the exploratory space itself, thereby cementing how the outcome is inextricable from the process that created it.

RELATED WORK

Much inspiration was drawn from Michael Correll's paper, *Ethical Dimensions of Visualization Research* [2]. In particular, Correll's paper serves to explain and delineate many of the oft-hidden issues that plague current data visualizations: these range from the inability of modern conventions to express hidden labor appropriately, to the tendencies of many visualizations to avoid explicitly exposing so much as a hint of "bias" like the plague. From my experiences reading and interacting with data visualizations in the past, I found myself agreeing with much of what he said; often, it is too easy to take a visualisation at face value, and not consider the various things that had been excluded or neglected from acknowl-

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edgement in the final product–whether unintentional, or on purpose.

Researchers at UWash compiled a dataset in 2017 of fanfiction from many of the major fanfiction websites, citing that "fanfiction has blossomed into an extremely widespread form of creative expression.... yet, this domain is often undervalued by society and understudied by researchers." [3] Fanfiction is, to my knowledge, one of the most accessible and widespread forms of creation out there; and the amount of labor it requires is immense. Though fandoms exist in almost every sphere, there is a distinct lack of data visualization about the topic–perhaps due to the data itself being unappealingly mired in the realm of "subjectivity", as many works of art are. For that same reason, I chose to use this data, and explicitly advertise how what we consider "subjective" and "objective" are often too closely related for comfort.

METHODS

fandom-walk is a system that enables the user to input choices about a fictional fanfiction they wish to write, and then explore how well their fanfiction did against other fan works within the same fandom at the end. There were three main components that went into the creation of this system.

Text Editor

The first component was a pseudo-text editor I constructed to resemble a basic notepad editor with CSS. The text editor serves as the main portal through which the user makes choices to interact with the system at hand; furthermore, it requires the user to read through a list of possible choices at each decision point, and then choose one by going through the effort of typing it in. Encodings like a blinking cursor and the ability to type, and re-type when words are misspelt, make interacting with the interface no different from interactions with a real text editor.

Terminal Visualization

Three "pop-up" windows that resemble terminals form the bulk of the data visualization in this project. The three windows correspond to a scatterplot, a heatmap, and a main navigation "tooltip" reader.

Scatterplot

The scatterplot is a large plot that shows how popular various fanfiction pieces are, with popularity measured as a function of the number of comments received against the number of times other users favorited the work. Immediately, you are able to compare how "your fanfic" did against all the others, view a general distribution of work popularity, and mouse over all the data points to inspect the finer attributes of how they compare to your fanfic in terms of genre, rating, and length.

Heatmap

The heatmap shows bins of genre against rating, and serves to display which genres combined with which ratings are the most popular sources of inspiration for authors. Mousing over the different heatmap bins also causes the corresponding data points to light up on the plot, thereby revealing clusters (or the lack thereof).

Tooltip

The tooltip is the main information-displaying terminal. Extra information is shown here when the scatterplot and heatmap are moused over; there is not enough space on the graphs themselves, and they are already visually intensive, so for usability, extra info is cordoned off into a designated terminal window.

Web Browser

The web browser simulates what it would feel like for an author to finish posting their work, and displaying it online. It shows how your work, with blurred-out placeholder text, might look like on a fake fanfiction site that is the synthesis of many sites mashed together–FansOfOurFiction.org!

RESULTS

With fandom-walk, I wanted to unveil the hidden labor that goes into creating data visualizations using the vast potential of fanfiction as an allegorical example. Likewise, I also wanted to expose that the possibility space of data visualization is vast–at least as vast as that of fanfiction. To this effect, fandom-walk succeeds in forcing the user to explicitly consider and review their direct choices that create the data visualization they receive at the end. On average, across 20 timed trials, it took 17.8 seconds for me to go from entering the page to seeing my first visualization. This is not due to something undesirable, like lag; it is due to the fact that the user must work, typing on their keyboard and reading available options, to see any result whatsoever. Hidden labor is exposed by making the user go through the same laborious process to arrive at their own conclusion; and their conclusion is but one of many possible. The scatterplot visualizes three categories of dots: first, a general green dot representing a fanfiction within the dataset but not of relevance to the categories our user selected; second, a magenta dot representing those other works which matched our user's criteria, but were not the one they "wrote" in the end; and third, one hot-pink dot signaling which fiction they "wrote". These show progressively smaller subspaces our user likewise encountered when making their choices; when they first chose a specific fandom, they limited themselves to the possibility of one of the 8000 data points in each fandom. Then, when they selected a set of criteria, they restricted themselves to one of the few hundreds of fanfics that might fit all their criteria. But in the end, they only ended up writing one of them–though it could have been any of them, had RNG worked out differently.

DISCUSSION

The system surprised me in a few ways. First, I found that it replicated many of the real frustrations one feels being in a fandom to begin with; in almost all of the fandoms I looked at, very few fics manage to become truly "popular". Whenever you "wrote" a fic, it would almost invariably end up in the mess of mediocre-to-okay fics in the about-100 comments and favorites range. However, those that did especially well across most fandoms largely seem to hit a few key features: they tend to be of the Romance genre, long in length, and rated T or M. In fictive spaces, there is always the issue of whether one should write what they wish to read, or whether one should

write what is popular so they receive their due renown. This is not to say that people write Romance only because it is popular; but there is some truth in a fiction writer noting that tagging their work as Romance will net them more viewership than, say, Western.

Second, different fandoms are subject to drastically different dynamics. This is to be expected; different fanbases are drawn to different works by virtue of the works' unique characteristics. While Crime wasn't a particularly hot category in many of the fandoms I looked at, the NCIS fandom had (understandably) more love for the genre. Likewise, Fullmetal Alchemist had many humorous fanfics–likely because the main characters have fundamentally humorous dynamics, despite the seriousness of other parts of the work. Romance is a strong contender across all fandoms, as one might expect–shipping, the act of pairing two characters together romantically, is one of the most popular pasttimes of a fandom. Even then, Twilight was dominated by Romance fiction moreso than any other fandom I looked at, perhaps due to the original work being a love story at its core.

FUTURE WORK

For future work, I received some feedback earlier I did not have a chance to implement before the end of the semester, but would like to do in the future. In particular, this feedback had to do with using a GPT-2 model to generate fictive works based off user input. I ended up using blurred lorem ipsum placeholder text in my web-browser portion of this viz, in part due to keeping with the importance of anonymized data–fanfiction may be published online, but we should not be reproducing it without explicit consent. However, I think using the GPT-2 model would yield more evocative results, and further cement the expectation that the user must work to receive meaningful visualizations at the end. Likewise, I was also hoping to implement a Microsoft Word Clippy-type helper on the site, that gave you useful, if not slightly obnoxious, advice on how to interface with the system. It would be another way in which the system makes allusion to the text-editor technologies of the past, and also serve as a more intuitive and user-friendly way of integrating a user with the system.

REFERENCES

[1] Jorges Luis Borges. 1941. The Garden of Forking Paths. (1941). http://mycours.es/gamedesign2012/files/2012/08/The-Garden-of-Forking-Paths-Jorge-Luis-Borges-1941.pdf.

[2] Michael Correll. 2019. Ethical Dimensions of Visualization Research. (2019). https://arxiv.org/pdf/1811.07271.pdf.

[3] Sarah Evans Katie Davis Kodlee Yin, Cecilia Aragon. 2017. Where No One Has Gone Before: A Meta-Dataset of the World's Largest Fanfiction Repository. *ACM 2017* (2017).