

Narrative Visualization Essay

Messaging

The message I am trying to communicate with the narrative visualization is that a Pokémon's main characteristics influence a Pokémon's popularity amongst fans. We need to explore those avenues to determine what exactly is the main cause, between the common factors Pokémon base stats or Pokémon type.

Narrative Structure

The structure my narrative visualization was designed to follow is the interactive slide show structure, where user exploration is allowed at all of the steps of the story. It follows this structure since the scenes are all able to be accessed and explored by the viewer at all times using the always-present scene buttons, no matter which step they are on. All of these scenes are a specific aspect of the overall data.

Even though all of these structures can include the opportunity to “drill-down” and explore, this opportunity is presented at all times, wherever the user is in the structure. It is not a martini glass structure, as the user does not need to be at the end to be able to explore the data. It is also not a drill down story, as even though there are different storylines available to be explored through the overview of the ever-constant buttons, there is a fixed sequence of scenes within the button layout, and the user navigates between the scenes, not into the details of the data. The story immediately starts at one of the scenes, and exploration for all of the scenes is immediately accessible from there. Thus, the most fitting of the three narrative visualization structures is the interactive slideshow.

Visual Structure

For each scene, the visual structure I used is different. For my first scene, Popularity vs. Stats, the visual structure is a slide show. It opens with a scatterplot showing the Pokémon popularity versus its base stats, and there are Previous and Next buttons near the bottom of the scatterplot to view more scatterplots with different base stats, one scatterplot showing up at a time. The viewer is able to go back and forth between the slides. This allows the viewer to focus on their desired base stat without getting overwhelmed by a convoluted display layout.

For the second scene, Top 10 Pokémon, the visual structure is a magazine. There is a horizontal bar chart always visible on the left of the page, showing the top 10 Pokémon and their respective vote totals. On the righthand side, there is a block of text for the viewer to read instead if they do not want to look at the chart, which also summarizes the top 10 Pokémon voting poll results with the same data. Since both sides show the same main data points, this

directs the user to only view those points first, making them realize that this is what they should be focusing on.

For the third and final scene, Type Distribution, the visual structure is a video. There are Play/Pause and Restart buttons, allowing the viewer to watch the animation like a video, being able to play and pause the animation, but not being able to scrub through any point in time or go back, unless it's to completely restart. This urges the viewer to focus on the progression and keep track of the stats shown in each instance, showing that the Pokémon type is important in this scene.

Each scene is consistent in aesthetic (font, font size, color, etc.) with the other, aiding continuity and immersion for the user. Each scene also uses the same color for the corresponding Pokémon type, making it easier for the viewer to understand the connection between each data shown in each scene.

Scenes

The scenes of my narrative visualization are Popularity vs. Stats, Top 10 Pokémon, and Type Distribution.

Popularity vs. Stats compares Pokémon popularity and the different base stats of Pokémon, such as base Attack, Defense, Hp, Speed, Sp. Attack, Sp. Defense, and the overall total combined stats, shown on the first slide. This scene is first, since it is the most simple and straightforward with the data, as well as starting off with only one of the possible correlated causes: the Pokémon base stats.

Top 10 Pokémon shows the top 10 most popular Pokémon based on the fan votes, along with the number of votes each Pokémon in the top 10 received. Clicking on any Pokémon will also show additional details, such as the Pokémon's type, abilities, weaknesses, and base stats. This scene is second, since it is the in-between for the first and last scenes. It mainly shows the Pokémon type, but clicking onto an individual Pokémon also showcases their base stats. Viewing this scene before and/or after viewing the other two scenes is the most fitting, since it combines the data points between the two. But viewing it before the third scene still allows the user to make sense of the data, so it is not necessary to put it last.

Type Distribution shows all of the Pokémon's main types, from the entire range of Pokémon and not just the top 10. This scene is the third and last since it focuses solely on the other possible correlated cause: the Pokémon main type. It is also the most complicated visual structure, so putting it first may overwhelm the viewer and cause confusion. However, being last helps ease the viewer into how to use the page.

Overall, the scenes are ordered in a random-access ordering. The viewers are not limited to any particular order of viewing the scenes, and all the scenes are immediately accessible via the buttons for each scene. Even though the scenes do have a logical flow, this is not imposed on

the user and there is no real direction. Each scene is able to be understood without having to view any of the other scenes.

Annotations

The template that was followed for the annotations is a standardized text note at the bottom of each scene, highlighting the correlation between the data points. This was done using persistent captions. There is a status text bar fixed at the bottom of all scenes, dynamically updating to explain correlations between the data being viewed at each scene, along with rankings or animation progress if relevant. This template was implemented to keep a consistent layout between scenes, making the conclusions drawn easier to find for each scene. There is also no mouseover event needed to make the annotation show, making the annotation always appear as part of the scene.

The annotations are used to support the messaging as they add to the inferences the message is trying to draw, guiding the user to analyze the data farther as to whether there is a factor that influences the popularity of a Pokémon.

The annotations do change within a single scene, as they update with the different visual structures' scenes. Based on the data being displayed, they will change to reflect accurate conclusions as to whether there may or may not be a positive or negative correlation between the data points. However, the position and formatting of the annotations do not change at all relative to the scene.

Parameters

The parameters of the narrative visualization are my `currentScene`, `currentAttrIndex`, `animationIndex`, `selectedPokemonName`, `typeCounts`, and `mostPopularPokemon` variables.

`currentScene` tracks the active scene, so the correct scenes and annotations show for whatever the viewer is viewing. `currentAttrIndex` controls which stat is plotted in the first scene, allowing the viewer to see the correct slide of the slideshow. `animationIndex` is regarding the number of dots colored so far in the third scene, so the video flows smoothly and the correct data is displayed based on the state of the animation. `selectedPokemonName` is the parameter for which Pokémon was selected in the second scene, so that the correct Pokémon information and statistics shows up accordingly. `typeCounts` stores the cumulative votes by type in the third scene, so that the scene displays the correct data for that point in time. `mostPopularPokemon` is object tracking the highest-voted Pokémon during the animation, going hand-in-hand with the other parameters for the third scene.

The current state of each scene all depends on these parameters respectively. The main states of the narrative visualization are the three different scenes, each showing a different view and portion of the data. However, each separate scene has states as well, depending on the user actions.

Triggers

The triggers that connect user actions to changes of state in the narrative visualization are the buttons of the scenes, as well as the Pokémon images in scene 2. The three buttons at the top of the pages, Slide Show: Popularity vs Stats, Magazine: Top 10 Pokémon, and Video: Type Distribution, enable a user to change between scenes at any time. The buttons are labeled very clearly and distinctly, letting the user know exactly which scene it will be switching to if they click that button. Since the order is random-access, the buttons are not labeled with “Scene 1,” “Scene 2,” and “Scene 3” as to not compel the user to follow any specific direction, but their ordering gives a gentle suggestion subconsciously to the viewer.

In the first scene, there are Next and Previous buttons for the slideshow, allowing the user to move between the different scatterplots. These are clearly labeled as well, letting the user know this is how they move within the scene and that this is the only way, as there is nothing else presented for them to click on besides the three scene buttons at the top of the page.

In the second scene, clicking on the Pokémon image allows for the user to view more information, switching between the smaller subscenes of the scene. There is a subtitle underneath the scene’s page title to inform the user clearly that this is an option.

In the third scene, there are Play/Pause and Restart buttons for the video animation. These are at the top of the scene again for more visibility and are formatted similarly to the scene buttons, letting the user know that these have functionality as well. There are no other buttons, nor any other element that is styled similarly, on the page so as to not confuse the viewer with this scene’s options.

All of the buttons besides the Pokémon images in the second scene also change color and raise slightly on hover, making it even more clear to the user that this is an option available to them to interact with.