Understanding Narrative Visualization: A Journey through COVID-19 Daily Cases and Deaths in the US

Introduction:
In the era of big data, the ability to communicate complex information effectively is crucial. Narrative visualization is a powerful tool that combines data visualization with storytelling to convey meaningful insights to the audience. This essay discusses the creation of a narrative visualization website that explores the daily COVID-19 cases and deaths among US states. The website aims to communicate important messages, follows a structured narrative, and employs various visual elements and annotations to facilitate comprehension and engagement.

1. Messaging:
The primary message of the narrative visualization is to provide an informative and insightful journey through the progression of COVID-19 cases and deaths across different US states. The visualization seeks to convey the severity of the pandemic's impact, highlight potential trends, and emphasize the importance of understanding regional disparities in the data.

2. Narrative Structure:
The narrative visualization follows the "martini glass" structure, which begins with an overview, narrows down to specific details, and then broadens again to conclude with a comprehensive perspective. Users start with an overall view of the US map, displaying a choropleth of COVID-19 cases or deaths. As they interact with the visualization, they can drill-down into individual states to explore more granular data.

3. Visual Structure:
The scenes of the narrative visualization are organized based on dates, allowing users to view the progression of COVID-19 data over time. The visual structure ensures clarity and ease of navigation by employing an interactive US map, with color-coded states indicating the magnitude of cases or deaths. A legend accompanies the map, providing context for the color scale. The transition between scenes is smooth and gradual, aiding users in comprehending how data in one scene connects to data in the next.

4. Scenes:
The narrative visualization comprises three distinct scenes, each providing unique insights into the COVID-19 data. In Scene 1, users are presented with an overview map showcasing COVID-19 cases and deaths for each state in the US on a specific date. Scene 2 focuses on analyzing the trends of COVID-19 cases and deaths for a chosen state over a designated time range, offering a more detailed and dynamic perspective. Finally, Scene 3 offers a static view that enables users to analyze COVID-19 cases and deaths based on both date range and state

ranking. Users can seamlessly progress through these scenes chronologically, allowing them to observe the evolving patterns of COVID-19 data. Additionally, interactive elements empower users to make comparisons between states, facilitating the identification of regional patterns and trends.

5. Annotations:
The narrative visualization uses annotations strategically to support its messaging. Simple and concise annotations provide essential context and insights, guiding users through the visualization's narrative. Annotations change within a single scene to highlight specific states or regions with notable changes in COVID-19 data, encouraging users to explore further.

6. Parameters:
Parameters in the narrative visualization include date range and data selection, state (cases or deaths). These parameters define each scene's state, presenting unique information for each date while maintaining consistency in visual representation. Users can interactively control these parameters, allowing them to customize the visualization experience.

7. Triggers and Affordances:
User actions, such as clicking on a state or changing the date range, trigger changes in the narrative visualization's state. These triggers update the displayed data and annotations, enabling users to observe real-time impacts. Affordances, such as tooltips and animated transitions, guide users in understanding available options and interactions, making the visualization more intuitive and engaging.

Conclusion:
Narrative visualization is a powerful approach that blends data visualization with storytelling to communicate complex information effectively. The created narrative visualization website on COVID-19 daily cases and deaths among US states aims to convey meaningful insights while providing an engaging and informative user experience. By structuring the visualization thoughtfully, incorporating appropriate visual elements and annotations, and offering interactive features, the website successfully communicates the severity and regional nuances of the pandemic's impact, fostering a better understanding of the data and its implications.