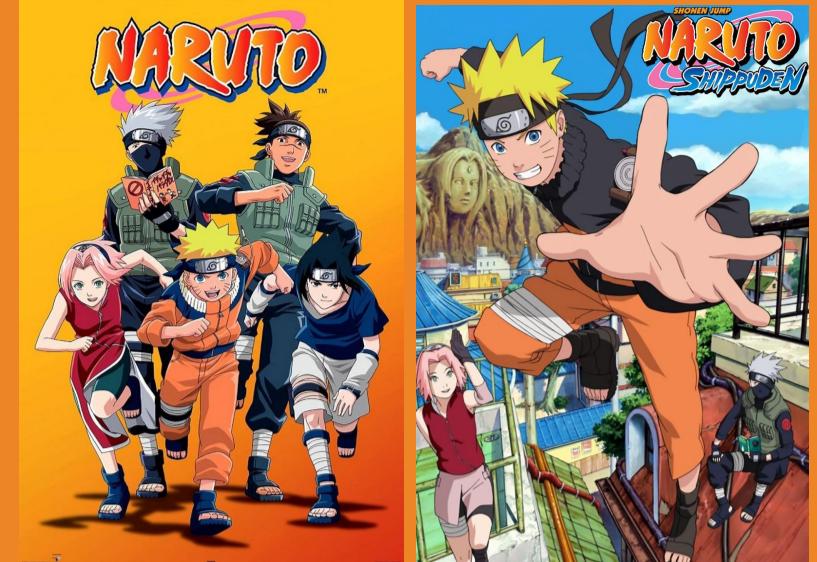


Made by: Anna Lavrenko, Dmitrii Litvin, Vladimir Melnikov



Introduction

Naruto is a Japanese anime television series. It follows Naruto Uzumaki, a young orphan ninja who seeks recognition from his peers and dreams of becoming the Hokage, the leader of the Village Hidden in the Leaves. The series is divided into two separate parts: Naruto and Naruto: Shippuden with a two-year time skip between the two.¹



Project Goal

Naruto is one of the most popular and widely watched anime series worldwide, and our website is targeted at the fans of the series. The website offers an entertaining way of exploring information about the main characters, including a short profile, character statistics, birthplaces and battle information, with a co-occurrence matrix for battles and a detailed description of the battles. The website offers the fans a unique opportunity to interact with data on their favorite series' characters.

Datasets

1. Character statistics data from the Naruto Wiki
2. Summary of episodes and character story lines from the Naruto Wiki
3. LLM-generated data for birthplaces from character stories and battle descriptions from episode summaries

Example of generated battle data:

```
- episode_number: "8"
opponents:
  - ["Kankurō"]
  - ["Sasori"]
outcome: "Sasori defeats Kankurō by poisoning him"
description: "Sasori overwhelms Kankurō with his puppet techniques and injects a deadly poison, leading to Kankurō's collapse."
closest_village: "Sunagakure"
```

Storytelling

The user explores the characters by clicking on their names and seeing the short description. Then, the user chooses the characters they want to track and see more information on. On the map, the user learns the geography of the world and the birthplaces of the chosen characters. Then, on the plot for character statistics the user can see the improvements of skills of one character throughout time (3 books for different time periods) or compare characters to each other. Lastly, the user can explore the battle co-occurrence matrix for the characters who had the most fights and explore the specific fights between any two characters. For each character, there are three symbols signifying which information is available and that are colored accordingly.

¹ [https://en.wikipedia.org/wiki/Naruto_\(TV_series\)](https://en.wikipedia.org/wiki/Naruto_(TV_series))

<https://www.imdb.com/title/tt0988824/>

<https://www.imdb.com/title/tt0409591/>

Visualizations. Challenges and Improvements

Character list and descriptions

Final design:

The screenshot shows a 'Characters' section with a search bar at the top. Below it are two buttons: 'Track All' (orange) and 'Untrack All' (white). A list of characters follows, each with a 'Track' button, their name, and three colored circles (M, P, C). At the bottom, there's a detailed view of Jiraiya, featuring his portrait, name, and a short biography.

Characters

Search characters...

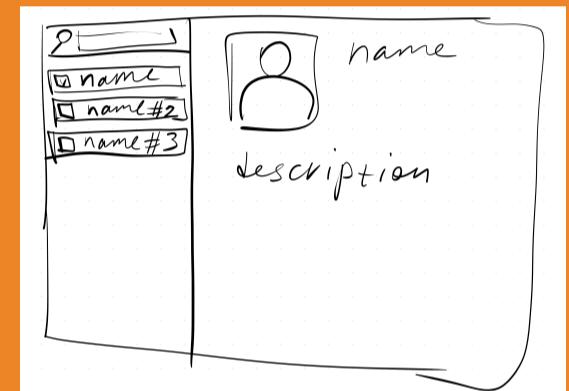
Track All Untrack All

Character	M	P	C
Ino Yamanaka	●	●	●
Iruka Umino	●	●	●
Itachi Uchiha	●	●	●
Jiraiya	●	●	●
Jirobo	●	●	●
Kabuto Yakushi	●	●	●
Kakashi Hatake	●	●	●

Jiraiya
One of the Legendary Sannin and Naruto's mentor.

Moving on from the sketches to the final result, the biggest change was performed on the layout of the website. In order to connect the visualizations together, avoid repetition of the character list, and create a user-friendly design, we decided to display the character list and description on the left and introduce the track feature. It allows the user to check the character's description from any location and choose characters to track - display them on the map, character statistics plot and highlight in the co-occurrence matrix depending on their marker shown on the right.

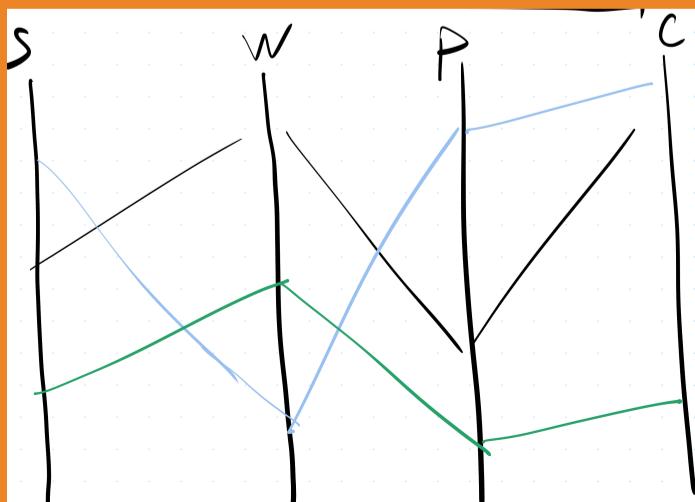
Initial plan's sketch:



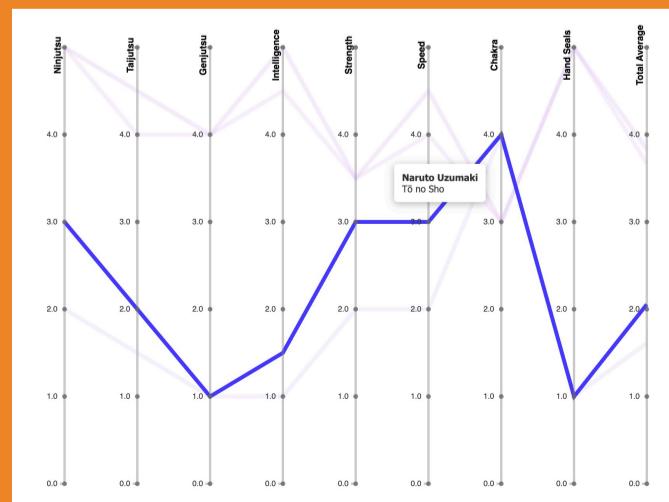
Character statistics plot

The character statistics plot did not change much from the draft stage to the final version except for the initial idea of having a list of character near the plot. The encyclopedia choice was also moved to the left. Most of the challenges were technical, including issues with the caption's position when hovering over a line and maintaining consistency during zooming in and out. We also added “track all” and “untrack all” to make the design more convenient for the user. Lastly, we added the first three characters from the list on the plot as default, so the user can see some visualization immediately and get the idea of how the plot and tracking work.

Initial plan's sketch:



Final Result:



Birthplace map

The main idea stayed the same from the draft to the final version. The challenge we faced is the design solution for the case when multiple characters from the same village were chosen. We had to decide how to display them on the map in a way clear to the user and inside the borders of the map itself, so we created a button to see all for more than two characters per village. We also decided to display the character pictures on the map instead of using generic pins, so the user could refer to the map at any time, track however many different characters, and see all the necessary information visualized.

Initial plan's sketch:



Final Result:

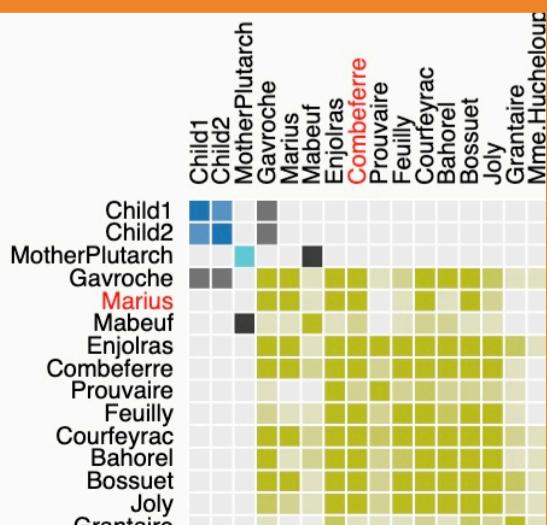


Co-occurrence matrix

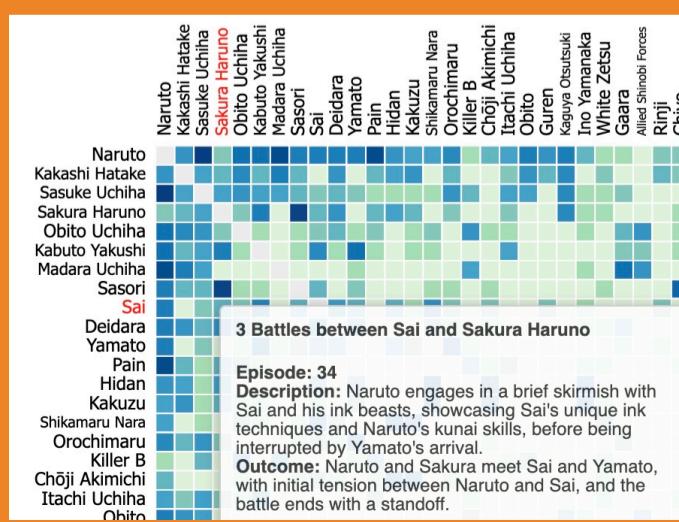
For the co-occurrence matrix, the main two challenges involved data processing and information to present to the user. Data cleaning was complicated due to repetitive character names in the generated data: nicknames or name variations, team names (e.g., team 7), and unexpected challenges (a character who pretended to be someone else; a character with 7 personalities).

In the first version of the matrix, there was not much information, so we integrated detailed battle description upon click - number of battles, descriptions, episode number, and outcome. Another challenge was that some of the important characters, which had the most battles, were not present in our character statistics data. We chose to tackle this by introducing a marker for every character on the list.

Reference:



Final Result:



Results

Our website offers Naruto fans an opportunity to explore the characters and learn more about them through multiple interactive visualizations, which is not present on most of the fandom websites. Our unique visualizations allow users to interact with a world map, view character statistics in one place, and explore never-before-gathered information on battles between the most frequently fighting characters, including when they fought and how each battle unfolded.



Peer assessment



Anna

Data processing for the co-occurrence matrix, co-occurrence matrix, website banner, process book



Dmitrii

Character statistics plot, character descriptions' final version implementation, track feature in the co-occurrence matrix



Vladimir

Data generation with LLM, character descriptions' first version, birthplace map

Overall, the fixes and edits to various plots and the whole website were done by all of the team members.

