



# BEYOND THE BOARD

Team DatArt – COM-480  
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# 1 Project Goal

Board games are more than entertainment. They reflect how we socialize, strategize, and connect. With the rise of platforms like BoardGameGeek (BGG), we can now analyze how these cultural artifacts have evolved globally. Our project aims to offer a multidimensional perspective on how board games, and the communities that play them, are evolving across the globe. We combine interactive data visualization with storytelling to explore not just what people play, but how and why that's changing across time and place. Our website caters to a range of audiences: gamers, board game designers, data visualization enthusiasts, and anyone curious about board games.

## 2 Dataset

Our project uses two main datasets sourced from Kaggle, both originating from BGG:

1. **BoardGameGeek Reviews:** This dataset contains detailed metadata for thousands of board games, including complexity, ratings, player counts, categories, and more. The data was scraped from BGG at multiple points in time. We will focus on the data from 2022 and 2025.
2. **Board Game Ratings By Country:** This dataset provides a snapshot of the board games on BGG in 2019. It provides the same metadata as dataset 1. However, it also includes the country of origin of the users with ratings.

## 3 Exploratory Data Analysis

In Milestone 1, we standardized column names, parsed stringified lists, normalized country names, merged datasets for comparability, and filtered out incomplete or noisy entries. This allowed us to explore how complexity, player count, and ratings were distributed, how game preferences differed across regions, and how certain features related to game popularity. We noticed some key trends: average game complexity declined from 2019 to 2025, solo play became more common, and complexity, popularity, ratings and top games varied significantly across countries and years. These early findings directly shaped our visual choices, such as the year-by-year comparisons, choropleth map, and correlation plot. After this initial analysis, we carried out further data preparation for Milestone 3: we excluded game mechanics and grouped specific categories into broader genres, resulting in 13 final genres used in our visualizations.

## 4 Website Color Scheme

The primary background color is navy, which conveys depth, strategy, and immersion: a perfect match for the world of board games. It sets a focused tone, while allowing visualizations to stand out clearly. All visualizations were styled to blend seamlessly into this dark backdrop, creating a smooth and immersive experience that keeps





users engaged without visual distraction. Accent colors include shades of orange and yellow. Orange brings a sense of creativity and energy, while yellow adds a bright, cheerful contrast. Cards are presented in cream, evoking the feel and nostalgic charm of traditional board games, while providing a soft, warm contrast against the darker background. White text is used on the navy background for strong contrast and better readability, ensuring that the content remains easy to follow. Attention was given to the smallest design details, such as adding subtle glow and shine effects to selectors and start buttons, enhancing the overall visual polish and reinforcing the board game theme.

## 5 Storytelling

Our website approaches data storytelling by turning the world of board games into an engaging visual journey. Instead of simply displaying statistics, the website shows insights gradually, allowing users to discover patterns in a way that mirrors the exploratory nature of playing a game.

The narrative begins by introducing the context of board games: their role in culture, entertainment, and strategy. To set the stage, we start with a visualization of the top-rated games each year, offering a snapshot of the most influential titles over time.

Building on this, we transition to the bump chart, which tracks the popularity of different game genres across the years. By showing how categories rise and fall in popularity, this section reveals evolving tastes and trends in gameplay.

To place these patterns in a broader context, we then zoom out with a line chart that shows how other game properties have evolved too.

Then, we invite users to explore regional differences through the World Tour section. Here, viewers can dive into country-specific data to learn how board game preferences vary by location, enriching the narrative.

This leads to the choropleth map, which provides a more direct, visual comparison between countries. This section enables users to uncover global patterns and contrasts.

The story concludes by returning to the question posed at the start and illustrated in the top games in the first section: what makes these games stand out? In the final section, we examine how various game attributes, such as complexity and minimum number of players, correlate with popularity. This closing analysis brings together the themes explored throughout the site.

## 6 Visualizations

Our website consists of 6 visualizations, most of which closely follow the sketches we developed for Milestone 2.





## 6.1 The Global Favorites

*Which games stood out as global favorites in 2019, 2022, and 2025?*

Our first visualization showcases global favorites, allowing users to select a specific year (2019, 2022, or 2025) to view the top-rated board games from that period. The games are presented in a card format that mimics the look and feel of actual board game cards, reinforcing the overall theme of the site. We also implemented a flippable card interaction (an idea proposed earlier as a “nice-to-have” feature if time permitted) which adds a playful element to the experience. The front of each card is styled to match a customized board game theme designed specifically for our website, as if the site itself were a board game titled “Beyond The Board”. The back includes the game’s cover image, title, average rating, complexity score, recommended player count, and release year.

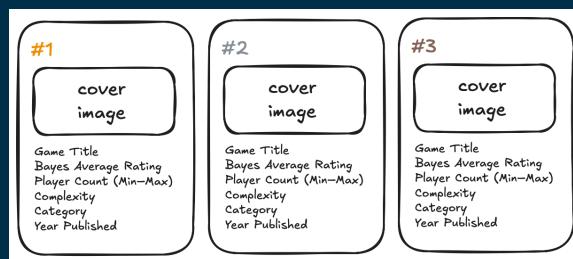


Figure 1: M2 Sketch of Global Favorites

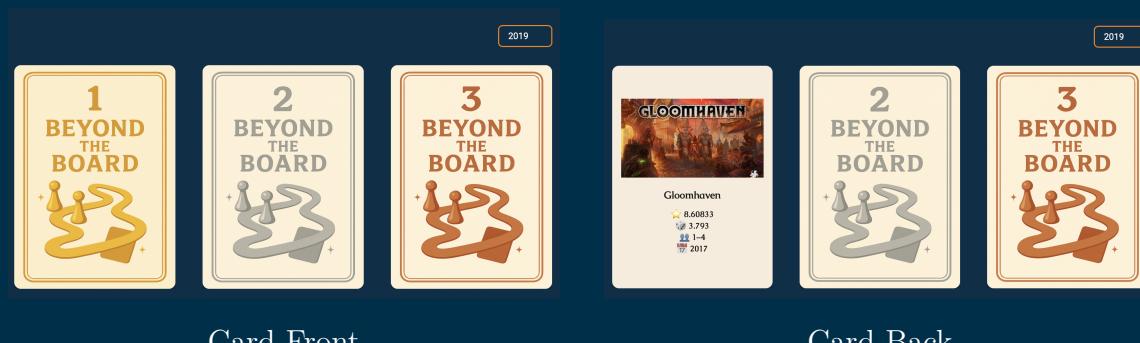


Figure 2: Implementation of Global Favorites

## 6.2 Shifting Play

*How did core game design features evolve between 2019 and 2025?*

### 6.2.1 Genre Rankings Over Time

This feature illustrates how board game categories have changed over the years. Our initial plan was to implement an animated bar race. However, after implementation, we found the result a bit underwhelming. With only three years of data and minimal changes in rankings for some categories, the animation felt repetitive and lacked



meaningful motion. As a result, we opted for a bump chart instead. The bump chart provides a clearer view of rank changes and includes interactive elements to enhance user engagement. When hovering over a point, a tooltip displays both the category's rank and its percentage share for that year. Additionally, hovering over a line or point highlights the selected category while fading out the others, helping users focus on individual trends without distraction.

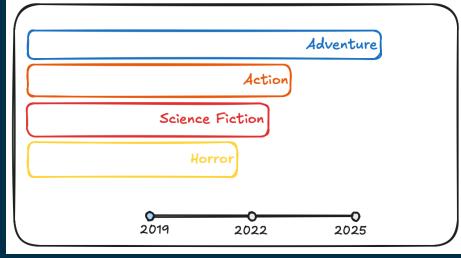


Figure 3: M2 Sketch of Genre Rankings Over Time

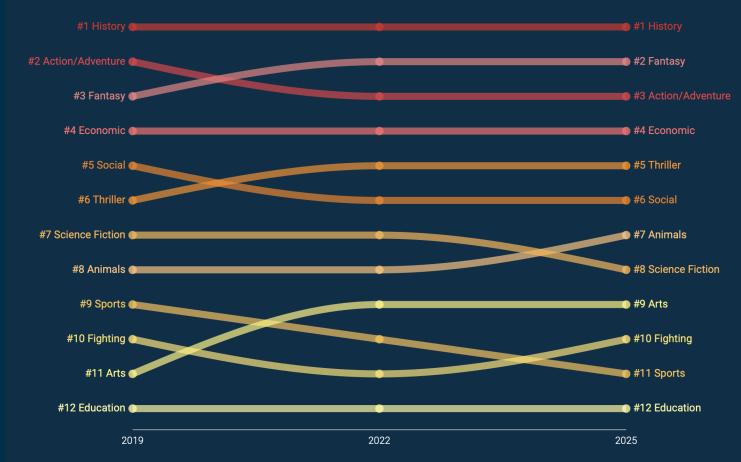


Figure 4: Implementation of Genre Rankings Over Time

### 6.2.2 Game Design Trends

This feature displays a set of individual line charts, each focusing on a specific property (average complexity, solo play percentage, recommended player count, minimum age) tracked across 2019, 2022, and 2025. Users can toggle between these properties to explore each trend individually, allowing for a clearer understanding of how each feature has evolved over time. The graph updates seamlessly, with points and lines smoothly transitioning across the screen as the selected data changes.

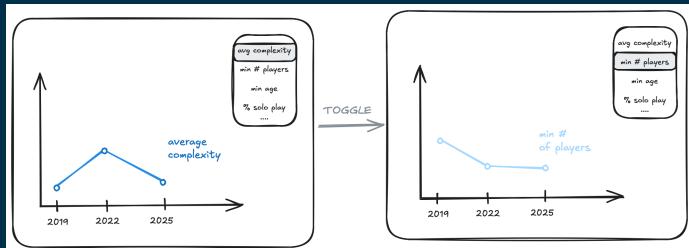


Figure 5: M2 Sketch of Game Design Trends

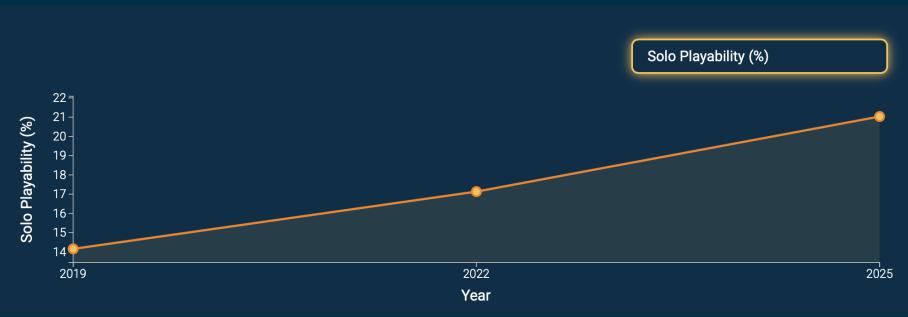


Figure 6: Implementation of Game Design Trends

### 6.3 World Tour

*How do board game preferences differ across countries and regions?*

#### 6.3.1 Globe

This visualization is an interactive world map that allows users to explore game-related statistics specific to each country, including top-rated games, number of ratings, and average complexity. Clicking on a country reveals a tooltip with summary data presented in a clean, readable format. Set against a starry night-sky background, the map evokes the feeling of navigating a vast board game universe, blending information with atmosphere to create a visually engaging and exploratory experience.

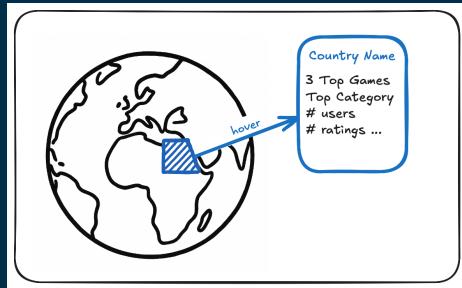


Figure 7: M2 Sketch of Globe

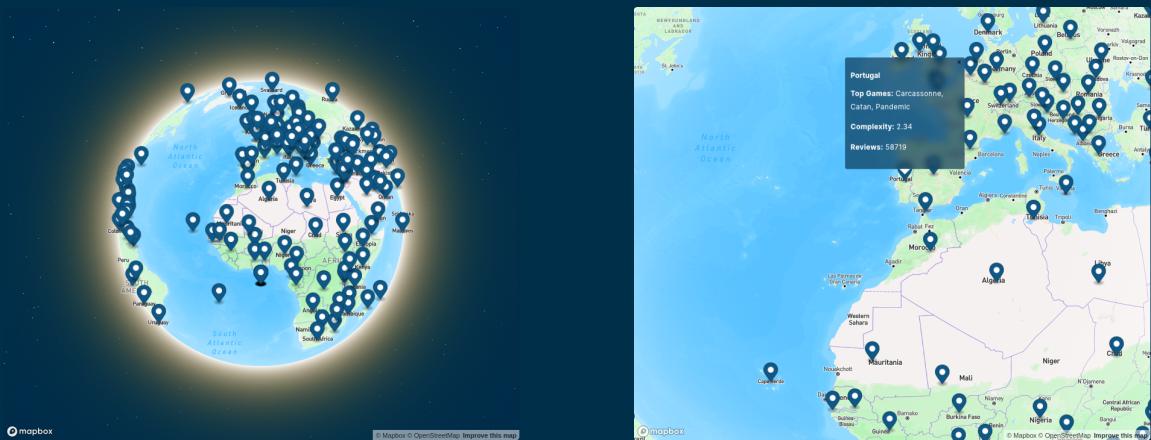


Figure 8: Implementation of Globe



### 6.3.2 Complexity Map

This feature shows a choropleth map displaying the average complexity of board games rated in each country. Users can hover over each country to view its exact average.



Figure 9: M2 Sketch of Complexity Map

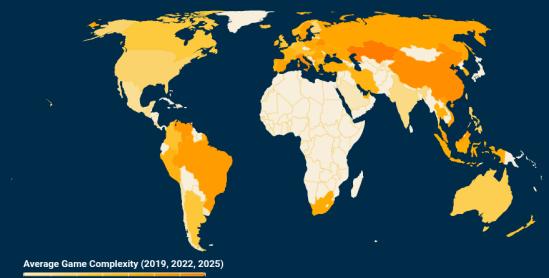


Figure 10: Implementation of Complexity Map

### 6.4 The Winning Formula

*What characteristics do top-rated board games tend to share?*

This visualization is a lollipop chart that reveals the correlation between game attributes and high ratings. Hover interactions display exact values, showing users which characteristics (like complexity or player count) are most correlated to a game's success.

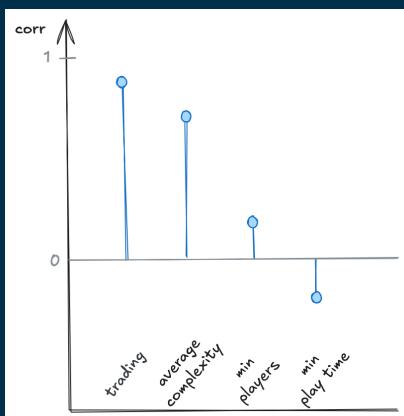


Figure 11: M2 Sketch of The Winning Formula

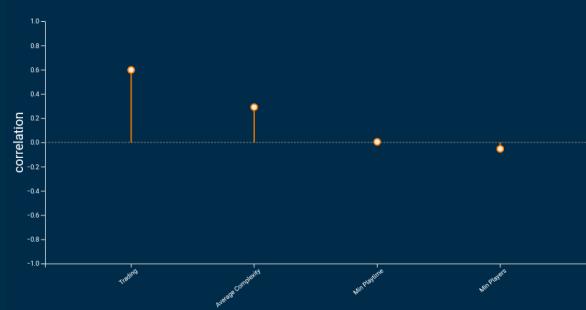


Figure 12: Implementation of The Winning Formula

## 7 Challenges

One of the main challenges we faced was cleaning and preparing the data, particularly when it came to grouping the many subcategories into broader game genres. Some subcategories were too broad or overlapped with others, which made it difficult





to classify games meaningfully. This required a lot of manual review and experimentation with different groupings to find a structure that made sense both visually and contextually. Another key focus was making the website feel interactive and engaging, rather than static. We spent time fine-tuning transitions, hover effects, and animations to make the experience feel more dynamic. Using D3.js allowed us to implement these elements effectively, though it came with a learning curve. Finally, since we were working as a group, one challenge was ensuring visual and stylistic consistency across all sections. With different team members responsible for different parts, we had to align on layout, color usage, and overall design to make the site feel cohesive.

## 8 Peer Assessment

**Lina:**

1. World Tour section (Globe & Complexity Map) + The Winning Formula section
2. Skeleton website and data synthesis for last 3 figures

**Fawzia:**

1. The Global Favorites section + Shifting Play section (Genre Rankings Over Time & Game Design Trends)
2. Initial EDA, website cover, and data synthesis for first 3 figures
3. Screencast

**Shared Work:** Writing and designing the process book and website

## 9 Conclusion

Beyond the Board gave us the chance to transform board game metadata into a cohesive visual narrative; one that explores how people play, think, and engage with games around the world. From global trends to regional quirks, we highlighted how game design and player preferences shape what gets played. This project challenged us to blend data, design, and storytelling into a single interactive experience. We believe it reflects not only how board games evolve, but also why they matter.

Check out our deployed website here:

<https://com-480-data-visualization.github.io/DatArt/>

