Team12 Project1 - Final Report

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1 Participation by Country

How does the participation vary in this convention from country to country?

To analyze this, we will use a choropleth map where each participating country will be represented with a distinct color intensity based on the percentage of registrations. The map will include the following features:

- Countries with participants will be highlighted with varying color intensities proportional to the percentage of registrations.

- An interactive feature will allow users to hover over a country to view the exact number of registrations and the country name.

- This visualization will provide insights into the geographical distribution of participants and highlight the regions with the highest engagement in the convention.
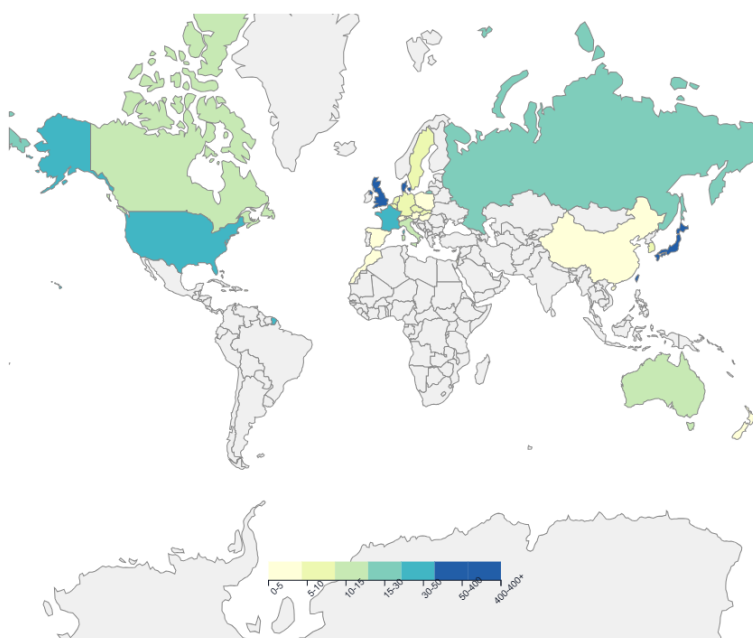

Figure 1: Choropleth Map

Insights and Inferences drawn from the plot

Global Distribution of Registrations:

The choropleth map visually represents the number of registrations from each country using a color-coded scale. Countries with a higher number of registrations are shaded in darker colors (deep blue), while those with fewer registrations appear in lighter shades (yellow-green). Countries with missing or unavailable data are represented in gray.

Concentration of Participants

- Darker-colored regions indicate high participation, meaning these countries have significant engagement in the event.

- Lighter-colored or gray regions suggest lower participation or no recorded registrations.

- The threshold-based color mapping helps quickly identify patterns of participation across different regions.

Possible Trends and Factors

High Participation Regions

- Countries with strong educational, professional, or cultural ties to the event are likely to show higher registrations.

- Countries with larger populations may also contribute to higher registration counts.

Low Participation or No Data

- Some regions may have fewer registrations due to lack of awareness, internet accessibility issues, or regional restrictions.

- Countries with no data might indicate missing records or low engagement.

Insights from the Legend

The legend provides a clear breakdown of registration ranges, helping in comparative analysis between countries

2 Most Popular Sport/Competition

Which sport/competition was the most popular?

To depict the most popular sport, we will create a bar chart where the x-axis represents the proportion of the highest participating countries, and the y-axis displays the number of registrations. The chart will include the following features:

- Each bar will represent a different sport, with the height of the bar indicating the total number of registrations for that sport.

- An interactive feature will enable users to click on a bar to highlight it and view detailed information about the sport, including the number of registrations and participating countries.

- Users will have the option to filter the sports by category, allowing for a more focused analysis of specific types of sports.

- This visualization will provide a clear understanding of which sport attracted the most participants and how it compares to others in terms of engagement.
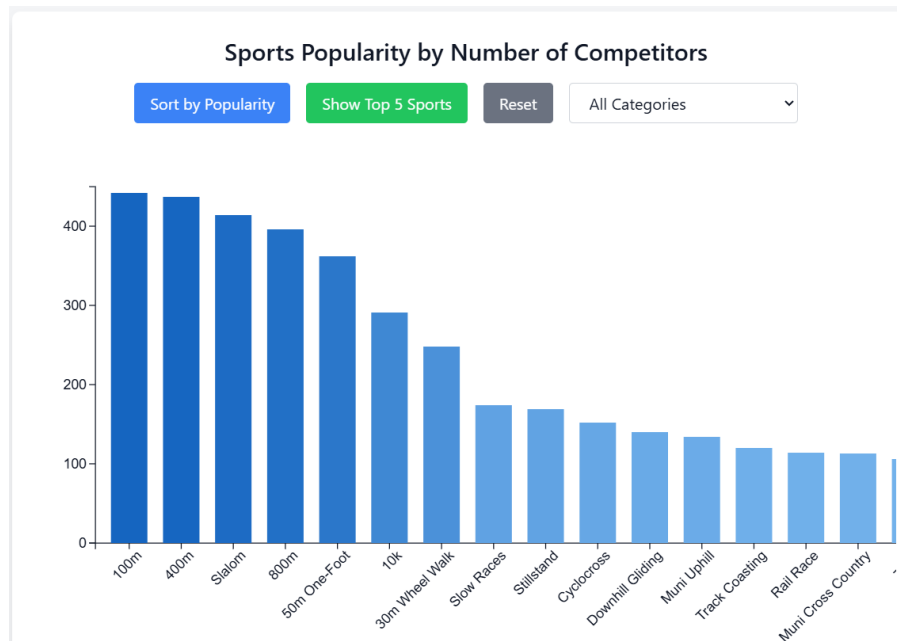
Figure 2: Interctive Bar Chart

Insights and Inferences from the Visualization

- **Popularity Trends Across Sports:** The bar chart helps visualize which sports have the highest participation. Taller bars indicate more popular sports based on the number of competitors.

- **Sorting by Popularity:** Clicking the "Sort by Popularity" button will rearrange the bars, helping users easily identify the most and least popular sports. It can also reveal any steep drop-offs in participation.

- **Identifying Niche vs. Mainstream Sports:** Sports with fewer participants may be more specialized or require unique skills and equipment (e.g., Unicycle Racing vs. Track and Field). The chart will show if participation is well-balanced or dominated by a few sports.

- **Category-Based Filtering:** Selecting a category (e.g., Cycling, Muni, or Jumping Events) will allow for the comparison of sports within the same category. This makes it easier to analyze which types of sports attract more participants.

- **Top 5 Sports Insight:** Filtering the Top 5 Sports will help identify which sports dominate in participation. If the top sports are from diverse categories, it suggests broad interest across disciplines. If they are clustered in one category, it may indicate a strong preference for certain types of competitions.

- **Dynamic Popularity Analysis:** If the dataset evolves over time, trends in participation could be tracked, revealing emerging sports gaining participants and traditional sports experiencing declines.

3 Stacked Bar Chart (Medal Distribution)

The stacked bar chart represents the total number of medals won by each country in track and field events. Each stack represents medals won in all the track and field events. Clicking on a
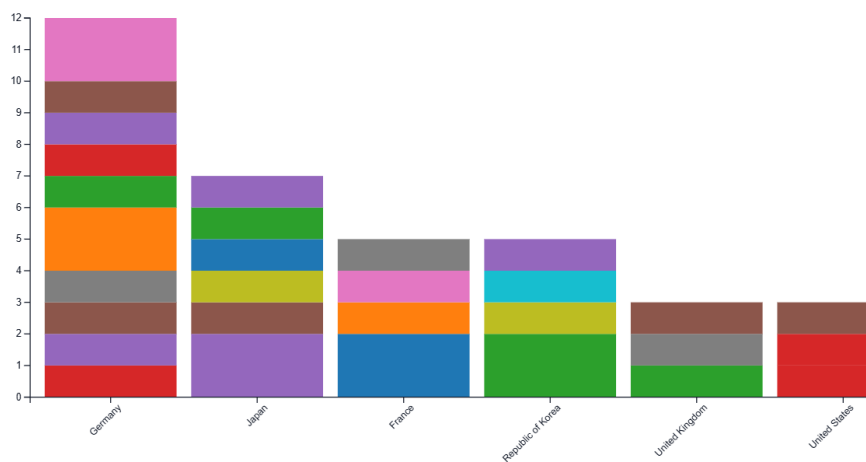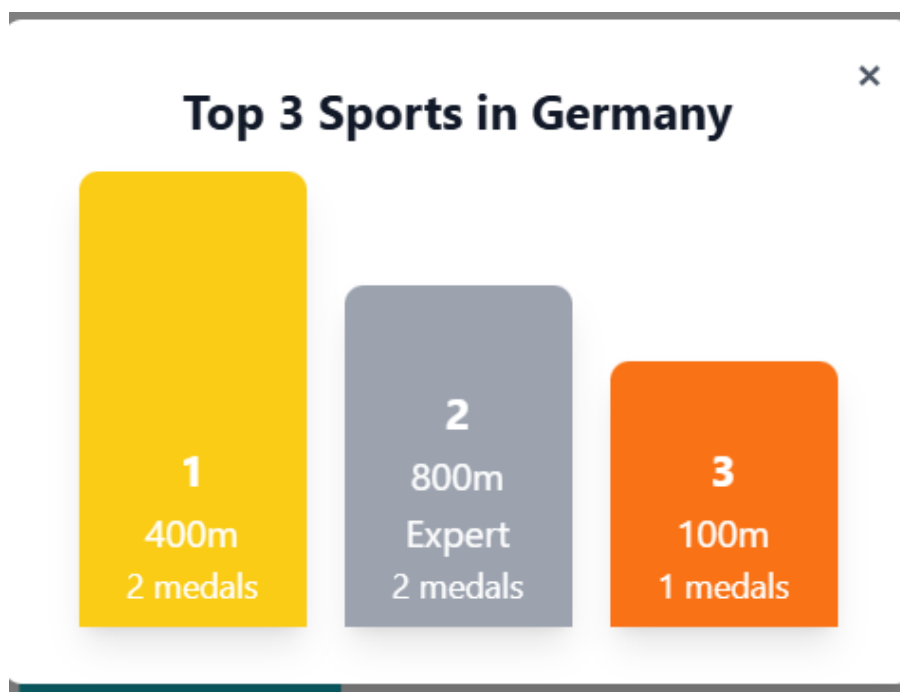
Figure 3: Total medal distribution

Figure 4: Top 3 events for a particular country.

single country analysis opens up the top 3 won sports in that country.

3.1 Top 3 Most-Winning Events

The stacked bar chart provides an interactive breakdown of medals won in each event. Clicking on the bar would give an analysis of the top 3 events, corresponding to Gold, Silver, and Bronze medals.

X-Axis: The x-axis represents the different countries being analyzed for their medal achievements in track and field events.

Y-Axis: The y-axis shows the total number of medals won, with each country's medal count. The podium type visualization shows the top 3 events.

Insights and inferences drawn from the visualization

- **Top-Performing Countries:** The stacked bar chart highlights the countries with the highest total medal counts, focusing on the top 35

- **Event Dominance:** The color-coded stacked bars reveal which sports contribute the most to each country's medal tally.

- **Podium Analysis:** Clicking on a country's bar displays its top three sports in a podium view.

- **Distribution of Medals:** The height of each bar segment illustrates Gold, Silver, and Bronze medal distribution.

- **Trend Observation:** The descending order of countries based on total medals provides a competitive landscape overview.

- **Interactive Exploration:** Tooltips provide detailed information about specific events and medal counts.

- **Visual Comparison:** Rotated country labels and sorted bars make comparisons clearer.

4 Contributions:

Each member contributed to one visualisation, the report work and website was then taken up by members as they chose to.

- Radha : Stacked Bar Chart for medal distributions, and the final report

- Sravani : Bar chart for sport popularity, and the final report

- Mrudani : Choropleth for country-wise registration, and the website