

Report: Big Game Census Data Visualization Dashboard

The "Big Game Census Data Visualization Dashboard" was developed to provide insights into player data across different football teams, focusing on attributes such as birthplace, jersey numbers, team affiliation, and key player statistics (weight, age). The dashboard enables an interactive and comprehensive overview of data, facilitating analysis through various filters and visual elements.

1. Dashboard Overview

The dashboard offers an easy-to-navigate interface with multiple filters and visualizations, allowing users to drill down into player information. The core features include:

- Player Birthplace : A global map displaying the geographical distribution of player birthplaces.
- Years Played : A filter that enables users to refine data based on the number of years a player has been active.
- Player Name and Team : Interactive dropdowns for selecting individual players or filtering by team, providing more specific insights.
- Key Metrics : Panels showing the average player weight, total number of players, and average player age.
- Player Information Table : A detailed table listing players along with their jersey numbers, ages, and external Quickfacts links for more information.

2. Data Filters and Controls

- Player Birthplace (Filter) :

The dropdown menu allows the user to view players from different birthplaces across the world. The player locations are represented by blue dots on the global map, highlighting their country or city of origin. By selecting various birthplace options, the user can see the corresponding player count and the region's contribution to the game.

- Years Played (Filter) :

Users can filter the data based on the number of years the players have been active. This control helps in identifying the experience level of players and analyzing trends in player longevity across teams.

- Player Name (Filter) :

This dropdown allows the user to search for specific players, narrowing down the visualizations to show data relevant to the selected player(s).

- Player Team (Filter) :

Users can select one or more teams, like New England or Philadelphia, to refine the data presented on the map, bar charts, and data tables. This filter enables team-based analysis, focusing on specific squads.

3. Key Metrics

- Average Weight :

The average player weight is displayed as 244 lbs , giving an idea of the physical stature of players involved in the dataset. This metric helps to understand the typical body mass of athletes in the league.

- Total Players :

The total number of players represented in the dataset is 118 . This number is dynamic and can change based on the selected filters such as team or birthplace.

- Average Age :

The average age of players is 27 years , indicating the general age group of the players being analyzed. This metric provides insights into the player lifecycle, showing if the team is younger or more experienced.

4. Visualizations

a. Global Map: Player Birthplace Distribution

- This map offers a visual representation of the geographic diversity of players. Each dot on the map corresponds to a player's birthplace, allowing users to see where athletes originate from on a global scale. The map also features zoom-in/zoom-out controls for better exploration of specific regions.

b. Bar Chart: Player Name by Player Birthplace and Player Team

- A bar chart shows the count of players from various regions, categorized by their teams. For instance, New England and Philadelphia players are compared based on their birthplaces, giving insight into which regions produce more athletes for certain teams. The x-axis represents the count of players, while the y-axis shows the combined birthplace and player name.

c. Tree Map: Birthplace Breakdown

- The tree map categorizes players by their city or state of origin, showing a quick comparison of regions contributing the most players. Each block is color-coded, with darker shades representing higher player counts. This visualization emphasizes geographic clusters like Albany, New York, and Johns Creek, Georgia, as significant player sources.

5. Player Information Table

The table at the bottom of the dashboard lists important player details, including:

- Player Name
- Player Jersey Number
- Player Age
- Quickfacts Link : External links to the U.S. Census website provide further details on each player's hometown or relevant demographics. This feature offers additional context and background information beyond the scope of the dashboard.

For instance:

- Derek Barnett (Jersey #96) is 21 years old, and his information can be accessed via a Quickfacts link.
- Jake Elliott (Jersey #4) is similarly detailed with links for more insights.

6. Key Insights

- Geographic Diversity :

The dashboard reveals significant diversity in player birthplaces, with players originating from North America, Europe, and Africa. Regions like Albany, New York, and Austin, Texas, are prominent in the dataset.

- Team Comparisons :

By filtering between teams, users can quickly compare where players from different squads are coming from, such as contrasting New England and Philadelphia's roster composition.

- Physical and Demographic Characteristics :

The average player weighs 244 lbs and is 27 years old. These insights provide a snapshot of the physical requirements and age distribution in the league.

- Interactive Data Exploration :

The dashboard's filters and visualizations allow for easy exploration of specific players or teams. For instance, selecting a player name or team will update all visualizations, allowing users to focus on particular segments of the data.

7. Recommendations for Improvement

- Additional Metrics:

Adding more key metrics like player height, position, and career statistics could provide further insights and value for team managers, coaches, or scouts.

- Historical Trends:

Integrating historical player data could allow for trend analysis, such as how player demographics or geographic distributions have shifted over time.

- Team Performance Data:

Including team performance statistics (e.g., win/loss records) in relation to player data might help draw conclusions about the relationship between player characteristics and team success.

Conclusion

The "Big Game Census Data Visualization Dashboard" effectively organizes and presents key player information, offering rich insights through various filters and visualizations. With its user-friendly design and interactive components, it is a powerful tool for analysing football players' demographics and statistics.