EPFL

FOOTBALL DASHBOARD

Presented BY :

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COM-480

Motivation and Idea :

We want to explore how we can use the vast amount of data available in relation to the world's most popular sport: football.

Football is a vast domain that involves numerous stakeholders, including players, coaches, staff, spectators, politicians, and many others! Beyond its global reach, this sport captivates and excites passions worldwide. It generates an astronomical amount of data on a daily basis.

Our goal is to provide various means for visualizing these data and statistics to the numerous followers and lovers of the game. This aims to facilitate the understanding and comprehension of the sport, its current dynamics, and its key players.

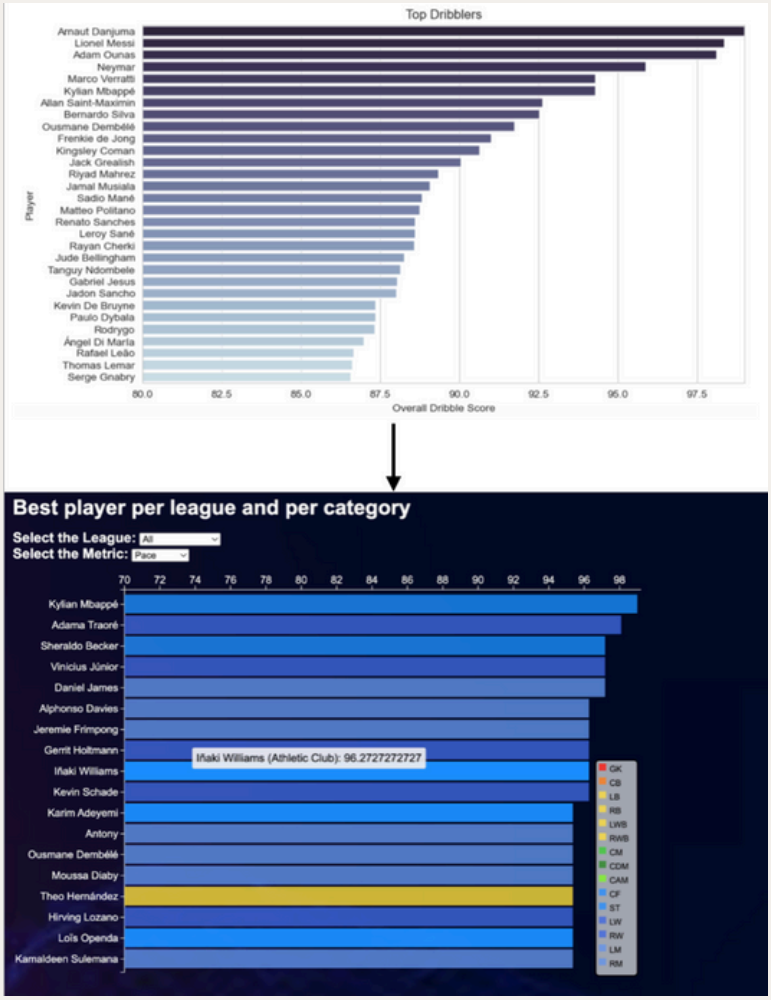
We have decided to utilize a comprehensive set of databases based solely on the 2023 season. This allows us to facilitate access to and processing of this data. It is worth noting that obtaining access to comprehensive and up-to-date resources in this field is quite challenging. However, once collected, our visualization can be easily applied to any season.

To achieve this, we have created various visualizations:

Initial ideas and their final implementation

Bar chart

In our second milestone, we aimed to depict various player statistics, with the goal of providing users with a quick and easy way to visualize the top players across different categories. For milestone three, we chose to implement a bar chart. We enhanced the interface by adding the capability for users to select their desired category and the top five leagues, resulting in a more compact homepage. Additionally, we introduced a legend with colors representing the player's position.

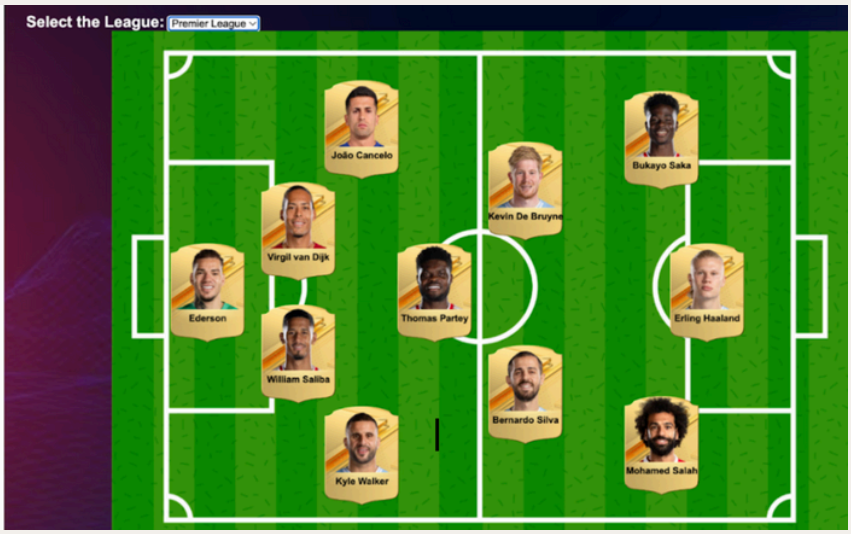


We also incorporated a feature that allows users to view a detailed statistical rating of the player and their club by hovering over the player's bar on the chart. This enhancement aims to provide a more interactive and informative user experience.

Challenge : The biggest was to create and calculate the different metrics ourselves.

Best teams of the season

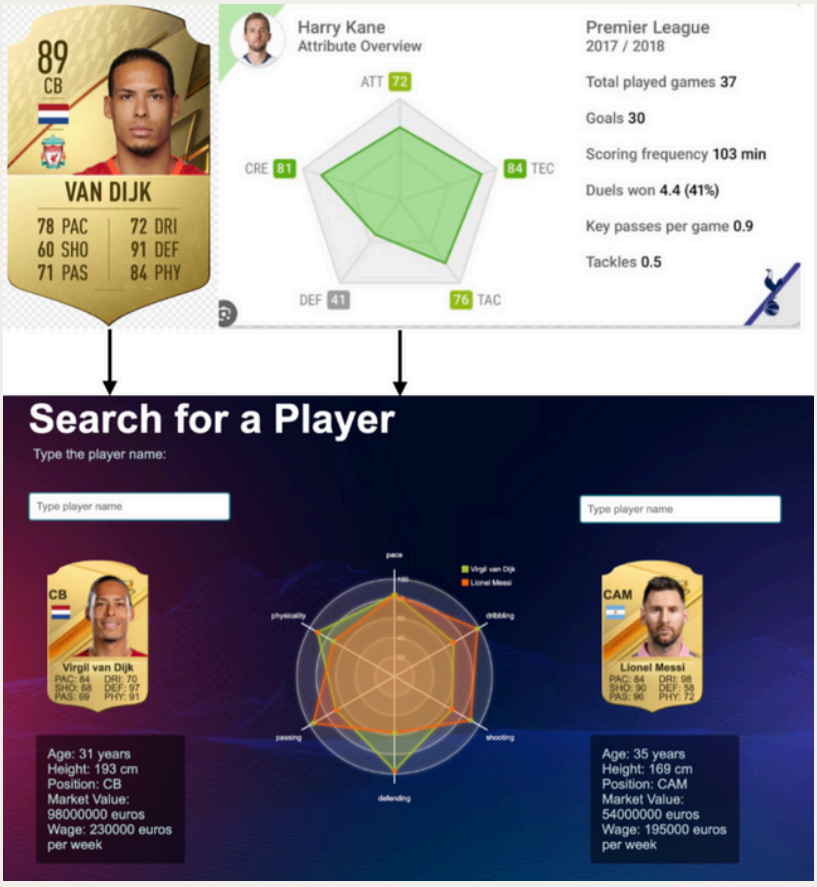
This tool simplifies the evaluation of team performance, offering an intuitive way for users to engage with and analyze player ratings and team rankings. The interface dynamically fetches for the best player in each position, ensuring accurate and current results. A team is then assembled depending on the chosen league.



Challenge: Initially, we wanted to design our own football pitch visualization, but we realized that this approach was more complex and time-consuming than anticipated. As a result, we decided to use a simpler football pitch design. We also considered changing the design for the player boxes, but ultimately chose to maintain the standard gold card to ensure consistency across different pages (search player). Initially, we planned to create a separate box to display players' statistics, but to keep the interface clean and straightforward, we opted to have the statistics appear only when hovering over the player's card.

Player statistics and compare option:

The upper images served as the initial inspiration for creating the player comparison tool displayed on the lower side. We were influenced by the detailed design of player cards and attribute charts of the football game FIFA, which provide insights into player performance. This led us to develop an interactive search interface where users can type in player names and retrieve detailed profiles. These profiles include attributes such as age, height, position, market value, and wages,

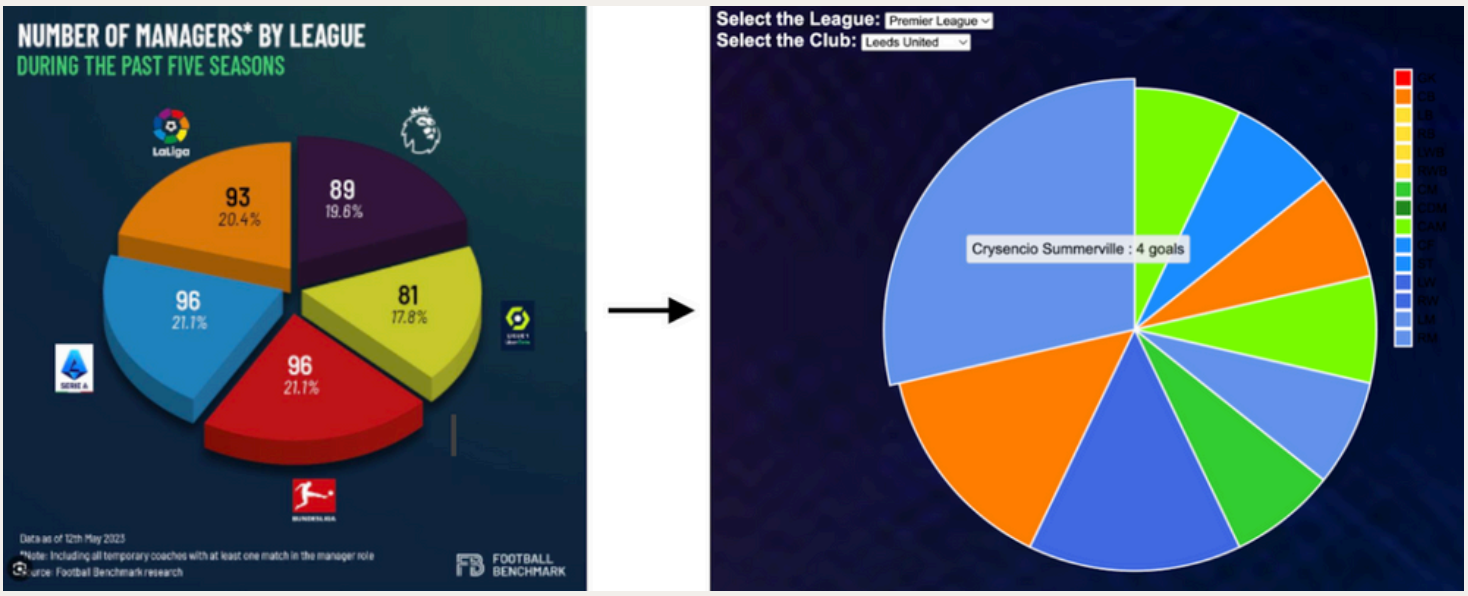


alongside radar charts for visual attribute comparison.
The aim was to offer a user-friendly way to compare football players, enhancing the evaluation process by presenting key metrics and visual comparisons inspired by the original detailed designs and attribute charts.
Challenge: integrating the spider chart with the search bar was challenging

Goalscorers and countries pie charts:

Here, we aimed to display the proportion of goals scored within a team, and we chose to use a pie chart for this purpose. First, we integrated a dropdown menu that allows users to select their preferred league and then the specific club.

This visualization enables users to clearly understand the role or impact a player has in scoring goals for his team. It also highlights the characteristics of various teams. By adding colors and a legend, we provide insights into the contribution of players based on their positions and the team's overall style of play. It illustrates whether a team relies heavily on one or two main goalscorers or if the scoring is distributed more evenly among players and their positions.

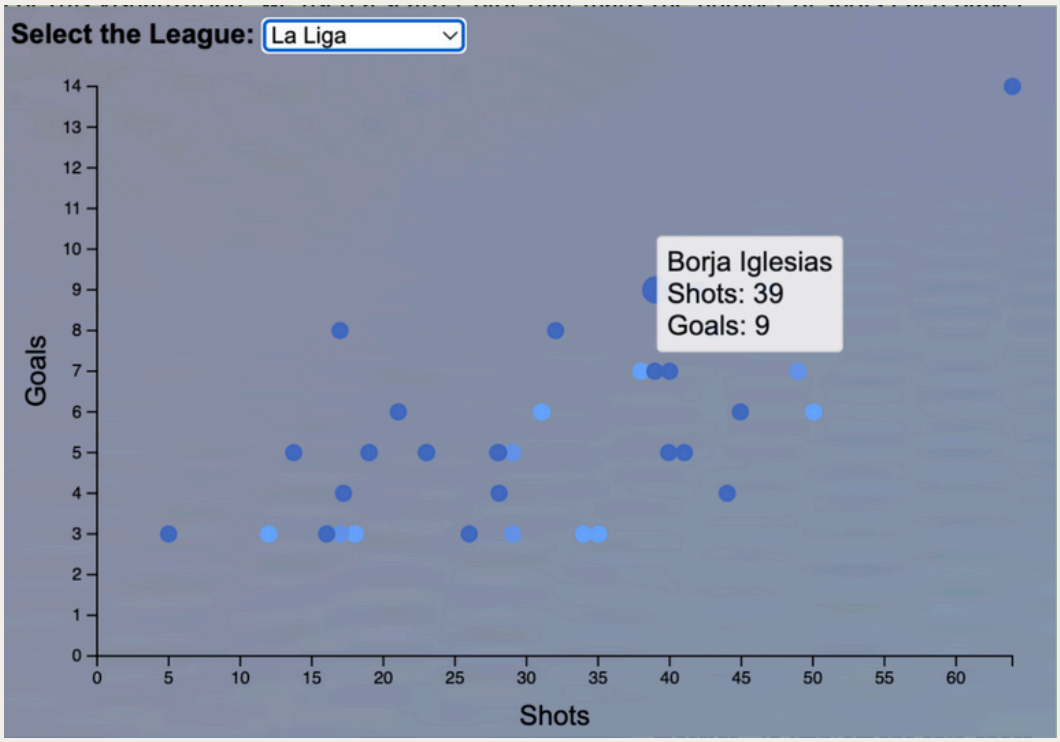


Challenges :
At the start, we planned to use a treemap to display the proportion of goals scored per team in each league, and within each team, the contribution of each goalscorer. However, with about 20 teams per league and even more goalscorers, the visualization became too cluttered.
Filtering players by nationality for each club was a bit difficult.

New visualizations

Goals per shots

For this visualization, we used a scatter plot that maps the number of shots each player took (X-axis) against the goals they scored (Y-axis). Each dot represents a player, giving users a clear view of each player's shooting performance.
This type of visualization helps users easily identify trends or correlations between shots and goals.
The included dropdown menu lets users choose which competition they want to analyze, adding more possibilities.
This plot is interactive; hovering over any dot shows the player's name, total shots, and goals. This feature makes it easy for users to identify players who are efficient (shown in the top left, scoring more goals with fewer shots) and those who are less efficient (shown in the bottom right, with more shots but fewer goals). This helps in quickly assessing player efficiency in front of the goal.
challenge : Filtering players for goals versus shots to make the graph clearer.

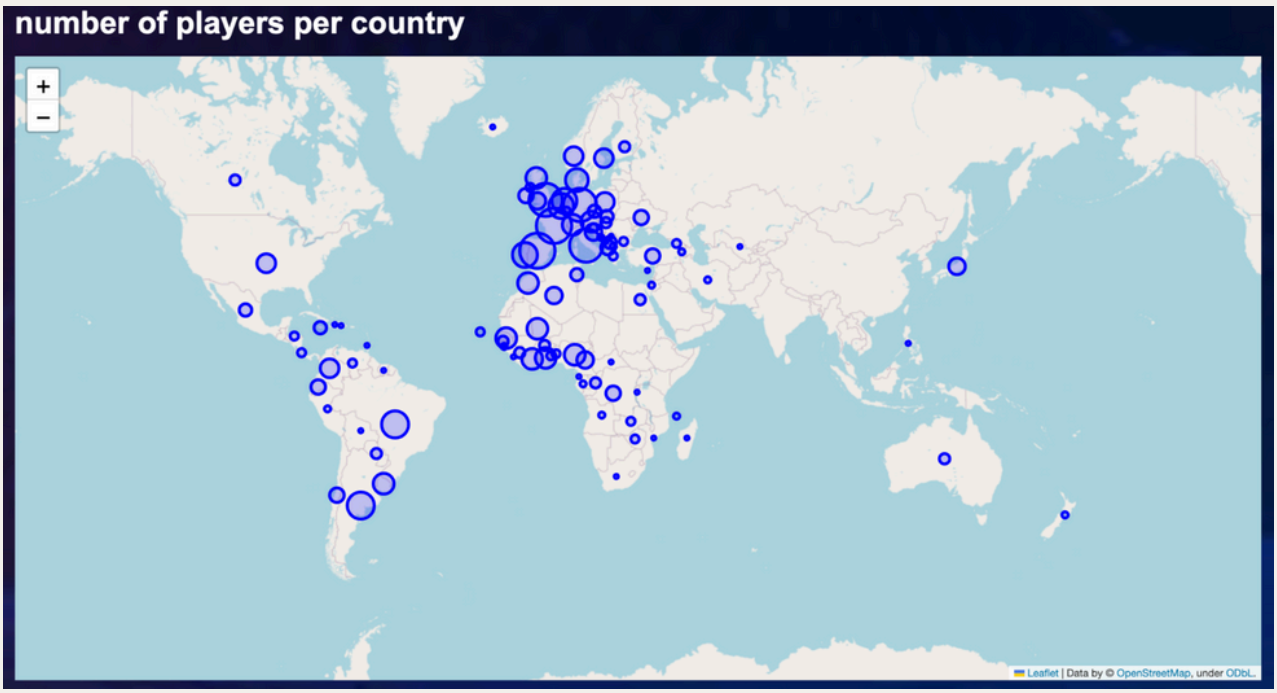


challenge: Filtering players for goals versus shots to make the graph clearer.

Players in the world

This chart visualizes the number of football players from each country, providing insights into their geographic distribution.

We used D3.js to create an interactive visualization. Each country is represented by a circle on the map, with the size indicating the number of players from that country. Hovering over a circle reveals detailed information, including the exact player count. This interactivity enhances user engagement and allows for a more spatial exploration of the data. The tooltip and legend were styled for clarity and usability, ensuring the chart is both informative and visually appealing.



Challenge: the longitude and latitude for every country was a challenge. We solved it by using ChatGpt to get the longitude and latitude of every country.

Real world numbers about players

This visualization displays the number of goals, market value, and weekly wage of top players. Users can hover over each player to see the exact figures for these metrics. To implement this chart, the following steps were likely taken: First, data on the number of goals, market value, and weekly wage of top players from various leagues was collected. The chart was then created using D3.js to plot the data.Interactivity was enhanced by including dropdown menus for "Select the League" and "Select the Statistic," allowing users to filter and view different data subsets. This approach ensures that the visualization is both informative and user-friendly.

Team comparison

For this visualization, we have decided to use a double horizontal bar chart format. The inclusion of two selection boxes provide users a choice for the teams they wish to analyze. Our visual presents key statistics for both teams side-by-side, including matches, wins, draws, losses, and points. Additionally, we display top scorers and goalkeepers, providing a quick snapshot of each team's performance.

Challenge: We encountered difficulties in displaying team information effectively. Additionally, the bar chart sometimes covers the team logos, which interfere with the visual presentation.

Peer Assessment:

Mehdi Bouchoucha

- Graphs: Development of the interactive pie chart and bar chart of each club or player across different leagues. Implemented functionality to dynamically update the chart based on user selections.
- Team of the Season: Contributed to the analysis and selection process for the Team of the Season feature, identifying standout players based on performance metrics.
- Process Book: Played a role in documenting the project journey, outlining design decisions, challenges faced, and solutions implemented.

Mohamed Charfi

- Website Structure: Took charge of designing the overall structure and layout of the website, ensuring a cohesive and user-friendly interface.
- Search Player: Developed functionality for searching players within the platform, enabling users to access detailed information about individual players.
- World Map: Implemented the world map feature, allowing users to visualize player distribution across different regions and countries.

Ali Ridha Mrad

- Team of the Season: Collaborated on the display process for the Team of the Season feature, contributing insights into player performance and statistics.
- Graph: Assisted in developing the interactive pie and bar chart, refining functionality and visual elements to enhance user engagement.
- Process Book: Played a crucial role in documenting project progress and decisions, ensuring comprehensive coverage of the development process and outcomes.

Overall, each team member made valuable contributions to different aspects of the project, leveraging their skills and expertise to create a comprehensive and engaging platform for football enthusiasts.

Team DON POLLO :)