

FIT3179 Data Visualisation 1

Report

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Words: 909

Tableau URL:

https://public.tableau.com/app/profile/aryan.shah1948/viz/Assignment1_16935430302370/Dashboard1

Introduction:

The domain of this data visualisation is an intersection of two widely captivating spheres—football and finances. With the purpose of providing a compelling narrative that traverses the evolution of player valuations and their attributes within the dynamic landscape of European football, the visualisation caters to a diverse audience, from avid football enthusiasts, financial analysts, and anyone curious about the intricate connections between these realms. It offers a window into the financial dynamics of football, revealing trends, outliers, and the interplay of factors that have fueled the football economy's remarkable growth.

Data Description:

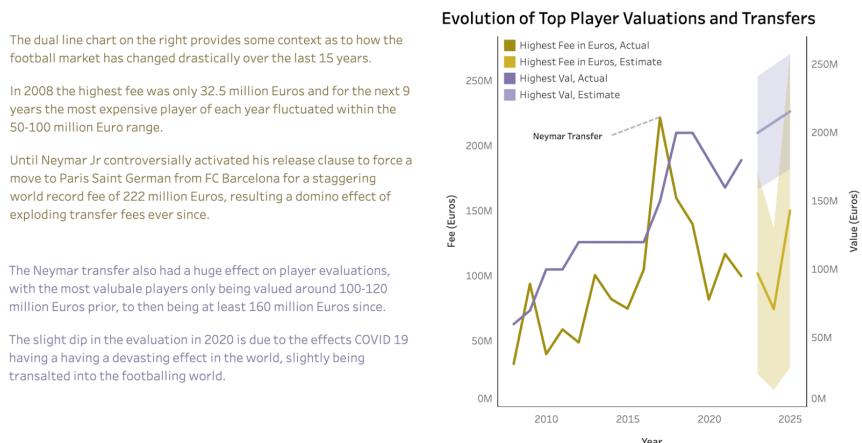
The data for this visualisation was meticulously sourced from Kaggle, credited to David Cariboo, who originally retrieved the dataset from the publicly available football data repository, Transfermarkt. This expansive dataset, spanning a substantial 207MB, comprises an array of football-related information, including player appearances, statistics, demographics, personal details, performance metrics, team game statistics, competition details, and more. However, due to the sheer volume of data, a rigorous cleaning process was undertaken to streamline the dataset, eliminating null entries and irrelevant records to extract the pertinent information for this visualisation. After this, I was able to begin planning my idioms and attributes for them.

Choice of Idioms:

The central focus of this visualisation revolves around analysing factors contributing to the market values of players, clubs and countries. To facilitate a comprehensive exploration of these financial aspects, I chose specific idioms that would best convey the evolving landscape of player valuations and their various attributes.

Dual Axis Line Graph:

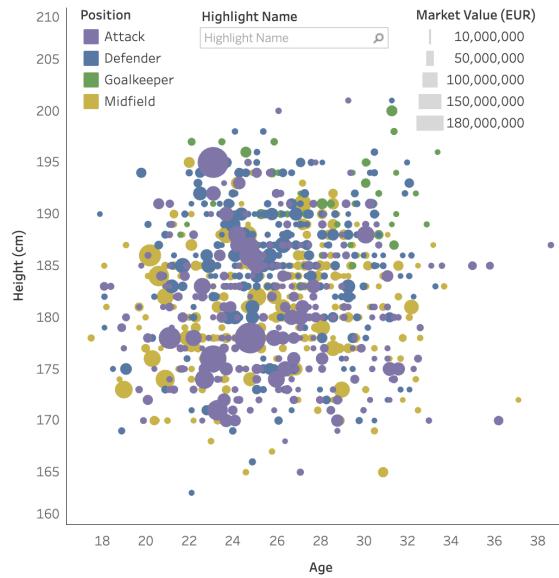
- Rationale: The dual-axis line graph serves as the foundation for this visualisation. It effectively captures the financial metamorphosis of football over the last 15 years by juxtaposing two crucial attributes: the most expensive transfer fee and the most valuable player for each year.
- How it Helps Users: Users can discern the dramatic shifts in the football market through manually interpreting the graph, or through the text accompanying the chart, intended to provide context.



Scatter Plot:

- Rationale: The scatter plot harnesses the potential of visualising multiple attributes concurrently. It explores the interplay between player age, height, position, and their respective values.
- How it Helps Users: Users can identify correlations and patterns within these attributes, enabling them to uncover insights about how age, height, and position influence player valuations. In addition, users can search for specific players they may be interested in.

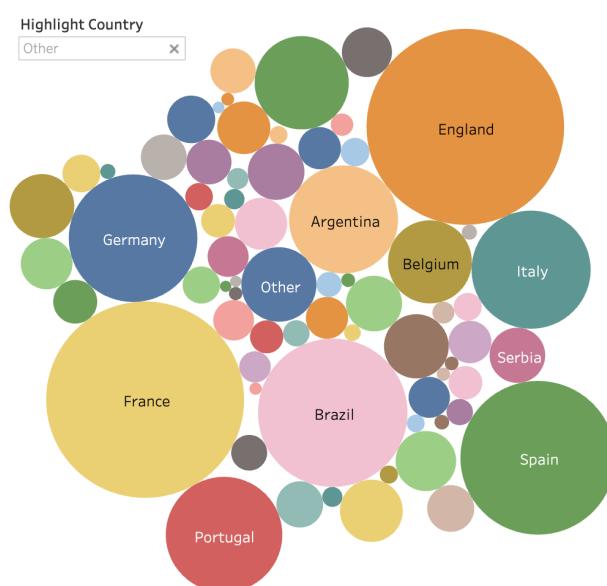
Player Value vs Height and Age: Insights from Europe's Elite Leagues



Bubble Chart:

- Rationale: The bubble chart extends the viewpoint to a global scale, depicting the cumulative value of players from different countries. The size of each bubble represents the aggregated player value.
- How it Helps Users: Users can explore the financial contributions of different, or specific nations with the “highlight” filter to the football landscape, understanding which countries produce players of significant value.

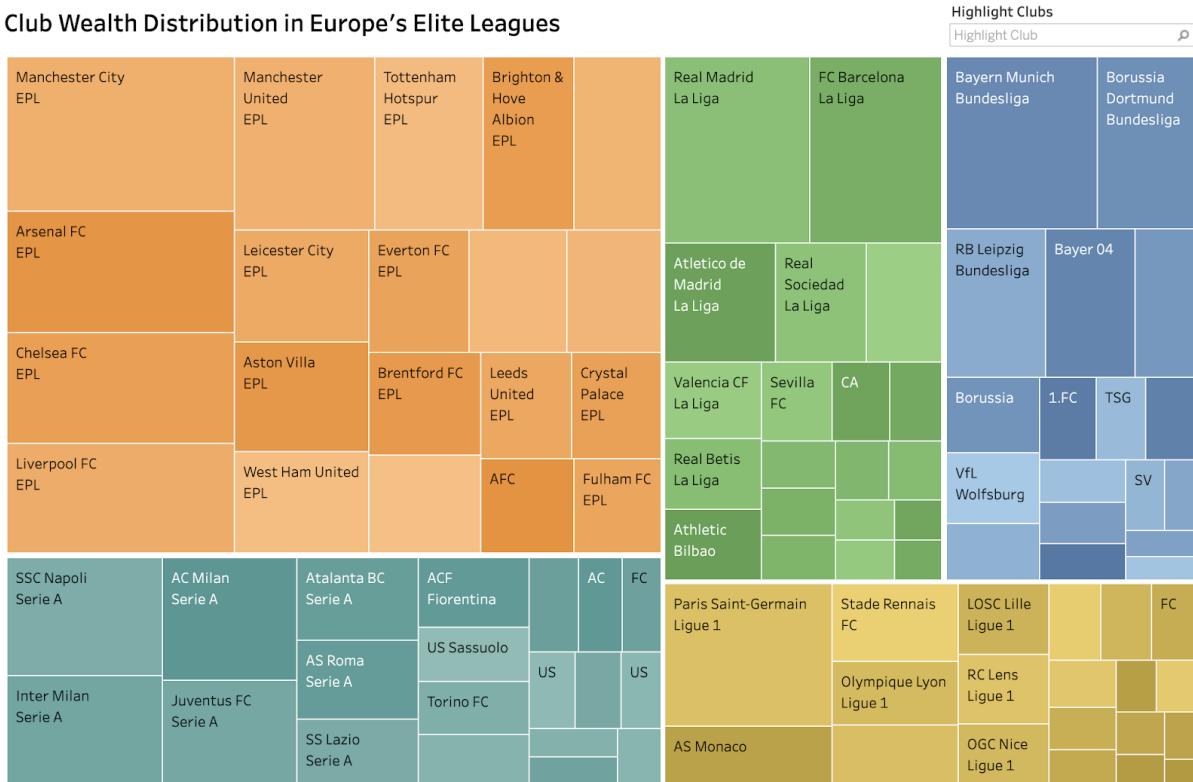
Global Player Diversity: Origins and Values in Europe's Elite Leagues



Tree Map:

- Rationale: The treemap provides an insightful perspective on club valuations within Europe's top football leagues. It groups clubs by league, offering a hierarchical view of their financial standing.
- How it Helps Users: Users can navigate through the financial hierarchy of clubs, gaining an understanding of the economic disparities and financial powerhouses across leagues. Again, specific clubs can be highlighted.

Club Wealth Distribution in Europe's Elite Leagues



Each chart type has been specifically chosen to align with the visualisation's purpose. The interplay of these idioms allows users to unravel trends, anomalies, and the evolving financial ecosystem within the world of football.

The Football Player Market State and Evolution



Explore the world of the football player market values through this infographic style data visualisation. Discover how player worth changes over time and across different leagues. This visualisation aims to shed light on the economics of the sport, helping fans, analysts, and enthusiasts alike understand the evolving dynamics that shape player valuations. By visualising these trends, we hope to contribute to a deeper appreciation and comprehension of the financial side of "The Beautiful Game".

The dual line chart on the right provides some context as to how the football market has changed drastically over the last 15 years.

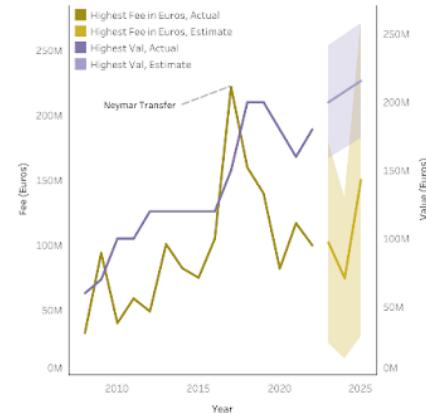
In 2008 the highest fee was only 32.5 million Euros and for the next 9 years the most expensive player of each year fluctuated within the 50-100 million Euro range.

Until Neymar Jr controversially activated his release clause to force a move to Paris Saint German from FC Barcelona for a staggering world record fee of 222 million Euros, resulting a domino effect of exploding transfer fees ever since.

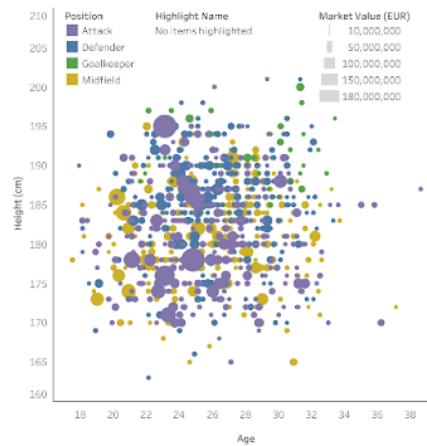
The Neymar transfer also had a huge effect on player evaluations, with the most valuable players only being valued around 100-120 million Euros prior, to then being at least 160 million Euros since.

The slight dip in the evaluation in 2020 is due to the effects COVID 19 having a devastating effect in the world, slightly being translated into the footballing world.

Evolution of Top Player Valuations and Transfers



Player Value vs Height and Age: Insights from Europe's Elite Leagues



These three charts act as your guides, each opening a window to a unique aspect of current footballing market. The charts consist data of players from Europe's top leagues, the English Premier League, Bundesliga, La Liga, Serie A, and Ligue 1.

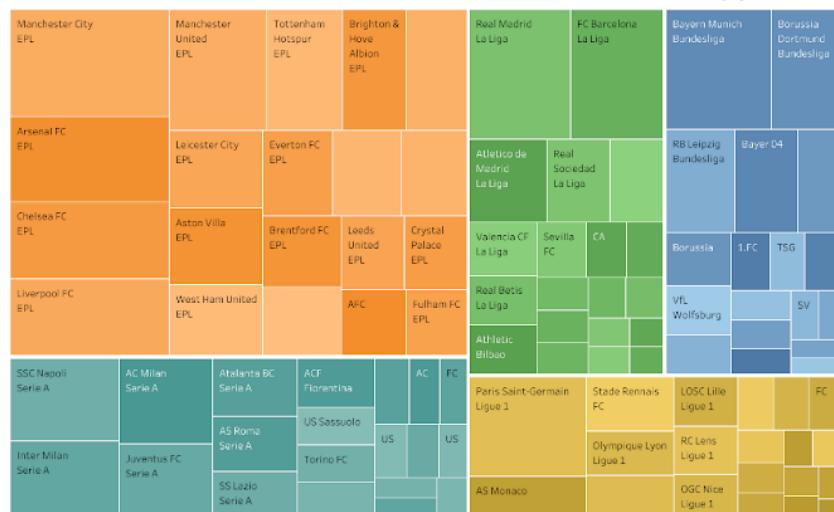
The scatter plot provides insights into trends of all players within these leagues with a minimum of 10 million Euro value, determined by their Age, Position and Height.

The tree map allows you dive into the intricate world of club valuations, journeying through Europe's top leagues to uncover financial hierarchies grouped by their respective leagues.

The bubble chart extends your view to a global scale, using bubble sizes to represent aggregated player values by nationality.

What's truly powerful is your control—you can select leagues, teams, countries, positions, and more across these charts, instantly influencing the others, and for the enthusiasts, you can learn about your favourite players, teams and countries with a simple search.

Club Wealth Distribution in Europe's Elite Leagues



Design

Layout:

I wanted to layout the visualisation to ensure an intuitive and user-friendly journey. The viewing path follows a natural left-to-right and top-down progression, enhancing the user's ease of navigation. In addition, Limiting the number of sight lines maintains visual clarity. Crucially, two pivotal idioms are strategically positioned in the visual centre, emphasising their importance. An invisible frame provides consistent alignment for text, idioms, and images. While not fully symmetrical, imbuing a modern aesthetic, the layout strikes a perfect balance.

Colour:

A white background was chosen to accommodate the varied colours used to highlight countries and clubs within the visualisation. This neutral backdrop ensures optimal contrast, particularly for the vibrant colours employed in the bubble chart and tree map. Consistency in colour is maintained between the bubble chart and tree map, as the colours of countries and their respective leagues align. Additionally, the colours of the text used to provide context for the scatter plot match those of the lines in the dual-axis line chart, providing contextual coherence.

Figure-Ground:

The concept of figure-ground plays a pivotal role in enhancing visual hierarchy. A white background serves as the canvas, prioritising content visibility over background aesthetics. Text is employed strategically, utilising variations in colour, boldness, luminance, and size to establish a clear hierarchy. Headings are distinguished by their dark, bold, and large format, similar to chart titles. Navigation text adopts a subtler dark grey hue, lacks bold formatting, and features a smaller font size.

Typography:

Typography is pivotal in facilitating readability and coherence. The "Tableau Book" font, characterised by its sans-serif style, is chosen for its readability. Attention is paid to white space distribution, ensuring a balanced, uncluttered presentation. Text is thoughtfully organised, avoiding lengthy paragraphs and spreading content to prevent overwhelming the user with information.

Storytelling:

The visualisation is in an interactive infographic style. It's chart junk minimised in favour of a clean, focused presentation, with the intention that the users aren't distracted by irrelevant information. The implementation of figure-ground hierarchy and judicious use of white space directs the user's attention towards the idioms. Text guides and various filters are strategically placed beside relevant charts, guiding users on interaction and aiding comprehension.

References:

Premier League Logo:

Premier League - Wikipedia. (2023). Retrieved 1 September 2023, from
https://en.wikipedia.org/wiki/Premier_League

Bundesliga Logo:

Bundesliga - Wikipedia. (2023). Retrieved 1 September 2023, from
<https://en.wikipedia.org/wiki/Bundesliga>

Serie A Logo:

Italian Serie A logo and symbol, meaning, history, PNG, brand. (2023). Retrieved 1 September 2023, from <https://1000logos.net/italian-serie-a-logo/>

La Liga Logo:

File:LaLiga.svg - Wikimedia Commons. (2018). Retrieved 1 September 2023, from
<https://commons.wikimedia.org/wiki/File:LaLiga.svg>

Ligue 1 Logo:

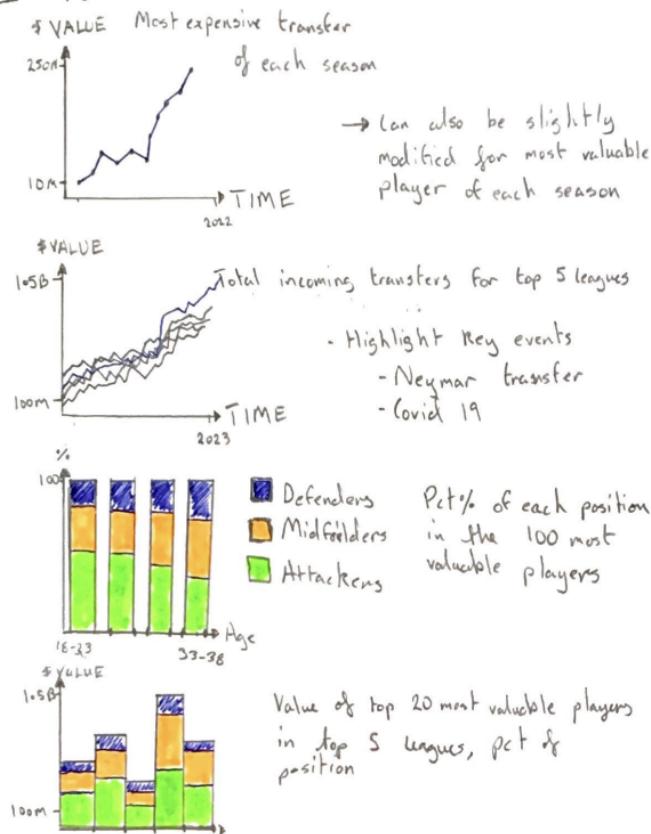
Ligue 1 - Wikipedia. (2023). Retrieved 1 September 2023, from
https://en.wikipedia.org/wiki/Ligue_1

Source Dataset:

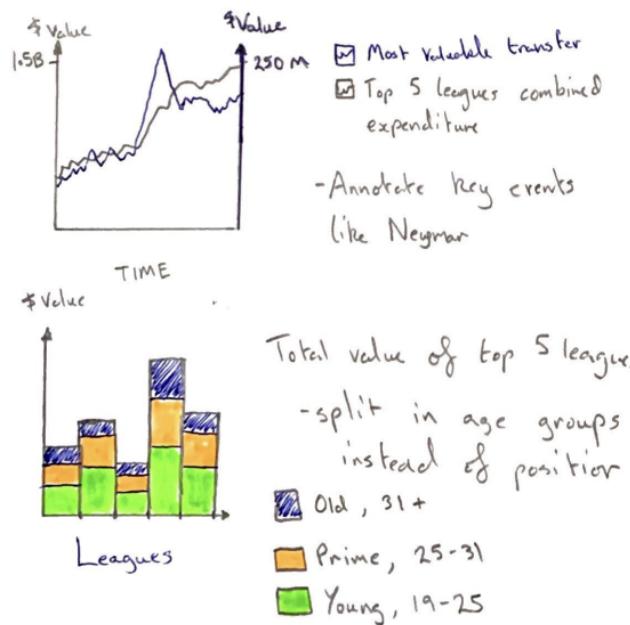
Football Data from Transfermarkt. (2023). Retrieved 1 September 2023, from
<https://www.kaggle.com/datasets/davidcariboo/player-scores?resource=download&select=players.csv>

Appendix/5 Design Sheets

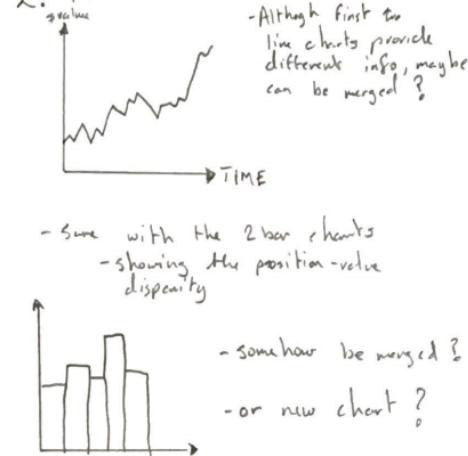
1. IDEAS



4. COMBINE AND REFINED



2. FILTER



3. CATEGORIZE

Attributes being considered

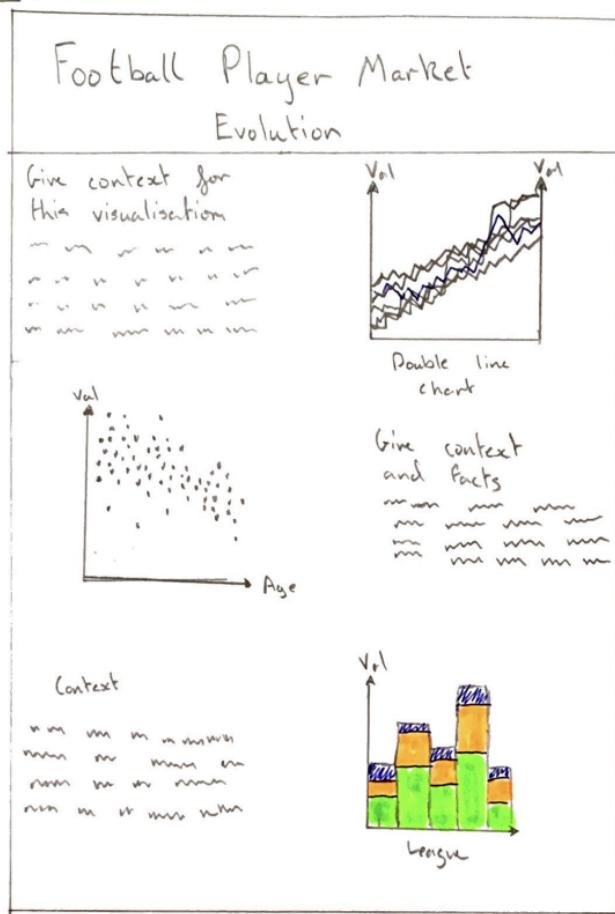
- Leagues
 - Nations
 - Positions
 - time
 - value
 - performance
 - age cont.
 - transfer prices
 - key events
- salary
- maybe Categories
- Trying to analyse quantitative analyses
- Events that changed the market

5. QUESTION

Is the visualization giving a clear story about how the market has changed?

Is it easy for a non football fan to understand?

LAYOUT



Title: Basic Story telling layout

Author: Aryan Shah

Date: 21/08/2023

Sheet: 2

Task: Data Visualisation on the Football Market

OPERATION

- * Can highlight the different lines on the first chart
 - the blue one has been highlighted for example
- * Can hover over the time slider on first chart to see value at certain time for each line
- * Third chart has pct% for each category of that bar when hovered over

FOCUS

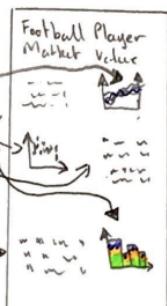
- * No single main focus, dashboard is trying to tell a story

- left to right
- top down
- balanced

- * Each chart is important.

Providing context

Focus on annotations



- * User must be able to interpret vis.

DISCUSSION

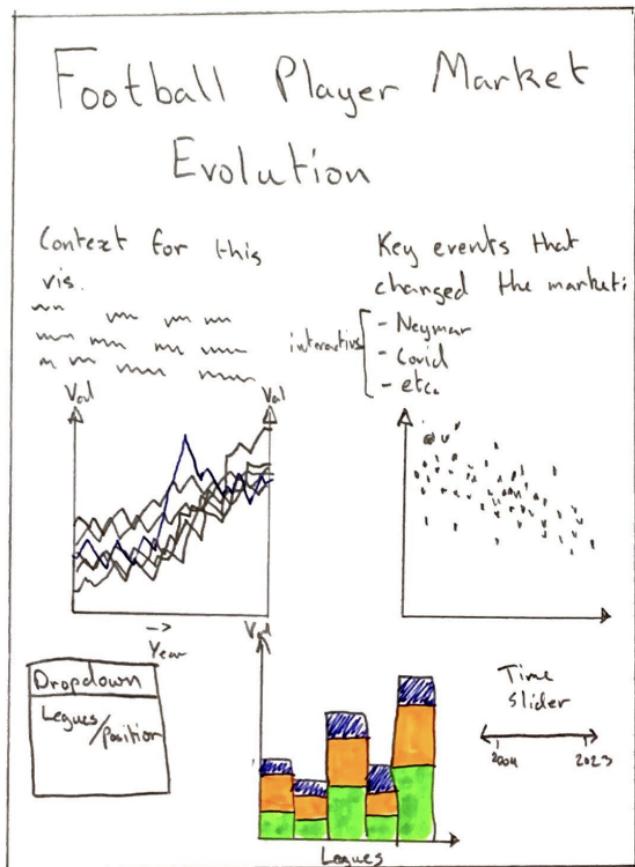
Advantages

- Lot of context
- easy to understand and analyse
- Easy to balance

Disadvantages

- Basic, only 3 charts
- Might end up being text heavy

AYOUT



Title: Interactive Layout
Author: Arjun Shah

Date: 21/08/2023

Sheet: 3

Task: Design interactive data visualisation

OPERATION

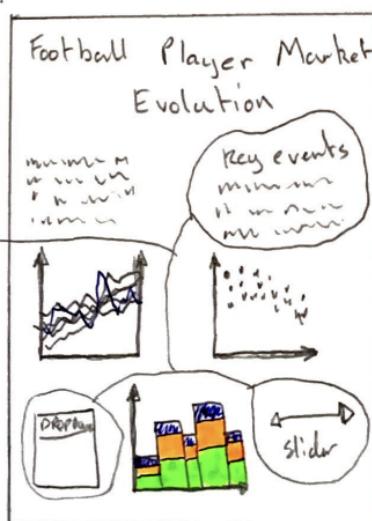
- * Has key facts, and when clicked shows effect on graph
- * Dropdowns for leagues, age, position and other categorical data
- * Time slider to show the values of the first and other charts at particular time

FOCUS

- user must be able to play with vis

Main focus for this vis is interaction

- can't be too complex



DISCUSSION

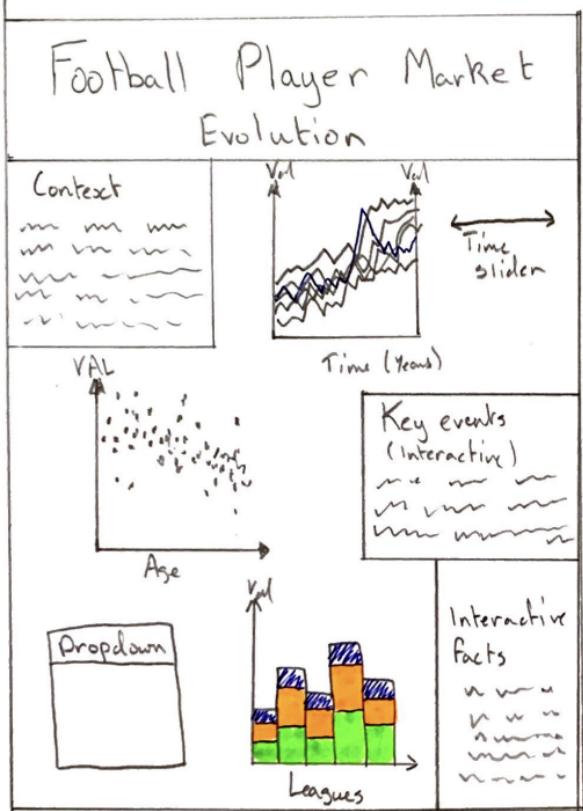
Advantages

- More interactive and maybe enjoyable way to learn
- flexible layout, not as structured

Disadvantages

- Is it easy to understand
- could get complex
- hard to "storytell"

LAYOUT



Title: Interactive Infographic

Author: Anyan Shah

Date: 22/08/2023

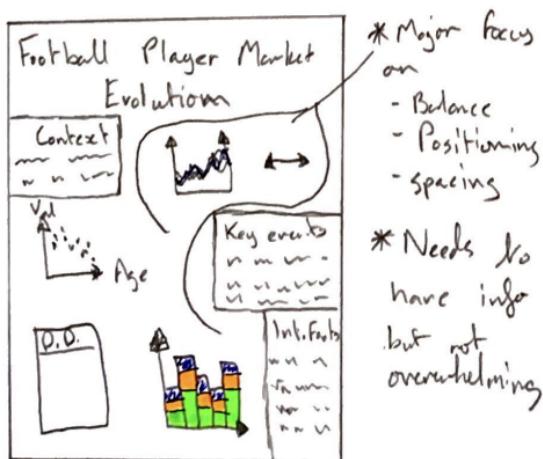
Sheet: 4

Task: Design an interactive infographic

OPERATION

- * Key events and interactive facts will function similarly
 - Key events move for chart 1 which is time based
- * Interactive facts is for the other 2 present graphs
- * Dropdown is to filter info in the third graph

FOCUS



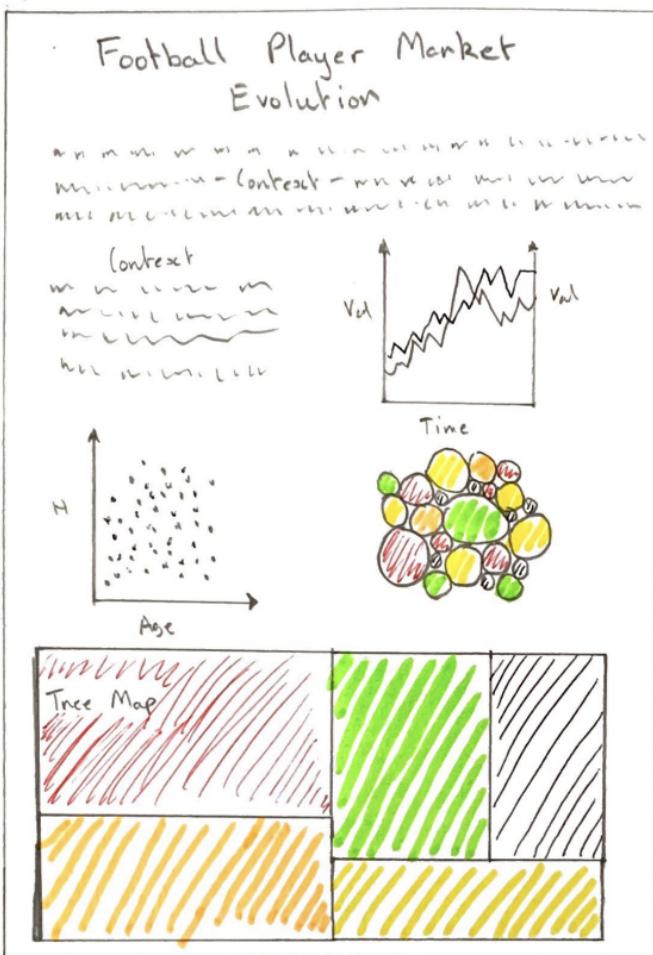
- * All charts are important
- * need to have consistency

DISCUSSION

Advantages

- * Provides healthy info and context
 - * Is well balanced, not too much text
 - * interactive text- to understand charts
- ### Disadvantages
- * Can end up being complex
 - * Might be hard to navigate

LAYOUT



TITLE: Interactive Infographic

Author: Anjan Shah

Date: 10/8/2023

Sheets: 5

Tasks: Realisation Sheet

OPERATIONS

* Filter last 3 charts

by each other

* last 3 charts can filter based on:

- Player
- country
- club
- or multiple of above

* legends for context

FOCUS

- * No main charts, all 4 are important
- * Heavy on text so focus on balance and spacing
- * Focus on interactivity for last 3 charts
- * Consistent colour scheme and themes
- * Contrast bubble chart and tree map.
- * Easy to read
- * Easy to navigate

DETAIL

* Clean data for specific attributes

* Huge dataset so set filters, only certain leagues

* Try and incorporate as many relevant attributes