



universidade
de aveiro



Visualization Information Assignment

NBA+

Authors

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Motivation

- Win experience in the area of Information Visualization and in evaluation of usability.
- Non-existence of visualization information applications about the current NBA season.
- Expand knowledge about current season of NBA.



Dataset Attributes

- Rk : Rank
- Player : Player's name
- Pos : Position
- Age : Player's age
- Tm : Team
- G : Games played
- GS : Games started
- MP : Minutes played per game
- FG : Field goals per game
- FGA : Field goal attempts per game
- FG% : Field goal percentage
- 3P : 3-point field goals per game
- 3PA : 3-point field goal attempts per game
- 3P% : 3-point field goal percentage
- 2P : 2-point field goals per game
- 2PA : 2-point field goal attempts per game
- 2P% : 2-point field goal percentage
- eFG% : Effective field goal percentage
- FT : Free throws per game
- FTA : Free throw attempts per game
- FT% : Free throw percentage
- ORB : Offensive rebounds per game
- DRB : Defensive rebounds per game
- TRB : Total rebounds per game
- AST : Assists per game
- STL : Steals per game
- BLK : Blocks per game
- TOV : Turnovers per game
- PF : Personal fouls per game
- PTS : Points per game

Source: Kaggle



Persona

José Andrade is a 26 years old PhD student. He is an NBA fan and loves to discuss with his friends about the best teams and players. Although the games are played in the early hours of the morning, whenever he can, he watches them. As he only follows a few games, he is looking for a platform to help him understand how players and teams are doing in the current NBA season.



NBA+ Objectives

- View player and team statistics of the current NBA season.
- Compare players and teams.
- Understand which players are performing best within their team.
- Relate variables to player and team statistics (e.g. How position affects on shooting effectiveness).



Questions

- What are the intrinsic attributes of the player?
- Which player, x or y, has been performing better, offensively and defensively?
- Does the position and age affect the performance of the player?
- Which teams are doing better in the current season in terms of statistics?
- Who are the best players on the team, offensively and defensively?



Development Process

Human-Centered Approach

Phase 1

Low Fidelity
Prototype

Phase 2

Usability Tests

Phase 3

Development of
NBA+

Phase 4

Usability Tests

Phase 5

Changes on NBA+



Main Insights from Evaluation

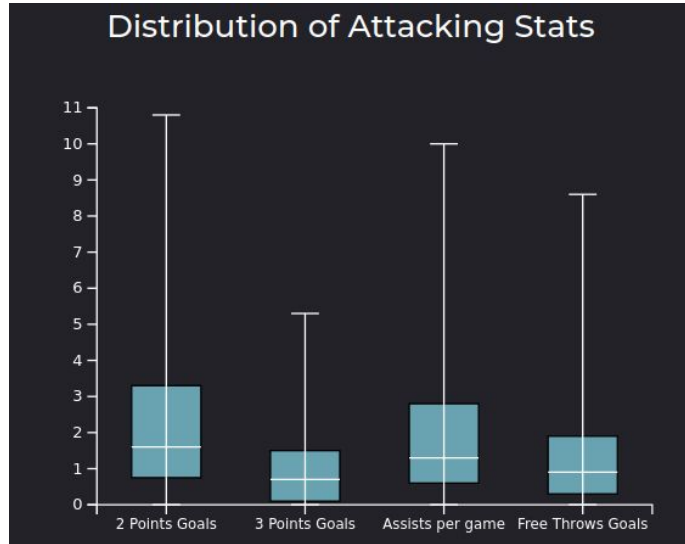
Usability Tests Low-Fi Prototype

- Position Stats page information can be encapsulated in All Players pages.
- In Teams page, add Parallel Plot to show all team players stats.
- Remove Dot Plot because it is already shown Box Plot.
- In player page, limit the comparison to 3 players so the Radar Plot is not confusing.
- Don't show all players at once, show players when user types.

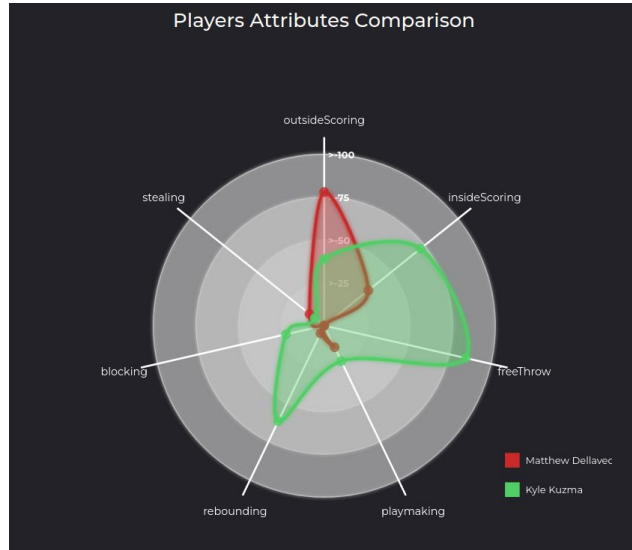
Usability Tests Functional Prototype

- Add more expressive labels on X axis.
- Add tooltips to Parallel Plots.

Utilized Visualizations

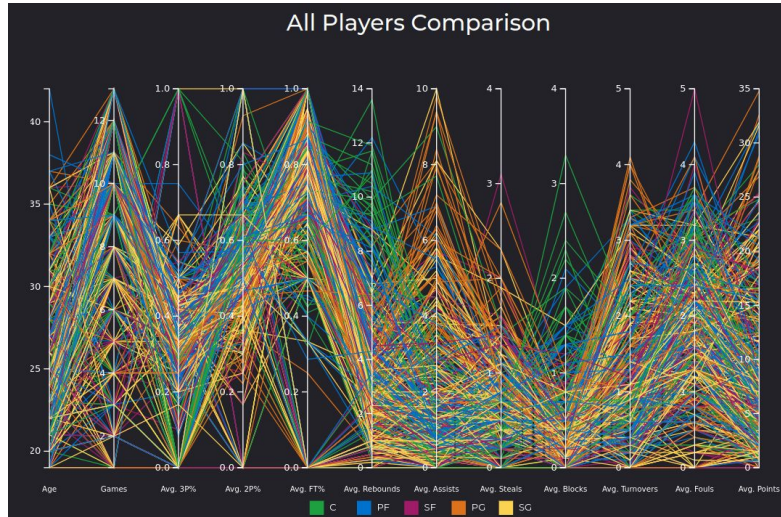


Box Plot

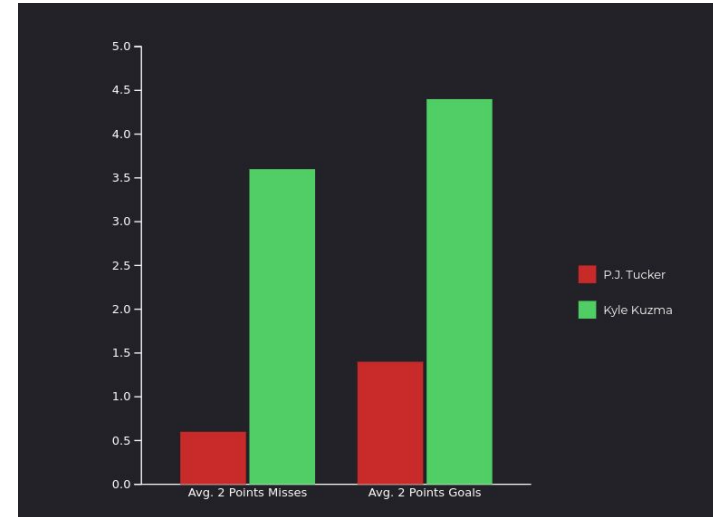


Radar Plot

Utilized Visualizations



Parallel Plot



Bar Plot



Demonstration



Thank you!