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Information Visualizations
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Precondition:

1. *Learning:* The data that is looked at is from NBA Player Projections | FiveThirtyEight. This information is used to make predictions about players in the NBA and how well they will play. These predictions are valuable to fans, teams, players, and other businesses. The amount of money generated from professional sports is huge. Being able to predict the outcome of the players and games can be used for people's benefit whether it's for gambaling purposes, drafting a strong team, or for the players self reflection. *The problem* I would like to address using this data is predicting how good a team will be. It matters because players make up teams. Also, teams win games not individual players.
2. *Winnowing:* More information about this data can be found here: Introducing RAPTOR, Our New Metric For The Modern NBA | FiveThirtyEight. The data that has been collected favors some players more than others. Also, some variables were not taken into consideration.

   The following points should be considered when evaluating the data;

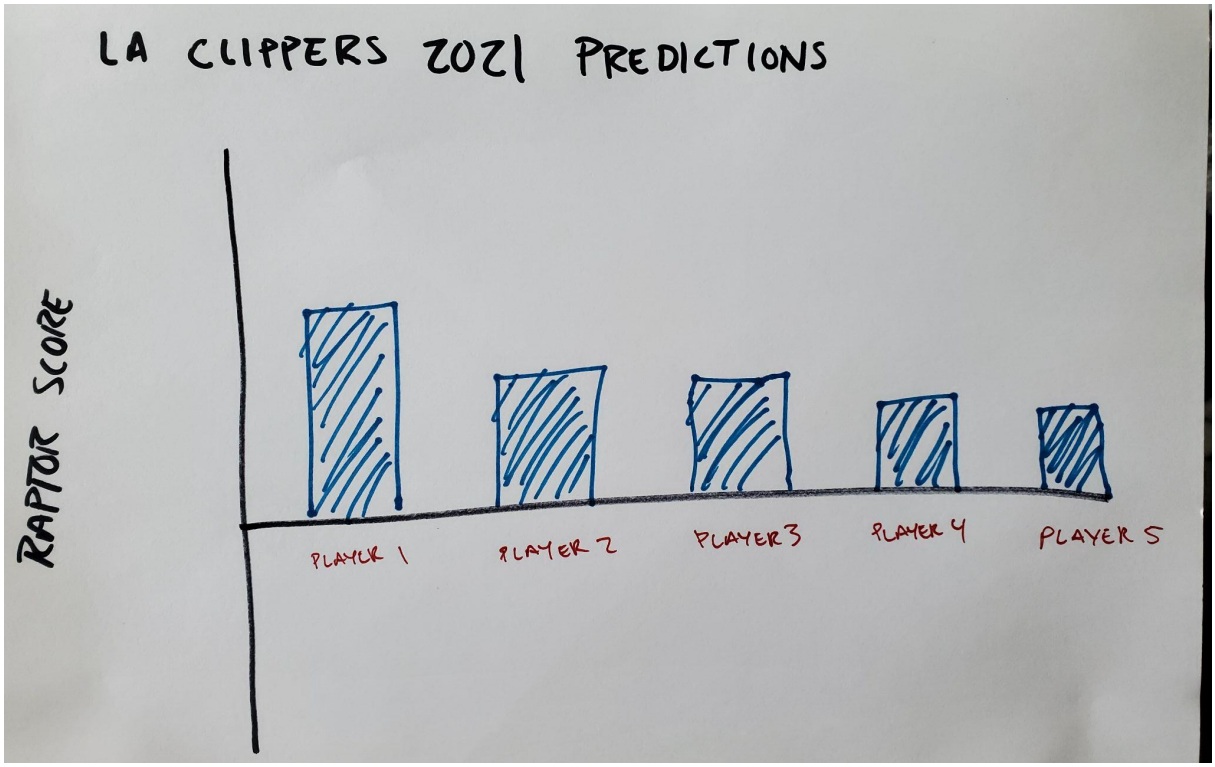
   - Floor spacing, defense, and shot creation is valued high in dataset
   - Favors ball-dominate players
   - Player History Matters
     - draft position, and even whether a player recently appeared on an All-NBA team (that data improves the performance of the predictive measure)
   - Player Characteristics
     - Height
     - age
   - Data does not account for…
     - Coaching
     - Team Systems
     - Synergy between teammates

*More Resources Here:
data/nba-raptor at master · fivethirtyeight/data (github.com)
How Our RAPTOR Metric Works | FiveThirtyEight

Core:

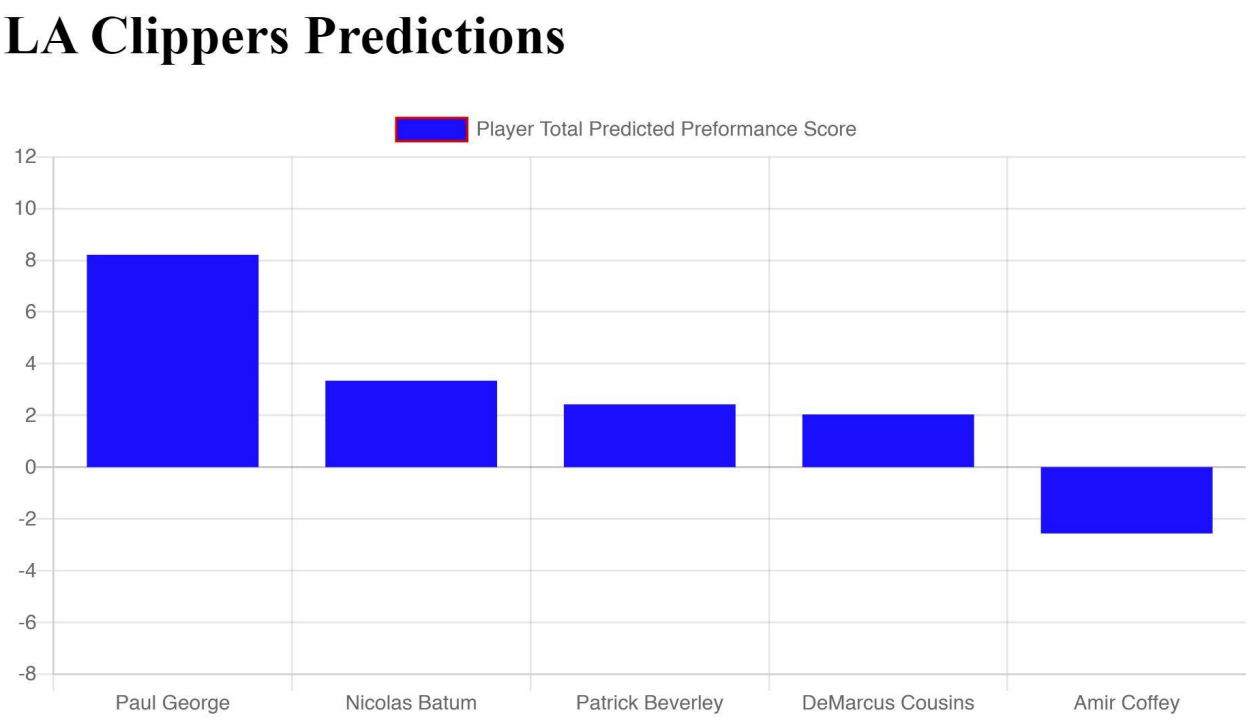
3. *Discover*: One task with the data I would like to perform is to group the individuals by their team. In this instance I would like to examine the LA Clippers. Another task is to sort the team members by their *total* ranking in the dataset. Stephen Curry has the highest total ranking out of everyone according to the visualization here: https://fivethirtyeight.com/features/introducing-raptor-our-new-metric-for-the-modern-nba/. Though individuals are important it would be interesting to view the data in terms of a team. This would be valuable in order to rank teams. This could be used to predict the teams that go far into the finals. This can be done by using a bar chart of the players on a team. That way we can view the ranking of each individual on a team while still getting an idea of the team as a whole. This would need to occur before finals and before drafting for the NBA begins. That's when predictions would be valuable to coaches, fans, teams, and sports related businesses. The information would need to be public for this audience to view the visualization inorder for it to be effective. It would also be a valuable insight for the players to look at.

4. *Design:*



A bar chart of the team members and their total would be ideal for the tasks. Some Limitations I have are scalability. I would like to have this information for all the teams, but that would involve a lot more time coding and me trying to figure that out. Additionally, this information changes every year, and could fluctuate from game to game. So, this chart doesn't account for that. Though, one thing that I did do was make all the values the same color. This indicates that they are all part of the same category, that being the same team. I would make the bars a different color if the players belonged to different teams. Although each player has a rank, they each could have their own strengths and weaknesses. But the bar chart would indicate who has the highest rank - which could indicate that player is the 'best'. Although it's only a prediction. And even though a team may have the 'best' players according to the predictive score there are other factors that come into play that are not accounted for. Coaching, the atmosphere, and teamwork may not be considered and would be trade-offs.

5. *Implement:*



I implemented my solution using charts.js. I was able to get the visualization to support the key tasks by making a bar chart and including the players scores. Though it doesn't look exactly like my sketch, I was able to get close. I was able to create a feature where when you hover over the player's name it gives the viewer the score. I also included values on the side, it's just not labeled until one hovers over the name.

An interactive link to the visualization can be found here: https://meghanaomalley.github.io/LAClippers2021Prediction/LAclipperstotal2.html

6. *Deploy:* Other people had examined my data visualization and described it. It was clear that the data visualization displayed each player of the LA Clippers and included the predictive score. Those were the tasks I was going for, so it worked out. Though one issue was how they would need to average the total team score in their head. It was good that the team players scores were all in one place, but it would still be extra work for the viewer. Also, the visualization clearly ranks the players because the predictive score values are in order from highest to lowest.

7. *Iterate:* One new task I would incorporate would be to include the team total score at top. I would need to add some math to the totals of the player predictive score. This would be important to compare the teams more accurately and still allow a deeper dive on the individual players.

Analysis:

8. *Reflect, Pt 1:* The target problem would be to describe how good a team would be. The visualization indicates just one team, the LA Clippers. Based on the RAPTOR metrics data, it appears that one player is holding the team back. But, in reality that player isn't 'bad' but may be perceived as so. A player has to be a professional to even make the list at all. The data is comparing the best of best basketball players. So this data indicated the LA Clippers has a strong team, but it's hard to say without comparing their team with other teams.
9. *Reflect, Pt2:* Not only does this visualization inform you about the individual players, but it also informs you about the team as a whole. The information can be looked at from different perspectives including a holistic approach by examining the teams or more detailed by looking at the components, in this case the players.