NBAology Project Description

Description

Fans, coaches, and scouts have always compared and contrasted the careers of NBA players in different eras. With video games like NBA2K, fans can now play the game and make these comparisons through analyzing playstyle, offensive/defensive attributes, award history, and gameplay of every player in NBA history. New fans of the video game/the sport may want to expand their knowledge of the leagues' past, and other fans may want to do research to improve their rosters in the virtual world. We will be developing a web application to filter active and retired players' names based on other players who have similar statistics/careers. The comparison will be based on metrics such as player ratings, attributes, awards won, and various other fields that translate to play style.

Usefulness

There are various tools to learn pure statistics as well as news sources that give quantitative evaluations of players, but there is not a tool that shows player similarity across many generations of the NBA. Our goal is to bridge the gap between experienced NBA2K players, NBA fans, and upcoming fans of the video game and the sport. Additionally, players of the video game NBA2K may find the attributes and play style of a given player desirable for his/her team and use our application to add that player to their roster.

Realness

- **https://www.dropbox.com/s/k1qtdyz0zg3heme/players.csv?dl=0**
  This API stores data of NBA2K roster data from the video game NBA2K20, which spans across 50 years of the league's history.

Description of the Functionality

- **Basic Functionality**

Develop a search engine that takes in a player name. The backend will parse data for 8,000+ players to generate the selected player's attributes, ratings, and playstyle. Data will be pulled from the NBA2K database to get information about awards and qualitative measurements. The searched player's data will be compared against all other 8,000+ player's data.

- **Advanced Functions**

1. Create a player: We will develop an algorithm to take in specific player metrics for offensive and defensive performances to generate a play style. Playstyles include play-maker, shooter, lockdown defender, athletic, rebounder, pure scorer, and jack of all trades. A user of our web app can search up any player from our database (or insert any created player in our database), and our application will return their unique playstyle.
2. Create a team: Our second advanced function will be a comparison filter between teams. Users of our web-app can compose teams (by selecting 15 players in our database of their choice) and compare their made-up team to another team roster (e.g. 2010-2011 Chicago Bulls). Our web app will return the user's team overall rating, strengths, and weaknesses. Users have the ability to match up their unique "MyTeam" against any historic team in the NBA2K database, and our web-app will return the winner of the head-to-head matchup.