Milestone 2:

Presentation of the goal of the project:

Our project is articulated around 2 different axes, the performances of players in the NBA and a geographical aspect of the NBA. Thus, we decided to go with 2 relatively “basic” but interesting visualizations:

The first one is to use a Sankey Diagram, where on the left side we have one or more players and on the right all the categories (points, assists, rebounds,…). In the case of a single player, it allows to see where his impact on the game is, if he is a scorer, someone that makes his teammates shine or even a beast that will protect his rim at all cost. When adding players to the visualization, we can then compare what role each of them has in the team, the contribution in the games. As an example, taking a team formed of 5 players the diagram would look like something like in figure 1.
We think this is a great and intuitive way to play with the data and have a look at the performances of players.

The second one will be an interactive map where we could show links or bounds between states (thus franchises) and between players and states. Our main idea is to have a single map where we can choose which visualization to use, a connection for the franchises a player played for, a bubble denoting the performances in the same franchises and a choropleth to show the number of players per states. It could be a way to visualize trades, but also decisions that had a huge impact in the history of the NBA (for fans it is a really important subject). That map could then show trades that happened between two seasons, see what franchises have had the most players playing for them, and even more. As an example, let’s take a look at Lebron James franchises (see figure 2).

Our main goal after the implementations of the visualizations will be to make sure everything is detailed enough for a user to be able to use and understand the “tools” we provide to play with such an interesting data! Even if NBA fans are the most likely to find interest in such visualizations, we want anyone that use our work to have a great time.

Tools that we will use :

Sankey

- Load Sankey Package from unpkg.com (`https://unpkg.com/d3-sankey@0`)
- d3.sankey() : constructing a new generator
  sankey.nodes(): having node.sourceLinks / node.targetLinks / node.value as properties
  sankey.links(): having link.source / link.target / link.value as properties

Map

- Project the map of USA (`d3.geo.albersUsa()`)
- For the connection map: we’ll need to add d3’s circles for each team the player has played and these circles will be connected by a connection as it’s a path that he has taken during his career. For this purpose, we’ll be using d3’s path.
- For the BubbleMap: the size of the circles will scale with respect to the performances of the player in each team. We’ll be using d3’s scaleLinear with the circles as we have seen in the interactive D3 part of the courses.
- For the choropleth map: we’ll color each state in function of the number of players in each state. More the players there are, the more the state will be of higher saturation. To fill each color, we’ll be using the fill attribute of the d3’s

Figure 1

Figure 2

the color of state with a path.

Design

- For Sankey, we'll need for example 5 different Hues or Saturations for each category (points, assists, rebounds, ...). For choropleth, we'll also need a set of saturations to display the number of players per state. We'll consult the site (https://gka.github.io/palettes) to generate a harmonious but accurate and discriminable set of colors for our design aspect as we have seen in the Perception & Color part of the courses.

Breakdown of the Project :

1. Sankey Diagram :
    - Implement the visualization
    - Add option to choose a player
    - Add option to choose multiple players
    - Make it such that it is easy to use (choosing and sorting players by team/seasons)
2. Map :
    - Implement the Connection Map
    - Implement the Bubble Map
    - Implement the Choropleth Map
    - Add a way to show the value of the statistical data (on the right of the map)
    - Make it easy to use/to choose between the different maps
3. Add descriptions of each visualizations to explain how to use and understand them and finalize the webpage.

Extra ideas :

In addition to our idea described above, we also have some interesting ideas, but which can be challenging to implement in the context of this project.

When we started this project, we had in mind an interactive visualization of a human body using the height/weight of the players. However, with the feedback of our TA and with more technical searches on this part, we decided to keep this part as a possible extra feature.

Another idea that we had was for the connection map: in the connection map, the trace of the player (trace of where he've played) is shown, and we could add an animation of the arrow drawn continuously to show where he has started to play in NBA and to which states he has been played next. It could draw a trace on the map as a self-drawing arrow (http://bl.ocks.org/veltman/bb75c2aa76c9b36f2c849dbb14435e23).

Appendix : Sketches

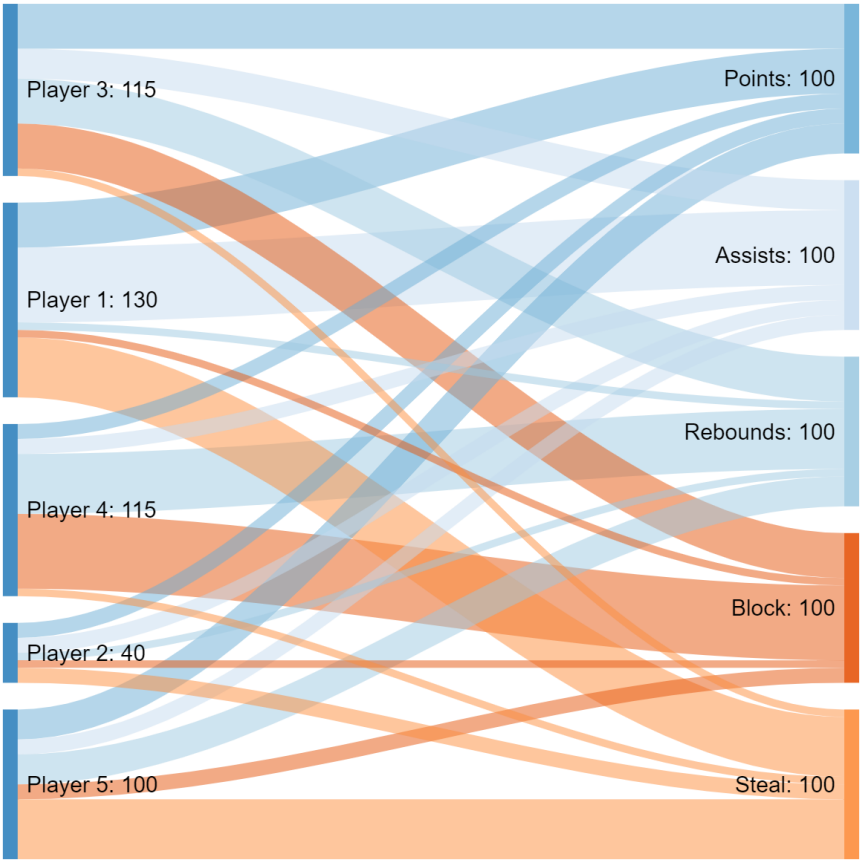

Figure 1

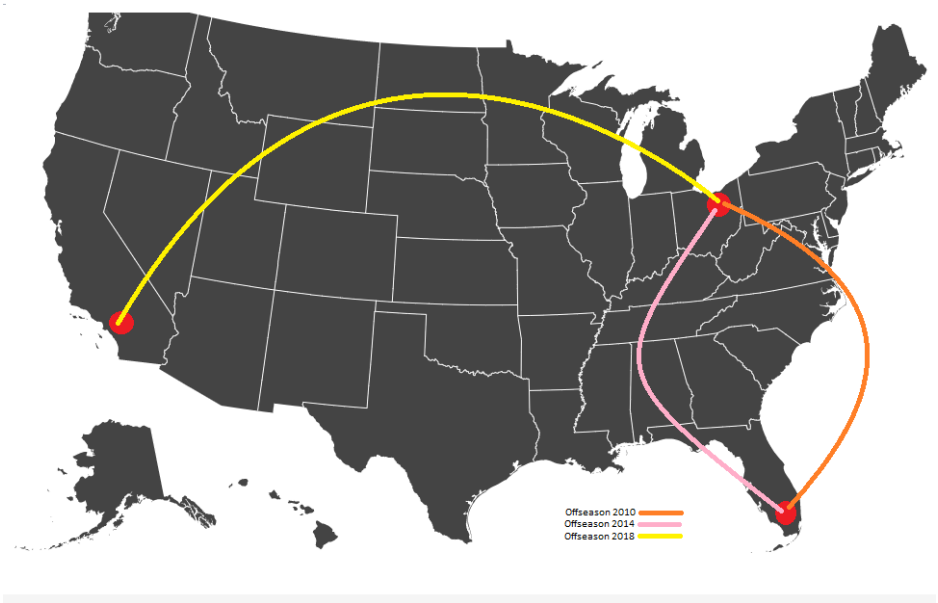

Figure 2