Data Domain and Storyboarding

Data Domain

I will be using MLB players' hitting data gathered from BaseballSavant.mlb.com. The data contains various metrics that relate to a hitter's performance during the season. For this particular assignment, I gathered data about the Seattle Mariners' hitter metrics from the 2016 regular season. I will be using the following features from the data set:

- Player Name
- Events (Outcome of the pitch)
- Zone (Where the pitch was thrown)
- Pitcher Throws (Pitcher's throwing arm)
- Hit Location (Where the hit ended up)
- Balls and Strike

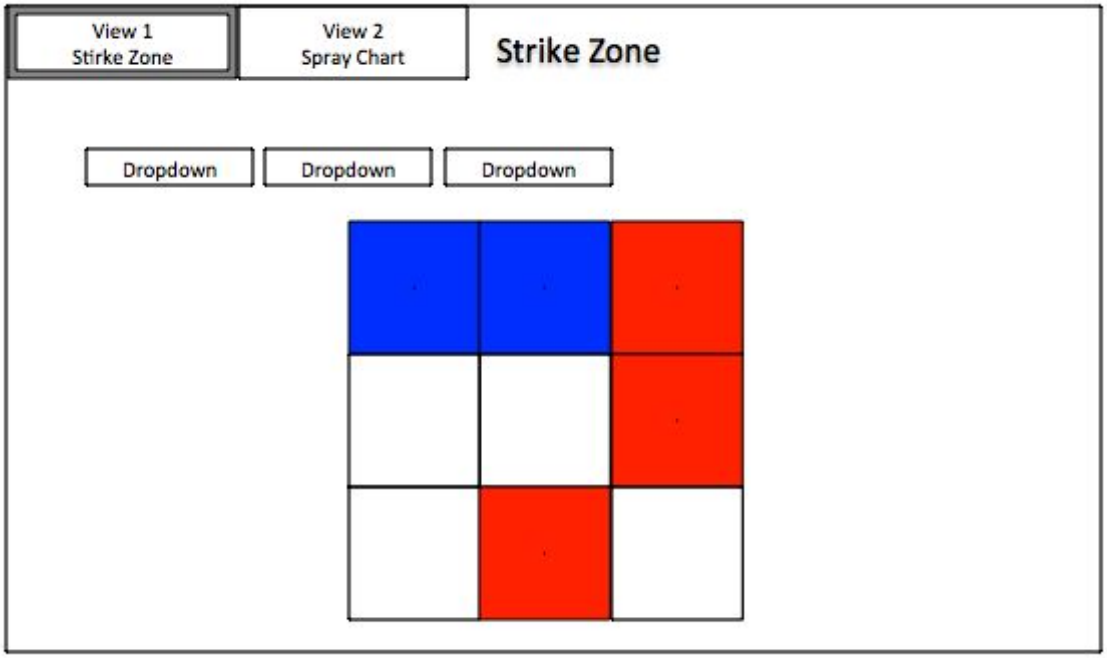
Each row in the CSV will represent a single hit by a particular player. I will most likely have to bring this into the software as objects and work with that data format.

The visualization will show the user the overall performance of the hitters on the Seattle Mariners. It will allow comparison between each hitter and the team average, as well as learn from their hitting tendencies during certain scenarios. In baseball, Sabermetrics (method of analyzing baseball statistics) is a hot topic, and many professionals as well as fans are interested in its potential. My software aims to introduce the novice Sabermetricians to baseball statistics, and its immediate effectiveness. Granted, my software is an extremely simple one, and borderline not sabermetrics, it allows users to visually see a player's performance, and therefore hopes to provide a new angle at which they can evaluate their favorite teams and its players.

Below, I have attached my storyboards.

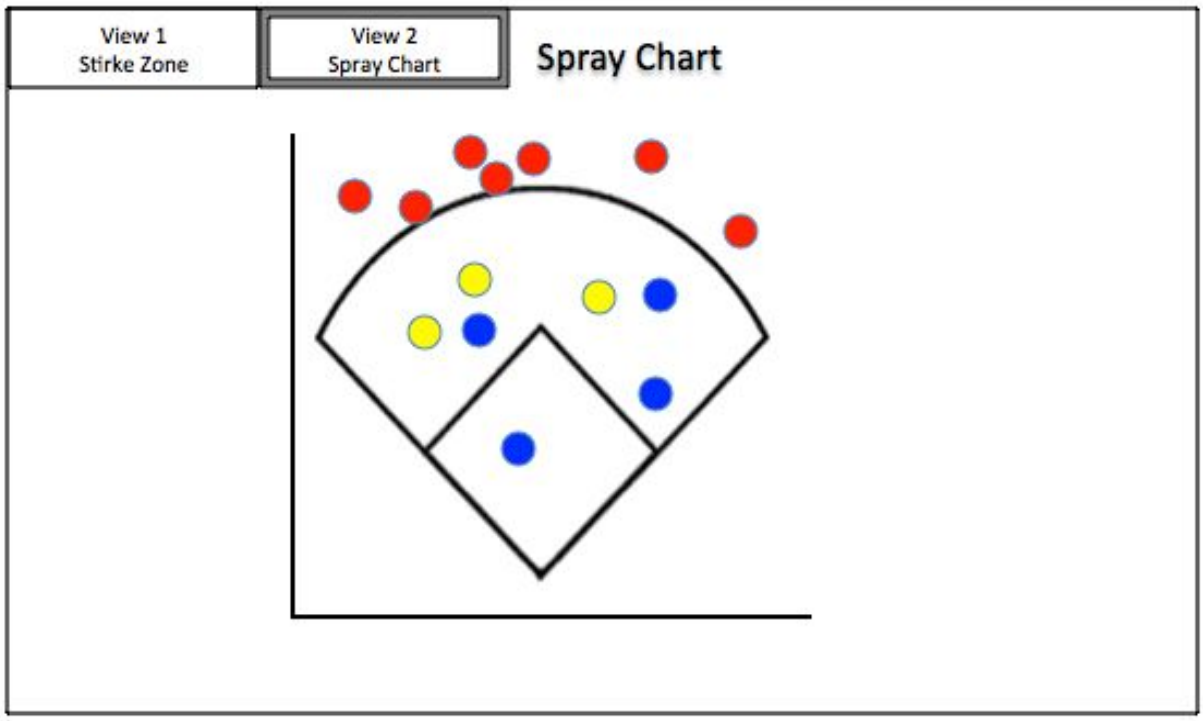
Views

1. **Strike zone Grid**
    a. The data I found has each pitch location as ‘zones’. They are numbered 1 ~ 9, with each number corresponding to a section within the strike zone. My view will features a grid that will imitate a strike zone, and each number with have its own grid. The data shown in each strike zone will be for a particular player, and will be compared to the team average for that location. In other words, the grid will show which location a hitter gets their hits the most, and compares that to the team average. I would like this view to be extremely flexible, and allow the users to query any sort of situation they want for a particular player.



1	**2**	**3**
4	**5**	**6**
7	**8**	**9**

2. **Baseball Field Spray Chart**
    a. For my second view, I will use an outline of a baseball field, and combine that with data regarding each hitter's spray chart (where they hit the ball). It will allow the users to visually see how each player uses the field to their advantage. The visualization allows users to see hitting patterns. I would like this view to be able to link to the first view of the strike zone, so users can see how the hitters is handling the pitches that they see and taking advantage of the field.



Interactive Visualization Techniques:

1. **Dynamic Queries (view 1):** I will use dynamic queries to allows the users to select the: Player, Pitcher Throws, Balls and Strikes, Runners on Base, and Inning. That will output different data on the two views.

2. **Linking (view 2):** I will allow the users to hover over a point on the chart, and show other hits by the same player. Ultimately, I would like to link the information from the strike zone chart to show up on this chart, and vice versa.