Project Name	**LinSanity**
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Github	https://github.com/DatFob/LinSanity
Status	Draft
Link	https://datfob.github.io/Amounts-with-p5js/finalProject/

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Background/Motivation

LinSanity happened about 10 years ago. It's a story of an asian american basketball player going on a scoring streak in the 2012 regular season. Jeremy Lin wasn't the best NBA player, I wouldn't even say he was the better one. Before LinSanity happened, Jeremy Lin was shooting at a really low percentage across the court. To me, this story involves data, a large amount of data to process. And I want to use such data to visualize LinSanity using the technologies I've learned in this quarter.

Project Objectives

Use data visualization to tell our audiences about Jeremy Lin's peak performance during one of his regular seasons with the New York Knicks. Data will be collected for his 2012 NBA season when he went on a dominant streak at the time.

1. Show Jeremy Lin's performance difference in a unique, user friendly way. Use numbers to convince users about Jeremy Lin's streak, use visualization techniques to display dynamic/interactive contents to users.
2. Compare and emphasize performance statistics with top-tier NBA players (example Kobe Bryant) at the time to again emphasize on Jeremy Lin's performance.
3. Show that there is an increase in social media posts related to Jeremy Lin using visualization techniques
4. Use a scrollytelling to increases user engagement / grab user's attention.

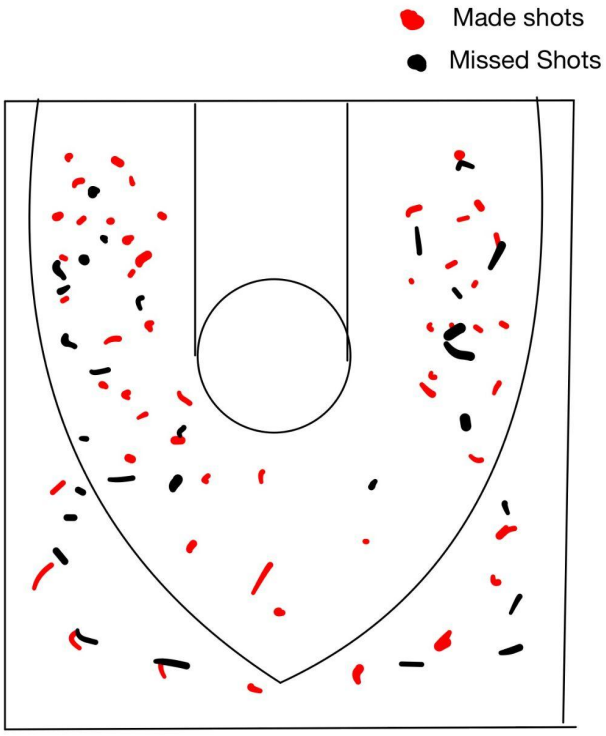
Data

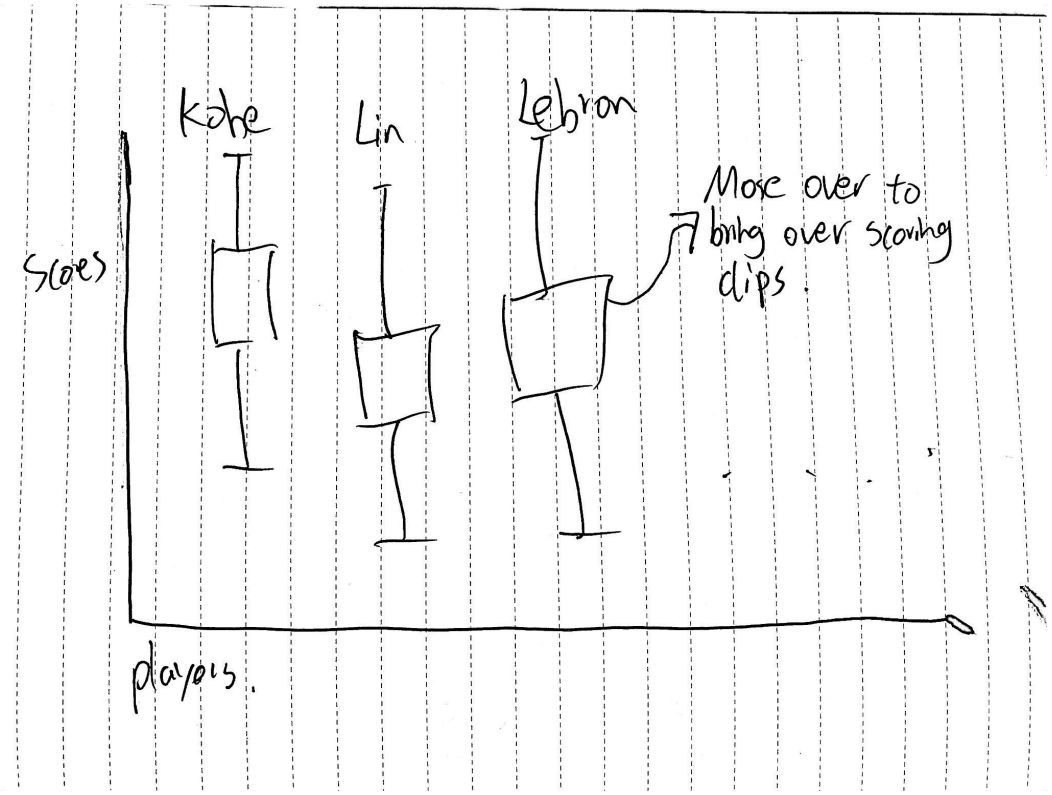
- https://www.basketball-reference.com/players/l/linje01.html
- www.espn.com

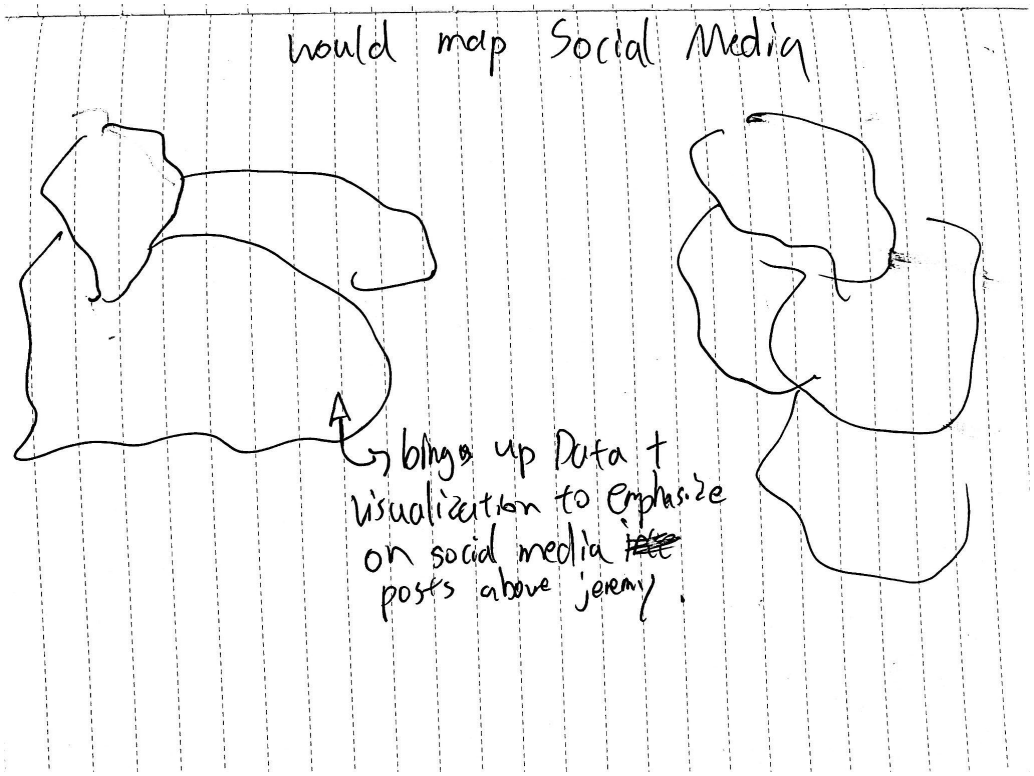
Data Processing

Data will be cleaned accordingly, only useful features/columns will be used. Data such as games played, minutes played, positive/negative impact on scoring are examples of good data that will be used in this project. Data Processing will be implemented in javascript or Python

Visualization Design Draf







Presentation will be scroll-style storytelling. Main goal here is to use data to tell the story of LinSanity to the audience. I will be focusing on data changes in visualizations to emphasize such points.

1. An interactive basketball shooting court where each data point is displayed on the court. Will add video interaction with each data point that's being displayed.
2. Box plot to compare Jeremy Lin's performance with other top tier NBA stars at the time
3. Social media world map to display social media interactions regarding Jeremy Lin based on geographic location

Features

- Scrollytelling
- Interactive box plot using top tier NBA player stats at the time
    - Uses interactive technique to display different players game play/jersey/color of the website
- Interactive court visualization
    - The court will be separated into "hot zone" where sequential color scale will be used to emphasize Jeremy Lin's shot percentage in certain area of the court

    - Red dots will symbolize Jeremy Lin's made shot, I can make this interactive by having mouse moving to the dot and playing a short clip of Jeremy Lin's in game video
- Social media visualization in a world map
    - Display different data across the map, show social media interaction geographically

Optional Features

- Interactive world map
    - Make the world map interactive by displaying dynamic content when moving mouses over
    - Add visual to emphasize social media posts (possibly tweets falling from the window)
- Another chart to compare before/after team performance

Timeline

Oct 15 - Oct 25: Data finding, cleaning up data
Oct 26 - Nov 6: Court Visualization Finished - beta
Nov 7 - Nov 11: World Map Visualization Finished - beta
Nov 12 - Nov 14: Third chart finished - beta
Nov 15 - Nov 19: Add scrollytelling
Nov 20 - Nov 27 - Debug, if time allows add additional feature
Nov 30 - Finish product, work on presentation
Dec 5 - Turn in project, present presentation

10/10 Proposal Peer Review

Shot chart: Show difference of Jeremy Lin's shots in different teams.
Use a bar chart to show each game's stats and its peaks.

Related Work

1. https://www.otherbasketballstats.com/
    a. The website display data regarding NBA players to let users compare and study these numbers.
    b. It offers filtering on data & some data visualization (dot plot)

2. http://www.r2d3.us/visual-intro-to-machine-learning-part-1/
    a. Users scrollytelling as a way to present users about machine learning.
3. https://projects.two-n.com/world-gender/
    a. Another great example of using scrollytelling to support visualization.
    b. As I scroll through the page, the visualization changes along the way it almost makes these visualizations (alive!)
4. https://medium.com/swlh/data-visualization-with-d3-world-map-aa03d68eb906
    a. Uses world map to display data
    b. I could study this project & try to learn and use it to create my social media world map chart
5. https://www.tothemean.com/2015/02/26/d3-basketball-shot-charts.html
    a. Another example of shot chart related to player stats

Alpha Release

Overview

The project implementation is going well according to the timeline. Some changes needed to be made based on the previous design for example, I decided to take out the twitter map visualization but add an interactive multiple line chart visualization. I also realized that box-plot isn't the best choice for what i'm trying to achieve, I'm creating an interactive but easy to understand visualization instead of a technical, detailed box-plot.

Features completed

- Created python script to communicate official NBA API to extract the official, trustworthy statistics
- Cleaned up data, created corresponding csv files
- Two basic shot charts in tableau
- One bar chart in d3
- One line chart in d3
- One interactive, unique ball visualization in d3

Upcoming milestones

By Next Friday November 11th

- Shot chart will have a good color theme to match with New York Knicks

- Shot chart will be able to distinguish between different type of shots
- All line charts will be created
    - Interactive (drop down menu) will be added after
- Ball Visualization will have pull/push force implemented

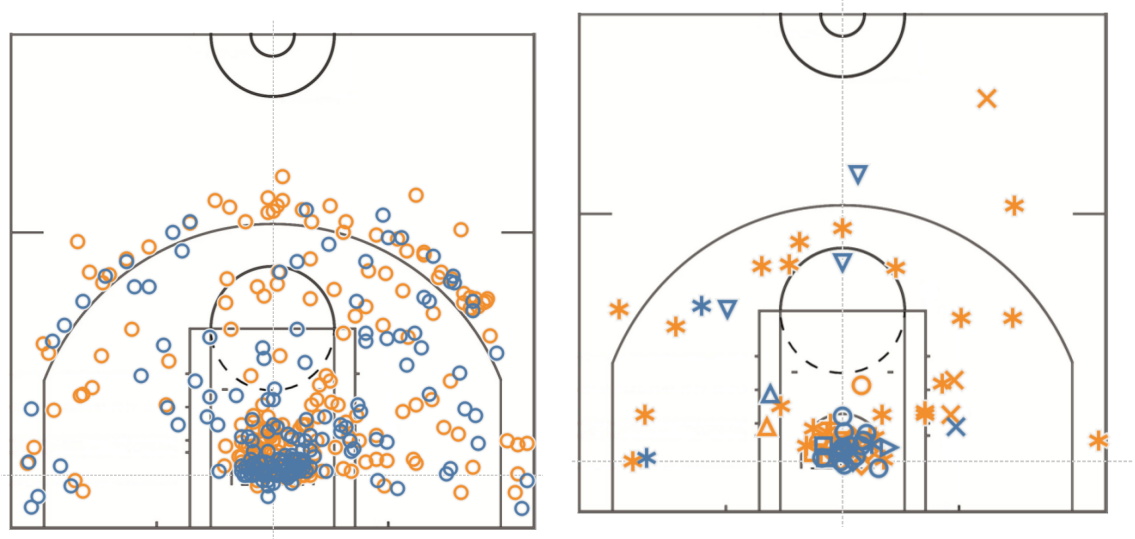
Roadblocks

The biggest roadblock I encountered was researching and looking for official statistics. I spent many days searching on the internet trying to figure out how I can get a clean version of data without having to manually create a google sheet and enter each data point by hand. I was able to find an open source library created by official NBA which is basically an API points where I can make calls to retrieve the data by tuning some configuration/input parameters. I was able to develop a python script to automatically retrieve the data I need and output the data into csv files.

Completed Visualizations

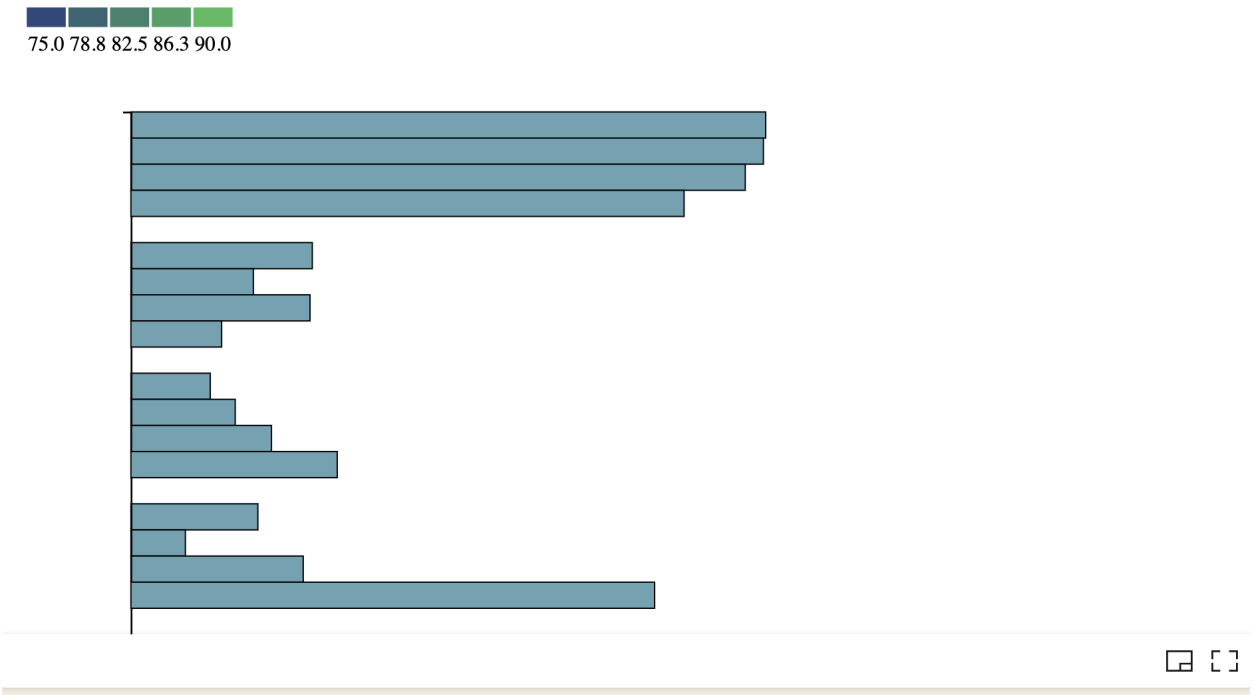
Shot chart made with Tableau.

- One on the left is the 2011-2012 season when Lin Sanity Happened
- One on the right is the 2010-2011 season



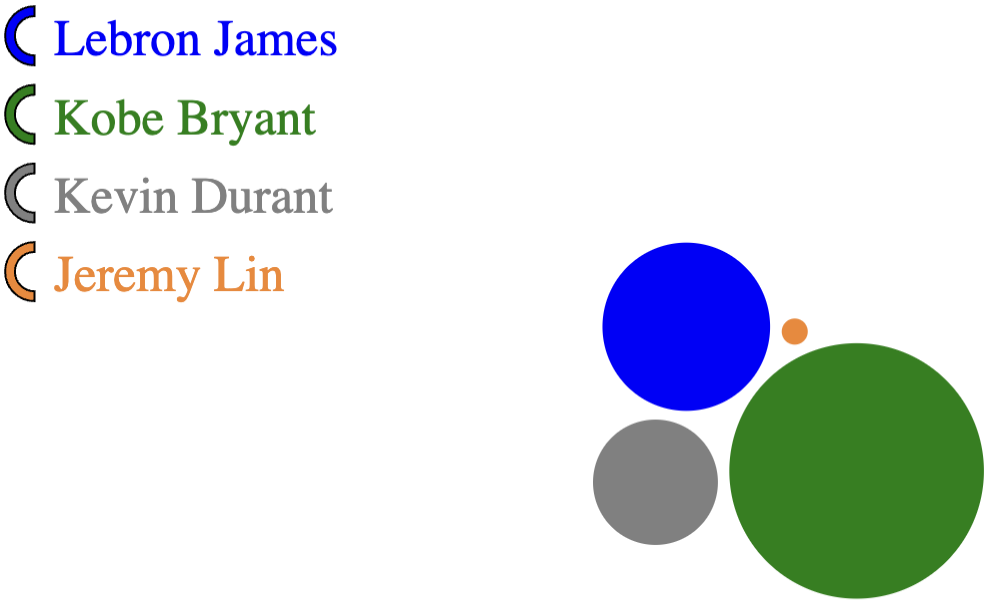
Competing with stars bar chart

- Made in d3js
- Every 4 bars are made with data collected from NBA where they are Lebron



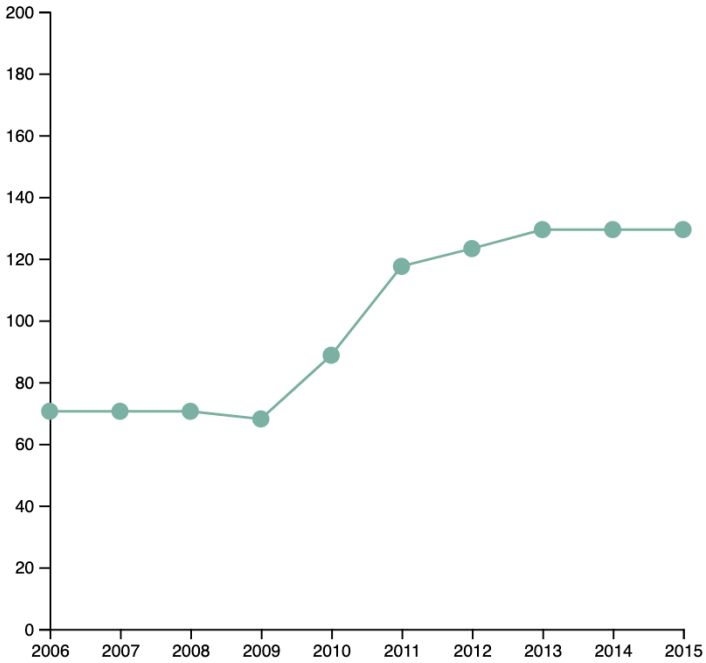
James, Kobe Bryant, Kevin Durant and Jeremy Lin.

- Comparing with highest paid, best performing players in 2011-2012 to emphasize on the performance of Jeremy Lin
- The chart will be turned interactive where hovering over a bar will show details of the player's name, stats and etc.



Interactive forced ball graph

- Each ball indicates the income of a top player as stated in the visualization
- Interactive features will be added such as mouseover, mousein and mouseout to give user more information and data about such plate rand his career
- Visualizaiton will also set to certain background according to player's team color



World line chart

- Displays changes over a period of time
- Will turn interactive where a drop down window will allow user to choose which line chart to display (multiple will be complete)
- The current line chart shows the average ticket price of new york knicks game
- Other line charts will be made such as
    - Changes in number of twitter followers of Jeremy Lin