

# **15 years of Uprising of Manchester City**

Information Visualization Final Project

Group 7

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## Project goal

Discover and visualize trends for Manchester City over the last 15 years.

## Data Set

We would be referring to the dataset below:

<http://www.football-data.co.uk/englandm.php>

Some of the key attributes which we would be using are:

No	Attribute Name	Type	Range
1	League Name	categorical	-
2	Date	temporal, quantitative	-
3	Home team	categorical	-
4	Away Team		
5	home_team_goal	quantitative	0 - MAX
6	away_team_goal	quantitative	0 - MAX
7	FTR(Full-time Result)	categorical	(H=Home Win, D=Draw, A=Away Win)
8	Home Team Shots	quantitative	0 - 100
9	Away Team Shots	quantitative	0 - 100
10	Home Team Shots on Target	quantitative	0 - 100
11	Away Team Shots on Target	quantitative	0 - 100

## Analytical Questions and Proxy Tasks

All of the following analytical questions try to depict trend over the last decade of European Soccer.

1. Impact of the venue in soccer matches (team name, goals scored)
  - a. Proxy tasks:
    - i. Analyze performance on home and away match
  - b. Proxy values:
    - i. Goals scored in the match
    - ii. End result of the match

2. Performance of team across different aspects of the match
  - a. Proxy tasks:
    - i. Does the team play an attacking or defensive game in a match
  - b. Proxy Value:
    - i. Defence\_pressure
    - ii. Build\_up\_play\_passing
    - iii. Chance\_creation\_shooting
3. Most valuable players in the team
  - a. Proxy tasks:
    - i. Performance of a player which impacted the outcome of a match during the whole season
  - b. Proxy value:
    - i. Player overall\_rating
    - ii. Player potential\_rating
4. Most successful player in a league
  - a. Proxy tasks:
    - i. Performance of a player in a league for a season
  - b. Proxy value
    - i. Average player overall\_rating
5. Competitiveness of a League
  - a. Proxy tasks:
    - i. Overall goal difference in a season
  - b. Proxy values:
    - i. Home\_team\_goal
    - ii. Away\_team\_goal
6. Youngest / experienced team across the years
  - a. Proxy tasks:
    - i. Does the team contain more young players or more experienced
  - b. Proxy value:
    - i. Age by average Player birthday
7. Impact of time on goals in a league
  - a. Proxy tasks:
    - i. Total number of goals scored in a league across the season
  - b. Proxy value:
    - i. Home\_team\_goal
    - ii. Away\_team\_goal

## Story Design

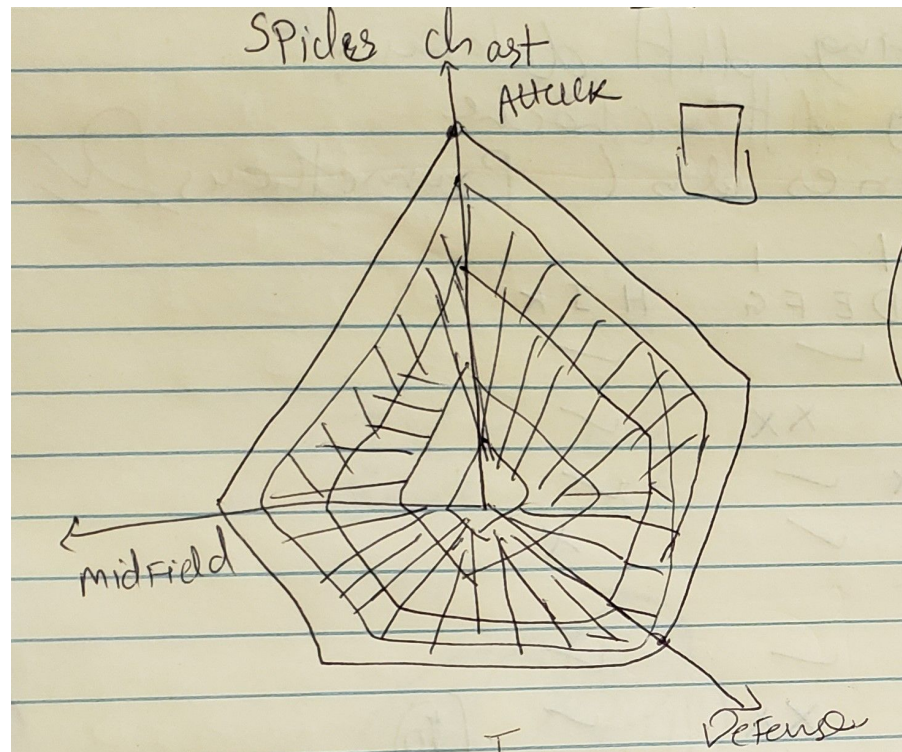
### Data Analysis:

Questions:

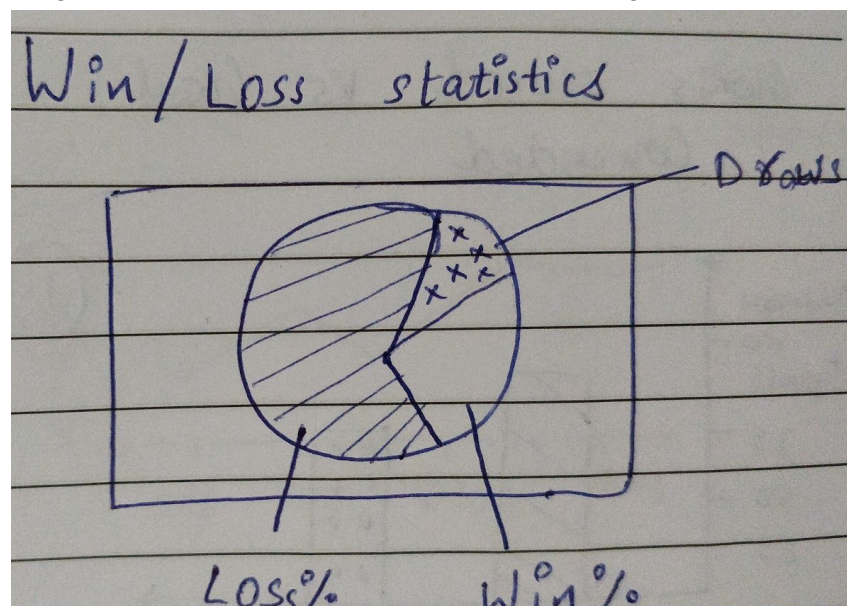
1. Did new changes help in the team's performance over the years?

Multiple graphs will show teams performance. We are going to have graphs for Man City's win percentage in a year, total goals scored and total goals conceded and a graph showing the total amount of shots and how many shots were on target.

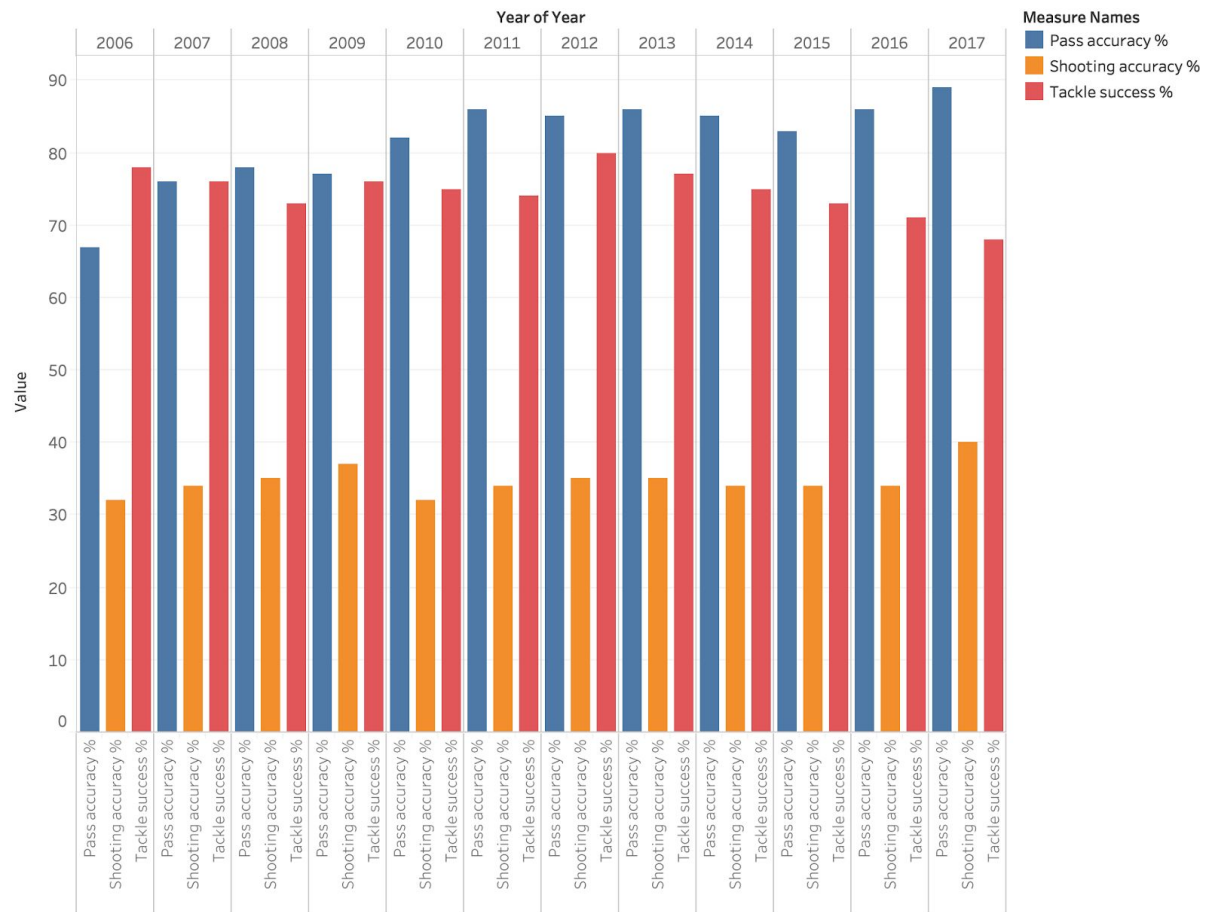
The below-shown graph will show the team's overall performance in terms of attack, defense, and midfield.



The below-shown graph will show win, draw and loss percentages of the team.



## Sheet 1



Pass accuracy %, Shooting accuracy % and Tackle success % for each Year Year. Color shows details about Pass accuracy %, Shooting accuracy % and Tackle success %.

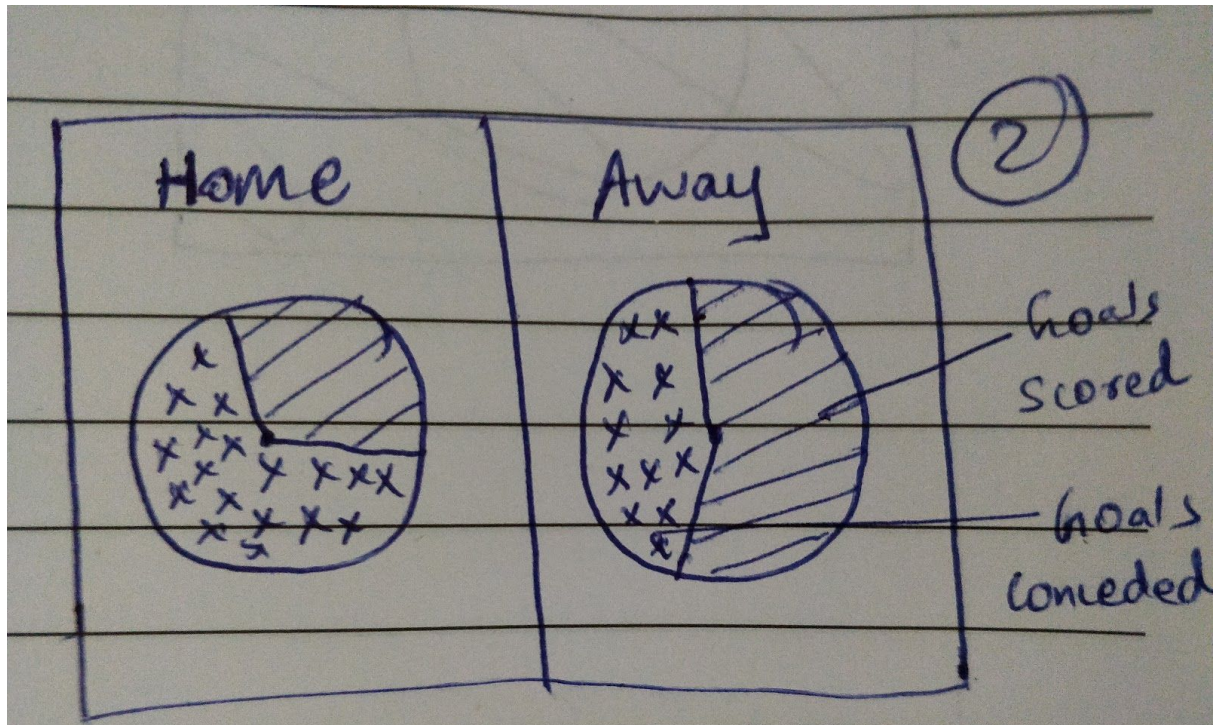
- Did higher investments lead to increase in the total number of transfers or there was more focus on the quality of the players?

We are going to have a field which is going to show the number of transfers for that year. Looking at the increase in the overall team's performance, we can visualize a relation between the transfers and the growth.

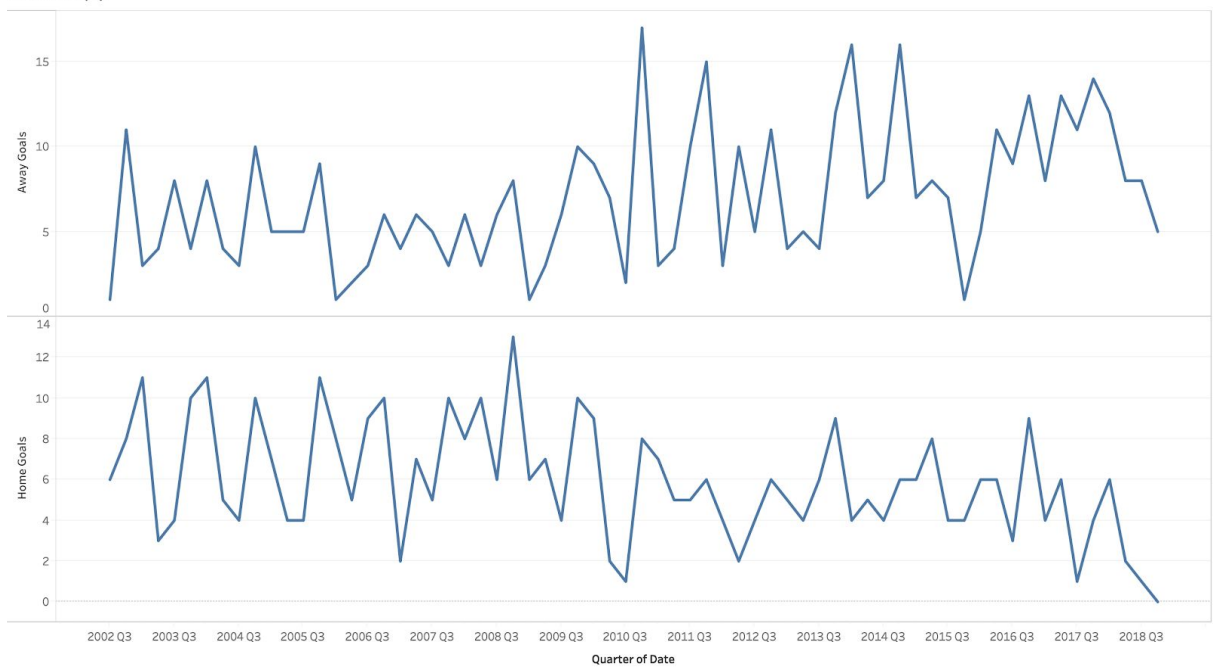


### 3. How did Man City perform in the home and away games?

A graph showing teams statistics about the wins in the home and away games



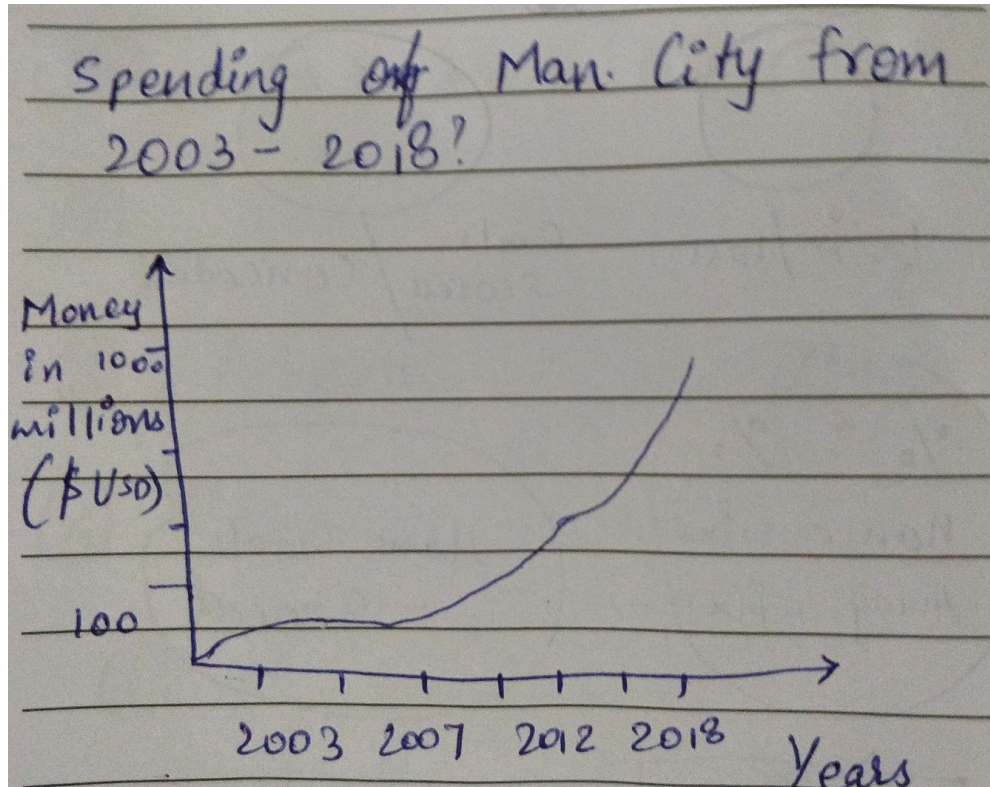
Sheet 1 (2)



The trends of sum of Ftag and sum of Fthg for Date Quarter. The data is filtered on Away Team, which keeps Man City.

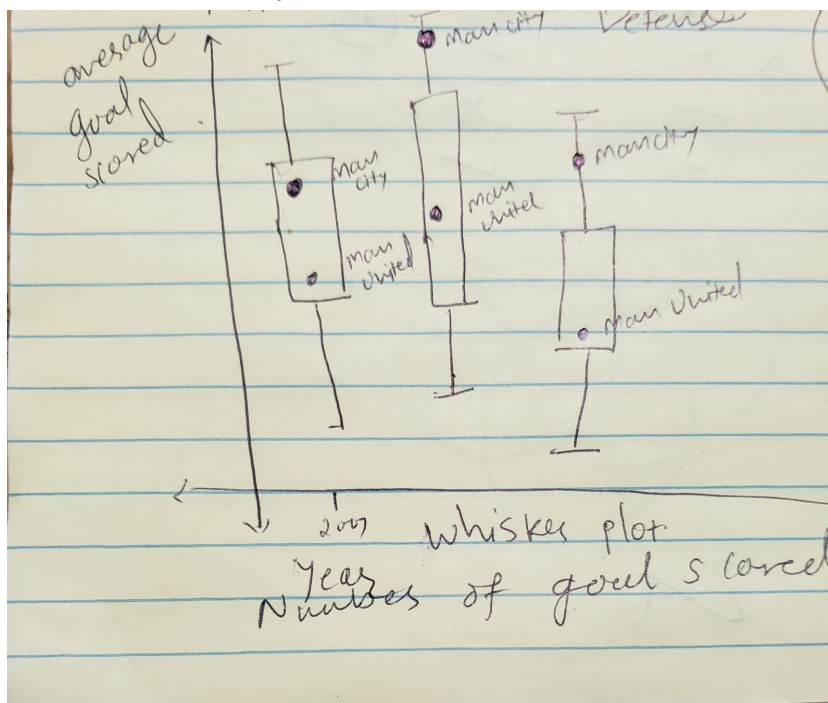
4. What is the total spending of Manchester City from 2003- 2018?

We are going to have a graph which will show the money spent by Man City on transfers from 2003-2018



5. How did Man City perform in terms of a number of goals scored compare to other teams?

We will use the whisker plot graph to show the number of goals by the team compared to other teams. This will visualize the average number of goals being scored in quartiles when compared to Manchester City's performance.



We are going to tell the readers how new management has helped in the performance of Man City over the years.

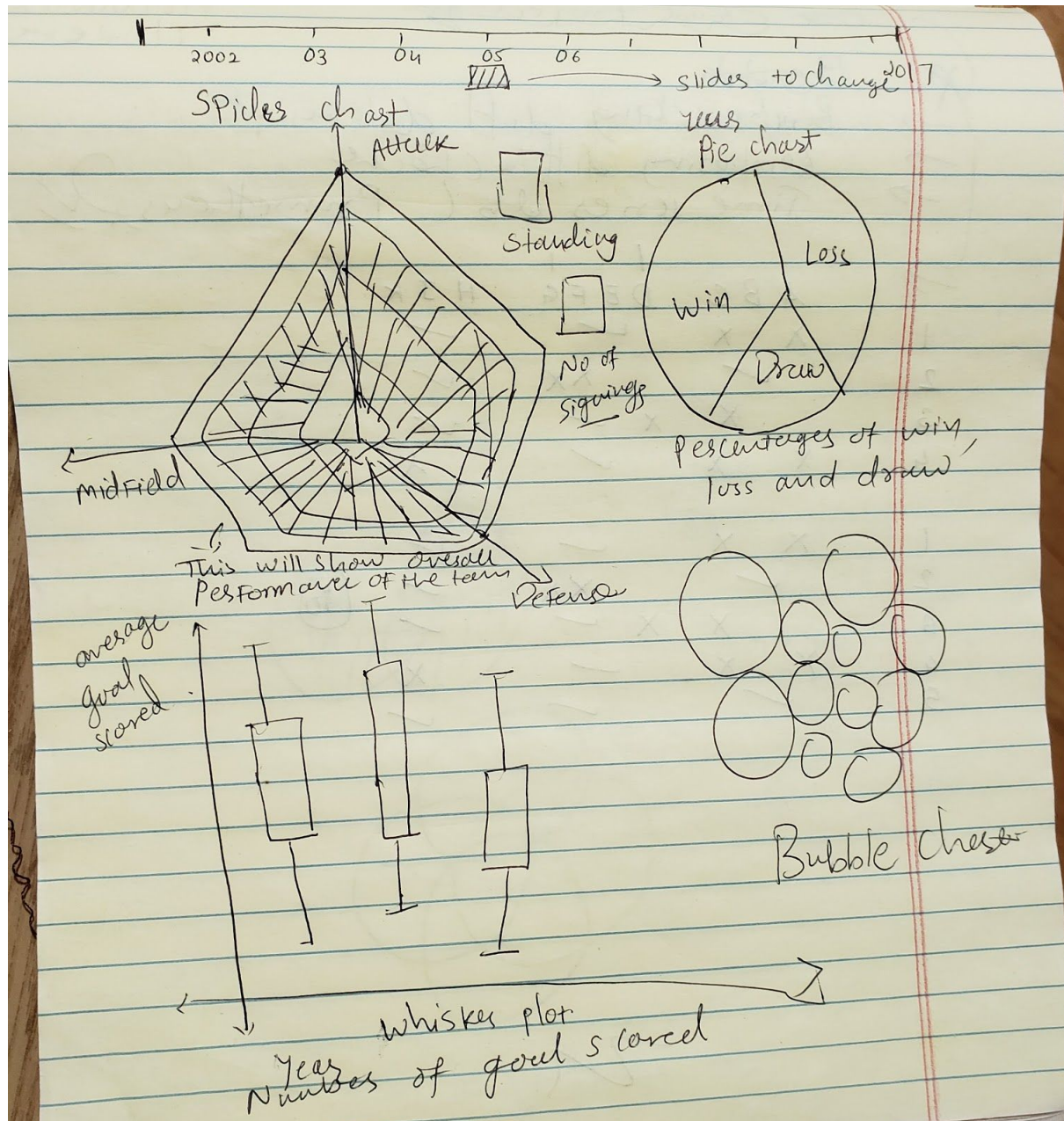
This drastic trend and change over the past 15 years can be seen which majorly occurred after Khaldoon Al Mubarak became the chairman of the Man City in 2008 since after.

The whole visualization is based on the year. We will show team's performance via win, loss statistics, goals scored and goals conceded compared to other teams in that year, team's



performance in home and away games and the total number of transfers in that year and total money spent.

In a single page, we will have a drag bar in which user can select a year. All the different graphs will change based on the year selected



## Changelog:

Earlier we were planning on going with a generic approach and show the statistics for a particular league but that was not helping us to communicate a story which was unique and interesting. Also, based on the suggestions by Christian and Gromit we decided to focus on

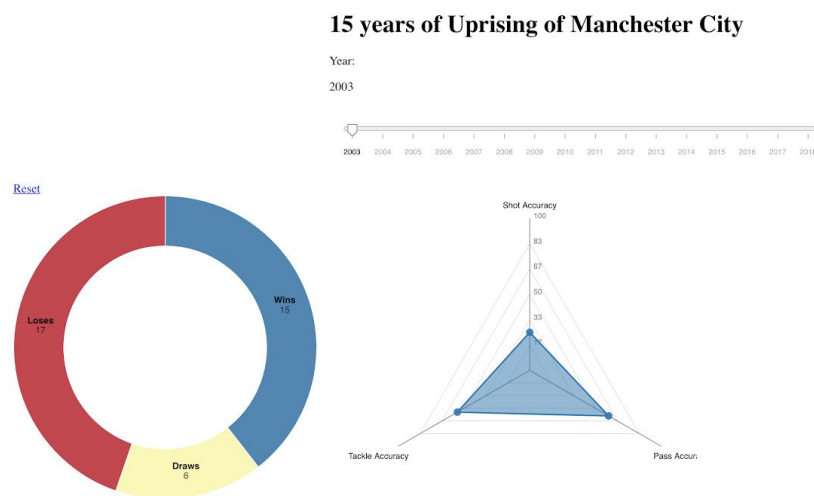
a single team and build our story on that.

Additionally we are now referring to a new data set because the previous data set did not contain much of the club specific in-depth data. We are now considering data from

<http://www.football-data.co.uk/englandm.php>

## Phase 1 Submission:

The current implementation of the project mainly provides the base skeleton for viewing the story of the club Manchester City from season year 2003 to 2018.



### Current Implementation:

There are two graphs which primarily visualize the overall performance of the club for every year. By moving the year slider provided at the top of the page, the performance of the club can be seen in a transitioning effect.

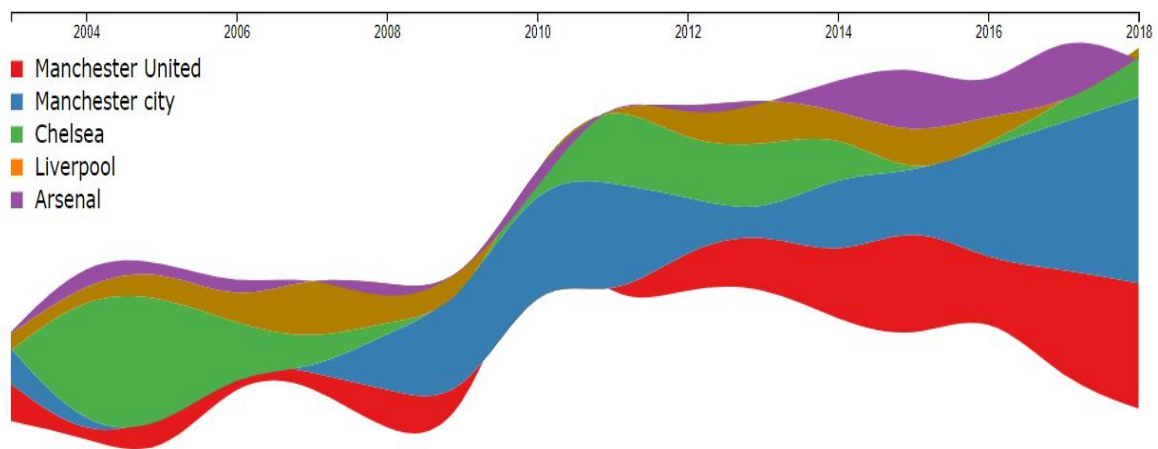
- The first graph aggregates how the total win-loss-draw changes over the years.
- The second graph visualizes as to how the three primary factors which affect team performance change over time. The 3 attributes are: shot accuracy, pass accuracy and tackle accuracy. These 3 attributes are chose for a reason since each one of them addresses the club's performance in attack, midfield and defense areas respectively.

### Future Implementation:

- A static graph to show how investment has changed over the years
- A static box plot (whisker) graph to show how the club's performance can be seen as a in comparison with other teams every season.
- Add some numeric placeholders for showing total amount spent over team, number of new signings in a season etc.
- Add links to news headlines for every significant change in Manchester City

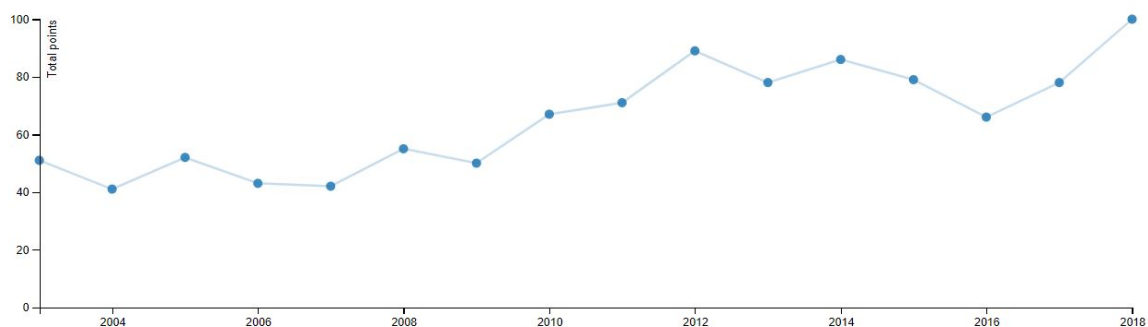
## Phase 2 Submission:

### Spending on transfers for Top 5 teams



This graph shows spending of the top 5 teams in the premier league from 2003 to 2018. Not only does this graph show the increase in spending amount by Manchester City but also it depicts that the top 4 clubs in the English Premier league increased over time. This increase can be viewed in proportion to Manchester City's increase in spending

### Points standing for Manchester City

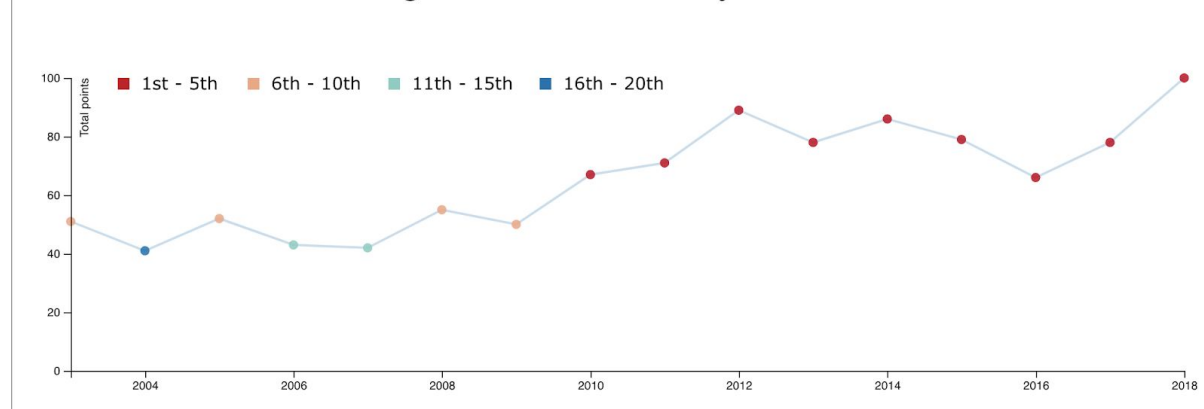


This graph shows Manchester city's points for every season from 2003 to 2018.

## Final phase feedback:

Feedback received for the final phase was for the line chart- inclusion of the color mappings to Manchester City's position. We already had included the 'mouse-over' function for showing the position of the club for a particular year, but now we show color in 4 ranges (1 to 5, 6 to 10, 11 to 15, 16 to 20). This can now clearly show that lately there has been an increase in the Red colored dots which shows Manchester City's growth over the last few years after more money has been spent on the club.

Position & Points standing for Manchester City



GitHub Link:

<https://github.com/NYU-VIS-FALL2018/storytelling-group-7>

Demo Link:

<https://nyu-vis-fall2018.github.io/storytelling-group-7/>