OVERVIEW

To all the expected solutions, we plan to create a stylish, user-friendly dashboard based on the data from the previous seven-eight years of the IPL, which includes player information, match venue information, team information, and ball-to-ball information, is collected and analysed to make various conclusions that aid in the enhancement of a player's performance.

Other factors, such as how the location or toss decision influenced the match's outcome in the previous years and other outcomes are also forecasted. Linear regression, Decision tree, K-means, and Logistic Regression are some of the machine learning and data extraction models that are examined for prediction. Various machine learning algorithms are also used to calculate the cross-validation score and accuracy.

PURPOSE

The game of cricket is played in various formats, i.e., One Day International, T20 and Test Matches. The Indian Premier League (IPL)is a Twenty-20 cricket tournament league established with the objective of promoting cricket in India and thereby nurturing young and talented players. The league is an annual event where teams representing different Indian cities compete against each other. The teams for IPL are selected by means of an auction. Players' auctions are not a new phenomenon in the sports world. However, in India, selection of a team from a pool of available players by means of auctioning of players was done in Indian Premier League (IPL) for the first time. Due to the involvement of money, team spirit, city loyalty and a massive fan following, the outcome of matches is very important for all stake holders. This, in turn, is dependent on the complex rules governing the game, luck of the team (Toss), the ability of players and their performances on a given day. Various other natural parameters, such as the historical data related to players, play an integral role in predicting the outcome of a cricket match. A way of predicting the outcome of matches between various teams can aid in the team selection process.However, the varied parameters involved present significant challenges in predicting accurate results of a game. Moreover; the accuracy of a prediction depends on the size of data used for the same. The tool presented in this

paper can be used to evaluate the performance of players. This tool provides a visualization of players' performance. Further, several predictive modelsare also builtfor predicting the result of a match, based on each player's past performance as well as some match related data. The developed models can help decision makers during the IPL matches to evaluate the strength of a team against another.

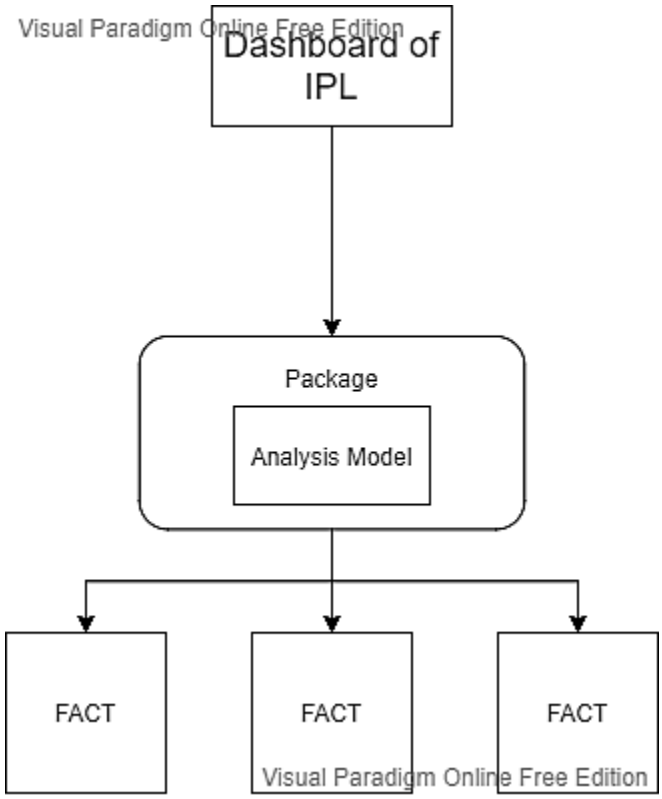
EXISTING PROBLEM

- To provide the statistical analysis of players based on different characteristics
- To predict the performance of a team depending on individual player statistics
- To successfully predict the outcome of IPL matches

PROPOSED SOLUTION

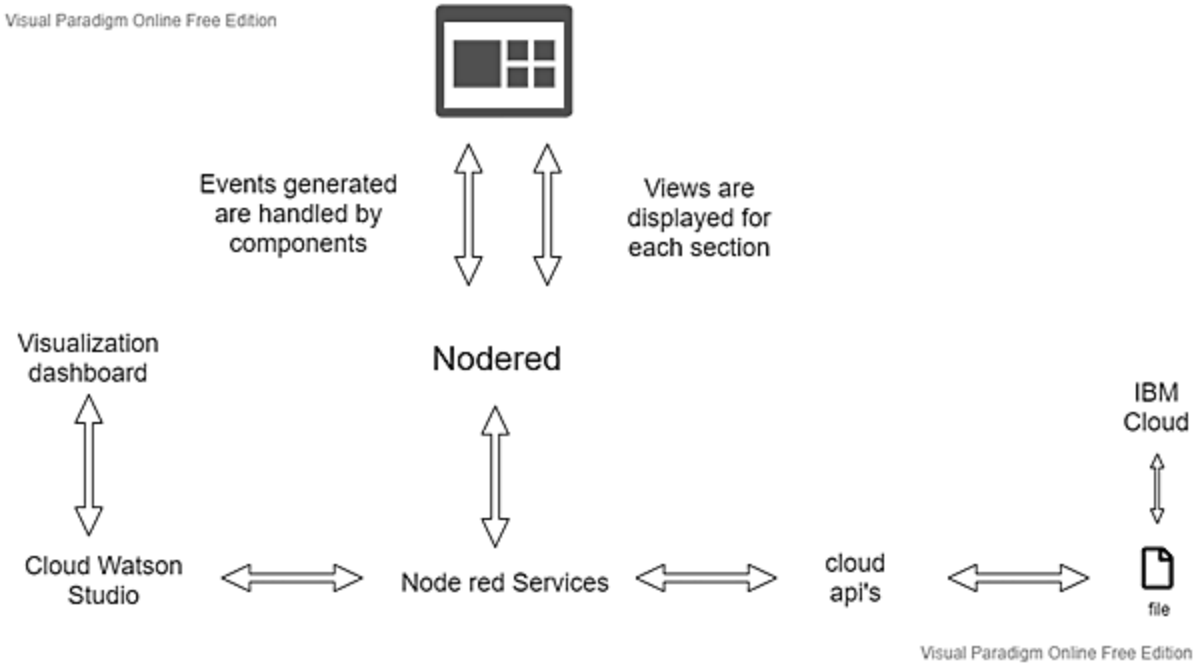
- To give statistical analysis of players based on many attributes
- To estimate a team's performance based on individual player data
- To correctly anticipate the outcome of IPL matches
- Toss winning predictions can also be made using the data sets.
- Match winning predictions with respect to their home venue.
- X factor player predictions.

BLOCK DIAGRAM



HARDWARE / SOFTWARE DESIGNING

- IBM Cognos Analytics
- IBM Cloud
- IBM Watson Studio



EXPERIMENTAL INVESTIGATIONS

1. Mumbai Indians (MI) have registered 120 wins in 207

2.DC and KXIP are followed by Royal Challengers Bangalore, who have lost 95 matches.

3.The probability of winning when the team had won the toss is 52%.

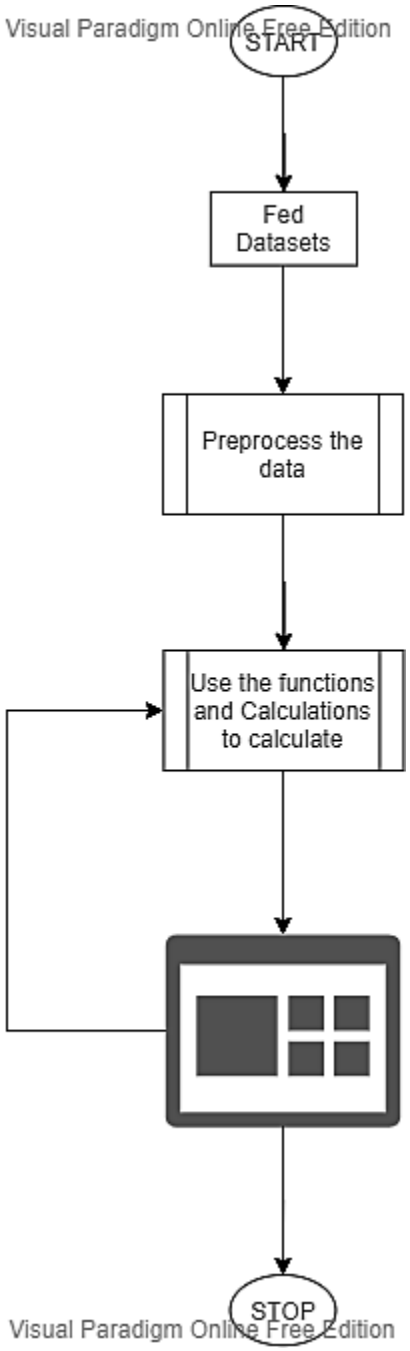
4.AB de Villiers – 23 Awards

5.The city of Mumbai has hosted the maximum number of IPL matches.

6.Ravi(Sundaram Ravi) has officiated the most number of IPL matches on-field

7.When defending a total, the biggest victory was by 146 runs(Mumbai Indians defeated Delhi Daredevils by 146 runs on 06 May 2017 at Feroz Shah Kotla stadium, Delhi).

FLOWCHART

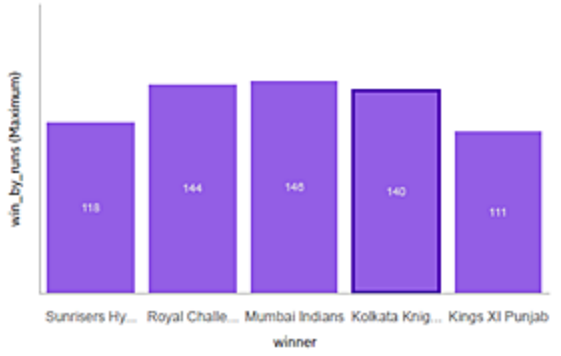


RESULT

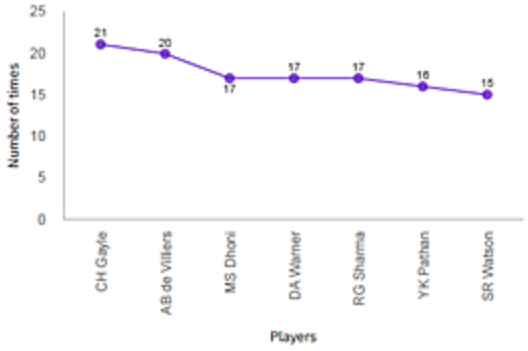
HomePage

Total Runs	Total Wickets	Over	Matches
235K	8.83K	29,846	756

Top 5 teams won most Matches 1

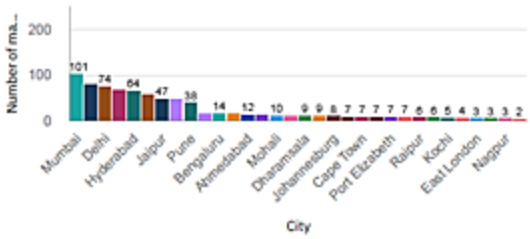


Top 5 most number of player of match 2

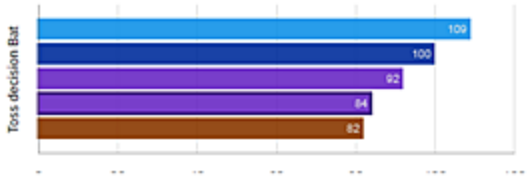


Team and Player Stats

No of matches hosted in different locations 1

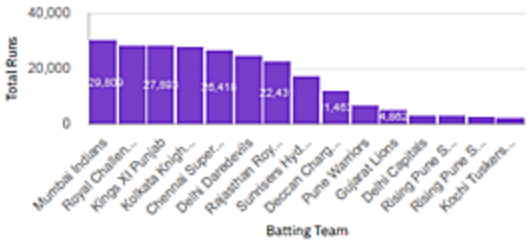


Team that won most matches while batting first 2



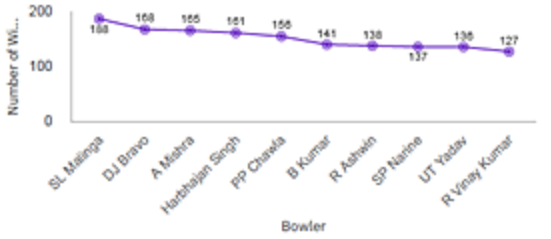
Top 10 Players with most runs 3

Total Runs by Batting team

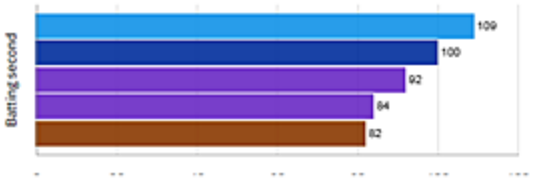


Team and Player Stats 2

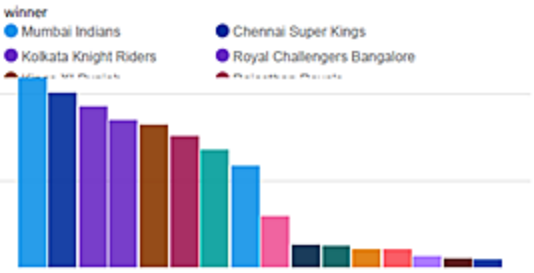
Top 10 Highest Wicket Keeper in IPL history 1



Team that won most matches while batting second 2



Chance of victory from winning the toss



Team that won the no of matches in IPL season 3

winner	2008	2009	2010
Delhi Daredevils	7	10	
Gujarat Lions	(no value)	(no value)	(no val
Kings XI Punjab	10	7	
Kochi Tuskers Ke...	(no value)	(no value)	(no val
Kolkata Knight Ri...	6	3	
Mumbai Indians	7	5	

Umpire Stats

On field Umpire 1 with maximum number of matches 1

On field Umpire 2 with maximum number of matches 2

Batsman who scored maximum runs in IPL 3

1. Mumbai Indians won the most matches with 109 runs.
2. Winning toss gives a slight edge(52% probability of winning) against the opponents.

3. CH Gayle has won the most player of the awards.

4. Mumbai city has hosted maximum number of matches.

Season	Winning Team
2008	Rajasthan Royals
2009	Delhi Daredevils
2010	Mumbai Indians
2011	Chennai Super Kings
2012	Kolkata Knight Riders
2013	Mumbai Indians
2014	Kings XI Punjab
2015	Chennai Super Kings
2016	Sunrisers Hyderabad
2017	Mumbai Indians
2018	Chennai Super Kings
2019	Mumbai Indians

5. When defending a total, the biggest Victory was by 146 runs - Mumbai Indians

6. While chasing a total, the biggest victory was by 10 wickets and there were 9

teams.

7. MI has won most matches by batting both first and second.

8. CSK has won most matches by run cumulatively.

ADVANTAGES & DISADVANTAGES

- This work aims at understanding the dataset of the past 10 years history of the IPL data. This work focuses on exploring IPL data and presenting its insights as graphical representation and comparative analysis. By making use of this, Indian Premier League and the fan followers can make decisions on the team's performance and predict the trophy winners that will lead to success in future.
- Insights in forecasting match results, top scores and wicket takers etc.
- Predicting the probability of the outcome.
- Since IPL is a seasonal game, predictions can vary.
- Predictions can be influenced by the following factors like player injury, player and team performance, the number of teams playing in one IPL season.

APPLICATIONS

Data mining and Machine learning in Sports analytics is a recent field in Computer Science. Our goal is to predict the outcome of an IPL Cricket match. Outcome of an IPL Cricket match depends on several factors such as home game advantage, Day/Night, Toss, Innings (first or second), physical fitness of teams and dynamic strategies, a lot of which varies as the game proceeds.The target audience of this tool involves teams playing cricket, and Sports Analysts in general.

CONCLUSION

Selection of the best team for a cricket match plays a significant role for the team's victory. The main goal of this paper is to analyse the IPL cricket data and predict the players' performance. This knowledge will be used in future to predict the winning teamsfor the next series IPL matches. Hence using this prediction, the best team can be formed.

FUTURE SCOPE

1. It can be made to a time series dashboard.
2. Other technology and services can be ussed to improve the functionality.

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