Project Proposal: IPL Win Predictor Application

The Indian Premier League (IPL) is a professional Twenty20 cricket league in India, recognized for its high-paced and entertaining format. Established in 2008, the league features franchise teams representing different cities and regions. The IPL has become one of the most popular and lucrative cricket leagues globally, attracting top international players.

The tournament follows a round-robin format with playoffs, leading to a final to determine the champion. Known for its dynamic atmosphere, star-studded line-ups, and innovative cricketing strategies, the IPL has significantly contributed to the growth of T20 cricket. It not only serves as a platform for emerging talent but also generates considerable fan engagement and commercial interest, making it a major annual event in the cricketing calendar.

**1. Project Overview:**

We propose the development of an "IPL Win Predictor App" that leverages machine learning to predict the outcome of Indian Premier League (IPL) matches. The app will be built using Python for backend development, HTML for the frontend interface, and Java for enhanced interactivity. The core prediction model will be implemented using the scikit-learn library, a powerful machine learning toolkit in Python.

*We are going to build a machine learning model that can forecast the winning chances of either of the teams during the middle of the match, based on the first innings performance of a team.*

we will use the IPL dataset from Kaggle, which includes 2 datasets: one is about the matches played between 2008-2019, and the other one is about all the deliveries between 2008-2019. Here is the dataset[link](https://www.kaggle.com/datasets/nowke9/ipldata/data)

**2. Objectives:**

- Develop a user-friendly web application that predicts the probability of a team winning an IPL match based on historical data.

- Utilize machine learning algorithms to analyse various factors influencing match outcomes, such as team performance, player statistics, and match venue.

- Implement a robust backend (app.py) to handle data processing, model training, and predictions.

- Create an interactive and visually appealing frontend (HTML and Java) for users to input match details and receive predictions.

**3. Key Features:**

- Data Collection: Gather and preprocess historical IPL match data, including team statistics, player performances, venues, and match conditions.

- Machine Learning Model: Implement a predictive model using scikit-learn, considering factors like team form, player form, head-to-head records, and venue-specific performance.

- User Interface: Develop an intuitive HTML-based frontend with Java for user interactions, allowing users to input match details and receive real-time predictions.

- App.py Backend: Create a Python backend using Flask to handle data processing, model training, and serve predictions to the frontend.

**4. Technology Stack:**

Python (Pandas and Matplotlib), scikit-learn, HTML, Java

**5. Expected Outcomes:**

A fully functional IPL Win Predictor App capable of providing accurate match outcome predictions based on historical data and machine learning algorithms.

**6. Conclusion:**

This project aims to combine the power of Python, HTML, Java, and scikit-learn to deliver an engaging and insightful IPL Win Predictor App. The app will not only enhance user experience but also showcase the capabilities of machine learning in predicting sports outcomes.

Submission – Github Repo

Date – 4th December 2023

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