Project Design Phase-I

Proposed Solution Template

Date	23 October 2023
Team ID	Team-591627
Project Name	T20 Totalitarian: Mastering Score Predictions
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	The problem statement of this project is to develop an accurate predictive model for estimating the total score of a T20 cricket team batting first. In the fast-paced world of T20 cricket, where matches can hinge on a few crucial moments, predicting a team's score is essential for fans, analysts, and teams themselves. Without a reliable model, teams lack valuable insights for strategy, and fans miss out on informed expectations. Inaccurate score predictions can lead to suboptimal decision-making during matches. This project aims to address the pressing need for precise T20 cricket score predictions, leveraging historical data and advanced machine learning techniques to enhance the understanding and enjoyment of the sport.
2	Idea / Solution description	The idea/solution description of this project is to develop a predictive model for estimating the total score of cricket team batting first in a T20 match by taking into account a wide range of features of like batting and bowling teams, match venue, current score, overs completed, wickets fallen, and the runs scored in the last 5 overs. By leveraging historical T20 cricket match data, this project focuses on data

		preprocessing, feature engineering and the applications of various Machine Learning models like Linear Regression, Random Forest Regressor, and XGBoost Regressor to make accurate score predictions by using evaluation metrics like R-Squared and Mean Absolute Error are employed to gauge the model performance.
3	Novelty / Uniqueness	The novelty/uniqueness of this project is to leverage a comprehensive dataset T20 cricket match and apply advanced Machine Learning techniques to predict the total score of a batting team in real-time. The thing that sets this project apart is its multi-faced approach, combining extensive data preprocessing and feature engineering, model selection and evaluation with well chosen metrics. In addition to that this project addresses the specific challenges of T20 cricket which includes the dynamic nature of the game and the critical role of the last 5 overs in determining the final score. By considering the factors like venue, batting and bowling teams, and historical performance, it aims to deliver highly accurate and context-aware score predictions, offering a valuable resource for cricket enthusiasts, analysts and teams.
4	Social Impact / Customer Satisfaction	Score prediction can make T20 more exciting for fans by offering them the opportunity to predict scores and compete with friends and fellow friends. By making T20 matches more engaging, the predictor can help promote cricket and attract new fans to support.
5	Business Model (Revenue Model)	Cricket leagues, teams and broadcasters can use score prediction to engage fans during matches, keeping them invested in the game and increasing viewer retention. Engaged and retained viewers are more attractive to sponsors and advertisers, leading to increased revenue opportunities for cricket-related businesses.
6		The scalability of the solution of the project os notable, as it can readily accommodate a growing volume of data and adapt to the changing cricket dynamics. The code's robust structure and modular design make it capable of handling a vast array of

	Scalability of the Solution	historical and real-time match data, facilitating seamless integration of additional features or data sources. It is well suited for scaling to encompass more teams, cities, and venues. Furthermore, the project's use of Machine Learning models allow for straight forward incorporation of new data to continuously improve accuracy of the prediction. In essence, it serves as a flexible and scalable framework, making it valuable for addressing the evolving changes and opportunities within the domain of T20 cricket score prediction.