Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25th October 2023
Team ID	Team-591178
Project Name	Art Of Centuries: Virat Kohli's 71 Masterstrokes Visualized with Tableau
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

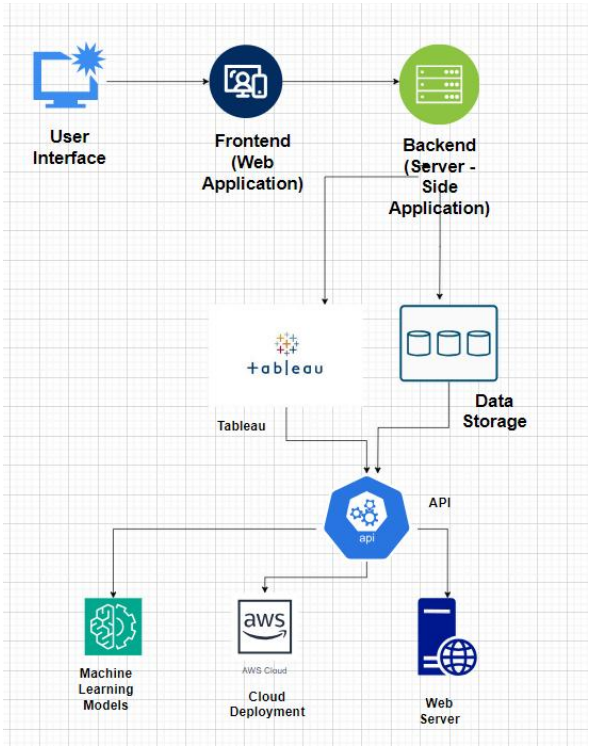

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the user interacts with the application e.g. Web UI, Mobile App, Chatbot, etc.	HTML, CSS, JavaScript / Angular Js / React Js, etc.
2.	Frontend	The user interface through which users will interact with the application. This web application could be built using HTML, CSS, and JavaScript.	HTML, CSS, JavaScript, React, Angular, or Vue.js
3.	Backend	The server-side logic processes requests manages data, and serves content to the front end. Technologies like Node.js, Python, or Java can be used.	Node.js, Python (Django/Flask), Java (Spring Boot)
4.	Data Storage	Stores data related to Virat Kohli's centuries, such as statistics, images, and videos. You can use a relational database like PostgreSQL or a NoSQL database like MongoDB.	PostgreSQL, MongoDB, MySQL, or Cassandra
5.	Tableau	Tableau will be used for data visualization and creating interactive dashboards to showcase Virat Kohli's centuries.	Tableau Desktop, Tableau Server
6.	Third-party APIs	You may need to integrate with cricket data APIs to collect data such as cricket statistics, player profiles, and match records. Example: Cricbuzz API.	Cricbuzz API, or other relevant cricket data APIs
7.	Cloud Services	The application can be hosted on a cloud platform like AWS, Azure, or Google Cloud for scalability and reliability.	Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)
8.	Machine Learning Models	If applicable, machine learning models can be used for predictive analytics or recommendations, such as predicting future performance based on historical data. You can use Python libraries like scikit-learn or TensorFlow for this.	Python, sci-kit-learn, TensorFlow, or other relevant machine learning libraries
9.	Security & Authentication	To secure the application, implement user authentication and authorization using technologies like OAuth 2.0 or JWT (JSON Web Tokens).	OAuth 2.0, JWT, or other authentication and authorization mechanisms

10.	Web Server	Use a web server like Nginx or Apache to handle incoming HTTP requests and distribute them to the backend application.	Nginx, Apache, or other web server software
11.	CI/CD Pipeline	Implement continuous integration and continuous deployment (CI/CD) for automated testing and deployment of application updates. Tools like Jenkins or GitLab CI/CD can be used.	Jenkins, GitLab CI/CD, or other CI/CD tools

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Interactivity	The application should provide interactive data visualizations and dashboards using Tableau.	Tableau interactive features
2.	Usability	Design an intuitive user interface that allows users to easily interact with the application.	User experience (UX) design
3.	Security	Implement robust security measures to protect user data and ensure the application's integrity.	SSL/TLS, firewalls, encryption, secure coding practices
4.	Reliability	Minimize downtime and ensure high availability through redundancy and failover mechanisms.	Load balancing, redundancy, failover strategies
5.	Scalability	The application should be designed to handle a growing number of users and data. Cloud services can be scaled as needed.	Horizontal scaling using cloud resources
6.	Performance	Ensure the application is responsive and provides a smooth user experience. Optimize data retrieval and rendering.	Performance optimization techniques (e.g., caching, database indexing)

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d