Project Design Phase-II
Solution Requirements (Functional & Non-functional)

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Team ID	NM2023TMID21199
Project Name	Data-Driven insights on Olympic Sports Participation and Performance

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Extraction and Cleaning	• This module shall extract the Olympic Games dataset. It can identify the source of the dataset. • It downloads the dataset from the source. It verifies the accuracy and completeness of the dataset. • It checks for missing or incomplete data. It checks for inconsistencies and errors in the data. • It cleans the dataset to remove any inconsistencies and errors. • It removes any duplicate records. • It corrects any errors in the data. • It removes any outliers or irrelevant data.
FR-2	Data Storage and Processing	• It loads the cleaned dataset into IBM DB2 for storage and processing. • It ensures that the data is formatted correctly for storage in IBM DB2. • It establishes a secure connection to IBM DB2 for data transfer. • It ensures the security and integrity of the data stored in IBM DB2. • It implements appropriate security measures to protect the data from unauthorized access.
FR-3	Dashboard Creation	• It creates an interactive dashboard using IBM Cognos Analytics. • The dashboard shall present the data in a visually appealing manner. • It also allows stakeholders to obtain the most pertinent information easily and quickly. • It can be flexible, allowing users to dive down into particular data points or alter filters to investigate various facets of the data.
FR-4	Story Creation and Report Generation	• Perform further visualizations in the form of slides by creating story with background images • It can generate reports based on the data analysis and visualization.

		• The reports can provide stakeholders with insights into the factors influencing success in the Olympic Games. The reports can provide stakeholders with information on the opportunities and challenges the Games will face in the future. • The reports can be generated in a format that is easy to understand and accessible to stakeholders.
FR-5	Data Analysis and Visualization	• It identifies which nations have historically excelled in particular sports. • It analyses the economic impact of the Olympics over time. • The system shall identify trends and patterns that have developed through time.
FR-6	Presentation	• Embedding the project with a frontend created using bootstrap by using flask API. Provide documentation and training materials to help users and administrators understand how to use and maintain the system.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	With simple and clear visualisations and filters, the dashboard should be simple to use. Users should have simple access to and control over the data displayed on the dashboard. The dashboard should be created with the needs of the stakeholders in mind, with actionable and pertinent data being shown prominently.
NFR-2	**Security**	Data availability, integrity, and secrecy should all be guaranteed by the system. Access to the data kept in IBM DB2 should be controlled based on user roles and permissions, and the data itself ought to be encrypted. To guarantee that only individuals with the proper authorization may access the dashboard and data, the system should also include authentication and authorisation processes.
NFR-3	**Reliability**	The system must be dependable, with little downtime and precise outcomes. The dashboard should be created with automated error-checking features to reduce mistakes. To ensure that data is not lost in the event of a system breakdown, the system should also offer backups.
NFR-4	**Performance**	The dashboard should load quickly and the system should be responsive. Large datasets should load as

		quickly as possible on the dashboard. Large datasets and user traffic should also be able to be handled by the system without it slowing down.
NFR-5	**Availability**	To guarantee that stakeholders may access the dashboard whenever necessary, the system should be accessible round-the-clock. The system should be developed with redundancy and fault-tolerant features in place, and it should have a high uptime.
NFR-6	**Scalability**	To handle future increases in data volume and user traffic, the system should be scalable. As the amount of data or user traffic grows, the system should be built to easily scale both horizontally and vertically.