

## **Project 1 (Business Requirements): Speedrun Analytics with a Database System**

### **Problem Statement**

In the dynamic world of speedrunning, where gamers strive to complete games in the fastest possible times, the community is vibrant and continuously evolving. The primary hub for this community, speedrun.com, hosts an extensive array of data encompassing games, players, records, and more. However, despite the abundance of data, the platform faces significant challenges in data management and analytics. The existing infrastructure lacks the capability to handle complex queries efficiently, perform in-depth analysis, and provide actionable insights into speedrunning trends and patterns. This gap hinders the community's ability to engage deeply with the data, analyze performance trends across different games and categories, and foster a more connected and informed community. There is a pressing need for a structured system that not only aggregates and stores this wealth of data but also organizes it in a way that supports efficient data retrieval, comparison, and advanced analytics.

### **Objective**

The aim of this project is to design and develop a comprehensive database system tailored to the needs of the speedrunning community. This system will consolidate data from speedrun.com, encompassing detailed records of games, players, speedruns, categories, and rankings. By doing so, it will enable users to execute complex queries with ease, perform sophisticated analytics, and gain insights into emerging trends within the speedrunning universe. The ultimate goal is to enhance community engagement through a more interactive and insightful exploration of speedrun data, thereby elevating the overall speedrunning experience.

### **Database System Rules for Speedrunning Analytics**

#### **1. Data Aggregation and Storage**

- The system must aggregate data from speedrun.com.
- It should store comprehensive records of games, players, speedruns, categories, and rankings.

#### **2. Data Organization**

- Data must be organized to support efficient retrieval.
- The system should allow for easy comparison of records across different games and categories.

#### **3. Query Execution**

- The database must handle complex queries efficiently.

- Users should be able to retrieve data without facing performance issues.

#### **4. Data Integrity and Reliability**

- Ensure data integrity by accurately reflecting records from speedrun.com.
- Maintain data reliability through regular updates and validation checks.

#### **5. Performance and Scalability**

- Design the database for high performance, even with complex queries.
- Ensure the system is scalable to accommodate growing data and user base.

#### **6. Security and Privacy**

- Implement security measures to protect user data and privacy.
- Ensure that users can only access data they are permitted to view.

#### **Nouns:**

- system
- data
- speedrun.com
- games
- players
- speedruns
- categories
- rankings
- data management
- security
- privacy

#### **Verbs:**

- aggregate
- support
- provide
- ensure
- facilitate
- enhance
- design
- enable
- perform
- protect