

Data and Applications Project

Phase 4

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Considerations

Consideration about Implementation

Before we get into the implementation of the CLI, we'd like to justify some of the considerations that we have made for our project. The idea is that at the start of the Premier League Season, the database is populated with all the required information by directly interfacing with the SQL database, and not through the CLI. This includes adding information like:

1. The names of the clubs
2. The players of each club
3. The manager of each club
4. The kits corresponding to each club
5. The fixtures for that season
6. The alternate names for the clubs

Throughout the season, querying the database can be done from the CLI. This includes:

1. Viewing various stats and analyses, for both the players and the clubs.
2. Inserting or Deleting a player (corresponds to a transfer in real life).
3. Inserting or Deleting a manager (corresponds to sacking and hiring in real life).

4. Inserting a match and updating the required stats for each club concerned (corresponds to the match result after the match has been played in real life).
5. Updating the capacity of a stadium (corresponds to some form of renovation).
6. Update player's stats as they play more games during the season.
7. Update fixture kits, when a team decides to change up the kit they want to wear to a match.

Considerations about the Data

The database is initialized with real world data from the current season of the Premier League (2020-21). However, the data is not exhaustive. The initialization data is a subset of the real world dataset, but is more than enough to demonstrate the total functionality of our CLI. Needless to say that if the initialization data was indeed exhaustive, our CLI would still function in the same way, i.e., it is scalable.

Layout of the CLI

When the CLI is launched, it attempts to connect to the database. Upon establishing a successful connection, it presents the user with a menu with the following option:

1. View existing Entries

This allows the user to view stats and other information from the database. This leads to a submenu with the following options:

1. View League Table
2. View Team Roster
3. Player Performance Stats
4. Manager Info
5. Match Results
6. View Fixtures
7. Club Alternate Names

2. Insert a new Entry

This allows the user to add a new entry to the tables mentioned in the **Consideration** section. It leads to a submenu with the following options:

1. Insert a Player
2. Insert a Manager
3. Insert a Match (This one specifically affects multiple tables at the same time, i.e. the concerned Clubs' Wins, Losses, Draws, Goals For and Goals Against are also updated upon insertion of a new match)

3. Delete an existing Entry

This allows the user to delete an existing entry from the tables mentioned in the **Consideration** section. It leads to a submenu with the following options:

1. Delete a Player
2. Delete a Manager

4. Update an existing Entry

This allows the user to update an existing entry from the table mentioned in the **Consideration** section. It leads to a submenu with the following options:

1. Update Player Stats
2. Update Stadium Capacity
3. Update Fixture Kits