DBF Implementation  
for Action Soccer Manager

# Procedures and processes involved

In the process of balancing teams, the goal is to make the resulting teams have a more competitive game, rather than one team overpowering all the other teams. This helps the game be more suspenseful and enjoyable.

In this process, match organizer will one of the following to the players:

* Place in a new team
* Transfer to a different team
* Leave them, allowing the player to remain in their current team

In a team there has to be a captain as a liaison between the match officials and team players. Since a player can be transferred to a new team – including team captains – a new captain would need to be appointed. The following business rules further explain the procedure for helping the match officials make better decisions to improve in team balancing.

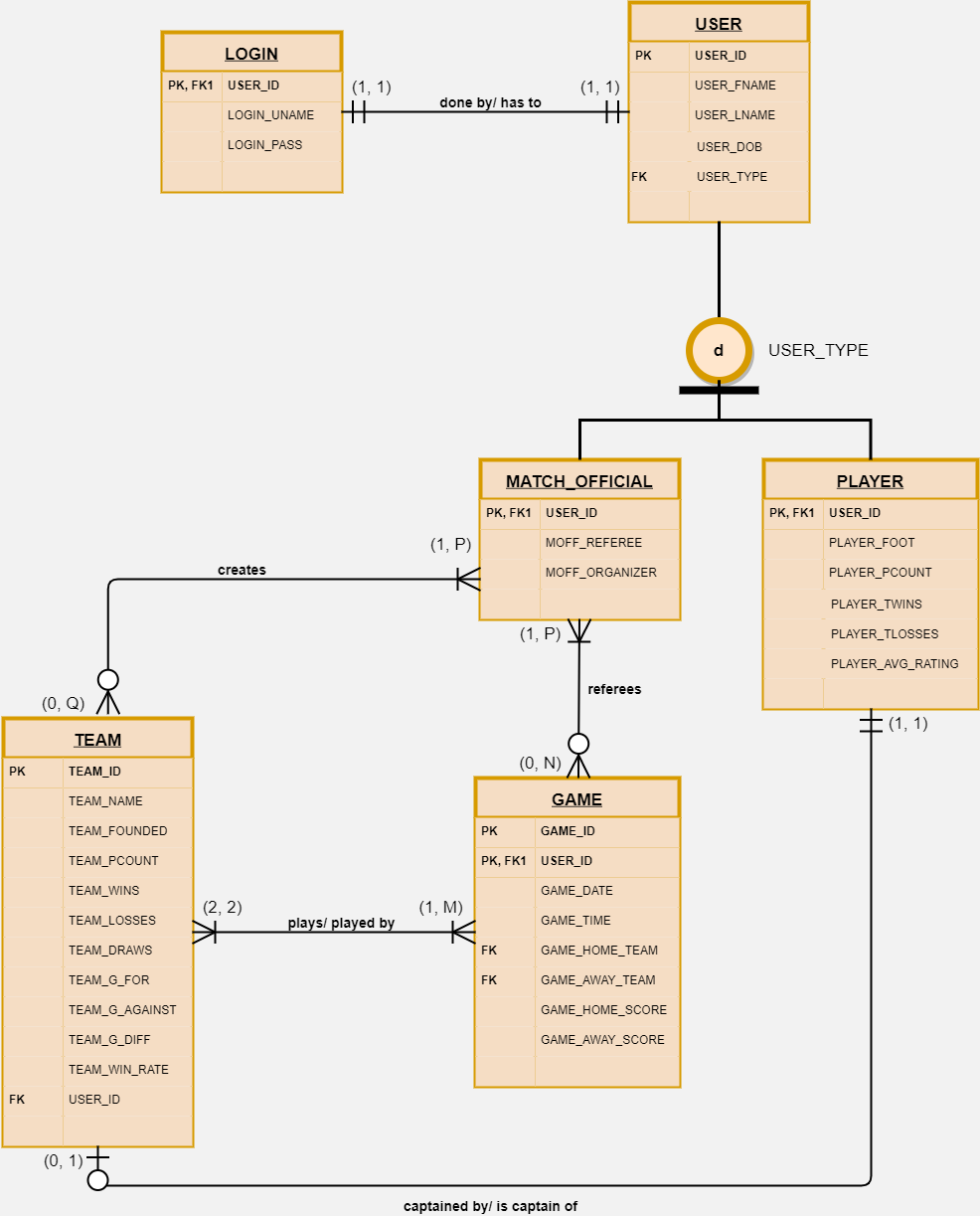
## Business rules

A USER must have LOGIN credentials. The LOGIN credentials include the user’s unique username (USER\_NAME) and is verified by their password (USER\_PASS). All users are uniquely identified by their user ID (USER\_ID).  
A USER is either a SPECTATOR or is further classified as either a PLAYER or MATCH\_OFFICIAL. A USER is further characterized by their first name (USER\_FNAME), surname (USER\_LNAME), their date of birth (USER\_DOB) and their age (USER\_AGE). Their age is continuously calculated using their date of birth to remain up to date.  
A USER has only one set of LOGIN credentials, and a set of LOGIN credentials can be associated with only one user. The relationship between the USER and LOGIN entities is 1:1.

A PLAYER is a specific type of USER who participates in the football matches. They are uniquely identified by their user ID (USER\_ID), and are characterized by their dominant foot they use to play with (PLAYER\_FOOT), the number of games they have played (PLAYER\_GAMES\_PCOUNT), the total number of games they have won (PLAYER\_TWINS), the number of games they have lost (PLAYER\_TLOSSES), and their overall average rating (PLAYER\_AVG\_RATING). All these attributes (excluding their USER\_ID and PLAYER\_FOOT) need to be calculated based on all the games they have played in – found in their PLAYER\_ARCHIVES – to remain current.

A MATCH\_OFFICIAL – specific type of USER – is the only type of USER who may officiate the TEAMs and GAMEs played between teams. They are also uniquely identified by their user ID (USER\_ID). They can either be a referee, match organizer, or both. Only referees (MOF\_REFEREE) may record the results from a match

# Initial ERD



# Recognition of issues

## M:N Relationships

## NULL values

## Multivalued attributes

# Solution and updated ERD

## M:N Relationships

## NULL values

## Multivalued attributes

## Final ERD

# Implementation

## Tables

## Functions

## Procedures

## Views

## Triggers