

# COMP 3005 Final Project Report

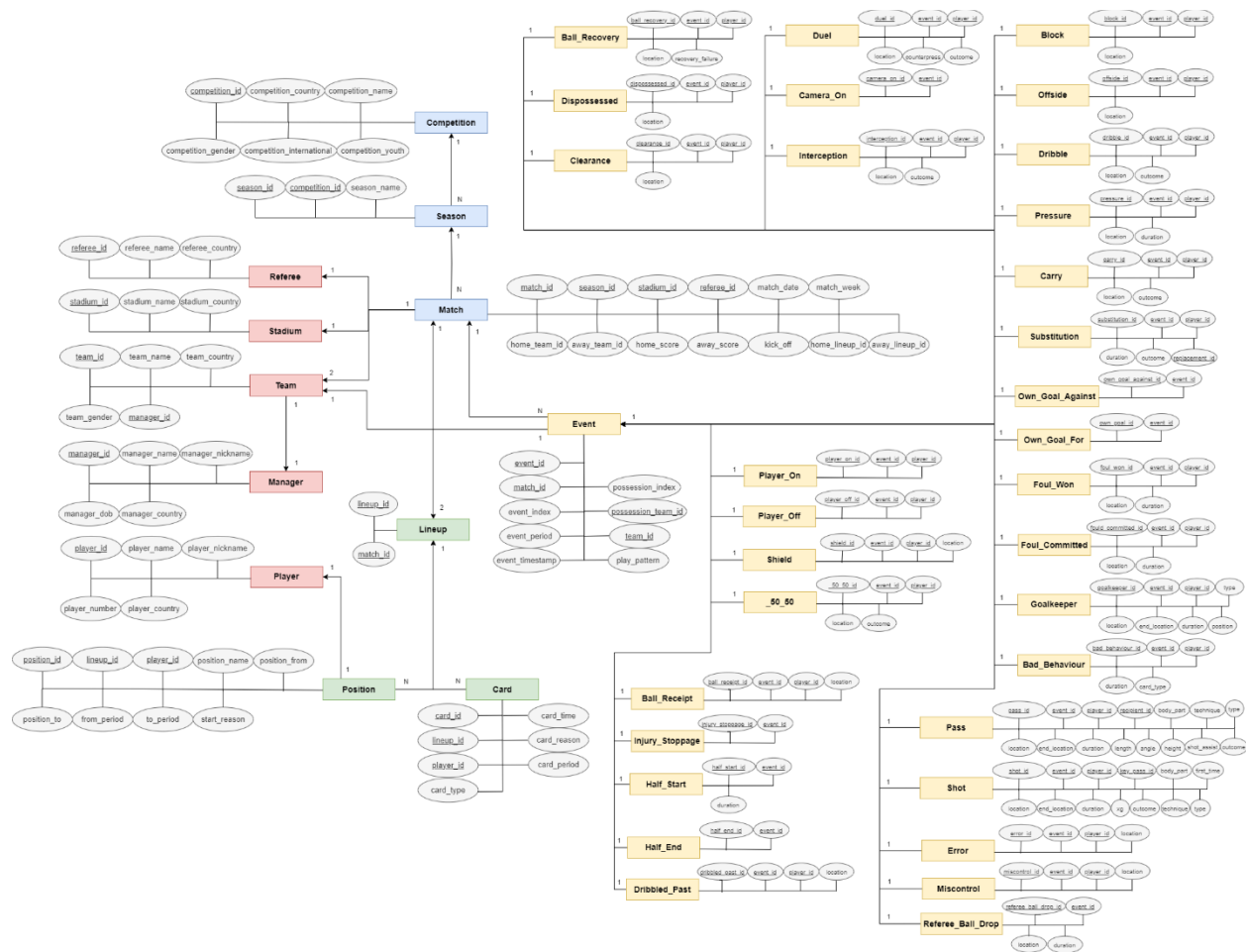
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## 1. Conceptual Design

Conceptually, the goal when designing this database was to reduce the amount of tables needed as much as possible, while maintaining a table organization that made sense, and was easy to trace so that unnecessary joins would not need to be performed during the querying process.

For example, though there is a separate table for each type of event (a necessary sacrifice to properly import the data), each event refers back to the “master” event table, that stores each event of any kind with an “event\_id”, and connects the events to the matches they happened in via the “match\_id”. This relationship can be more easily viewed in our ER Diagram.

Here is the ER Diagram for our database:



Assumptions we made regarding *Cardinality* and *Participation*:

We assume a high level of cardinality for all ids and information relative to their primary tables.

For example, the “referee\_id” column in the referee table has a high level of cardinality as all values are unique. In the case of more general data such a “referee\_country” the cardinality is lower.

The associations between tables and the cardinality of those associations is assumed to be high.

Again, each event id is associated with a table that is associated with a match id, and this data column has a high level of cardinality. Our focus was to increase the number of high cardinality associations, to as high of a degree as possible.

For participation, we assume partial participation on the part of competitions, every other table has some participation in regard to other tables.

Season -> must have at least one competition.

Match -> must have at least: one season, one stadium, and one referee.

Referee-> partial participation in all data.

Stadium -> partial participation in all data

Team -> must have one manager.

Manager -> partial participation in all data

Player -> partial participation in all data

Lineup -> must have at least one match

Card -> must have at least one lineup, one player

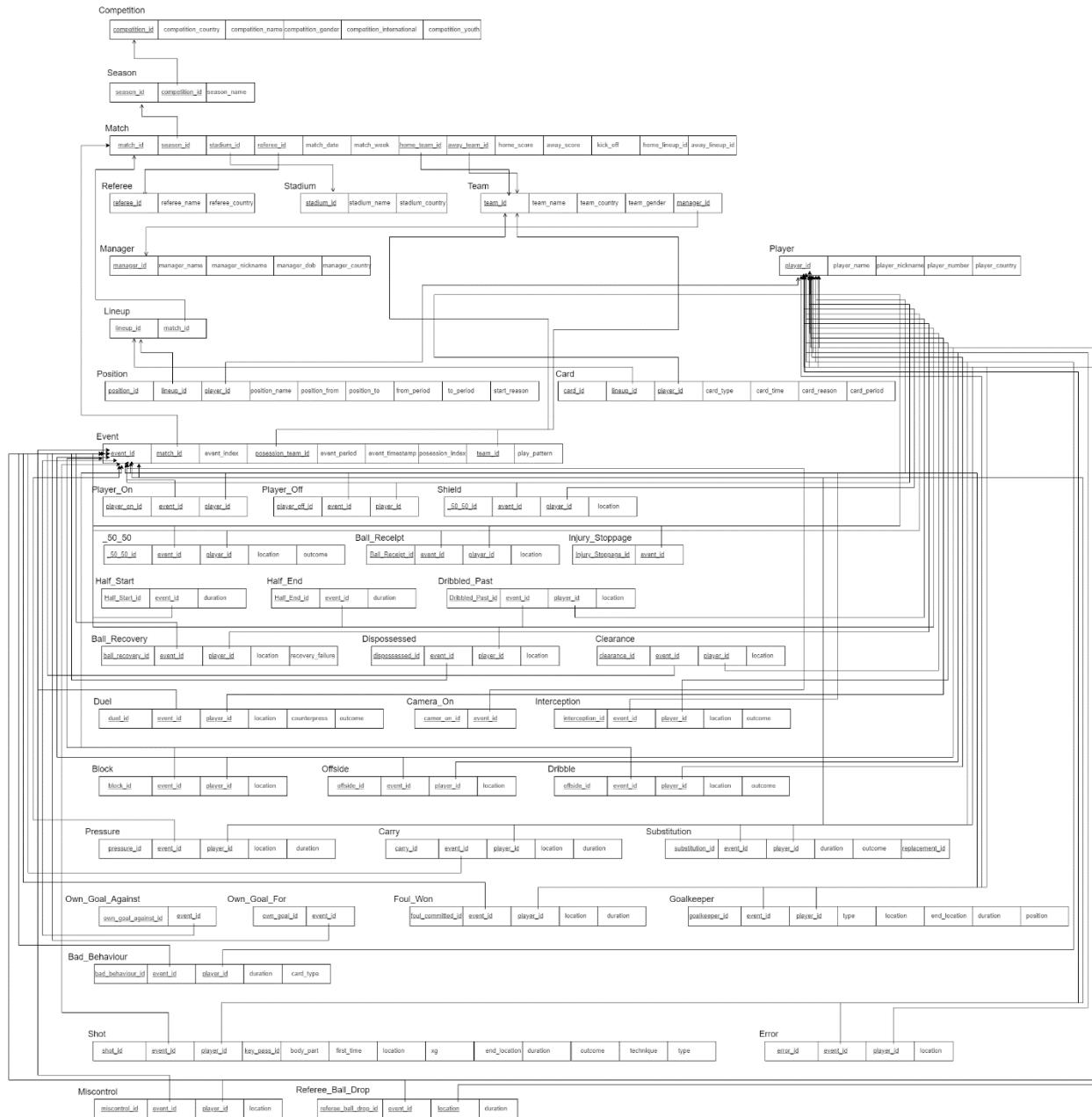
Position -> must have at least one player.

Event -> must have at least one match, one team

All other event types -> must have at least one player, and one event id.

## 2. Reduction to Relation Schemas

Relation Schemas of our Database:



### 3. Database Schema Diagram

Below is the schema diagram for our Database:

