**ORJIEH PATRICK SD1C DATABASE PROJECT VERSION 2 – FINAL REPORT**

**Stage#1 documentation and an outline of any changes made for the final version**

**Diagram, schematic

Description automatically generated**

The Entity relationship for the Irish football division version can be shown above, the database was used to store teams in the Irish premier football division, their respective players, alongside matches they participate in recording the stats that occurred during game play and had an entity stadium storing team’s stadia and its capacity.

This entity relationship had a lot of technical changes to be made which I did in respect to feedback from Mr. Enda Finn and collective reasoning;

* The database was renamed from the ‘Irish Premier Division’ to ‘Irish Football Division’ to accommodate other leagues and competitions.
* The Stadium entity/table was taken out and used as an attribute in the team’s table.
* A competition entity/table was brought into the database to hold the list of competitions that all teams can participate.
* Match highlight table was replaced with the ‘match\_summary’ to hold the significant events particular teams
* Goals table was rather considered as the ‘events table’ which holds any event type that occurs to a player in a match
* ‘match’ table was changed to the ‘fixtures’ that does the same function but now stores the home and away team as foreign keys and the competition type is linked.

**Final ER Diagram**

Diagram, schematic

Description automatically generated

**FINAL SCENARIO**

Database – Irish Football Division

This Database was created to help do data management of all competitions in all Irish football divisions and competitions, the system stores all teams associated in FAI (Football Association of Ireland) and players in the teams. All mixtures allocated in a particular season, keeping track of the overall match summary and different match events by individual players also acknowledging the time the event occurred.

**Entities and Associated Descriptions**

* team\_table: this table holds the information pertaining to registered teams in the FAI and the attributes attached to them: id, name, manager, stadium\_name, capacity, city and for this table the team\_id is used as the primary key.
* players: this table addresses the details of the players in respect to their registered team. This entity defines the attributes of each player: id, team\_id, name, jersey\_no, position and date of birth. In this table the primary key is the player\_id.
* competition: this table holds the carious competition id and competition names, and the primary key is the comp\_id.
* fixtures: this holds the details about the match fixtures for the matches to be played: match\_id, competition id, home and away team, the fixture date. The primary key in the table is the match\_id, while the foreign keys are the home/away team and competition id.
* match\_summary: this holds the individual details which shows the full time of the match for a particular team. The following are stored in it: match\_id, team\_id, stats (loss, win, draw), the total amount of cards given, and the goals scored, and goals conceded. The primary keys are the: match\_id, team\_id, and the foreign keys are the match\_id and foreign key.
* event: each highlight in respect to a game gets updated as they occur included the player it happened, the particular match, the time the event occurred and the event type (penalty, yellow card, red card).

The relationship between the entities: Teams are registered in the database, one team can have many players and a player can only be subjected to a team **(one to many between team\_table and players)**, one competition comprises of many matches but one match can only be subjected to a competition with the teams **(one to many relationship between competition and fixtures)** and the teams can have many fixtures depending on the competition **(one to many relationship between team and fixtures)** which gives the first **(many to many relationship between competition and team)**. With the structure and relationship, one team can have many match\_summary and one match\_id can have many matches summary in respect to the match\_id and team\_id which gives the **(many to many relationship between fixtures and team)**, each player can have multiple events in a particular match at different time **(many to many relationship between players and fixtures)**.

Assign appropriate data types, field sizes and possible constraints

|  |  |  |
| --- | --- | --- |
|  | **team\_table** |  |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| team\_id | varchar(10) | NOT NULL, PK |
| team\_name | varchar(30) |  |
| manager | varchar(30) |  |
| stadium\_name | varchar(40) |  |
| capacity | INT |  |
| city | varchar(20) |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  | **players** |  |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| player\_id | varchar(10) | NOT NULL, PK |
| team\_id | varchar(10) | NOT NULL, FK |
| player\_name | varchar(30) |  |
| jersey\_no | INT |  |
| position | varchar(20) |  |
| dob | DATE |  |

|  |  |  |
| --- | --- | --- |
|  | **event** |  |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| player\_id | varchar(10) | NOT NULL, PK FK |
| match\_id | varchar(7) | NOT NULL, PK FK |
| event\_time | time | NOT NULL, PK |
| event\_type | varchar(5) |  |
| event\_desc | varchar(20) |  |

For the event table the possible event types are – ‘Y’ – Yellow card, ‘R’- Red Card, ‘SO’ – Substitution Out, ‘SI’ – Substitution In, ‘NG’ – Normal Goal, ‘PG’ – Penalty Goal, ‘PM’ – Penalty Miss. Event time was changed to int so it take the football time into consideration, using the normal field type time wont accept 60 mins and above because it is greater the 60 mins = 1 hour so I used int to represent event time

|  |  |  |
| --- | --- | --- |
|  | **competition** |  |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| comp\_id | varchar(5) | NOT NULL, PK |
| comp\_name | varchar(20) |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  | **fixtures** |  |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| match\_id | varchar(7) | NOT NULL, PK |
| comp\_id | varchar(5) | NOT NULL, FK |
| home\_team | varchar(10) | NOT NULL, FK |
| away\_team | varchar(10) | NOT NULL, FK |
| match\_desc | varchar(30) |  |
| fixture\_date | date |  |

How I got the primary key used in this table, MD001, - MatchDay 001 and the alphabets in place just represents the games in how they are played on the same day, so if two teams play on the same day it will be MD001A and MD001B

|  |  |  |
| --- | --- | --- |
|  | **match\_summary** | |
| **FIELD NAME** | **DATA TYPE** | **CONSTRAINTS** |
| match\_id | varchar(7) | NOT NULL, PK FK |
| team\_id | varchar(10) | NOT NULL, PK FK |
| stats | varchar(10) |  |
| card | INT |  |
| goal\_for | INT |  |
| goal\_against | INT |  |

**POPULATE TABLE**

Data gotten from Wikipedia, SofaScore and some forged by me.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **team\_table** |  |  |
| **team\_id** | **team\_name** | **manager** | **stadium\_name** | **capacity** | **city** |
| DeC | Derry City | Ruaidhri Higgins | The Ryan McBride Brandywell Stadium | 3700 | Derry |
| ShR | Shamrock Rovers | Stephen Bradley | Tallaght Stadium | 8142 | Tallaght |
| StP | St.Patrick's | Tim Clancy | Richmond Park | 5340 | Inchicore |
| SlR | Sligo Rovers | Liam Buckley | The Showgrounds | 3873 | Sligo |
| DuFC | Dundalk FC | Stephen O'Donnell | Oriel Park | 4500 | Dundalk |
| BoB | Bohemian | Keith Long | Dalymount Park | 3640 | Phibsborough |
| ShS | Shelbourne | Damien Duff | Tolka Park | 3600 | Drumcondra |
| DrU | Drogheda Utd | Kevin Doherty | United Park | 2000 | Drogheda |
| FiH | Finn Harps | Ollie Horgan | Finn Park | 4600 | Ballybofey |
| UCD | UC Dublin | Andrew Myler | UCD Bowl | 3000 | Belfield |

|  |  |
| --- | --- |
|  | **competition** |
| **comp\_id** | **comp\_name** |
| IPD | Premier Division |
| UCL | Champions League |
| UEL | Europa League |
| FRE | Friendly |
| IPC | President's Cup |
| ILC | League Cup |
| IFD | First Division |



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **fixtures** |  |  |
| **match\_id** | **comp\_id** | **home\_team** | **away\_team** | **match\_desc** | **fixture\_date** |
| MD001A | IPD | FiH | SlR | Finn Harps vs Sligo Rovers | 2022-04-18 |
| MD001B | IFD | ShR | DuFC | Shamrock Rovers vs Dundalk FC | 2022-04-18 |
| MD001C | FRE | DrU | DeC | Drogheda Utd vs Derry City | 2022-04-18 |
| MD002A | ILC | DeC | UCD | Derry City vs UC Dublin | 2022-04-22 |
| MD002B | UCL | StP | FiH | St.Patrick's vs Finn Harps | 2022-04-22 |
| MD002C | IPD | DuFC | ShS | Dundalk FC vs Shelbourne | 2022-04-22 |
| MD002D | ILC | BoB | ShR | Bohemian vs Shamrock Rovers | 2022-04-22 |
| MD003A | FRE | SlR | DrU | Sligo Rovers vs Drogheda Utd | 2022-04-23 |
| MD004A | UEL | BoB | UCD | Bohemian vs UC Dublin | 2022-04-29 |
| MD004B | IPD | StP | DeC | St.Patrick's vs Derry City | 2022-04-29 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **match\_summary** | |  |
| **match\_id** | **team\_id** | **stats** | **card** | **goal\_for** | **goal\_against** |
| MD001A | FiH | loss | 2 | 0 | 1 |
| MD001A | SlR | win | 1 | 1 | 0 |
| MD001B | ShR | win | 0 | 1 | 0 |
| MD001B | DuFC | loss | 4 | 0 | 1 |
| MD001C | DrU | draw | 0 | 1 | 1 |
| MD001C | DeC | draw | 2 | 1 | 1 |
| MD002A | DeC | win | 1 | 7 | 1 |
| MD002A | UCD | loss | 2 | 1 | 7 |
| MD002B | StP | win | 1 | 2 | 0 |
| MD002B | FiH | loss | 1 | 0 | 2 |
| MD002C | DuFC | win | 5 | 2 | 1 |
| MD002C | ShS | loss | 5 | 1 | 2 |
| MD002D | BoB | loss | 2 | 1 | 3 |
| MD002D | ShR | win | 3 | 3 | 1 |
| MD003A | SlR | win | 0 | 3 | 2 |
| MD003A | DrU | loss | 6 | 2 | 3 |
| MD004A | BoB | win | 1 | 3 | 0 |
| MD004A | UCD | loss | 3 | 0 | 3 |
| MD004B | StP | loss | 2 | 0 | 4 |
| MD004B | DeC | win | 0 | 4 | 0 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | event |  |
| **player\_id** | **match\_id** | **event\_time** | **event\_type** | **event\_desc** |
| FiH27 | MD001A | 27 | Y | Yellow Card |
| FiH21 | MD001A | 27 | Y | Yellow Card |
| SlR10 | MD001A | 78 | Y | Yellow Card |
| SlR22 | MD001A | 25 | NG | Normal Goal |
| ShR14 | MD001B | 66 | NG | Normal Goal |
| DuFC5 | MD001B | 90 | Y | Yellow Card |
| DuFC3 | MD001B | 70 | Y | Yellow Card |
| DrU45 | MD001C | 60 | SI | Substitution In |
| DuFC3 | MD001B | 86 | R | Red Card |
| DrU17 | MD001C | 60 | SO | Substitution Out |
| DeC19 | MD001C | 68 | SO | Substitution Out |
| DeC17 | MD001C | 68 | SI | Substitution In |
| SlR35 | MD003A | 36 | PM | Penalty Miss |