Relational Databases CA2

By Jack Duggan | 20094010@mail.wit.ie

# Changes Since CA1 Submission

I corrected the issues highlighted in the feedback from my CA1 document.  
The issues highlighted were:

1. Wage and Employee relationship looks to be drawn the wrong way
2. Consider relationships between Coach/Training and Player/Training with use of intersection entity.

To fix these issues I reversed the direction of the Wage/Employee relationship and added two new intersection entities between Coach/Training and Player/Training called Player Attendance and Coach Attendance. I drew it so that many players/coaches may be present in the training attendance, and all those present at attendance must attend the training session.

The updated ERD:

Diagram

Description automatically generated

I also added additional procedural rules:

If no coaches are present for attendance, training will not go ahead.  
If no players are present for attendance, training will not go ahead.

# My Tables

members(membership\_id, member\_name, member\_dob, member\_address, member\_contact\_num, member\_email, tickets\_purchased)

tickets(ticket\_number, ticket\_date, ticket\_opposition, ticket\_location, ticket\_block, ticket\_row, ticket\_seat\_number)

matches(match\_opposition, match\_date, match\_stadium, match\_location, match\_tickets\_sold)

training\_sessions(training\_type, training\_date, training\_intensity, training\_location, training\_is\_indoor)

employees(employee\_id, employee\_name, employee\_dob, employee\_address, employee\_contact\_num, employee\_email)

players(employee\_id, player\_shirt\_number)

medical\_staff(employee\_id, medical\_specialism)

coaches(employee\_id, coaching\_badge)

other\_staff(employee\_id, employee\_role)

wages(employee\_id, wage\_amount, wage\_frequency\_paid, wage\_bonuses, is\_salary)

squads(match\_opposition, match\_date, squad\_no\_of\_players, squad\_captain)

training\_attendances(player\_attendance)

coach\_attendances(coach\_attendance)

# Table Mapping

members

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| id | int | 8 | Not Null |  | PK |
| name | char | 20 | Not Null |  |  |
| dob | date |  | Not Null |  |  |
| address | char | 50 | Not Null |  |  |
| contact num. | char | 10 | Not Null |  |  |
| email | char | 20 | Not Null |  |  |
| tickets purchased | int | 3 |  | 0 |  |

tickets

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| id | int | 10 | Not Null |  | PK |
| date | date |  | Not Null |  |  |
| opposition | char | 20 | Not Null |  |  |
| location | char | 20 | Not Null |  |  |
| block | char | 2 | Not Null |  |  |
| row | char | 1 | Not Null |  |  |
| seat number | int | 2 | Not Null |  |  |

matches

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| opposition | int | 20 | Not Null |  | PK |
| date | date |  | Not Null |  | PK |
| stadium | char | 20 | Not Null |  |  |
| location | char | 20 | Not Null |  |  |
| tickets sold | Int | 5 | Not Null | 0 |  |

training sessions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| type | char | 10 | Not Null |  | PK |
| date | date |  | Not Null |  | PK |
| intensity | char | 1 | Not Null |  |  |
| location | char | 20 | Not Null | AXA Training Centre |  |
| is indoor | char | 1 | Not Null | N |  |

employees

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| id | int | 8 | Not Null |  | PK |
| name | char | 20 | Not Null |  |  |
| dob | date |  | Not Null |  |  |
| address | char | 50 | Not Null |  |  |
| contact number | char | 10 | Not Null |  |  |
| email | char | 30 | Not Null |  |  |

wages

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| id | int | 8 | Not Null |  | PK |
| amount | int | 5 | Not Null |  |  |
| frequency paid | char | 1 | Not Null | W |  |
| bonuses | int | 5 | Not Null | 0 |  |
| is salary | char | 1 | Not Null | N |  |

squads

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| opposition | char | 20 | Not Null |  |  |
| date | date |  | Not Null |  |  |
| no of players | int | 2 | Not Null |  |  |
| captain | char | 20 | Not Null |  |  |

training attendances

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| attendance | int | 2 | Not Null |  |  |

coach attendances

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Type** | **Size** | **Null/Not Null** | **Default** | **Constraints** |
| attendance | int | 2 | Not Null |  |  |

# SQL Statements

I included all **create table** statements at the top of the sql file.  
All **insert** statements are found underneath, and all **select** statements are found at the bottom.

For each query I’ll state who in the organization would use the query and for what purpose.

* The head coach may want to view the training attendances for both the players and coaches and decide if training can go ahead or what type of training will be done that day.

Graphical user interface, text, application

Description automatically generated

* As mentioned in my procedural rules in the CA1 document, a member who has many tickets purchased previously will have a better chance of acquiring a ticket than a newer member with less previous tickets. When the ballot comes around, the ticket office may use a query to look at how many tickets members have previously purchased.

Graphical user interface, application

Description automatically generated

As you can see, the above select statement only returns members who have previously purchased more than 10 tickets. In this case, James Murphy had purchased 23 whereas Jack Duggan had only purchased 5.

A picture containing diagram

Description automatically generated

* The club’s may want to look at available shirt numbers for their new signing.

Graphical user interface, application

Description automatically generated

* The club may wish to take a look at the number of tickets sold for particular matches and perhaps, depending on the amount, alter the price and/or availability of the tickets

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

* A supporter rings up the club helpdesk because he doesn’t have his seat number. He does, however have his ticket number from an email he received. The helpdesk can assist him by using his ticket number to find his seat number.

Graphical user interface, text, application

Description automatically generated