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DB2 Design Assignment

## **Project Objectives**

### **System Requirements**

The primary goal of this system is to accurately record information related to sports teams competing in a competition. The end-user of this database needs to input which teams are paired to play each match, the date, time, and location of each match, and the two referees assigned to officiate the match. Before each game, players from both teams are selected to be included in a game, either as a player or a reserve. Each player on the field has a jersey number for the position they are playing; each time they score, an entry is to be added to the database for the points score, the players jersey number, time of the score and the match. The database will calculate the final score for the match, and for the competition.

During a match, if a player is injured their position can be refilled with a player from the teams reserves. This change needs to be tracked in the database so that any point scored by the reserve player are accurately tracked back to them and not the player they have replaced on the field. Additionally, injuries to a player must be entered into the database; this record needs to include details of the player, the team, the match time and location and the injury code(s) associated with the injury. Injury codes are provided by ACC.

### **Included in the Database Scope**

historical data required by acc.

### **Excluded from the Database Scope**

## **Data Dictionary**

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| person |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | id | integer | An ID unique to each person |
|  | first\_name | varchar | The persons first name |
|  | last\_name | varchar | The persons last name |
|  | dob | date | The persons date of birth |
| FK | address\_id | integer | An ID which refers to the persons address information |
| FK | contact\_id | integer | An ID which refers to the persons contact information |
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| person\_role |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK, FK1 | person\_id | integer | An ID that references a person |
| PK, FK2 | role\_id | integer | An ID that references a role |
|  | start\_date | date | The date which the person started the role |
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| role\_category |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | role\_id | integer | An ID unique to each role |
|  | role\_category | varchar | The name of the category |
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| address |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | id | integer | An ID unique to each address |
|  | address1 | varchar | First line of the address |
|  | address2 | varchar | Second line of the address |
|  | city | varchar | City which the address is located in |
|  | postcode | integer | The post code of the area |
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| contact |  | | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** | **Attributes** |
| PK | contact\_id | integer | An ID unique to each set of contact information |  |
| UN | email | varchar | A persons contact email | Unique |
| UN | mobile | varchar | A persons contact mobile | Unique |
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| player |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | player\_id | integer | An ID unique to each player |
| PK, FK | person\_id | integer | An ID which refers to a person |
|  | injured | integer(1) | boolean; Refers to if the player is injured |
|  | available | integer(1) | boolean; Refers to if the player is available to play |
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| Referee |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | referee\_id | integer | An ID unique to each match official |
| PK, FK | person\_id | integer | An ID which references a person |
|  | total\_games | integer | The total ammount of games the official has been part of |
|  | injured | integer(1) | boolean; Refers to if the referee is injured |
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| team |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | team\_id | integer | An ID unique to each team |
|  | team\_name | varchar | The name of the team |
|  | founded | date | When the team was founded |
| FK | address\_id | integer | An ID which refers to the teams address |
| FK | contact\_id | integer | An ID which refers to the teams contact information |
| FK | grade\_id | integer | An ID which refers to the teams grade |
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| team\_entry |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | entry\_id | integer | An ID unique to each entry |
| PK, FK1 | team\_id | integer | An ID which refers to the team entering |
| PK, FK2 | competition\_id | integer | An ID which refers to the compeition the team is entering |
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| player\_team |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK, FK1 | position\_id | integer | An ID which references a position |
| PK, FK2 | player\_id | integer | An ID which references a player |
| PK, FK3 | team\_player | integer | An ID which references which team the player plays for |
|  | join\_date | date | The date the player joined the team |
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| referee\_selection |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK, FK1 | match\_id | integer | An ID which refers to a match |
| PK, FK2 | referee\_id | integer | An ID which refers to a referee |
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| position |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | position\_id | integer | An ID unique to each position |
|  | jersey\_number | varchar(2) | The number on the players jersey |
|  | position | varchar | The name of the position |
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| grade |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | grade\_id | integer | An ID unique to each grade |
|  | title | varchar | The name/title of the grade |
|  | min\_dob | date | The minimum year of birth of a player |
|  | max\_dob | date | The maximum year of birth of a player |
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| competition |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | competition\_id | integer | An ID unique to each competition |
|  | title | varchar | The name/title of the competition |
|  | prize | varchar | The prize(s) for the competition winner(s) |
|  | season | year |  |
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| squad |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK, FK1 | squad\_team\_entry\_id | integer | An ID which refers to a teams squad entry |
| PK, FK2 | squad\_match\_id | integer | An ID which refers to the match a squad will be playing |
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| point |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK, FK1 | player\_id | integer | An ID which refers to a player |
| PK, FK2 | match\_id | integer | An ID which refers to a match |
|  | point | integer | A point scored by a player |
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| match |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | match\_id | integer | An ID unique to each match |
| PK, FK1 | event\_id | integer | An ID which refers to an event |
| PK, FK2 | comp\_id | integer | An ID which refers to a competition |
|  | score | integer | The final score of the match |
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| field |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | field\_id | integer | An ID unique to each field |
| PK, FK1 | factility\_id | integer | An ID which refers to the facility the field is located at |
|  | turf\_type | enum | What material the ground is made of |
|  | suitable\_for | enum | Which sports the field is suitable for |
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| event\_booking |  | | |
| **Field Key** | **Field Name** | **Data Type** | **Description** |
| PK | booking\_id | integer | An ID unique to each booking |
| PK, FK1 | facility\_id | integer | An ID which references the facility |
| PK, FK2 | field\_id | integer | An ID which references the field |
|  | date\_booked | datetime | The date of the event booking |
|  | booking\_fee | double | The fee for the booking |
|  | payment\_due | date | When the payment is due for the booking |
|  |  |  |  |