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DB2 Design Assignment

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Project Objectives

Summary of 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.

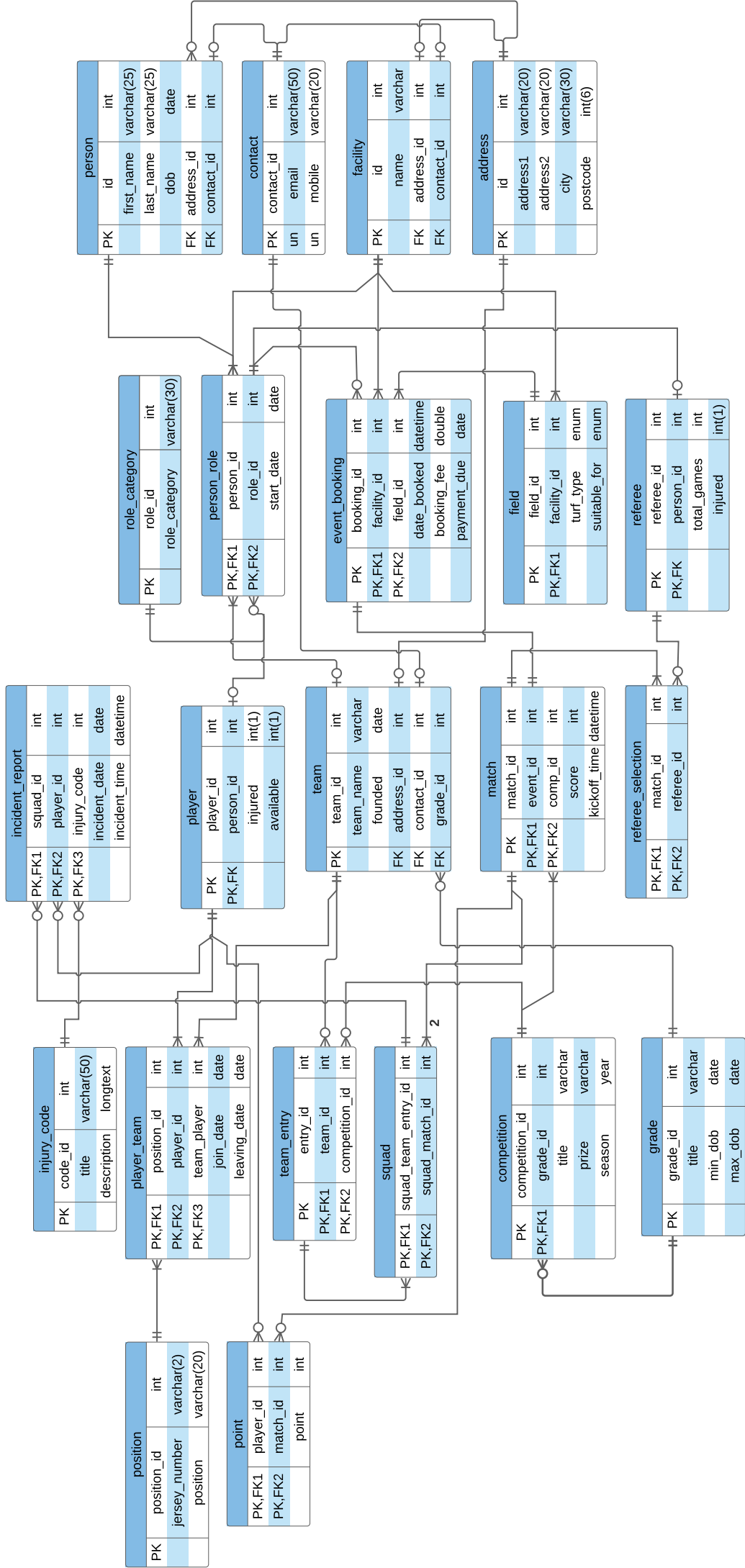
Before each game, players from both teams are selected to be included in a game, either as a player or a reserve. Each player on the field has a jersey number for the position they are playing; each time they score, an entry is to be added to the database for the points scored, the player jersey number, time of the score and the match.

During a match, if a player is injured their position can be refilled with a player from the squad's reserve player pool. This change needs to be tracked in the database so that any point scored by the reserve player are attributed to them and not the player they have replaced.

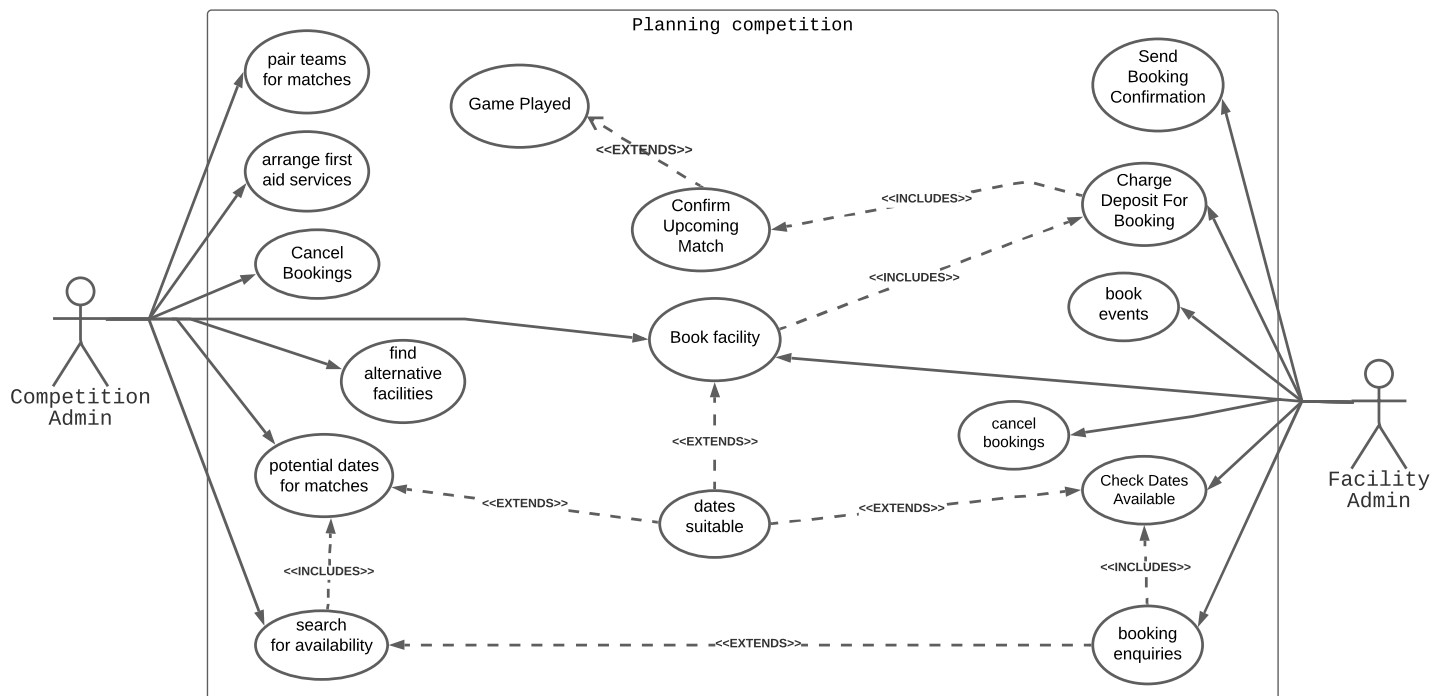
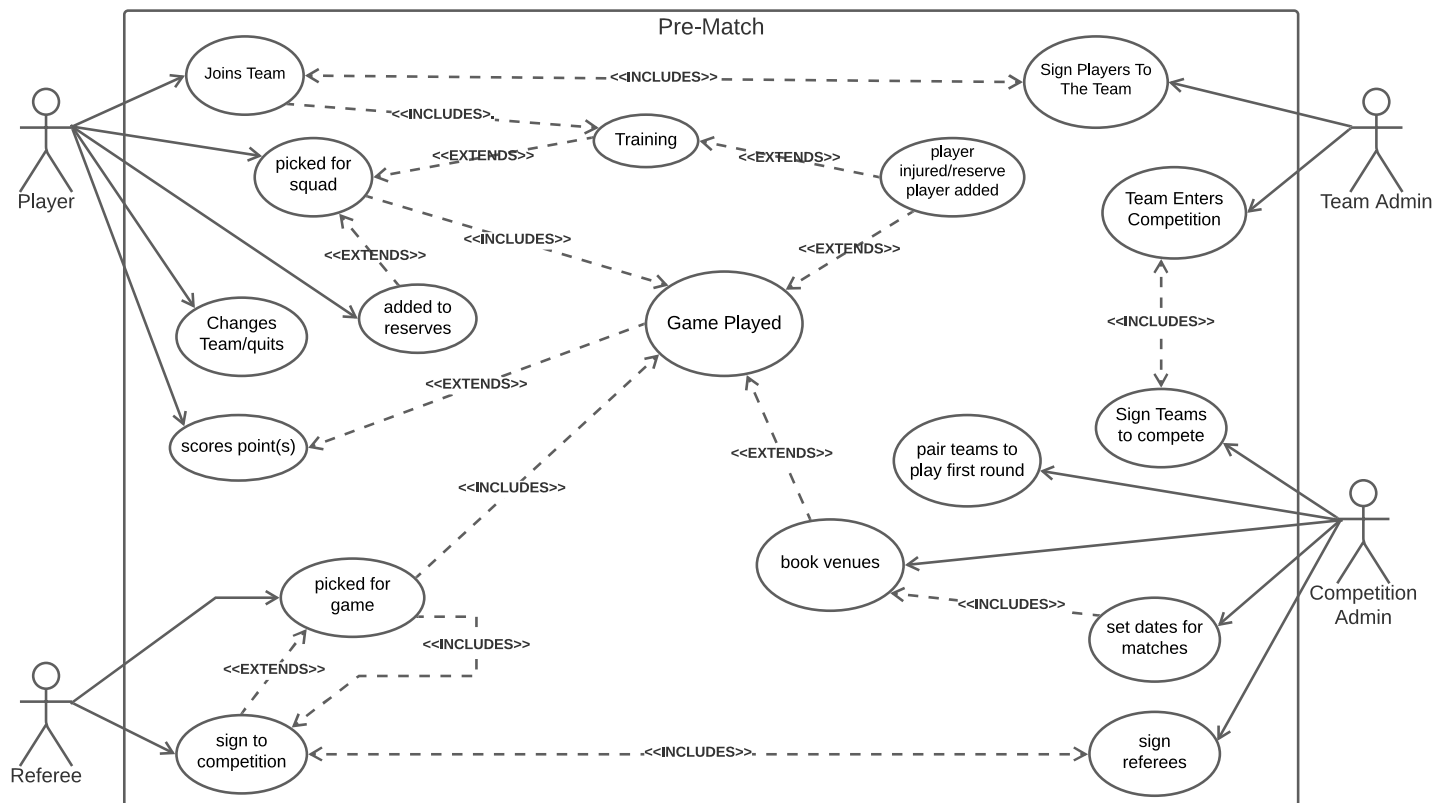
Player or referee injuries must be entered into the database with the injury time, date, match time and location. A competition administrator will update the incident report with appropriate injury code(s) associated with the injury. Injury codes are provided by ACC.

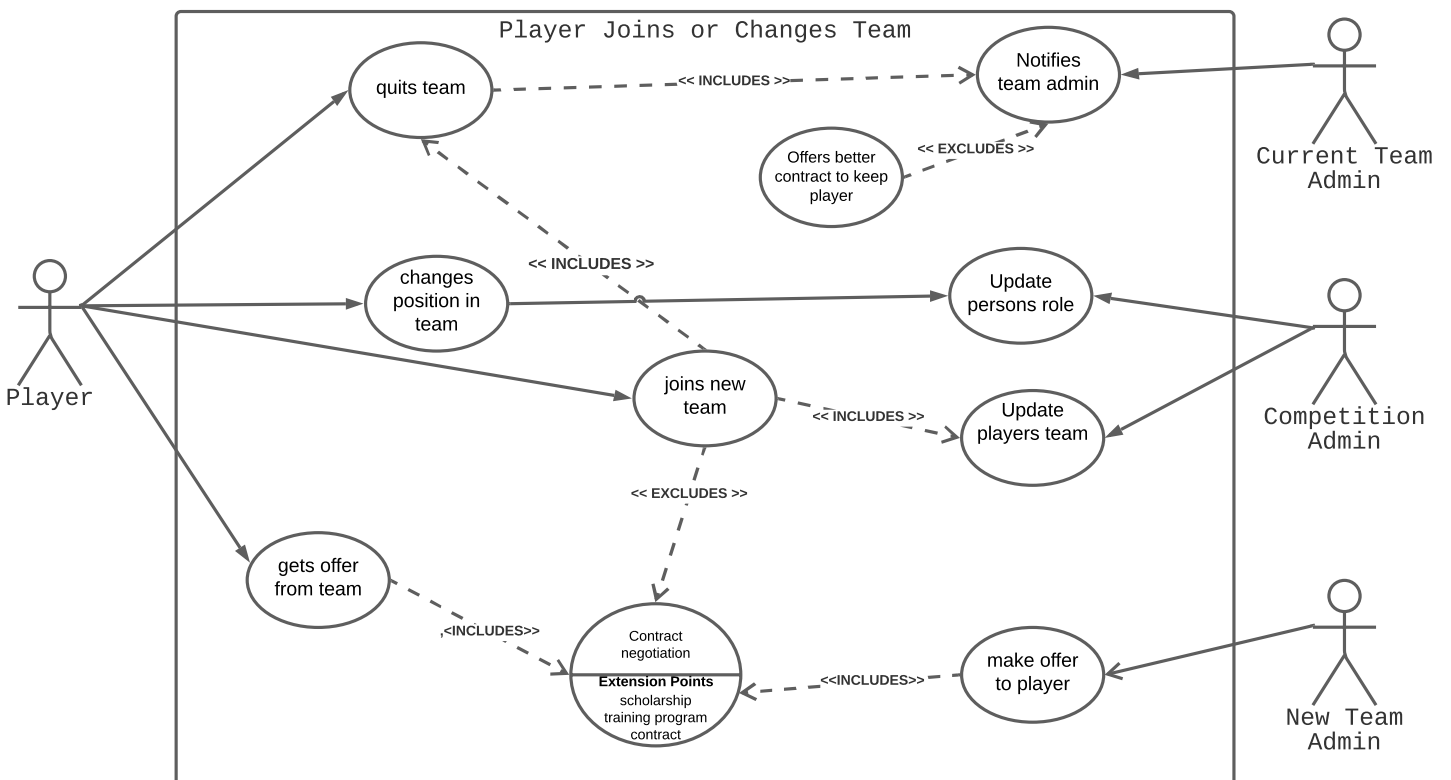
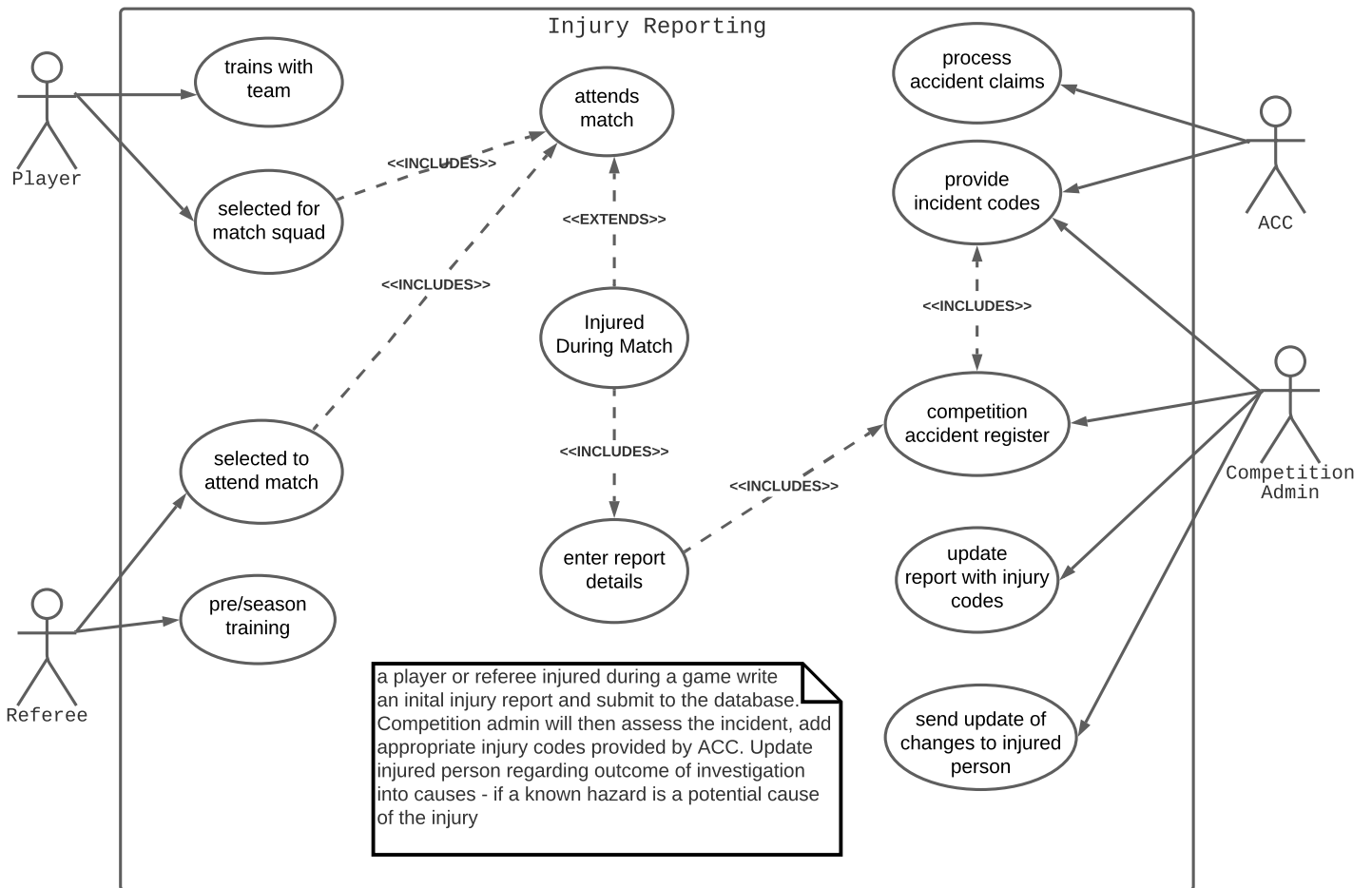
Database Scope

- Recording data for multiple seasons was not a requirement, however, we decided to include a 'year' attribute in the competition table to enable each season of competition to be tracked separately.
- Most sports welcome competitors of all ages, who compete at an age-based level; to allow for this, a 'grade' table been included to allow a competition to run for multiple age groups during each season/year.
- The 'competition admin' role is assumed to have the ability to add injury codes to incident reports, after it is initiated by an injured player or referee.
- Players joining a team or transferring to a new team potentially has contractual issues between player and teams, which are relevant to the competition. The date a player joins and leaves a team is to be entered to the database.



Use Cases





Data Dictionary

person			
Field Key	Field Name	Data Type	Description
<u>PK</u>	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
<u>FK</u>	address_id	integer	An ID which refers to the persons address information
<u>FK</u>	contact_id	integer	An ID which refers to the persons contact information

person_role			
Field Key	Field Name	Data Type	Description
<u>PK, FK1</u> <u>PK, FK2</u>	person_id	integer	An ID that references a person
	role_id	integer	An ID that references a role
	start_date	date	The date which the person started the role

role_category			
Field Key	Field Name	Data Type	Description
<u>PK</u>	role_id	integer	An ID unique to each role
	role_category	varchar	The name of the category

address			
Field Key	Field Name	Data Type	Description
<u>PK</u>	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

contact				
Field Key	Field Name	Data Type	Description	Attributes
<u>PK</u>	contact_id	integer	An ID unique to each set of contact information	Unique Unique
UN	email	varchar	A persons contact email	
UN	mobile	varchar	A persons contact mobile	

player			
Field Key	Field Name	Data Type	Description
<u>PK</u>	player_id	integer	An ID unique to each player
<u>PK, FK</u>	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

Referee			
Field Key	Field Name	Data Type	Description
<u>PK</u>	referee_id	integer	An ID unique to each match official
<u>PK, FK</u>	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

team			
Field Key	Field Name	Data Type	Description
<u>PK</u>	team_id	integer	An ID unique to each team
	team_name	varchar	The name of the team
	founded	date	When the team was founded
<u>FK</u>	address_id	integer	An ID which refers to the teams address
<u>FK</u>	contact_id	integer	An ID which refers to the teams contact information
<u>FK</u>	grade_id	integer	An ID which refers to the teams grade

team_entry			
Field Key	Field Name	Data Type	Description
<u>PK</u>	entry_id	integer	An ID unique to each entry
<u>PK, FK1</u>	team_id	integer	An ID which refers to the team entering
<u>PK, FK2</u>	competition_id	integer	An ID which refers to the compeition the team is entering

player_team			
Field Key	Field Name	Data Type	Description
<u>PK, FK1</u>	position_id	integer	An ID which references a position
<u>PK, FK2</u>	player_id	integer	An ID which references a player
<u>PK, FK3</u>	team_player	integer	An ID which references which team the player plays for
	join_date	date	The date the player joined the team
	leaving_date	date	The date the player leaves the team

referee_selection			
Field Key	Field Name	Data Type	Description
<u>PK, FK1</u>	match_id	integer	An ID which refers to a match
<u>PK, FK2</u>	referee_id	integer	An ID which refers to a referee

position			
Field Key	Field Name	Data Type	Description
<u>PK</u>	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

grade			
Field Key	Field Name	Data Type	Description
<u>PK</u>	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

competition			
Field Key	Field Name	Data Type	Description
<u>PK</u> <u>PK,FK1</u>	competition_id grade_id title prize season	integer Integer varchar varchar year	An ID unique to each competition The name/title of the competition The prize(s) for the competition winner(s)

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

point			
Field Key	Field Name	Data Type	Description
<u>PK, FK1</u> <u>PK, FK2</u>	player_id match_id point	integer integer integer	An ID which refers to a player An ID which refers to a match A point scored by a player

match			
Field Key	Field Name	Data Type	Description
<u>PK</u> <u>PK, FK1</u> <u>PK, FK2</u>	match_id event_id comp_id score kickoff_time	integer integer integer integer datetime	An ID unique to each match An ID which refers to an event An ID which refers to a competition The final score of the match start time of the match

field			
Field Key	Field Name	Data Type	Description
<u>PK</u> <u>PK, FK1</u>	field_id facility_id turf_type suitable_for	integer integer enum enum	An ID unique to each field An ID which refers to the facility the field is located at What material the ground is made of Which sports the field is suitable for

event_booking			
Field Key	Field Name	Data Type	Description
<u>PK</u> <u>PK, FK1</u> <u>PK, FK2</u>	booking_id facility_id field_id date_booked booking_fee payment_due	integer integer integer datetime double date	An ID unique to each booking An ID which references the facility An ID which references the field The date of the event booking The fee for the booking When the payment is due for the booking

facility			
Field Key	Field Name	Data Type	Description
<u>PK</u> <u>FK</u> <u>FK</u>	id name address_id contact_id	integer varchar integer integer	An ID unique to each facility The name of the facility An ID which refers the facilities address An ID which refers the facilities contact information

incident_report			
Field Key	Field Name	Data Type	Description
<u>PK, FK1</u>	squad_id	integer	An ID which refers to the players squad
<u>PK, FK2</u>	player_id	integer	An ID which refers to the player
<u>PK, FK3</u>	injury_code	integer	An ID which refers to the acc injury code
	incident_date	date	The date of the incident
	incident_time	datetime	The time of the incident

injury_code			
Field Key	Field Name	Data Type	Description
<u>PK</u>	code_id	integer	An ID unique to each injury code
	title	varchar	The name/title of the injury
	description	longtext	A description of the injury