
DATABASE SYSTEMS



Footy LMS

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(BSCS 5-B)

INTRODUCTION

Footy LMS, Footy League Management System, consists of a database that stores the information that is generated in a usual football league.

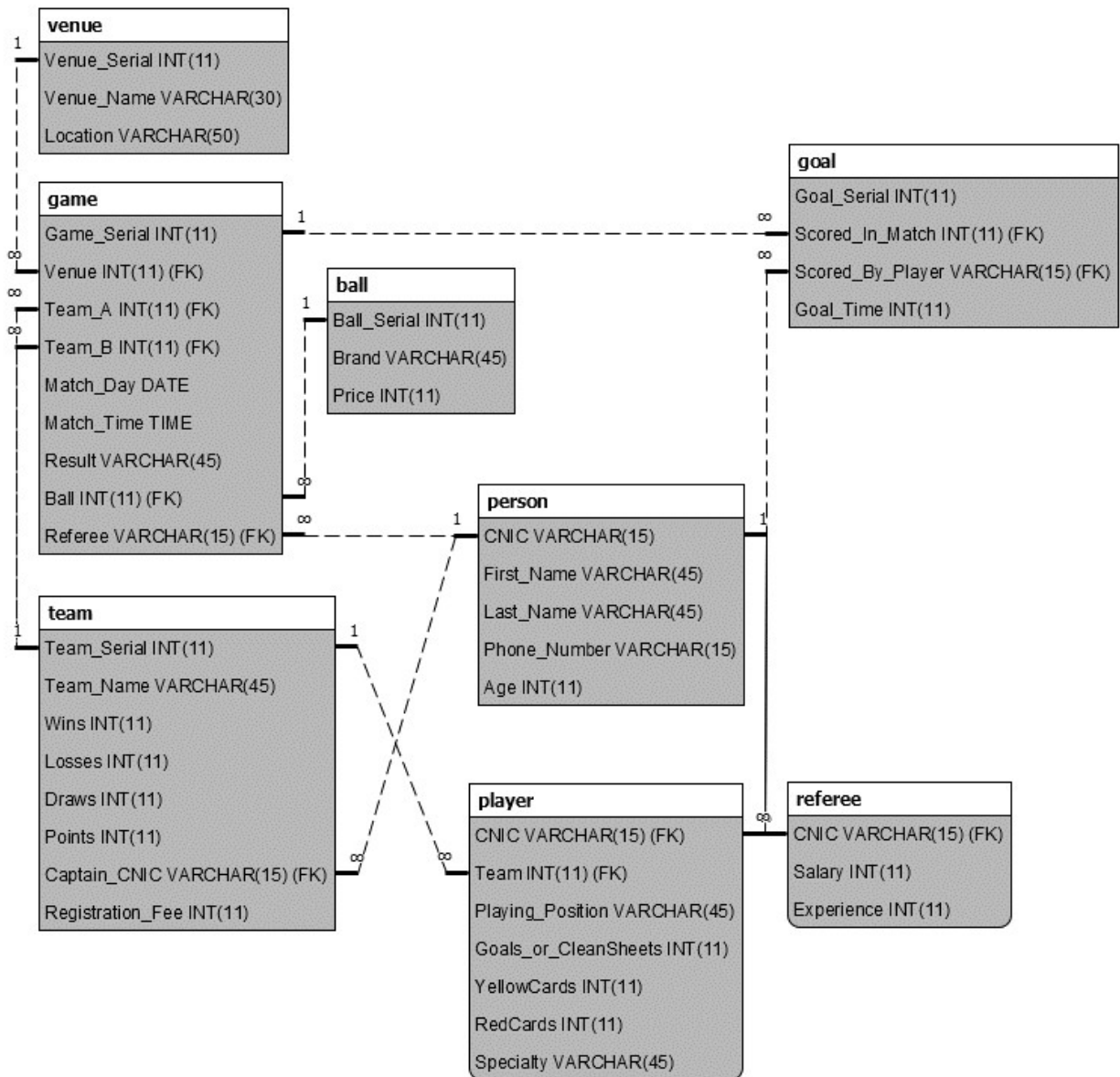
Having conducted a number of leagues ourselves, we realized the need of a database that could store all the information; on the teams, the players, the referees, the footballs bought and used and every match to eventually perform calculations and manipulations on the data for efficient evaluations such as the League leaders at a current time depending on the points, the top scorer etc.

All the users have to do is select the queries from those given in our SQL code section in this report. The queries allow users to perform the basic functions including the following:

- Show league table
- Show detailed league table
- Show information on a particular team
- Show information on a particular player
- Show all matches on a particular date
- Show the top scorer of the league
- Show the team currently leading the league
- And more

The users may also use the extremely user-friendly front end to access the database and display their required details by clicking the appropriate links.

ERD



Schema

Person				
<u>CNIC</u>	FirstName	LastName	PhoneNumber	Age

Player						
<u>CNIC</u>	Team	PlayingPosition	GoalsOrCleansheets	YellowCards	RedCards	Specialty

Referee		
<u>CNIC</u>	Salary	Experience

Game								
<u>GameSerial</u>	Venue	TeamA	TeamB	MatchDay	MatchTime	Result	Ball	Referee

Team							
<u>TeamSerial</u>	TeamName	Wins	Losses	Draws	Points	CaptainCNIC	RegFee

Ball		
<u>BallSerial</u>	Brand	Price

Goal			
<u>GoalSerial</u>	ScoredInMatch	ScoreedByPlayer	GoalTime

Venue		
<u>VenueSerial</u>	VenueName	Location

SQL Code

Creating Schema and Tables:

```
CREATE SCHEMA IF NOT EXISTS Football_League;  
USE Football_League;
```

```
CREATE TABLE IF NOT EXISTS Person  
( CNIC VARCHAR(15) NOT NULL,  
  First_Name VARCHAR(45) NOT NULL,  
  Last_Name VARCHAR(45) NOT NULL,  
  Phone_Number VARCHAR(15) NOT NULL,  
  Age INT NOT NULL,  
  PRIMARY KEY (CNIC));
```

```
CREATE TABLE IF NOT EXISTS Team  
( Team_Serial INT NOT NULL,  
  Team_Name VARCHAR(45) NOT NULL,  
  Wins INT NULL,  
  Losses INT NULL,  
  Draws INT NULL,  
  Points INT NULL,  
  Captain_CNIC VARCHAR(15) NULL,  
  Registration_Fee INT NULL,  
  PRIMARY KEY (Team_Serial));
```

```
CREATE TABLE IF NOT EXISTS Venue  
( Venue_Serial INT NOT NULL,  
  Venue_Name VARCHAR(30) NULL,  
  Location VARCHAR(50) NULL,  
  PRIMARY KEY (Venue_Serial));
```

```
CREATE TABLE IF NOT EXISTS Ball  
( Ball_Serial INT NOT NULL,  
  Brand VARCHAR(45) NULL,  
  Price INT NOT NULL,  
  PRIMARY KEY (Ball_Serial));
```

```
CREATE TABLE IF NOT EXISTS Game  
( Game_Serial INT NOT NULL,  
  Venue INT NULL,  
  Team_A INT NULL,  
  Team_B INT NULL,  
  Match_Day DATE NULL,  
  Match_Time TIME NULL,
```

```
Result VARCHAR(45) NULL,  
Ball INT NULL,  
Referee VARCHAR(15) NULL,  
PRIMARY KEY (Game_Serial));
```

```
CREATE TABLE IF NOT EXISTS Referee  
( CNIC VARCHAR(15),  
Salary INT NULL,  
Experience INT NULL,  
PRIMARY KEY (CNIC));
```

```
CREATE TABLE IF NOT EXISTS Player  
( CNIC VARCHAR(15),  
Team INT NULL,  
Playing_Position VARCHAR(45) NULL,  
Goals_or_CleanSheets INT NULL,  
YellowCards INT NULL,  
RedCards INT NULL,  
Specialty VARCHAR(45) NULL,  
PRIMARY KEY (CNIC));
```

```
CREATE TABLE IF NOT EXISTS Goal  
( Goal_Serial INT NOT NULL,  
Scored_In_Match INT NULL,  
Scored_By_Player VARCHAR(15) NULL,  
Goal_Time INT NULL,  
PRIMARY KEY (Goal_Serial));
```

Altering tables to include foreign key constraints:

```
ALTER TABLE Team  
ADD FOREIGN KEY (Captain_CNIC) REFERENCES Person(CNIC);
```

```
ALTER TABLE Game  
ADD FOREIGN KEY (Team_A) REFERENCES Team(Team_Serial),  
ADD FOREIGN KEY (Team_B) REFERENCES Team(Team_Serial),  
ADD FOREIGN KEY (Venue) REFERENCES Venue(Venue_Serial),  
ADD FOREIGN KEY (Ball) REFERENCES Ball(Ball_Serial),  
ADD FOREIGN KEY (Referee) REFERENCES Person(CNIC);
```

```
ALTER TABLE Player  
ADD FOREIGN KEY (Team) REFERENCES Team(Team_Serial);
```

```
ALTER TABLE Goal  
ADD FOREIGN KEY (Scored_In_Match) REFERENCES Game(Game_Serial),  
ADD FOREIGN KEY (Scored_By_Player) REFERENCES Person(CNIC);
```

```
ALTER TABLE Referee  
ADD FOREIGN KEY (CNIC) REFERENCES Person(CNIC) on delete cascade on update cascade;
```

```
ALTER TABLE Player  
ADD FOREIGN KEY (CNIC) REFERENCES Person(CNIC) on delete cascade on update cascade;
```

Create Triggers:

```
create trigger goal_scored  
after insert on goal  
for each row  
update Player  
set Goals_or_CleanSheets=Goals_or_CleanSheets+1  
where CNIC=New.Scored_By_Player;
```

Filling tables using Insert:

```
INSERT INTO Person  
VALUES  
( '3740574847264', 'Dave', 'Anderson', '03009754864', 30), ('654874847264', 'David', 'Miller', '03029754564',  
31),  
( '3512748474565', 'Brad', 'Johnathan', '03339875864', 27), ('3625874898541', 'Carl', 'Jones', '03129752587',  
20),  
( '4581276589264', 'Utah', 'Johnson', '03425865264', 20), ('4521596562322', 'Yonah', 'Wendy',  
'03118545234', 18),  
( '3746574512589', 'Omar', 'Rashid', '03009755412', 21), ('3620544226399', 'David', 'Ponds', '03426895562',  
19),  
( '3736265235841', 'Del', 'Ali', '03009765895', 17), ('3740574544452', 'Edgar', 'Davids', '03009459588', 18),  
( '3740584844544', 'Oberton', 'Moths', '03009655566', 21), ('6115474847264', 'Dave', 'Lamins',  
'03428754864', 20),  
( '3722564845455', 'John', 'Tempa', '03326664864', 22), ('3987574845523', 'Terae', 'Benjani', '03425654898',  
17),  
( '3740574865623', 'Aron', 'Cantona', '03015747548', 20), ('3740596565523', 'Pitt', 'Drazer', '03009665864',  
23),  
( '3755220847264', 'Johnathan', 'Shearer', '03006632364', 21), ('3740885547264', 'David', 'Franks',  
'03219885464', 20),  
( '3784574848745', 'Frank', 'Holmes', '03016722014', 18), ('3740987445555', 'Aora', 'Watson', '03215754844',  
18),  
( '3740566554264', 'Bert', 'Thomas', '03118485864', 19), ('3740987110236', 'Aaron', 'Washi', '03116594844',  
20),  
( '37406564411023', 'Ponds', 'Wembley', '03206581120', 23), ('7845587445521', 'Ross', 'Jamie',  
'03335855844', 18),  
( '3362587449562', 'Raquel', 'Adams', '03226352152', 20), ('3740982655002', 'Aora', 'Buffay', '03125165696',  
20),  
( '3740987521554', 'Adam', 'Jordan', '03218765325', 18), ('3745987659856', 'Carl', 'Bing', '03215652314', 24),
```

```
(
    ('3766387400215', 'Broth', 'Warner', '03216630204', 22), ('3540987023695', 'Youth', 'Piras', '03220154844', 22),
    ('3740001445215', 'Zach', 'King', '03215524854', 17), ('3740981205965', 'John', 'Roberts', '03215363201', 18),
    ('37409411545965', 'Damon', 'Zinger', '03232156844', 22), ('3741189665855', 'Leonard', 'Hofstadter', '03112032844', 20),
    ('3745897400235', 'Purr', 'Ian', '03215001214', 20), ('3740987445658', 'George', 'Best', '03212154822', 18),
    ('3740987446550', 'Ian', 'Norman', '03215758545', 17), ('3740987110205', 'Amazon', 'Wright', '03215721214', 19),
    ('3740981125645', 'Robert', 'Pires', '03154758878', 22), ('3740912125574', 'Aora', 'Busby', '03211544888', 21),
    ('3458987400125', 'Hugh', 'Tower', '03024154822', 21), ('3450021440125', 'Hulk', 'Romano', '03112154822', 20),
    ('3458987965875', 'Yoda', 'Law', '03115854542', 18);
```

INSERT INTO Team

VALUES

```
(1, 'Saints', 1, 2, 0, 3, '3625874898541', 3500),
(2, 'Ravens', 0, 1, 1, 1, '3755220847264', 3500),
(3, 'Lycans', 1, 1, 0, 3, '3740982655002', 3500),
(4, 'Gladiators', 1, 0, 2, 5, '3540987023695', 3500),
(5, 'SPFC', 1, 0, 1, 4, '3740987445658', 3500);
```

INSERT INTO Player

VALUES

```
(
    ('3625874898541', 1, 'Forward', 0, 0, 0, 'Poacher'), ('4581276589264', 1, 'Forward', 0, 0, 0, 'Tactician'),
    ('4521596562322', 1, 'Forward', 0, 0, 0, 'Speedster'), ('3746574512589', 1, 'Defence', 0, 0, 0, 'Long Shots'),
    ('3620544226399', 1, 'Defence', 0, 0, 0, 'Aerial Threat'), ('3736265235841', 1, 'Keeper', 0, 0, 0, 'Acrobat'),
    ('3740574544452', 1, 'Defence', 0, 0, 0, 'Engine'), ('3740584844544', 1, 'Keeper', 0, 0, 0, 'Shot Stopper'),
    ('6115474847264', 2, 'Forward', 0, 0, 0, 'Dribbling'), ('3722564845455', 2, 'Forward', 0, 0, 0, 'Nutmegs'),
    ('3987574845523', 2, 'Forward', 0, 0, 0, 'Headers'), ('3740574865623', 2, 'Defence', 0, 0, 0, 'Passing'),
    ('3740596565523', 2, 'Defence', 0, 0, 0, 'Tackling'), ('3755220847264', 2, 'Keeper', 0, 0, 0, 'Agility'),
    ('3740885547264', 2, 'Defence', 0, 0, 0, 'Strength'), ('3784574848745', 2, 'Keeper', 0, 0, 0, 'Composure'),
    ('3740987445555', 3, 'Forward', 0, 0, 0, 'Agility'), ('3740566554264', 3, 'Forward', 0, 0, 0, 'Finishing'),
    ('3740987110236', 3, 'Forward', 0, 0, 0, 'Speedster'), ('37406564411023', 3, 'Defence', 0, 0, 0, 'Man Marking'),
    ('7845587445521', 3, 'Defence', 0, 0, 0, 'Aerial Threat'), ('3362587449562', 3, 'Keeper', 0, 0, 0, 'Shot Stopper'),
    ('3740982655002', 3, 'Defence', 0, 0, 0, 'Sliding Tackle'), ('3740987521554', 3, 'Keeper', 0, 0, 0, 'Positioning'),
    ('3745987659856', 4, 'Forward', 0, 0, 0, 'Free Kicks'), ('3766387400215', 4, 'Forward', 0, 0, 0, 'Positioning'),
    ('3540987023695', 4, 'Forward', 0, 0, 0, 'Long Shots'), ('3740001445215', 4, 'Defence', 0, 0, 0, 'Tactician'),
    ('3740981205965', 4, 'Defence', 0, 0, 0, 'Strength'), ('37409411545965', 4, 'Keeper', 0, 0, 0, 'Shot Stopper'),
    ('3741189665855', 4, 'Defence', 0, 0, 0, 'Speedster'), ('3745897400235', 4, 'Keeper', 0, 0, 0, 'Aerial Threat'),
    ('3740987445658', 5, 'Forward', 0, 0, 0, 'Play Maker'), ('3740987446550', 5, 'Forward', 0, 0, 0, 'Speedster'),
    ('3740987110205', 5, 'Forward', 0, 0, 0, 'Finishing'), ('3740981125645', 5, 'Defence', 0, 0, 0, 'Positioning'),
    ('3740912125574', 5, 'Defence', 0, 0, 0, 'Long Shots'), ('3458987400125', 5, 'Keeper', 0, 0, 0, 'Agility'),
    ('3450021440125', 5, 'Defence', 0, 0, 0, 'Strength'), ('3458987965875', 5, 'Keeper', 0, 0, 0, 'Positioning');
)
```

INSERT INTO Referee

VALUES

```
(
    ('3740574847264', 1000, 36),
    ('654874847264', 1500, 24),
    ('3512748474565', 800, 42);
)
```


INSERT INTO BALL

VALUES

(1, 'Adidas', 1100),(2, 'Adidas', 800),(3, 'Nike', 1200),
(4, 'Puma', 750),(5, 'PUMA', 850),(6, 'Adidas', 900),(7, 'Nike', 800),
(8, 'Nike', 1000),(9, 'Puma', 500),(10, 'Mitre', 850);

INSERT INTO Venue

VALUES

(1, 'Total Football', 'Chak Shahzad, Islamabad'),
(2, 'Total Football', 'Ayub Park, Rawalpindi'),
(3, 'High Velocity', 'Sector E-11, Islamabad'),
(4, 'ICAS', 'Sector G-11, Islamabad');

INSERT INTO Game

VALUES

(1, 1, 1, 2, '2017-6-5', '17:00:00', '1-0', 1, '3740574847264'),
(2, 2, 3, 4, '2017-6-5', '18:00:00', '0-2', 1, '3740574847264'),
(3, 1, 1, 5, '2017-6-6', '17:00:00', '0-1', 2, '654874847264'),
(4, 3, 2, 4, '2017-6-6', '18:00:00', '2-2', 2, '654874847264'),
(5, 4, 3, 1, '2017-6-7', '17:00:00', '1-0', 3, '3512748474565'),
(6, 1, 4, 5, '2017-6-7', '18:00:00', '0-0', 3, '3512748474565'),
(7, 4, 2, 3, '2017-6-8', '17:00:00', NULL, 5, '3740574847264'),
(8, 1, 3, 5, '2017-6-8', '18:00:00', NULL, 5, '3740574847264'),
(9, 3, 1, 4, '2017-6-9', '17:00:00', NULL, 8, '654874847264'),
(10, 2, 2, 5, '2017-6-9', '18:00:00', NULL, 8, '654874847264');

INSERT INTO Goal

VALUES

(1, 1, '3625874898541', 10),
(2, 2, '3745987659856', 12),
(3, 2, '3540987023695', 5),
(4, 3, '3740987110205', 29),
(5, 4, '3987574845523', 11),
(6, 4, '3766387400215', 4),
(7, 4, '3987574845523', 25),
(8, 4, '3540987023695', 30),
(9, 5, '3740566554264', 1);

SQL Queries:

#Query to know who is at the top

```
select Team.Team_Name  
from Team  
where Points=(select max(points) from team);
```

#Query to display table small

```
select Team_Name, Points  
from Team
```

order by points desc;

#Query to display full table

```
select Team_Name Team, Wins W, Losses L, Draws D, Points Pts
from Team
order by points desc;
```

#Query to get all info on a team

```
select *
from Team
where Team_Name='Saints';
```

#Query to get all info on a Player

```
select *
from Person, Player
where Person.First_Name='Youth' and Person.CNIC=Player.CNIC;
```

#Query to get info on all matches on a particular date

```
select t1.Team_Name Team_A, t2.Team_Name Team_B, Match_Time Time, Result, p.Last_Name Referee,
v.Venue_Name Venue
from Game as g, Person as p, Team as t1, Team as t2, Venue as v
where Match_Day='2017-6-7' and referee=p.CNIC and Team_A=t1.Team_Serial and Team_B=t2.Team_Serial
and Venue=v.Venue_Serial;
```

#Query to get the Top Scorer

```
select Person.First_Name First_Name, Person.Last_Name Last_Name, Goals_or_CleanSheets Goals
from Person, Player
where Player.CNIC=Person.CNIC and Player.Goals_or_CleanSheets=(select max(Goals_or_CleanSheets) from
Player);
```

#Query to delete person also deletes player

```
delete from person
where CNIC='3625874898541';
```

```
select *
from person
where cnic='3625874898541';
```

#Query to update first name in person also updates it in player

```
select first_name
from person
where cnic='3746574512589';
```

```
update person
set cnic='Hi there!'
where cnic='3746574512589';
```

```
select *
from player
where cnic='Karla';
```