National University of Computer & Emerging Sciences (FAST-NU)

WORLD SOCCER LEAGUE MANAGEMENT

Project Supervisor
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7-December-2017

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Science

The Department of Computer Science
National University of Computer & Emerging Sciences (FAST-NU)
Main Campus, Karachi
December 2017

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CHAPTER ONE: CONTEXT AND PRELIMINARY INVESTIGATION

1.0 Project Selection

The purpose of this project is to provide a friendly environment to maintain the details of players, Team, League and every record needed. The main purpose of this project provide different reports for different function. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

1.1 Project Background

This project is inspired by the fact that many football fans are unable to see their favorite team matches due to several reasons like they are out with friends or busy somewhere else so we provide them with the software where they can see the summary of the games. They can find the stats of players, teams, leagues, points table etc.

1.2 Project Scope

Football fans around the world need every single knowledge about their favorite players, clubs and international team. To get this information easily, we are creating this football league management system. There are big websites present in today's world like ESPN Football, GOAL.com etc.

1.3 Project Objectives

To provide an interface for an admin, so that an admin can keep the data through canned transactions and a user interface, so that a user can retrieve the data in a meaningful manner.

1.4 Deliverables

Deliverables	**Date**
Requirement Definitions	15th October
Software Requirement Specification	1st November
Software Design Specification	10th November
Project Evaluation	7th December

CHAPTER TWO: RESEARCH

The following chapter details the background reading and research that has taken place to allow effective and informed decisions to be made throughout this project to ensure a successful solution to the user's problem is delivered on time, and meets the user's requirements. The quality of each source used to form the background reading and research has been taken into account, only those that are deemed to be valid and from a reputable source have been used. Existing solutions and technologies have been researched and where plausible have the arguments for and against them explored to allow for an informed decision to be made regarding the development of the solution and justification also provided for the chosen technology.

2.0 Primary Research

According to survey conducted by fsf.org, Over 30 million fans attended Premier League and EFL games last season while there are over billion viewers who watches football from home.

- 32% of fans feel their club cares about them and their views
- 90% said they wanted greater representation at board level

But the problem occurs when many of the fans don't have access to streaming to watch match and match day tickets are way expensive. Clubs must commit to genuine engagement both online and in the real world. So we have created a software where user around the world can see the online score, stats of player, leagues and teams.

2.1 Academic Research

2.1.1 Development Tools

Front End: jFrame.

Back End: Java, SQL, Xampp.

2.1.2 Secondary Research

Books:

- UML 2 Toolkit by Hans-Erik Eriksson, Magnus Penker.
- Applying UML and Patterns 3rd Edition by Craig Larman.

Websites

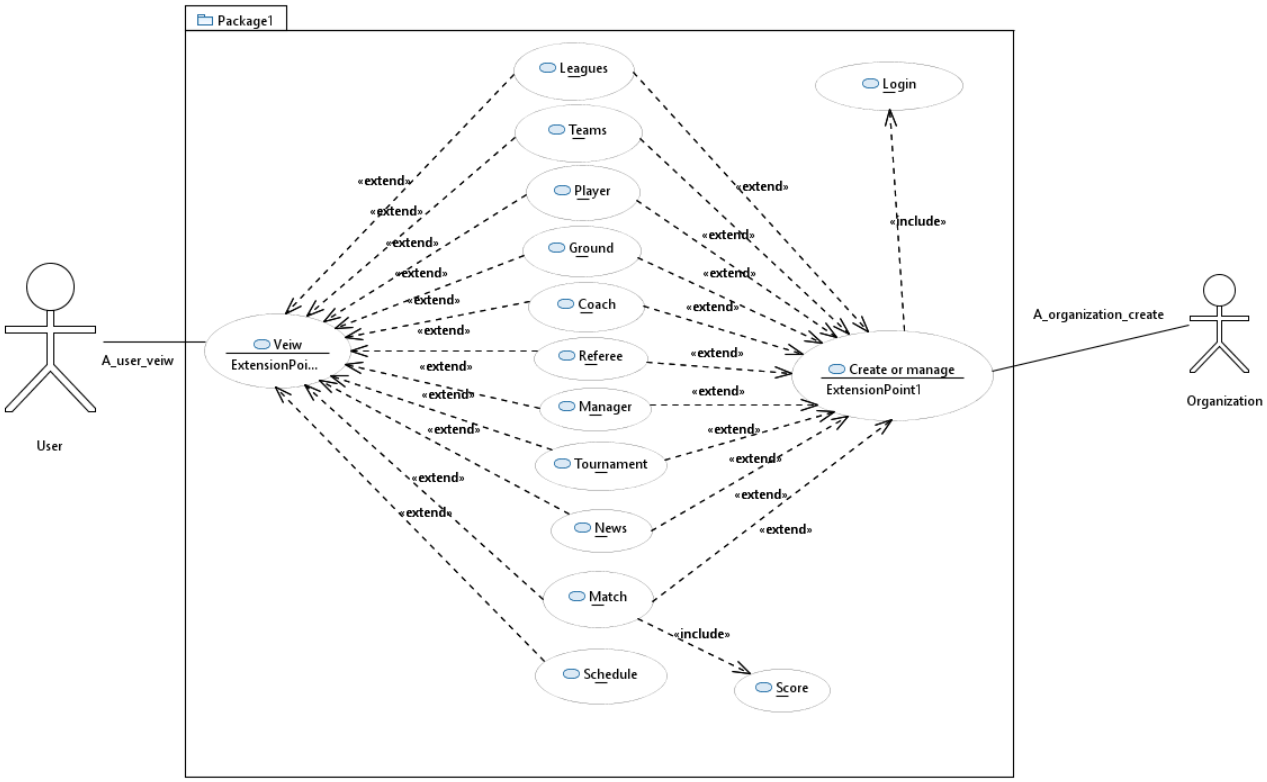
- http://ebookily.net/doc/srs-library-management-system
- https://www.smartdraw.com/uml-diagram/

CHAPTER THREE: REQUIREMENT ANALYSIS

3.0 User Requirement

This is a broad level diagram of the project showing a basic overview. The users can be either admin or visitor. This System will provide a search functionality to facilitate the search of stats. This search will be based on various categories like players, teams, manager etc. Further the players, teams, manager etc. can be added/updated the information from the system. The users of the system can request show/compare of players for which they would have to follow certain criteria.

3.1 Use Case Diagram



3.2 System Specification

3.2.1 Performance Requirement

The proposed system that we are going to develop will be used as the online system. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the client.

- The performance of the system should be fast and accurate.

- World Soccer League Management System shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify invalid username/password.
- The system should be able to handle large amount of data. Thus it should accommodate high number of players and their data without any fault

3.2.2 Safety Requirement

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

3.2.3 Security Requirement

- System will use secured database
- Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
- System will have different types of users and every user has access constraints
- Proper user authentication should be provided
- No one should be able to hack users' password
- There should be separate accounts for admin and members such that no member can access the database and only admin has the rights to update the database.

3.2.4 Requirement attributes

There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes. The project should be open source. The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database. The user be able to easily download and install the system.

3.2.5 Business Rules

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data. This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

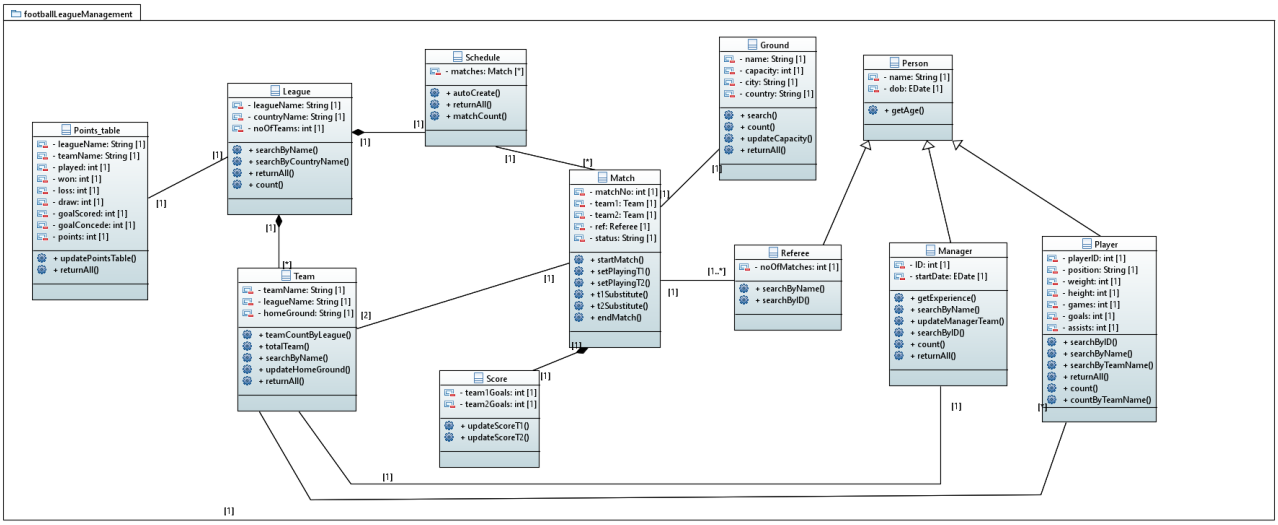
3.2.6 User Requirement

The users of the system are members and Librarian of the university who act as administrator to maintain the system. The members are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and is able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems

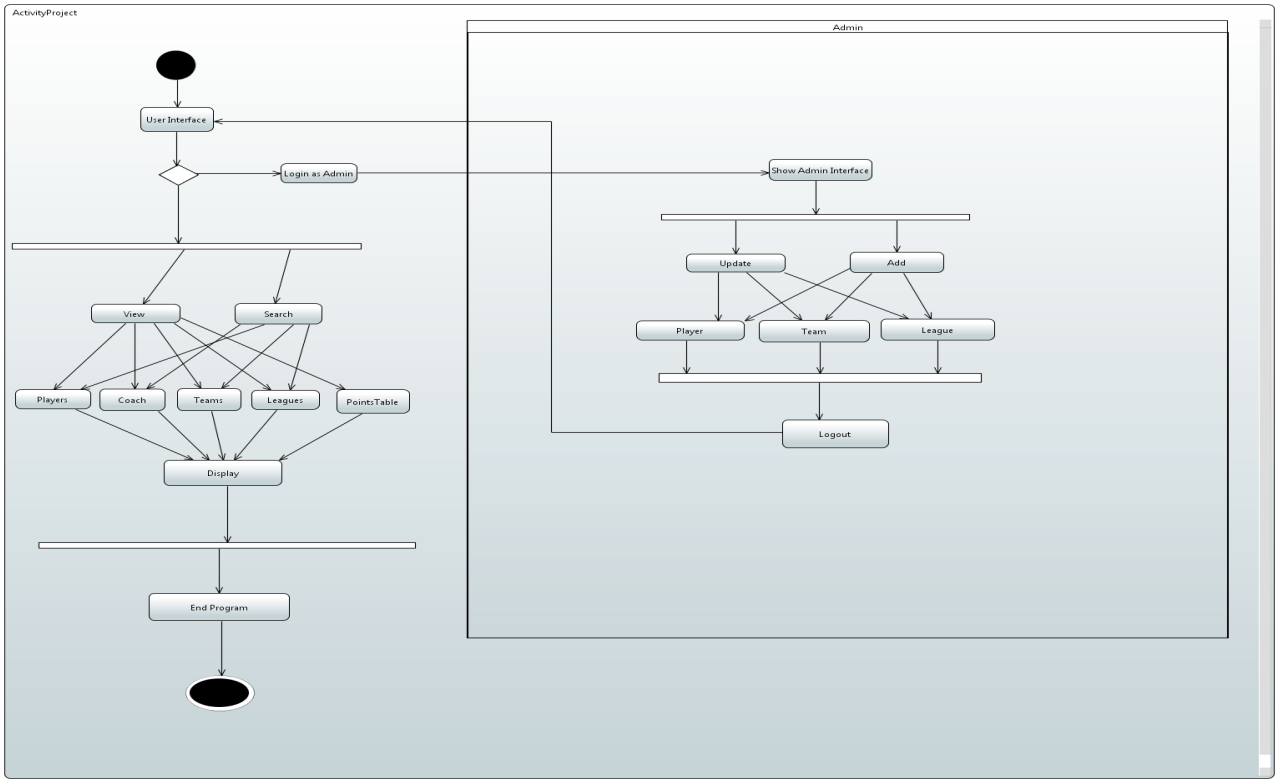
CHAPTER FOUR: DESIGN

4.0 Deliverables of Process Modeling

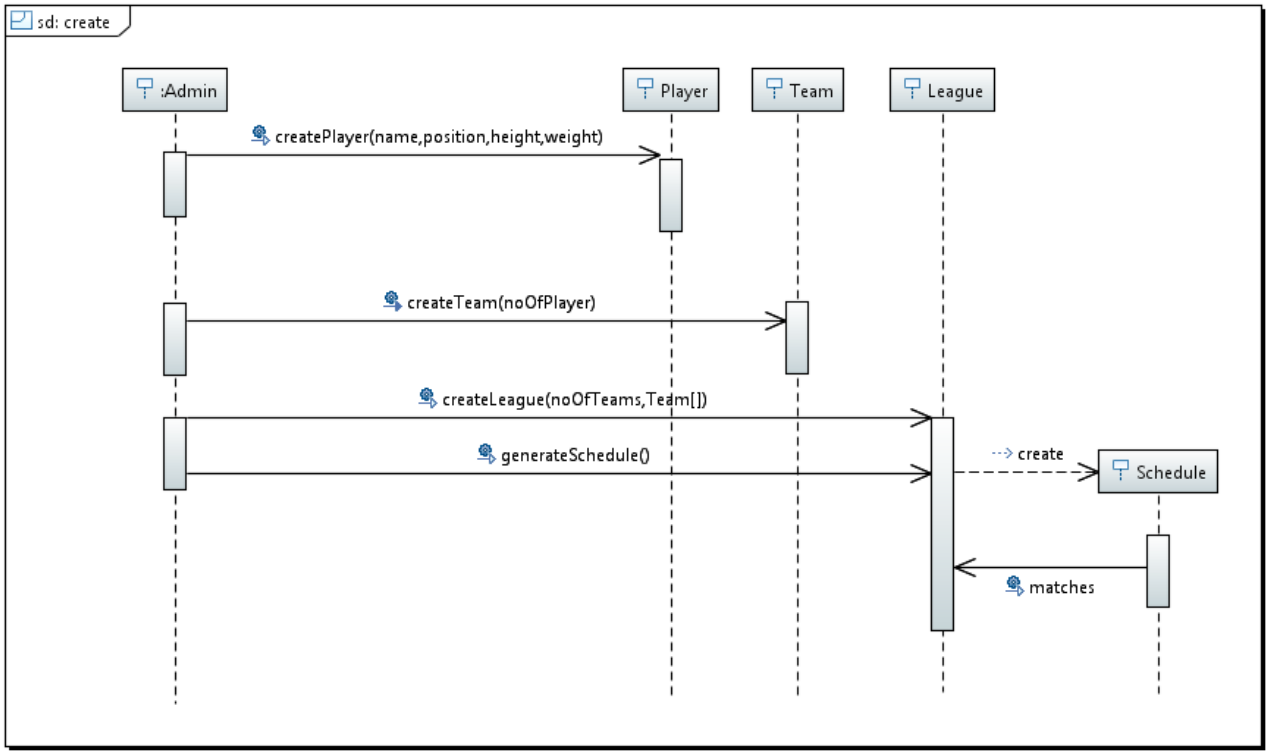
4.0.1 UML

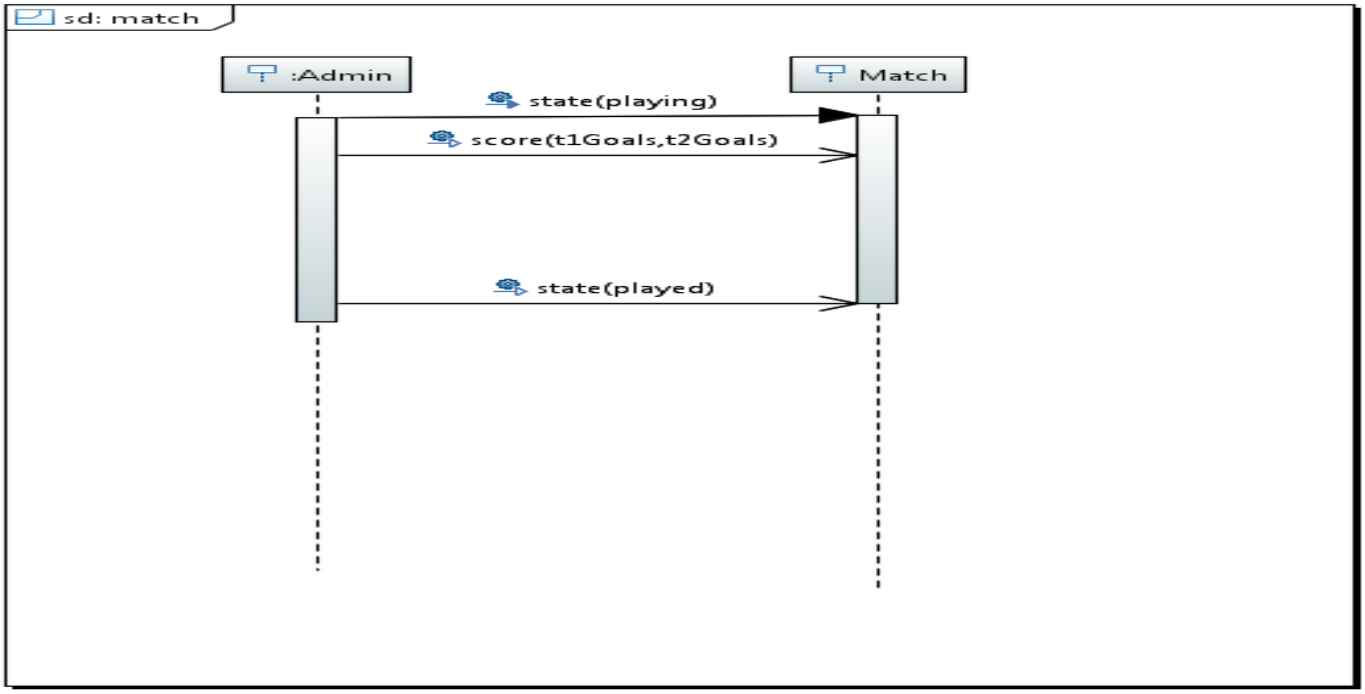


4.0.2 Activity Diagram

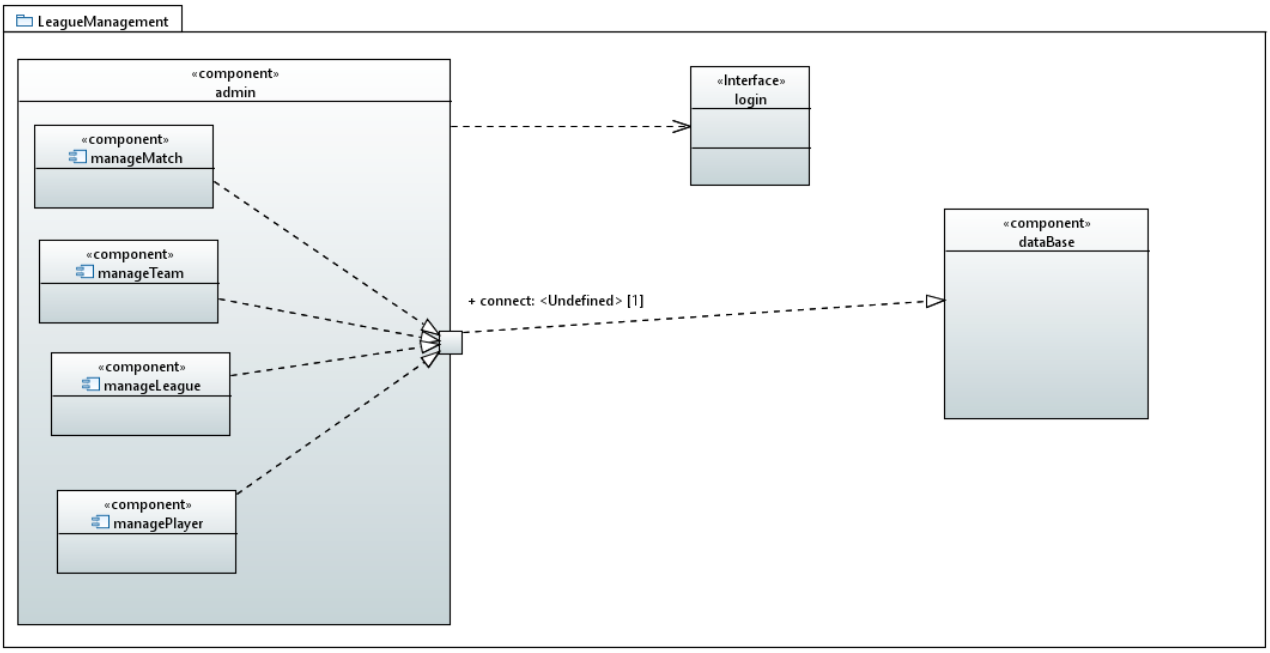


4.0.3 Sequence Diagram

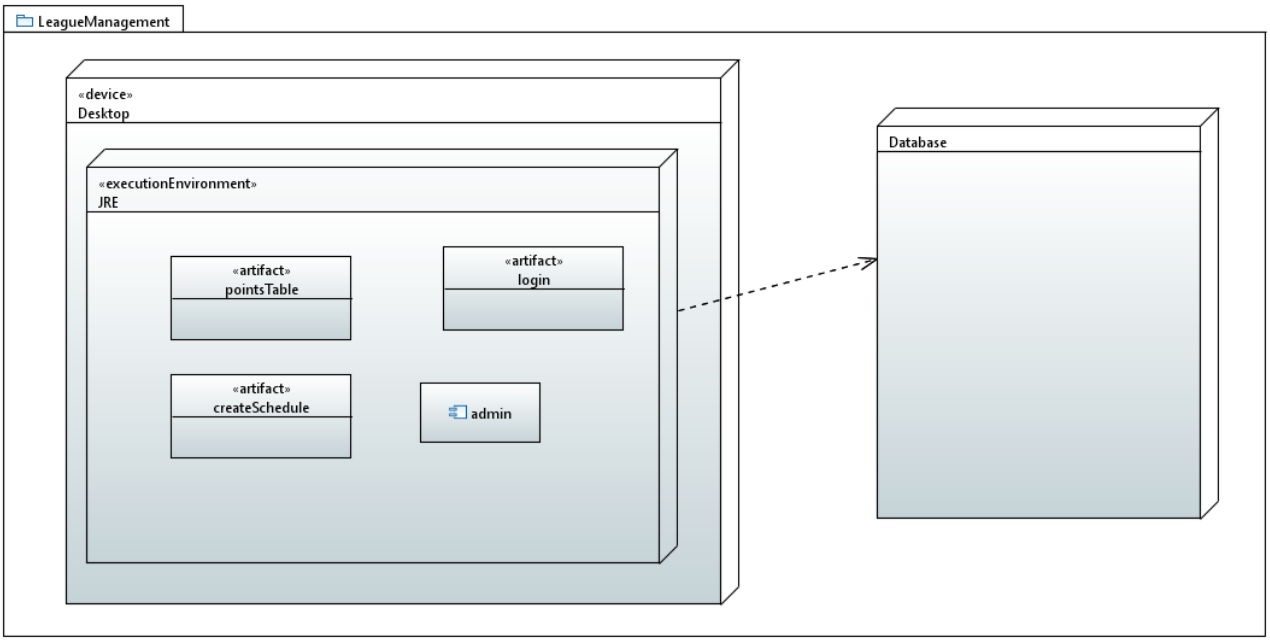




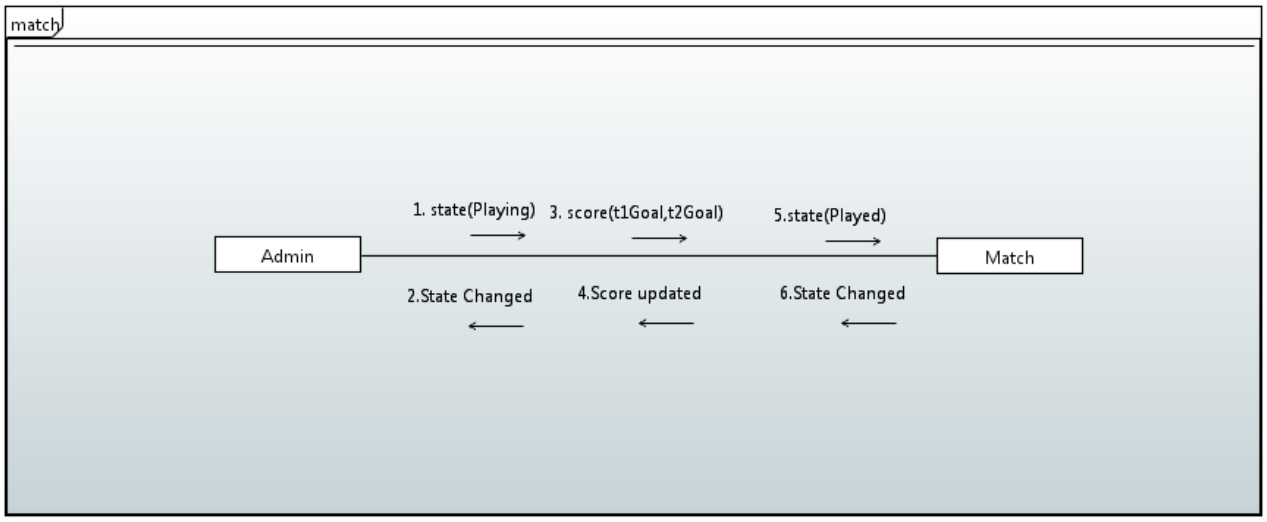
4.0.4 Component Diagram

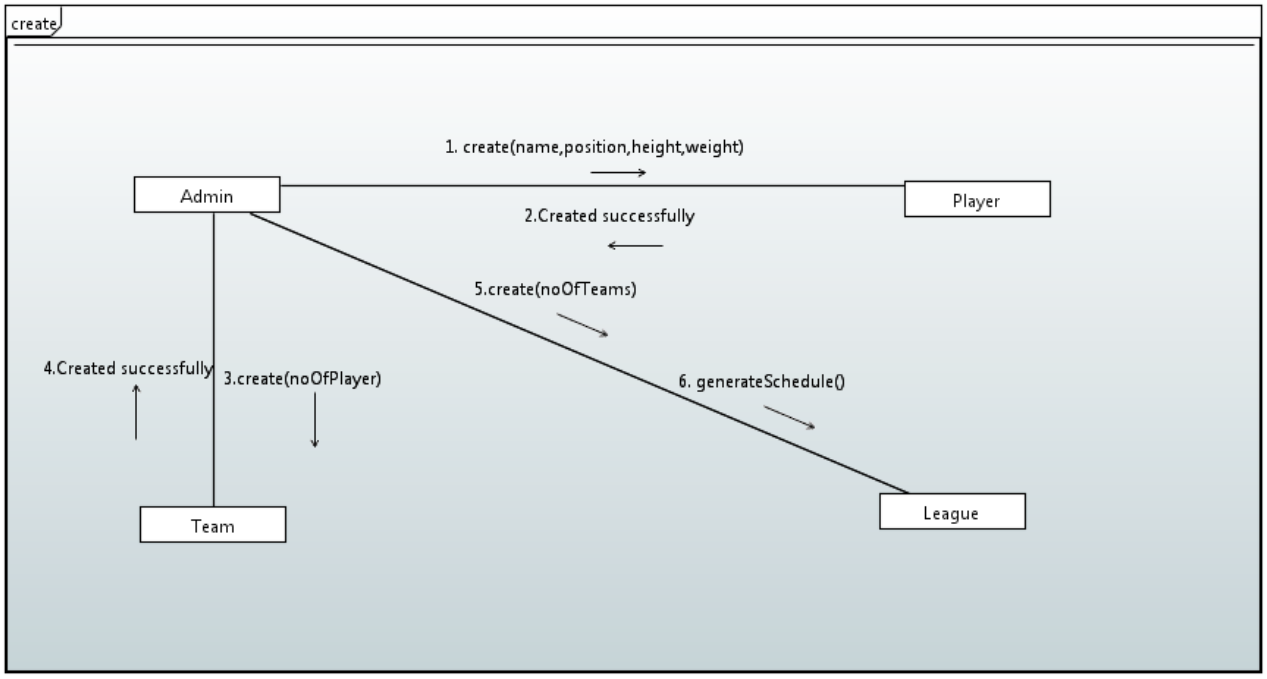


4.0.5 Deployment Diagram



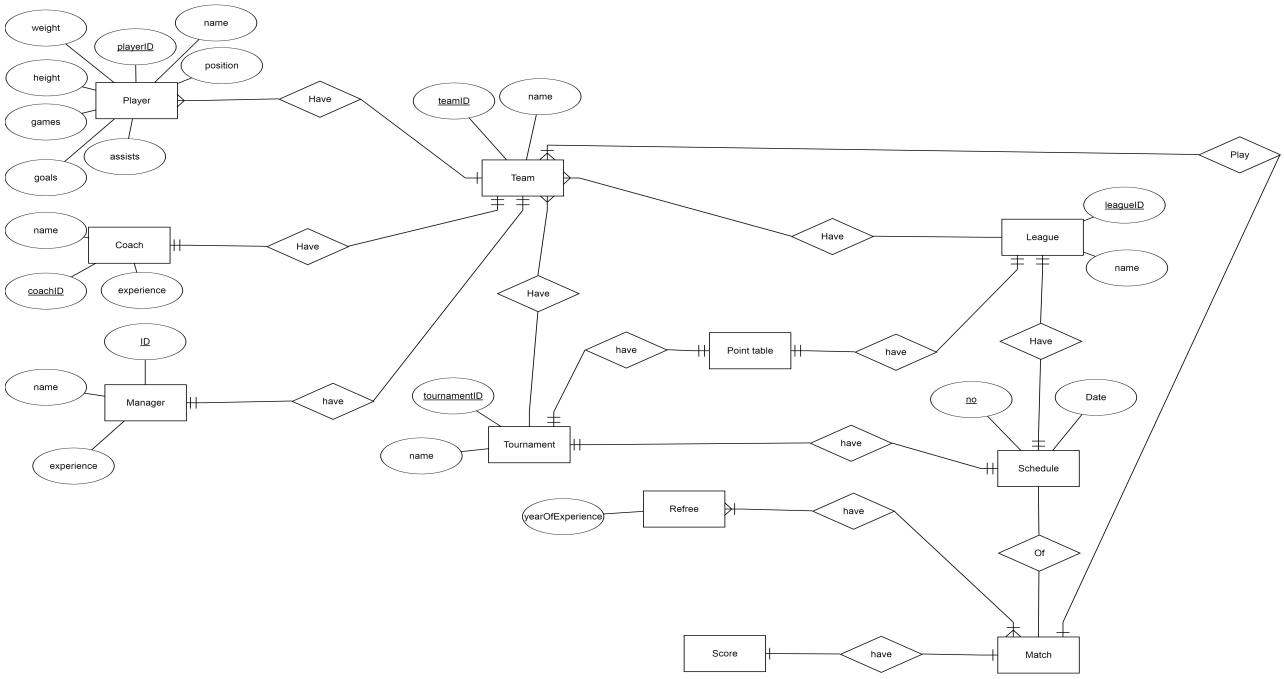
4.0.6 Collaboration Diagram





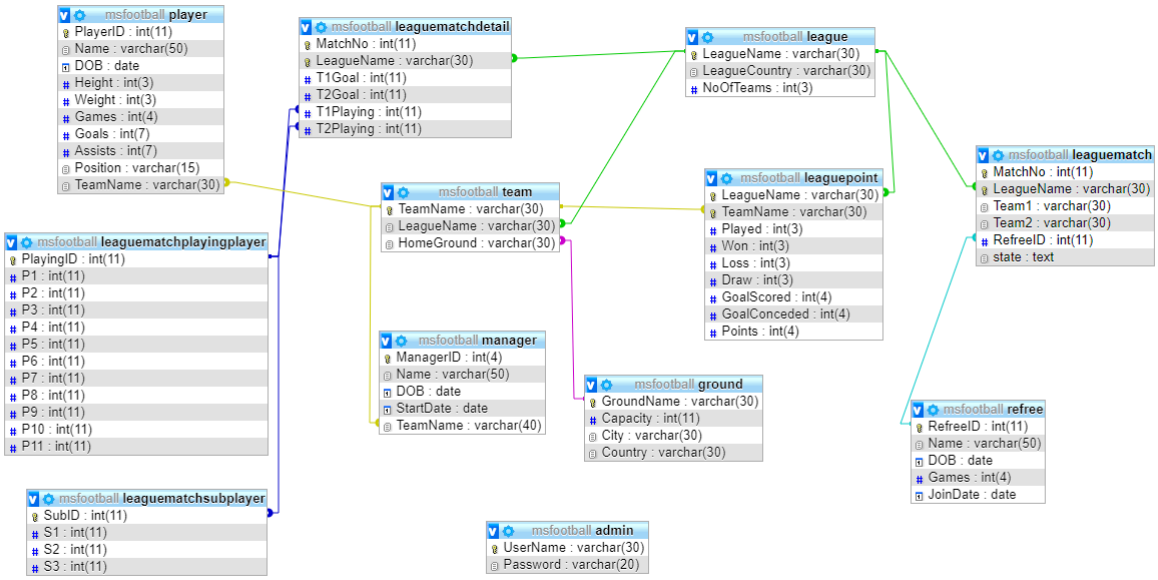
4.1 Conceptual Data Modeling

4.1.1 Entity Relation Diagram



4.2 Data Base Design

4.2.1 Relation in Database



CHAPTER FIVE: SOFTWARE TESTING

5.1 Test Plan Strategy

Testing strategy integrates software test case design methods into a well-planned series of steps that results in the successful construction of software

5.2 Unit Testing

Unit testing is concerned with knowledge about testing a program unit, todetermine that it is free of data, logic or standard errors. At this level white box testing are used. This unit includes knowledge of dynamic analysis. In this unit testing individual components or models are tested. It relatively focuses in the small segments of the code and the aims to exercise a high percentage of internal paths.

5.3 Integration Testing

Integration testing is concern with knowledge about validating that software component, which have been unit tested separately, interact correctly when they are put together to perform higher order function. In this application bottom up integration testing is done.

5.4 System Testing

S.no	Test Objectives
1	To Check whether program display user end properly.
2	To Check if admin can login through correct password and username.
3	To Check if user enter data stores in database.
4	To Check if points table generated successfully after the match.
5	To Check if schedule created after schedule button is clicked.

Test Case	1
Test Objective	To Check whether program display user end properly.
Test Data	Run Program.
Expected Result	Program should display user interface.
Test Result	User screen appear successfully.
Conclusion	Expected result match test result.

Test Case	2
Test Objective	To Check if admin can login through correct password and username.
Test Data	Enter Username and Password.
Expected Result	Program should login to the admin panel.
Test Result	Admin Panel appear successfully
Conclusion	Expected result match test result.

Test Case	3
Test Objective	To Check if user enter data stores in database.
Test Data	User Enter Data.
Expected Result	Data Entered in SQL database.
Test Result	Program can retrieve data from database when required.
Conclusion	Expected result match test result.

Test Case	4
Test Objective	To Check if points table generated successfully after the match.
Test Data	User Enter Data of the match and ends the game.
Expected Result	Data Entered in SQL database and Points table updated successfully.
Test Result	Program update the points table.
Conclusion	Expected result match test result.

Test Case	5
Test Objective	To Check if schedule created after schedule button is clicked.
Test Data	User press the create schedule button.
Expected Result	Program auto generate the schedule of particular league.
Test Result	Program create the schedule of that league.
Conclusion	Expected result match test result.

CHAPTER SIX: SYSTEM USER GUIDE

6.1 List of Interaction Modules

User UI:

Includes 6 pages each of the page provide functionality to perform all the action that are allowed to user.

Login Page:

Include a login page where admin enters username and password to enter into admin UI.

Admin UI:

Include 6 buttons Schedule, Match, Control Panel, Points Table, Add Admin, Log-out. Each button provide different functionality.

Schedule UI:

Let admin generate schedule for selected league and also show the schedule of different league.

Match UI:

Let admin add a match records for certain league.

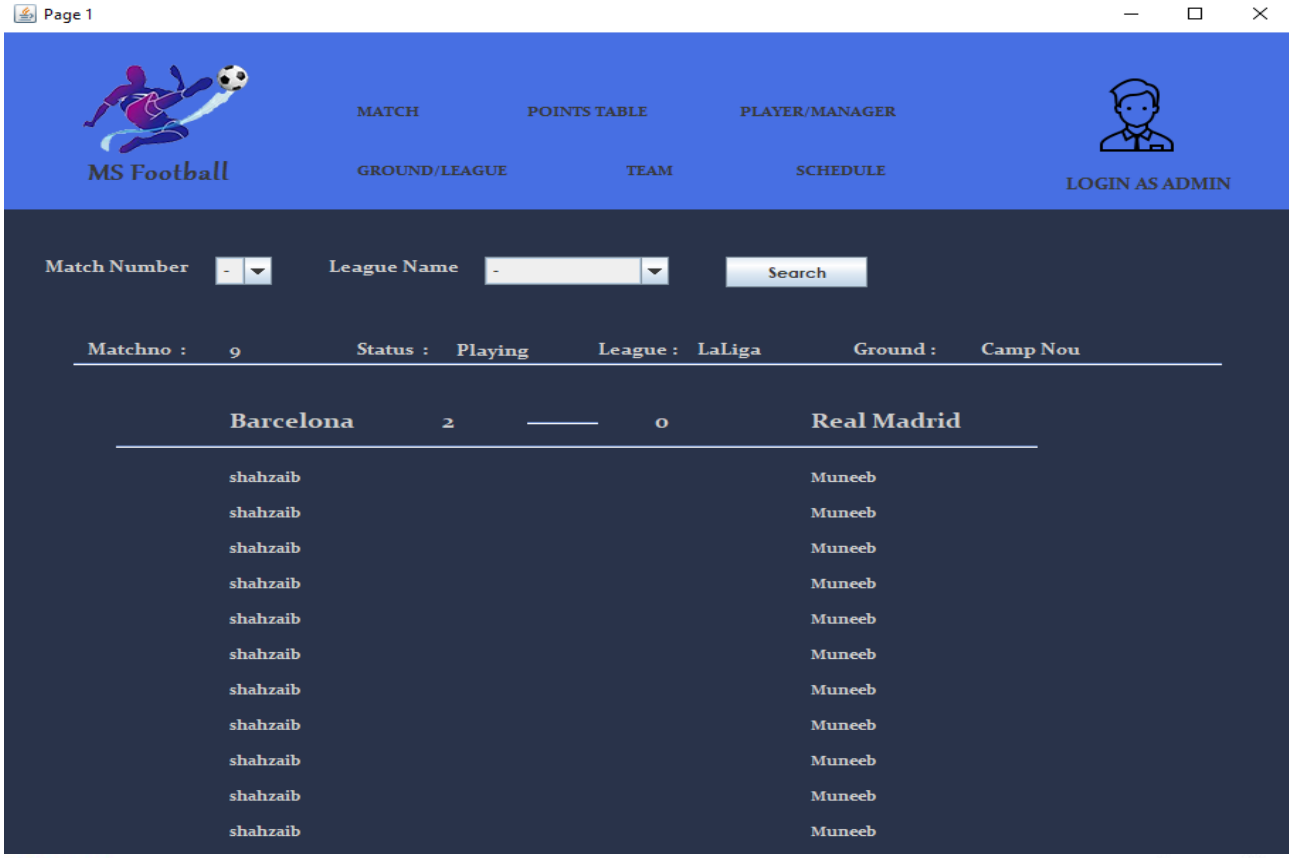
Control Panel:

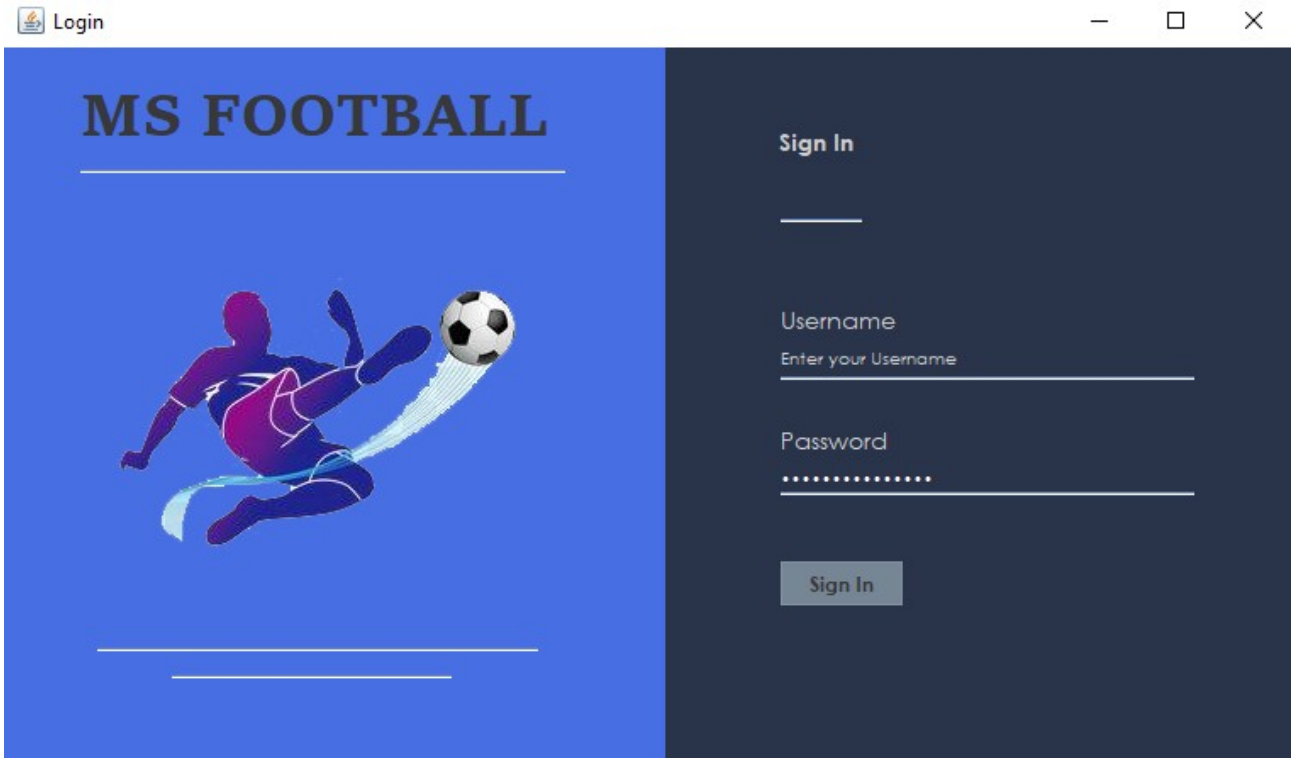
Let admin add, update or delete all the important data like teams, league, players, Referees.

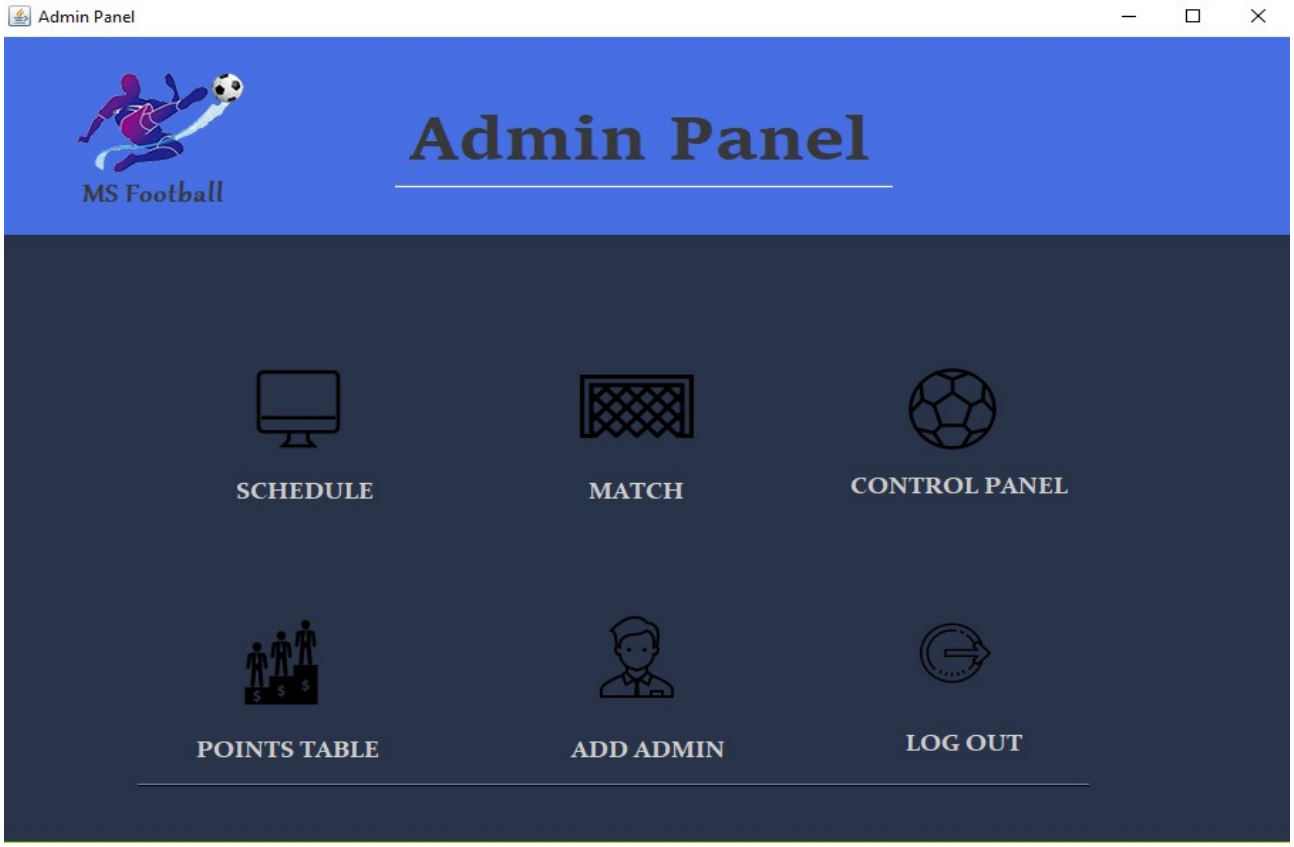
Points Table:

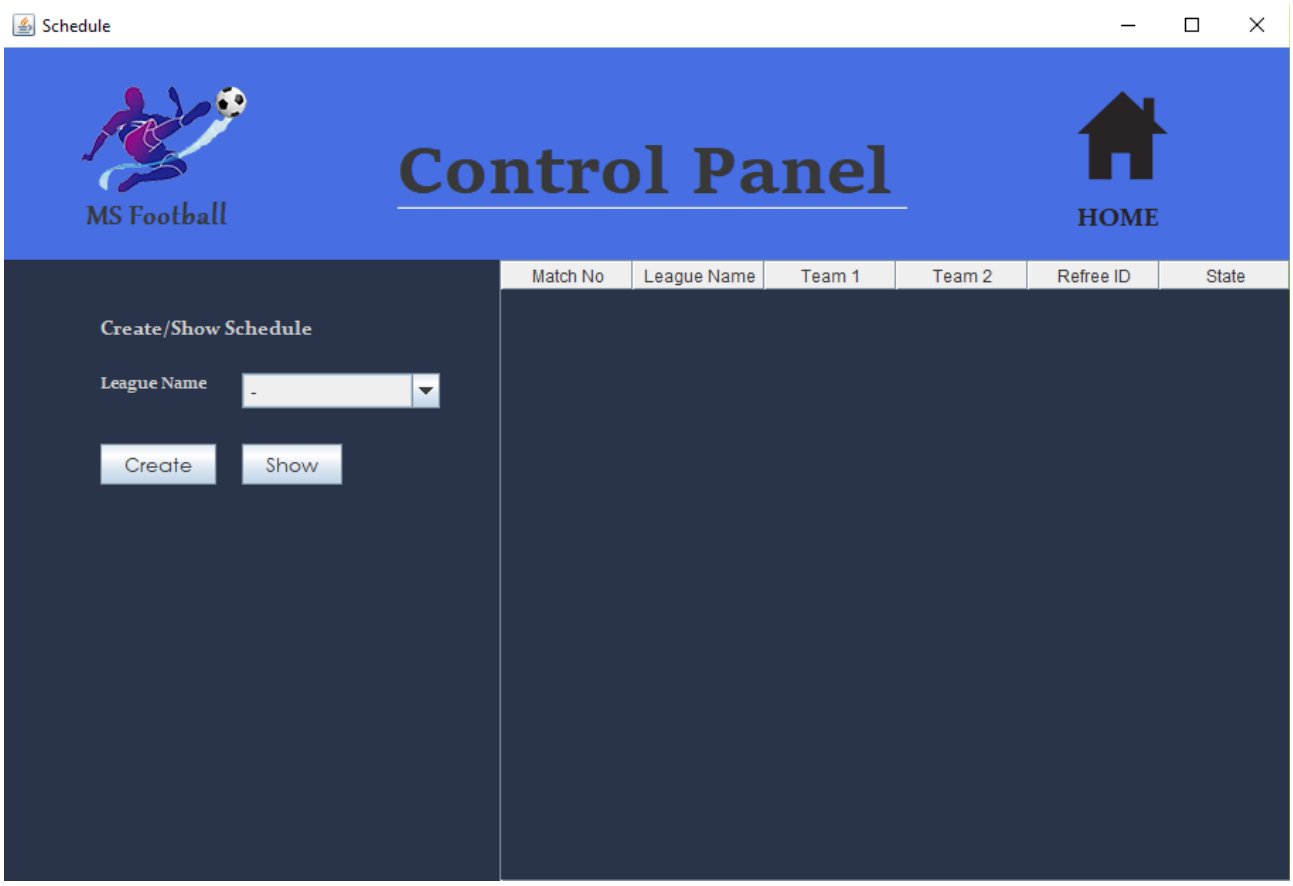
Let admin see the auto-generated points table for every league stored in database.

6.2 Snapshots of Interaction Modules

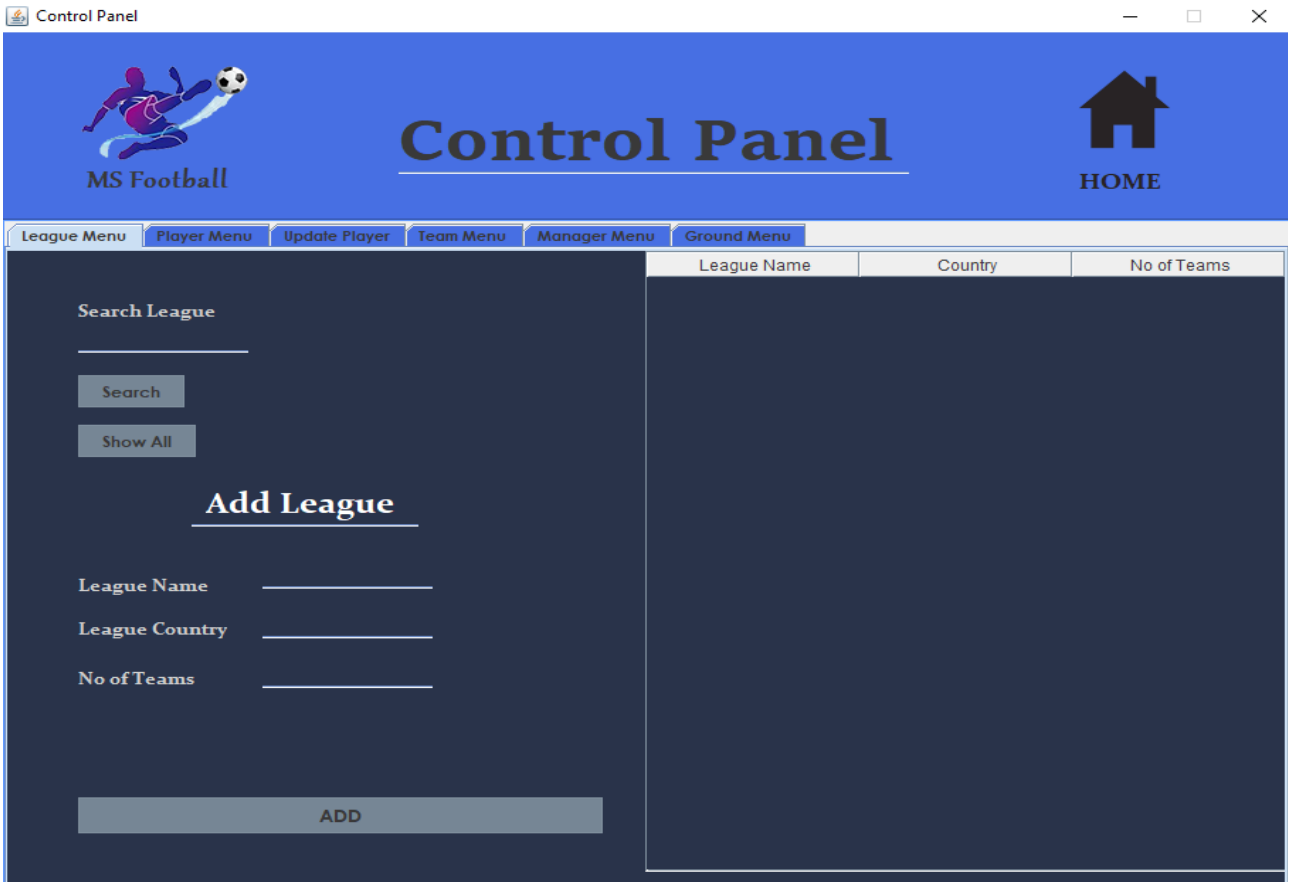


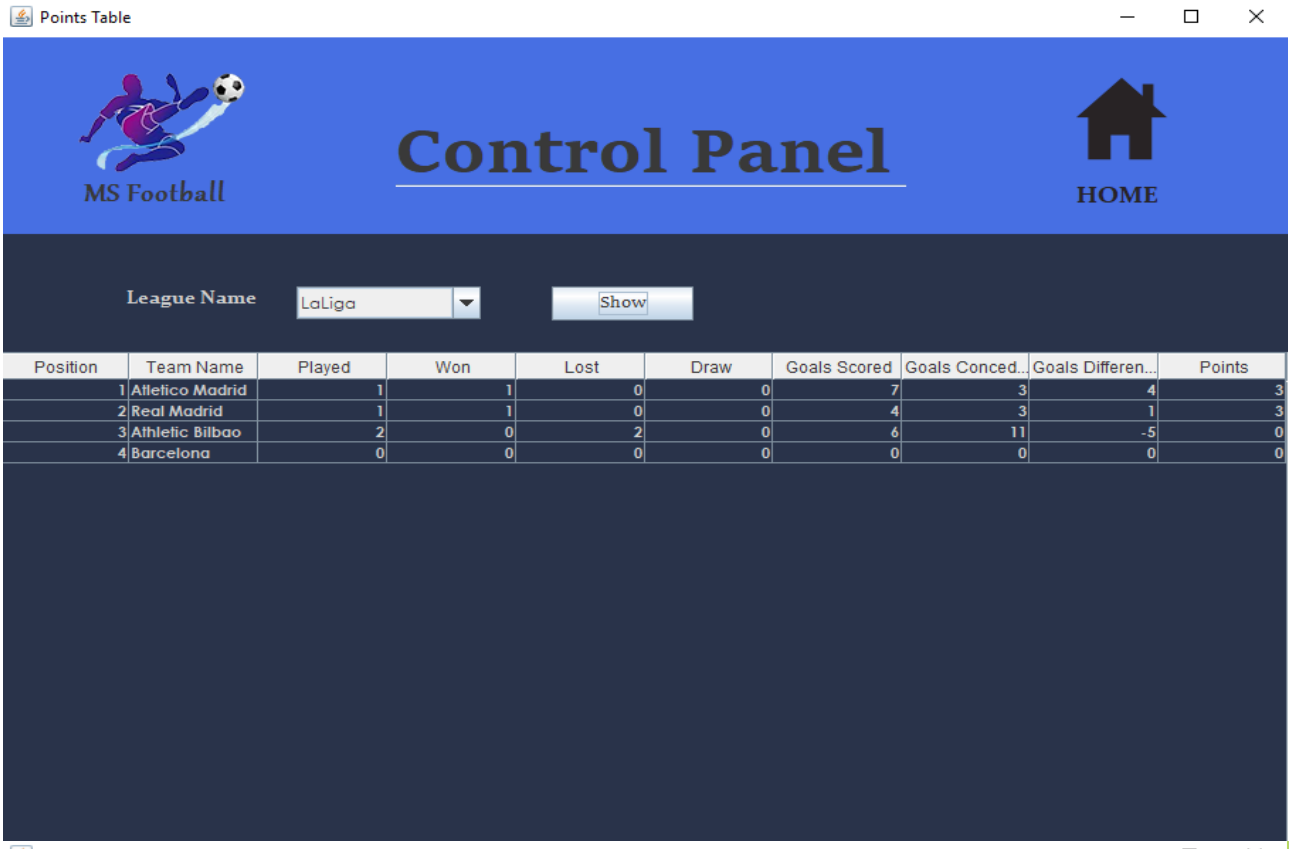


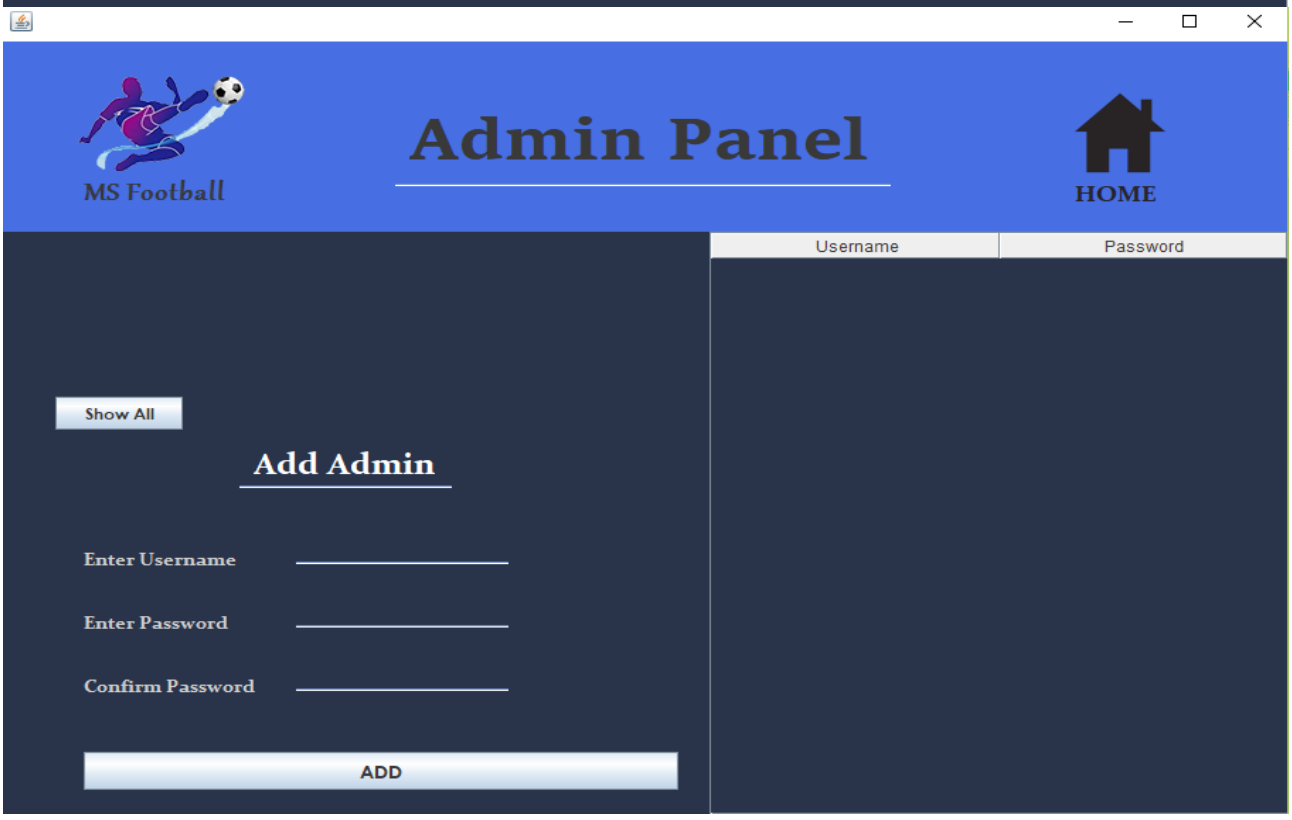

Admin Panel
MS Football
Admin Panel
SCHEDULE
MATCH
CONTROL PANEL
POINTS TABLE
ADD ADMIN
LOG OUT


Schedule
MS Football
Control Panel
HOME
Match No
League Name
Team 1
Team 2
Refree ID
State
Create/Show Schedule
League Name
-
Create
Show


Match
MS Football
Add Match
HOME
First Team Playing 11
Second Team Playing 11
Match Number
League Name
Start Match
Player
Enter Player ID
Subsitute Team1
Subsitute Team2
Score
Team 1
Team 2
Update Score
End Match
Add Playing 11


Control Panel
MS Football
Control Panel
HOME
League Menu
Player Menu
Update Player
Team Menu
Manager Menu
Ground Menu
League Name
Country
No of Teams
Search League
Search
Show All
Add League
League Name
League Country
No of Teams
ADD


Points Table
MS Football
Control Panel
HOME
League Name
LaLiga
Show
Position Team Name Played Won Lost Draw Goals Scored Goals Conced... Goals Differen... Points
1 Atletico Madrid 1 1 0 0 7 3 4 3
2 Real Madrid 1 1 0 0 4 3 1 3
3 Athletic Bilbao 2 0 2 0 6 11 -5 0
4 Barcelona 0 0 0 0 0 0 0 0


MS Football
Admin Panel
HOME
Username
Password
Show All
Add Admin
Enter Username
Enter Password
Confirm Password
ADD

6.3 Inputs and Expected Outputs

MODULE	INPUT	EXPECTED OUTPUT
User UI	All the button events can be performed to retrieve data.	Program must display data according to the requirement of user.
Login Page	Enter Username and Password.	Program display admin UI on correct password.
Admin UI	Admin will select button according to their need.	Program open the correct UI as instructed by admin.
Schedule UI	Admin will select the league name from drop down menu and on pressing create button schedule will be created.	Program should create the schedule on create button and show the schedule if it already created.
Match UI	Admin have to enter match number, League Name, Line ups, Substitutes, Goals scored by each team.	Program should store the all details of the match and also update the points table according to results.
Control Panel	Let Admin fill the form of Players, teams, league, Ground.	Program should store all the data in database.
Points Table	Admin have to enter league name.	Program should retrieve points table of given league name.

CHAPTER SEVEN: CRITICAL EVALUATION

7.0 Success criteria

The success criteria of this project are:-

- All the functions work in a proper manner.
- Database should be maintained.
- All exceptions are handled.
- Constraint are well defined.

7.1 Degree of Success

We have achieved almost everything we wanted to do but we are short of constraints and we can improve this project by adding tournament functionality and adding national teams as well.

7.2 Learning Experience

7.2.1 Research Techniques

We modeled our project and found out all the requirements then we started discovering objects on which we have to work. We get along iteratively and step by step we found more objects to be worked. Finally, we implemented our code.

7.2.2 Project Selection Scale

The reason to select League Management System is that many of students go for mainstream management systems. We were inspired by the functionality of ESPN Football and we wanted to do the same thing by our self as we got to know something new.

7.2.3 Tools

Tools we used are jframe, SQL, Java.

7.3 Assumptions and Limitations

Our project is limited to leagues only. Tournament functionality can be added as well. Our application can be run on local networks only.

7.4 Resources

The user need to have a laptop or pc, internet connection and ip address of Xampp server.

7.5 Future Enhancements

We will try to publish our project for wider perspective so that millions of football fans can get access our application.

Want to Buy this Software?

Email me at:

Shahzaibibrahim96@gmail.com