Database Management System Requirement Specification

Inter-Departmental Football Tournament

Course Name: Database Management Systems Lab

Course Code: CSE-2202

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Registration Number: 2019-16-14

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Submitted to : Dhonita Tripura | Assistant Professor | CSE | RMSTU

Letter of Transmittal:

Date: 23rd August, 2023
Dhonita Tripura | Assistant Professor
Department: Computer Science and Engineering
University: Rangamati Science and Technology University

Dear Ma'am,

Enclosed herewith is the report outlining the Requirement Specification for the Database Management System of the "Inter-Departmental Football Tournament" application. I am seeking your approval for this report.

The report provides a concise yet comprehensive overview of the project requirements and the methods employed to gather them. I have conducted research, consultations, and analysis to ensure a robust understanding of the application's database management needs.
Your review and feedback on this report would be greatly appreciated. Your insights will undoubtedly contribute to the project's success.

Thank you for your time and consideration.

Best regards,
Lucky Salma Kabir

Executive Summary:

Inter-Departmental Football Tournament

From what I've seen among fellow students at different universities, Inter-Departmental Football Tournaments are still being handled using pen and paper. So, I've decided to make things easier by automating the management of these tournaments. My project aims to develop a system that will let us handle almost everything related to these tournaments without the need for manual paperwork.

Inter-Departmental Football Tournament:

Inter-Departmental Football Tournaments in a University" involve organizing friendly football competitions among different departments within the university. This typically includes team registrations, fixture scheduling, match results recording, and tracking player statistics. A database management system for this scenario could centralize team information, manage match schedules and outcomes, and provide a platform to monitor player performance and tournament progress efficiently.

Project Idea Development:

The motivation behind automating the management of "Inter-Departmental Football Tournaments" through a dedicated database system lies in the need for efficiency, accuracy, and convenience. The current pen-and-paper approach is not only time-consuming but also prone to errors and difficulties in information retrieval. By developing a database management system for these tournaments, I aim to streamline the entire process. This includes simplifying team registrations, creating and managing fixture schedules, recording match results digitally, tracking player statistics, and providing an accessible platform for administrators and participants to monitor tournament progress in real-time. Such automation would significantly reduce administrative burden, improve data accuracy, enhance communication, and elevate the overall experience for participants and organizers alike.

Database Project Storyline:

"Inter-Departmental Football Tournaments"

1. Setting the Stage:

In a university, the tradition of "Inter-Departmental Football Tournaments" has been a cherished event, but the manual management of teams, matches, and related activities has proven to be a cumbersome process. With the aim of enhancing the tournament experience, I, from the Computer Science department have decided to develop an automated database management system for these tournaments.

2. Entity Design:

The team identifies the key entities involved in the tournament: Teams, Players, Stadiums, Matches, Referees, Penalties, Scores, and Punishments. They define the attributes associated with each entity to capture essential information.

3. Team and Player Management:

The system allows teams to register online, providing details such as team name, captain, and participating players. Team rosters are maintained, including player names, registration numbers, and positions etc.

4. Stadium Allocation:

The database tracks available stadiums and their schedules. When a match is scheduled, the system assigns a suitable stadium, considering availability and other constraints.

5. Match Scheduling and Referees:

The automated system handles the fixture scheduling, ensuring a fair distribution of matches across departments. It also assigns referees to matches, keeping track of their availability and preferences.

6. Recording Match Details:

For each match, the system records scores, penalties, and any associated punishments. Player statistics, such as goals scored, assists, and cards received, are updated in real-time.

7. Real-time Updates:

Players and organizers can access the system to view match schedules, track team standings, and stay updated on tournament progress. Scores, match results, and player performances are readily available.

8. Penalty and Punishment Tracking:

The database tracks penalties, such as fouls or violations, and the resulting punishments, ensuring fair play and discipline across matches.

9. Data Analysis and Reporting:

As the tournament progresses, the system generates reports on player performance, team standings, and match outcomes. This data offers insights into the tournament dynamics.

10. Enhanced User Experience:

Participants, organizers, and spectators benefit from the streamlined process. Team captains can easily manage their squads, referees have match assignments at their fingertips, and spectators have a dedicated platform for live updates.

11. Conclusion:

The project successfully transforms the manual management of "Inter-Departmental Football Tournaments" into an efficient, automated process. With accurate data tracking, real-time updates, and comprehensive reporting, the system elevates the overall experience for everyone involved, making the tournaments more enjoyable and professionally managed.

Entity and Attribute Selections:

Entity 1: Team

Attributes:

- dept_name
- dept_head
- Team_manager
- Team_captain
- team_short_name

Entity 2: Player

Attributes:

- reg_no
- session
- semester
- player_name
- position

Entity 3: Stadium

Attributes:

- location
- stadium_name
- capacity

Entity 4: Referee

Attributes:

- name
- referee_institute

Entity 5: Penalty

Attributes:

- team1_penalty_score
- team2_penalty_score

Entity 6: Match

Attributes:

- date_and_time
- team1_name
- team2_name
- team1_goals
- team2_goals

Entity 7: Score

Attributes:

- player_name
- goals
- team_name

Entity 8: Punishments

Attributes:

- punishment_type
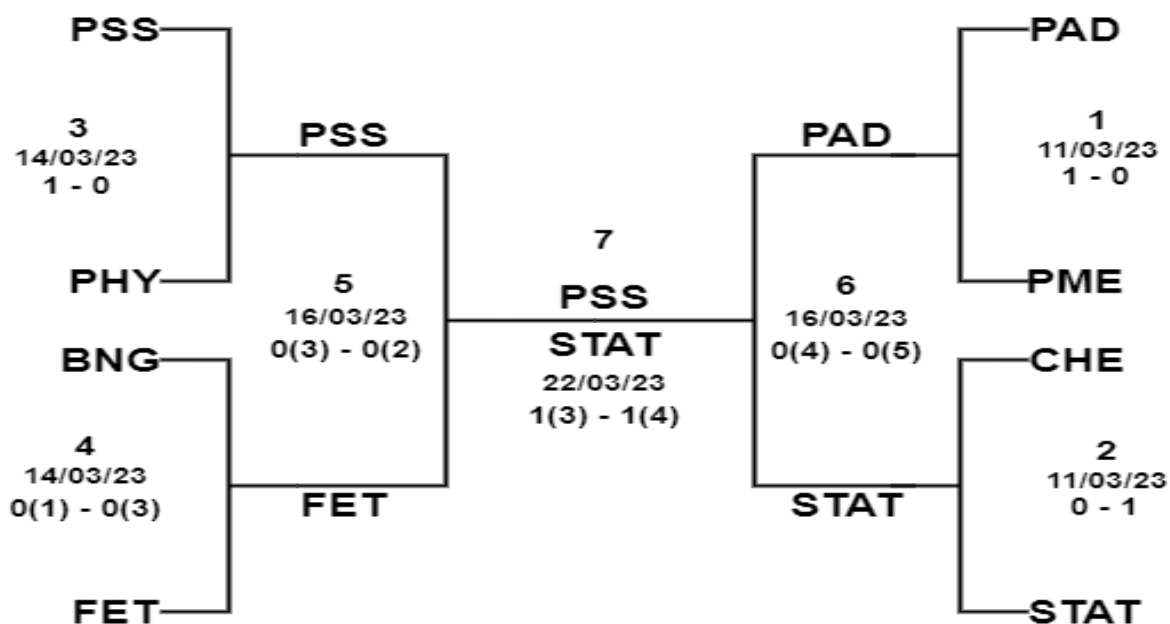- player_name
- team_name

Data that I've gathered so far…

Figure 1: Customized Inter-Departmental Football Tournament Match Fixture

No	Dept Code	Dept Name	Dept Short name
1.	1001	Anthropology	ANP
2.	1002	Architecture	ARC
3.	1003	Bangla	BNG
4.	1004	Biochemistry and Molecular Biology	BMB
5.	1005	Business Administration	BBA

Figure 2: Department Information

Match 1
PAD vs PME

Referee

refID	refName	refInstitute
101	Hasan	BFF
102	Sharif	BFF
103	Suneel	BFF
104	Basit	BFF

Score

playerRegNo	teamDeptCode	Goals
2017237036	1024	1

Punishment

playerRegNo	teamDeptCode	Punishment Type

Figure 3: Match Information

Referee ID	Referee Name	Referee Institute
101	Hasan	BFF
102	Sharif	BFF
103	Suneel	BFF
104	Basit	BFF
105	Ripon	BFF
106	Anil	BFF

Figure 4: Referee Information

Inter-Departmental Football Tournament

Rangamati Science and Technology University

Department Name:
Captain Name:

Serial	Name	Registration	Session

Manager of the Team:
Head of the Department: |

Figure 5: Team Information

By working on these raw data, I've prepared an Entity-Relationship Diagram for my own Database Project. Here you can see in the next page.
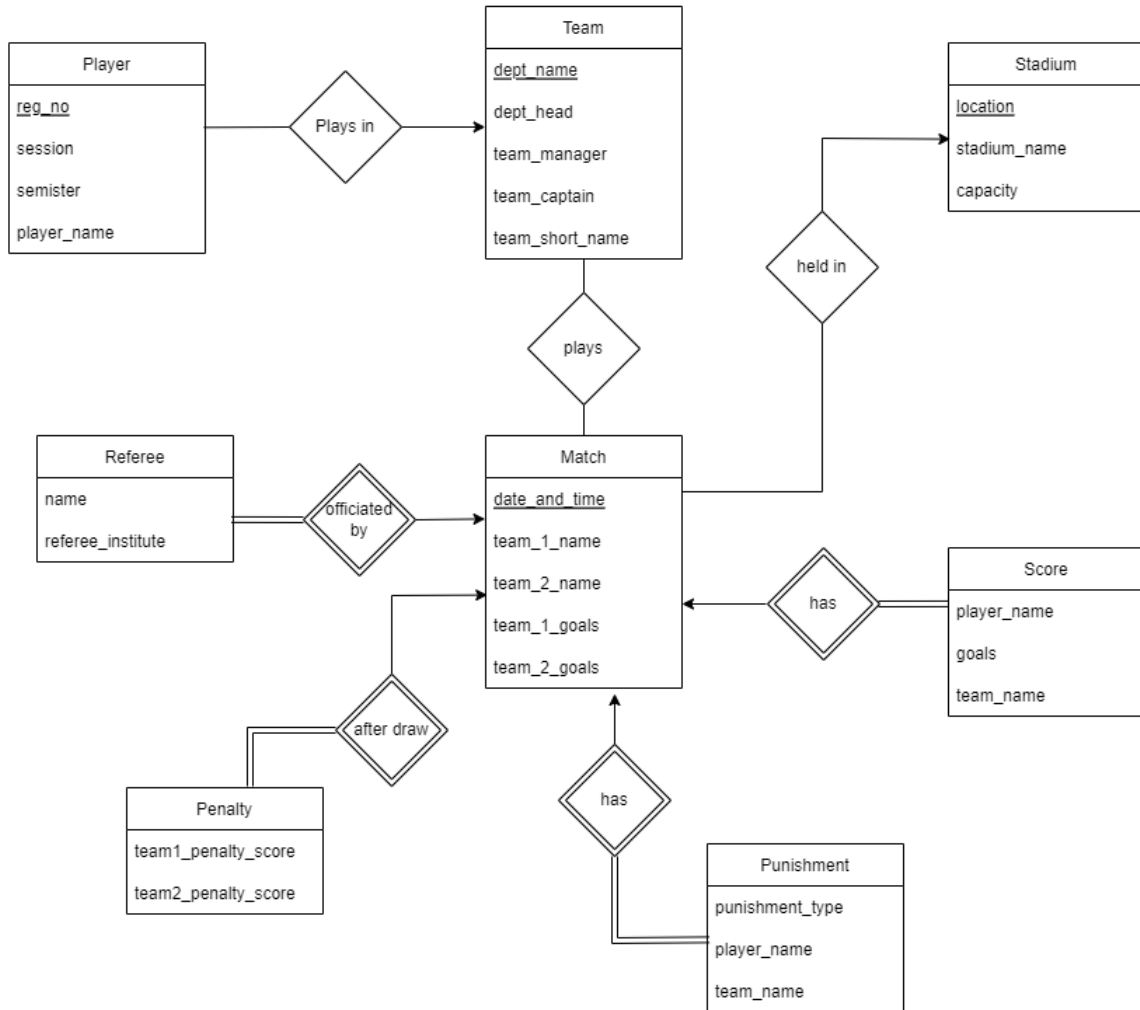
Entity-Relationship Diagram - ERD

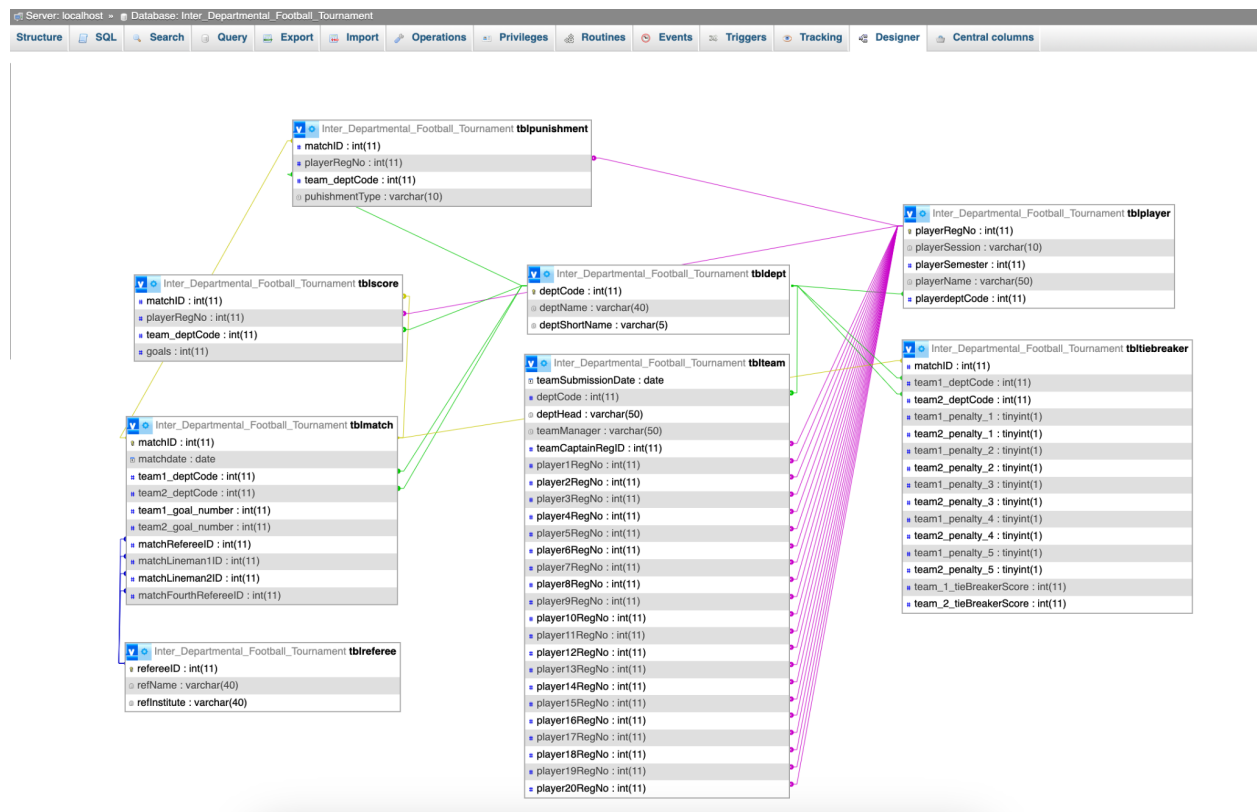

Figure 6: ERD for "Inter-Departmental Football Tournament"

Figure 7: Database Schema Table

THANK YOU… Any Questions?