DATABASE MANAGEMENT SYSTEM (DBMS)

PROJECT PROPOSAL

TOURNAMENT MANAGEMENT SYSTEM

MEMBERS:

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1. Introduction

The Cricket Tournament Management System is a database-driven web application designed to manage and organize cricket tournaments efficiently. The system provides a structured way to store, retrieve, update, and delete information related to tournaments, teams, players, and match officials. This project is developed as part of an academic requirement to demonstrate practical knowledge of Database Management Systems (DBMS) and backend web development using PHP and MySQL.

Cricket is one of the most popular sports, and managing tournaments manually can lead to errors and data inconsistency. This system solves that problem by providing a centralized digital platform that ensures accuracy, consistency, and ease of access to tournament data.

2. Purpose of the Project

The main purpose of this project is to:

- Provide a computerized solution for managing cricket tournaments
- Reduce manual record-keeping and paperwork
- Demonstrate the implementation of ERD-based database design
- Apply CRUD (Create, Read, Update, Delete) operations using PHP and MySQL
- Enhance understanding of relational databases and backend development

This project also helps students gain hands-on experience with real-world database applications.

3. Scope of the Project

The scope of the Cricket Tournament Management System includes:

- Managing tournament details (location, start date, end date)
- Managing team information under specific tournaments
- Managing player details associated with teams
- Managing match officials information
- Performing full CRUD operations on all main entities

Out of Scope:

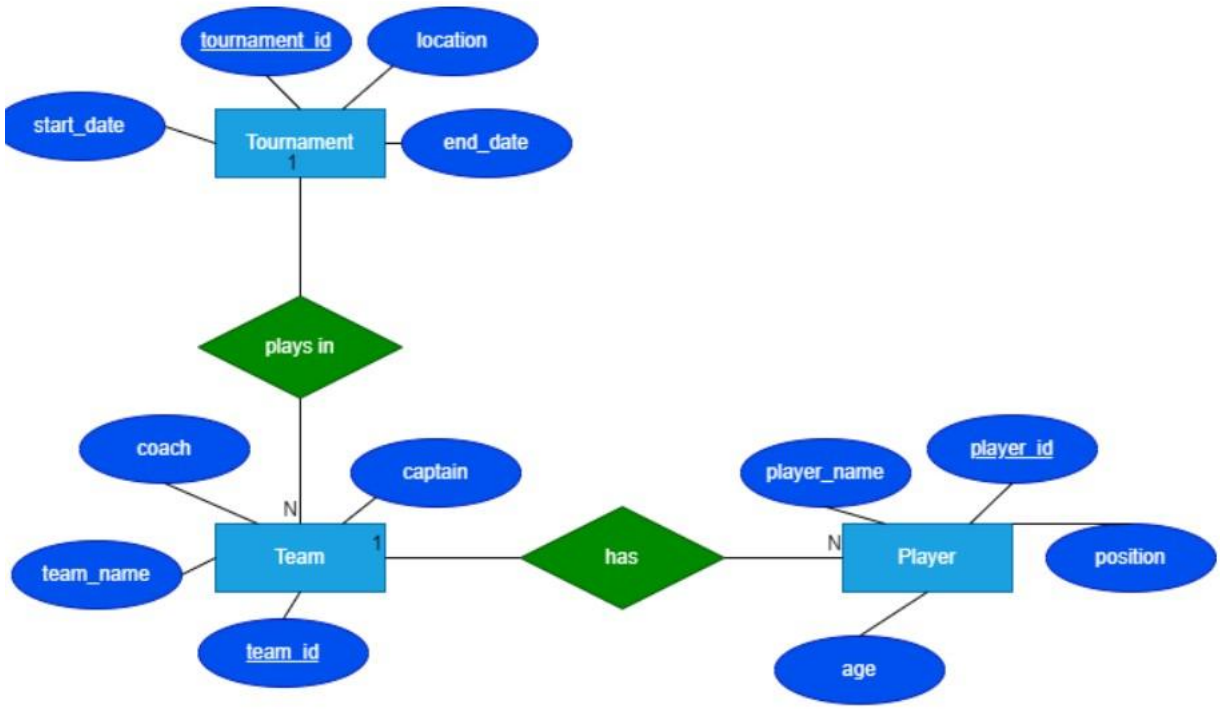
- Online user authentication
- Match scheduling and live score updates
- Payment or ticketing system

4. Tools & Technologies

The following tools and technologies were used in the development of this project:

- **Frontend:** HTML, CSS (Cricket-themed GUI)
- **Backend:** PHP (MySQLi Procedural)
- **Database:** MySQL
- **Server:** XAMPP (Apache & MySQL)
- **Development Tools:** VS Code / Notepad++
- **Browser:** Google Chrome

5. Final ERD



The ERD of the project consists of the following entities:

- **Tournament**
- **Team**
- **Player**
- **Match_Officials**

Relationships:

- One Tournament can have many Teams (1:N)
- One Team can have many Players (1:N)
- Match Officials are maintained as a separate entity

The ERD ensures data integrity through the use of primary keys and foreign keys.

6. Logical Schema

The logical schema derived from the ERD is as follows:

- **Tournament** (tournament_id PK, location, start_date, end_date)
- **Team** (team_id PK, team_name, coach, captain, tournament_id FK)
- **Player** (player_id PK, player_name, age, position, team_id FK)
- **Match_Officials** (**official_id PK, official_name, role, experience_years**)

This schema represents how data is logically organized in relational tables.

7. Database Design Explanation

The database is designed using normalization principles to avoid redundancy and ensure data consistency.

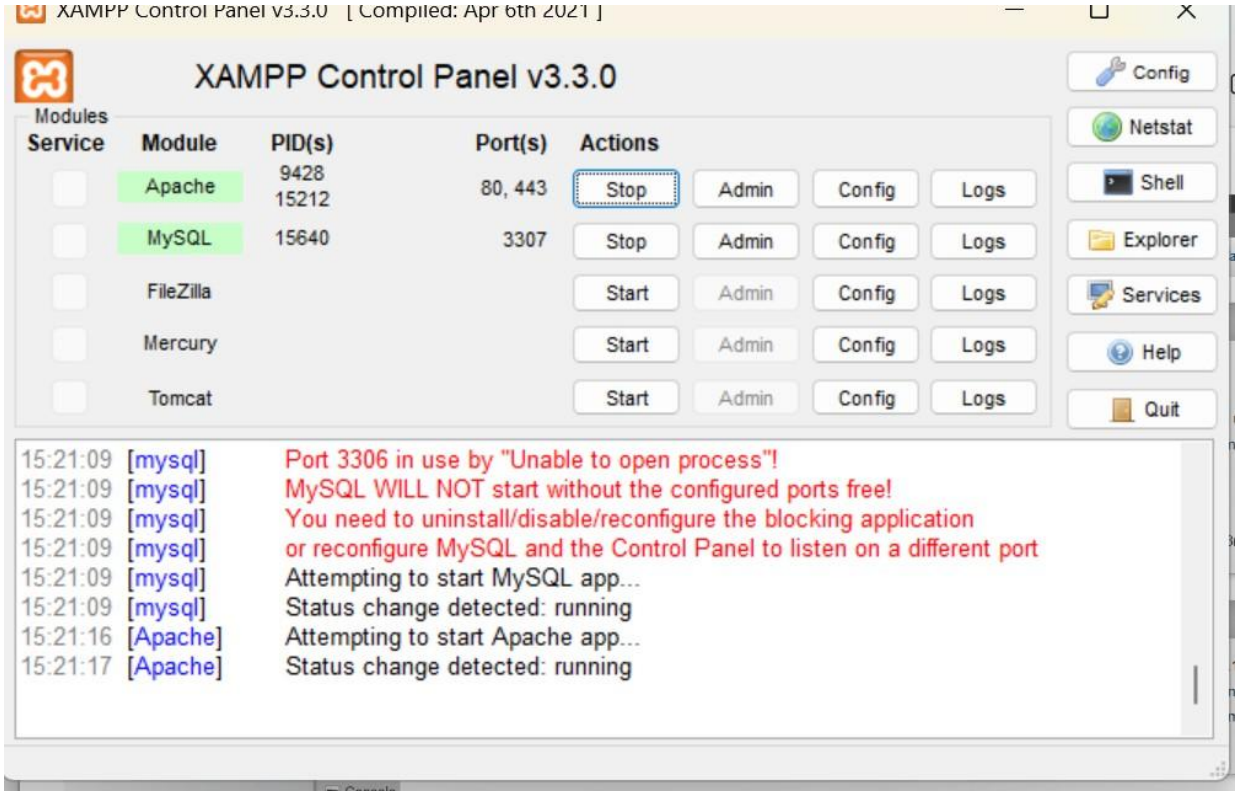
- Each table has a **Primary Key** to uniquely identify records
- **Foreign Keys** are used to establish relationships between tables
- Cascading rules ensure referential integrity
- Data types are carefully selected for efficiency and accuracy

The design allows easy expansion of the system in the future, such as adding matches or score records.

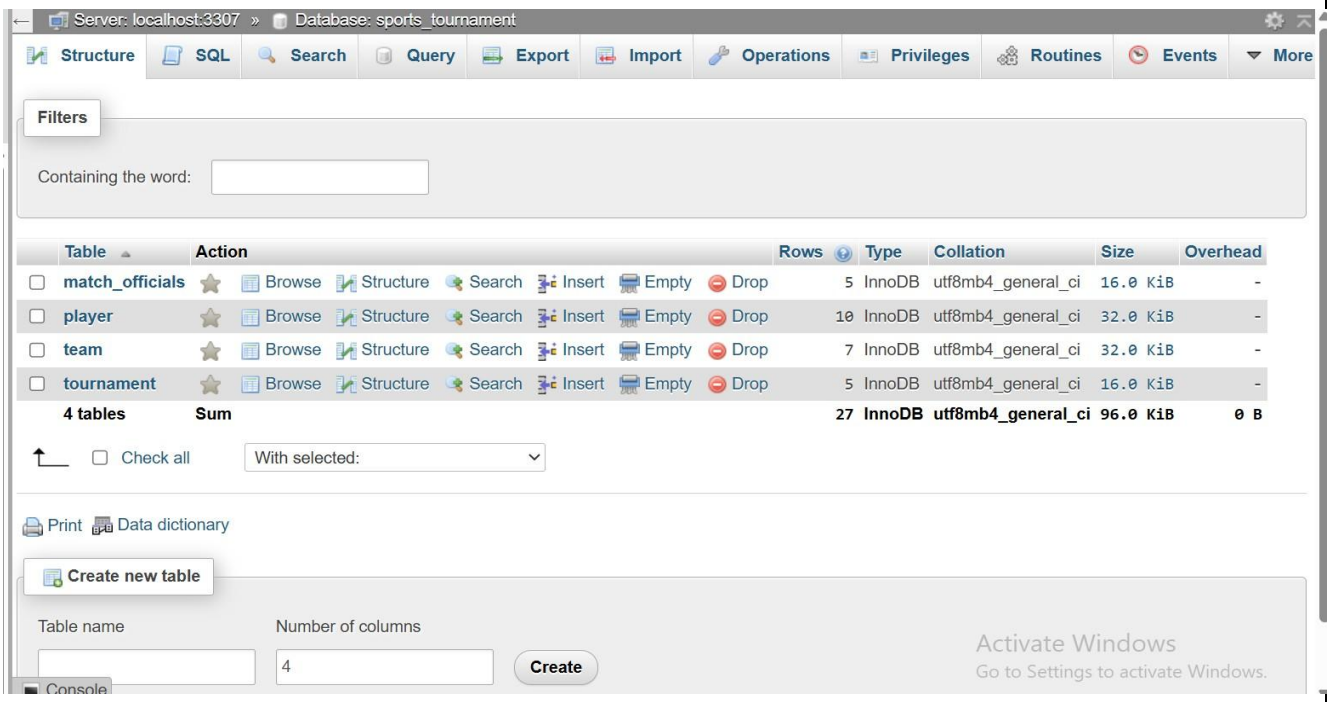
8. Screenshots of Implementation

The following screenshots are included in the implementation section:

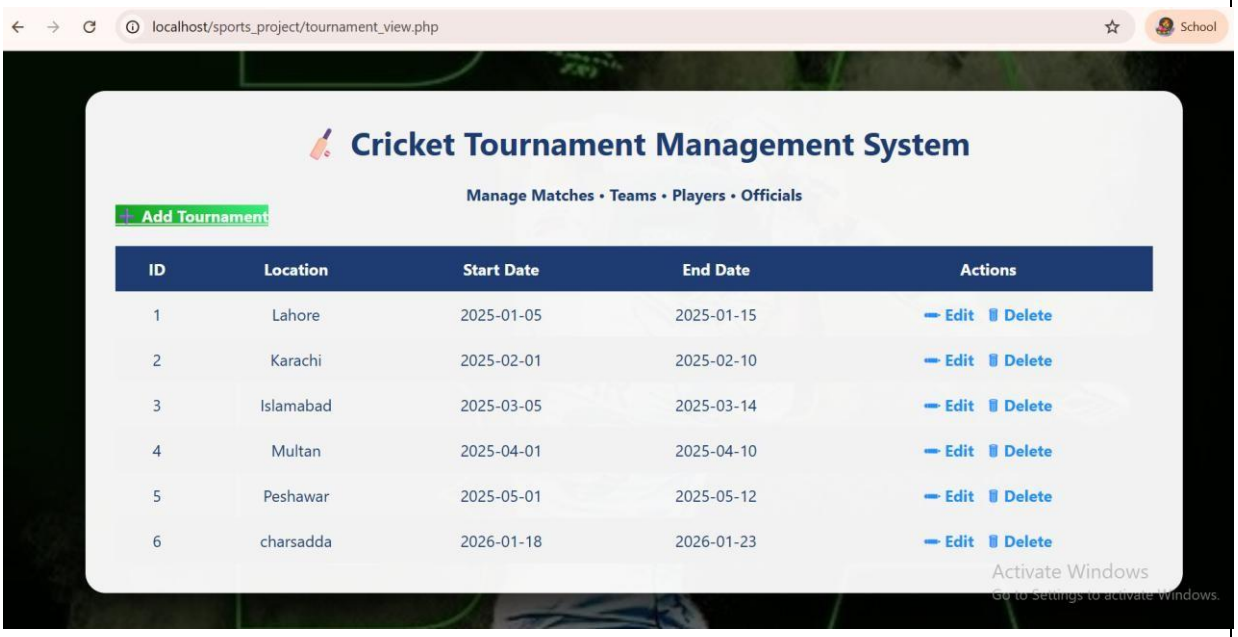
- XAMPP Control Panel (Apache & MySQL running)



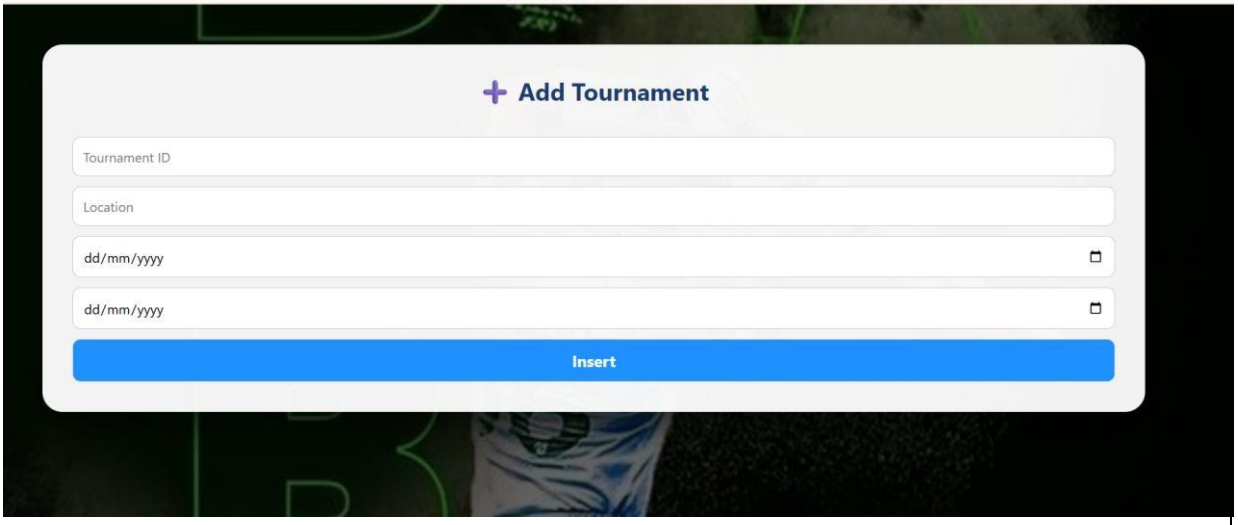
- phpMyAdmin database and tables



- Tournament View page (GUI with cricket background)



- Add Tournament form



- Edit and Delete operations in action

9. Conclusion

The Cricket Tournament Management System successfully fulfills all the objectives defined at the start of the project. It provides a reliable, efficient, and user-friendly way to manage cricket tournament data using a relational database.

Through this project, practical skills in database design, PHP backend development, and CRUD operations were gained. The system is scalable and can be enhanced further with advanced features such as user login, match scheduling, and live score management.

This project demonstrates a complete and well-structured implementation of a database-backed web application.