A PROJECT REPORT

ON

“College Sport Management System’’

Submitted to

“SHIVAJI UNIVERSITY, KOLHAPUR”

For the partial

fulfilmentof

The requirement of the award

BACHELOR OF COMPUTER APPLICATIONS (BCA)

By

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Under the guidance of

Miss. S. V. Patil

Through

The Principal

JAYSINGPUR COLLEGE, JAYSINGPUR

2024-2025

JAYSINGPUR COLLEGE, JAYSINGPUR

CERTIFICATE

This is to certify that, the project report entitled **"College Sport Management System"** is record of project work, carried out in this college by **Faiz Jamadar and Altaf Shaikh** in partial fulfilment of award of **BCA (Computer Science)** as laid down by Shivaji University, Kolhapur during the year 2024-2025. This project presents their sincere work carried out under our guidance.

To the best of my knowledge & belief the matter presented in this project report has not been submitted earlier to any university for similar purpose.

Place: Jaysingpur

Date:

Miss. S. V. Patil	Mr. B.A.Patil	(Examiner)
(Project Guide)	(H.O.D.)	Shivaji University, Kolhapur

DECLARATION

We hereby declare that the project entitled **"College Sport Management System"** which is being submitted here with has been developed and completed by us is our original work and has not previously been submitted to any university or examining body for the award of any degree .

We have referred the websites given in the bibliography during the development of the project and have not copied any of written material or its part thereof. This project is purely our own and on us merits.

Place: Jaysingpur

Date :

Mr. Faiz Zakirhusen Jamadar.
(Seat No : 04960)

Mr. Altaf Chandso Shaikh.
(Seat No : 04990)

ACKNOWLEDGEMENT

The first and foremost person, we would like to thank is our guide **Miss. S. V. Patil** for her keen interest, valuable guidance, and continuous encouragement throughout the development of this project work. We express our sincere thanks to other faculty members of computer science department for their valuable suggestions and support.

We would like to express our deepest gratitude for constant support , understanding and care that we received from our parents who taught us to go ahead in the right way and never to be depressed even in the complicated situations .

Finally, we would like to express our sincere gratitude to those who have helped us directly or indirectly in our project .

Place: Jaysingpur
Date :

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INTRODUCTION

1.1 PROBLEM DEFINITION

Managing the intra-college or university sports activity is a daunting task irrespective of whether the institution accommodates a small student body or a large population. Administrators of such a program need to manage not just the sports activities, but also the teams and athletes that participate in the various sports as well as maintain statistics that are related to the program. In addition, coordinating the scheduling of contests, facilities, and officials as well as manipulating the large amount of data in various logical formats becomes an overwhelming task. A typical intramural program

1.2 PROJECT DESCRIPTION

The **College Sports Management System (CSMS)** objective is to provide which manages the activity of many sports at a time. It also manages the registration process and announcement of the results. The users will consume less amount of time when compared to manual paper work through the automated system. The system will take care of all the servicing activity in a quick manner.Data storing is easier. It will be able to check any report at any time. Paper work and manual work is reduced. The system is user friendly and easy to use.

Modules of CSMS

Add sports

We can add new sports into the system so that we are able to retrieve it later during the registration process. The sports added would be viewed during the creation of a new intra-college or university tournament.

Add scoreboard

We add scoresboard so that the students can view it and the results of each match are announced here so that there will be only one platform for the results. This would reduce the chaos during the score announcement.

Add Tournament

Each tournament from a intra-college or a university can be added here. It later would help in the registration of any sports in that tournament. While adding a new tournament the system would show the set of sports that are entered into the system by the director of the sports so only those sports can be included into the tournament while creation.

Remove sports

This module will help in the removal any sports that the sports director thinks is not needed in the system. The removed sports would be not be shown anywhere in the system that includes during the addition of a new tournament.

Edit scoreboard

The added scoreboards would be updated here. This module helps in the updating of the scores in the scoreboard. Only the scoreboard which are added using the add scoreboard module would be present here and only these scoreboards can be updated. We won't be able to add a new scoreboard here.

Remove players

This module would remove each players after each round of the tournament. So that only the existing player will be present and the one that are not qualified for the next round would be removed using this module. This would give a clear picture of the qualified players. As well as the player form the college team I can also be removed.

Remove Tournament

After each tournament in the college or a university we should remove it, so that there won't be any

confusion between different tournaments which is going to be held later on. This module would help in removing all the details of the deleted tournament.

Registration Individual
This module would help in registration of individual sports events held in the tournament. We selected the tournament which we want to be part of and the sports which we want to participate in and the player would add his name and the required details asked in the registration form. After all these process then we can click on the submit button and the student has registration for the tournament that they wish to participate.

Registration Group
This module would help in registration of group sports events held in the tournament. We selected the tournament which we want to be part of and the sports which we want to participate in and the set of players name would be added and the other required details asked in the registration form. After all these process then we can click on the submit button and the student has registration for the tournament that they wish to participate.

Payment
This module would help in the online payment. So that the students wouldn't have to stand in the queue or have a hard cash in hand in order to do any payment to the sports department. By using this module we are reducing a lot of paper work and we are giving the students the liberty of doing the payment from wherever they are.

1.1 ABSTRACT

Sports play a vital role in student development, requiring efficient management of teams, events, and resources. The College Sports Management System is a C#-based application designed to streamline the administration of college-level sports activities. This system provides a centralized platform for managing players, teams, tournaments, and event schedules while tracking performance statistics and attendance. The system caters to multiple users, including administrators, coaches, players, and students, offering role-based access to functionalities. Coaches and administrators can register players, assign them to teams, schedule matches, and monitor player performance. Students can view upcoming events, track their progress, and register for tournaments. The system also includes event notifications, real-time score updates, and detailed reports to assist in decision-making. The project is developed using C# and .NET technologies, with SQL Server as the database backend. It ensures data integrity, ease of access, and realtime updates, making sports management more efficient and transparent. With potential future enhancements like AI-based performance analysis and mobile integration, this system serves as a comprehensive solution for digitizing college sports administration.

1.2 EXISTING SYSTEM

In many colleges, sports management is often a fragmented process, relying heavily on manual methods and disparate tools. Traditional systems lack integration and efficiency, leading to several challenges:

1. **Manual Processes**: Current sports management often involves manual recordkeeping and scheduling, which are time-consuming and prone to errors. Administrators and coaches spend a significant amount of time managing paperwork, leaving less time for actual sports training and development.

2. **Ineffective Communication**: Communication between coaches, athletes, and administrators is often hindered by the lack of a centralized platform. Important information about schedules, events, and athlete performance can be miscommunicated or missed entirely, affecting overall coordination and performance.

3. **Limited Performance Tracking**: Traditional methods of tracking athlete performance are often inconsistent and lack comprehensive analytics. This makes it difficult for coaches to monitor progress, identify areas for improvement, and tailor training programs effectively.

4. **Resource Management Issues**: Managing sports resources, such as equipment and facilities, is often inefficient. There is little to no tracking of resource usage, leading to mismanagement, overbooking, and underutilization of available resources.

5. **Lack of Transparency and Efficiency**: The current system does not provide the necessary transparency and efficiency required for effective sports management. This results in administrative bottlenecks, miscommunication, and delayed decisionmaking, all of which negatively impact the overall sports program.

6. **Dependency on Multiple Tools**: Various tools and platforms are often used in an uncoordinated manner, adding to the complexity of managing sports activities. This fragmentation further complicates administrative tasksand efficient sports management system that can address these pain points and create a more cohesive, transparent, and effective environment for managing college sports activities

1.3 NEED AND SCOPE OF COMPUTER SYSTEM

1. User Roles & Authentication • Admin: Manages users, events, teams, and schedules. • Coach/Staff: Adds players, updates performance stats, schedules training. • Players: Views schedules, results, and performance analytics. • Students & Spectators: Can register for events and check results.

2. Player & Team Management • Add, update, and delete player details (name, age, position, etc.). • Create and manage teams (rosters, captains, coaches). • Track player performance and statistics.

3. Event & Tournament Management • Schedule sports events (matches, training sessions, tournaments). • Venue and time allocation. • Bracket generation for tournaments (single/double elimination). • Live updates for ongoing events.

4. Attendance & Training Management • Track player attendance for matches and training sessions. • Schedule and manage training sessions. • Performance improvement tracking over time.

5. Score & Performance Tracking • Live score updates during matches. • Record and store match results. • Generate player performance reports (goals scored, assists, fouls, etc.).

6. Equipment & Resource Management • Track inventory of sports equipment. • Allocate resources for different teams.

7. Payment & Fee Management (Optional) • Manage registration fees for tournaments. • Online payment integration for ticket booking.

8. Notifications & Communication • Send event reminders and notifications. • In-app messaging for coaches and players.

9. Reports & Analytics • Generate performance reports for players and teams. • Attendance reports for training and matches.

PROPOSED SYSTEM

PROPOSED SYSTEM

In the proposed College Sports Management System student can get all the information of various games and the venue. The student can get registered from anywhere and at any time. By using this system student can save a lot of time and effort. The student can easily get the information from anywhere. The proposed system is a web based system where the student will be an able access it using internet. It's more reliable and there is a log which is kept so that we are able to check history.

EXISTING SYSTEM

The existing system is more of a manual work, where the students have to walk up to the sports department and have to register for the events that they desire to participate, it's not just the registration process but even other activities such as the announcement of the result, the payment etc. This results in a lot of paper work and chance of the data's getting mixed up are high. In the existing System, students are not able to get proper information about the games conducted in various venues. The student needs to spend a lot of time to get the information about the game. The student should attend the venue to get information on the game which takes a lot of time. The information such as the qualified players list, the timing of the event, the score of the sports happening etc.

DISADVANTAGE OF EXISTING SYSTEM

- Involves a lot of paper work
- Students have to walk a lot for the registration and other sports related activities - Data getting corrupted is high
- Human error is common during an intra-college and university tournament.
- The students need to visit the venue to get all the information of the tournament and would have to wait for a long time.
- Manually recording all information with regard to all data and manually creating the contest schedules, coordinating facility usage, and hand-registering athletes and teams. The dissemination of information would require that documents be typed, photocopied and putted up in the notice board or common place where students can view.

2.1 OBJECTIVES

- **Streamline administrative processes**: To automate and simplify the various administrative tasks involved in managing college sports activities, such as scheduling events, maintaining athlete records, and allocating resources. This ensures that staff can focus more on coaching and less on paperwork.

- **Enhance communication**: To provide effective communication tools that facilitate seamless interaction between coaches, athletes, and administrators. This includes features for notifications, announcements, and real-time updates, ensuring that everyone stays informed and connected.

- **Improve athlete performance tracking**: To implement performance analytics tools that track and analyze athletes' performance metrics over time. This helps coaches make data-driven decisions to enhance training programs and improve athletic performance.

- **Efficient resource management**: To manage sports-related resources, such as equipment and facilities, more effectively. This includes tracking the usage, maintenance, and availability of resources to ensure optimal utilization.

- **Promote transparency and efficiency**: To create a transparent system where all stakeholders have access to relevant information, reducing the chances of miscommunication and enhancing overall efficiency. This includes maintaining clear records and generating reports for better decision-making.

- **Support athletic excellence**: To foster an environment that promotes athletic excellence by minimizing administrative burdens and providing tools that support athletes' growth and development. The system aims to create a conducive atmosphere for nurturing talent and achieving sports success.

3. SYSTEM CONFIGURATION

3.1 HARDWARE CONFIGURATION

Processor : Pentium 4 or above

Hard disk : 80 GB

Ram : 512 MB SDRAM or above

3.2 SOFTWARE CONFIGURATION

Font – End : Microsoft ASP.NET

Code Behind : C# (C Sharp)

Back- End : SQL Server

Web server : Microsoft IIS

Operating System : Windows 10 or above

Framework : Bootstrap 4.0

Tools : Visual Studio 2019 or above , SQL Server Management Studio

4. Software Interface

• **Front End**: Apache NetBeans IDE 8.2
• **Back End**: MySQL in XAMPP 3.3.0

5. Communication Interface

• Microsoft Windows

6. Functional Requirements

• **Use Cases**
The use cases describe the procedures and exemptions for each function. The appropriate permissions for each user are outlined in the User Characteristics section of this document.

• **Item Entry**
In this module, we can store the details of mobiles items, customers, and staff.

7. Performance Requirements

• The system must support multiple terminals simultaneously, ensuring that multiple users can access and interact with the system without errors or slowdowns.
• The system should handle a reasonable number of requests simultaneously without breaking down or becoming inconsistent.

8. Attributes

• **Reliability**
The system must work reliably under normal operational conditions.

•**Availability**
The system should be available 24/7, except during scheduled maintenance periods. Maintenance should be pre-scheduled and kept short.
Users should be informed in advance about any planned downtimes.

•**Security**
The system can only be accessed by authorized users, with the admin managing security through verified usernames and passwords.
Admins can change passwords only by answering the security question set during registration.

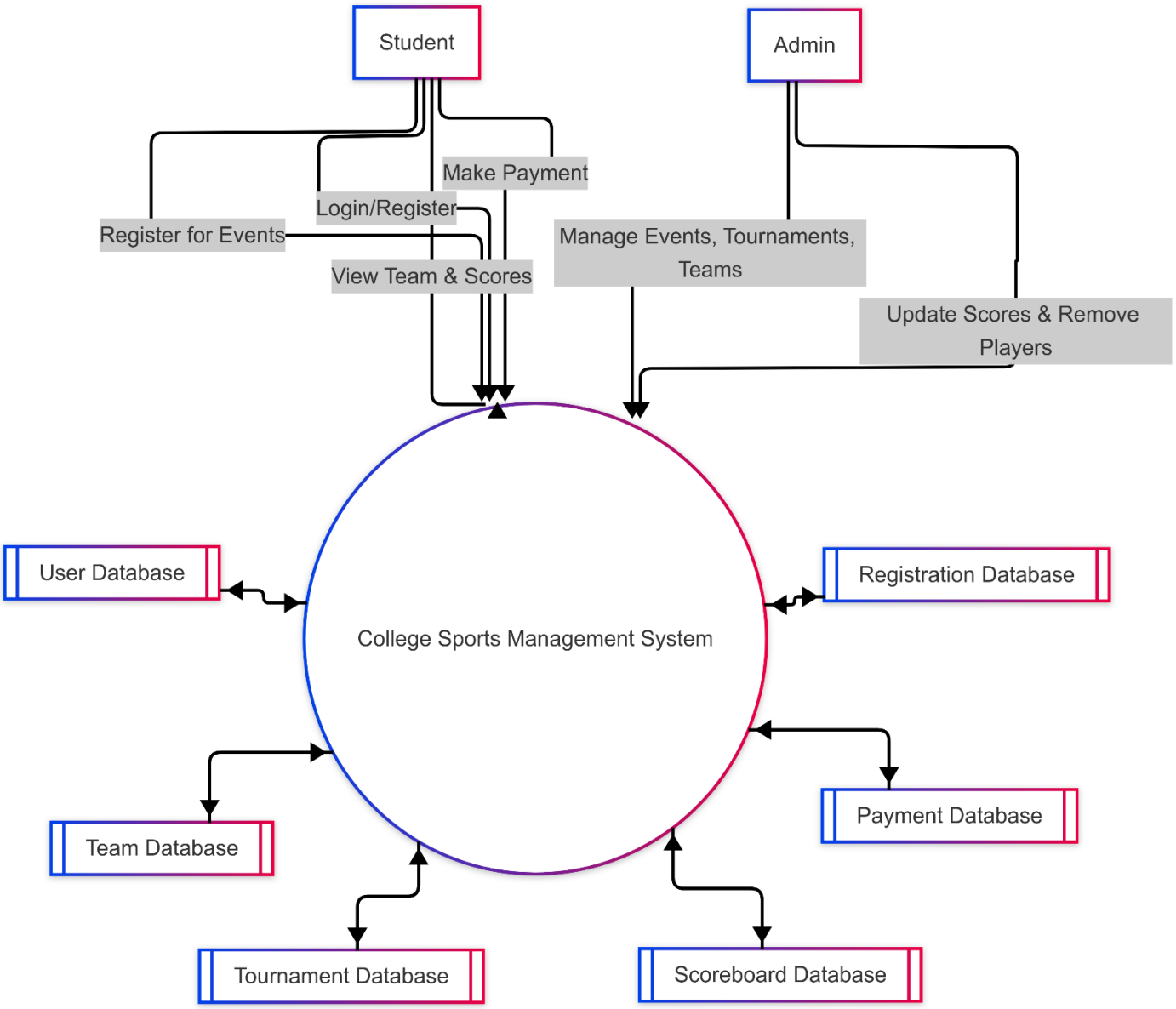
•**Maintainability**
The system should be easy to maintain for users who interact with it regularly, developers who may wish to enhance it, and maintenance personnel.

•**Portability**
The system should be compatible with the latest versions of major browsers. The administrative and server technologies should be standard and supported by most platforms.

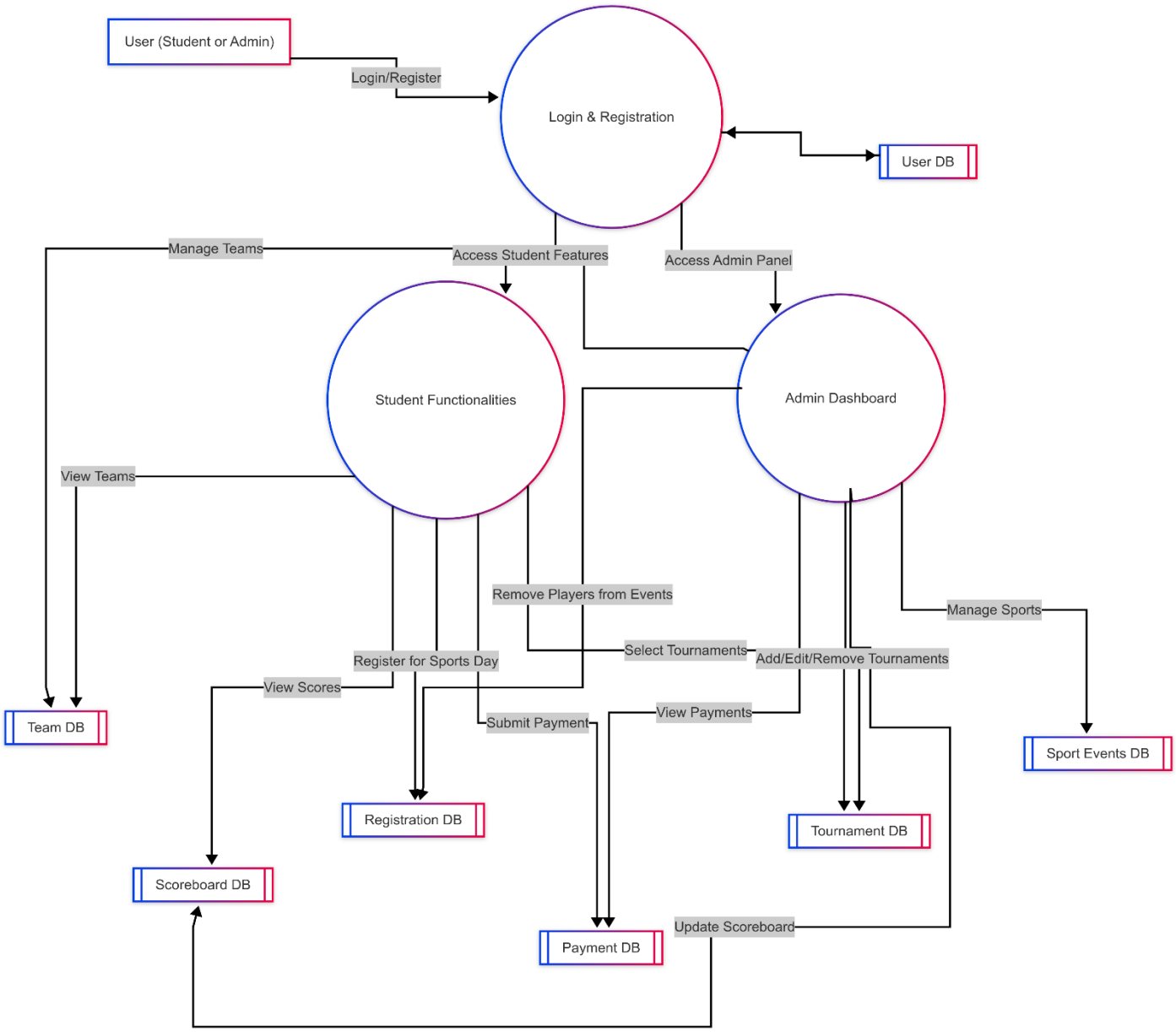
•**Usability**
Easy-to-understand documentation should be provided for end-users, administrators, and developers to ensure smooth operation and understanding.

SYSTEM ANALYSIS

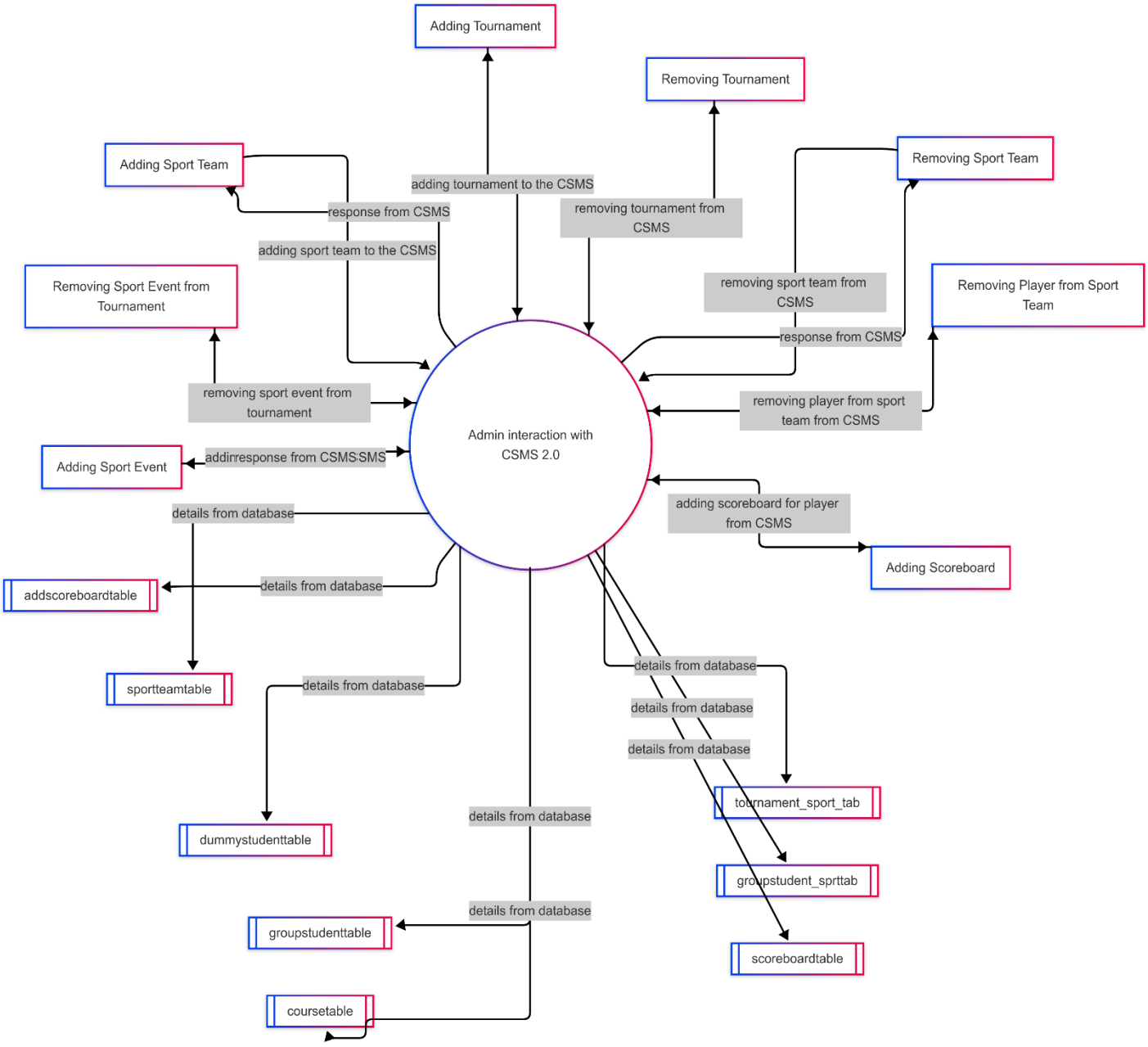
1.Data Flow Diagram (DFD) :-



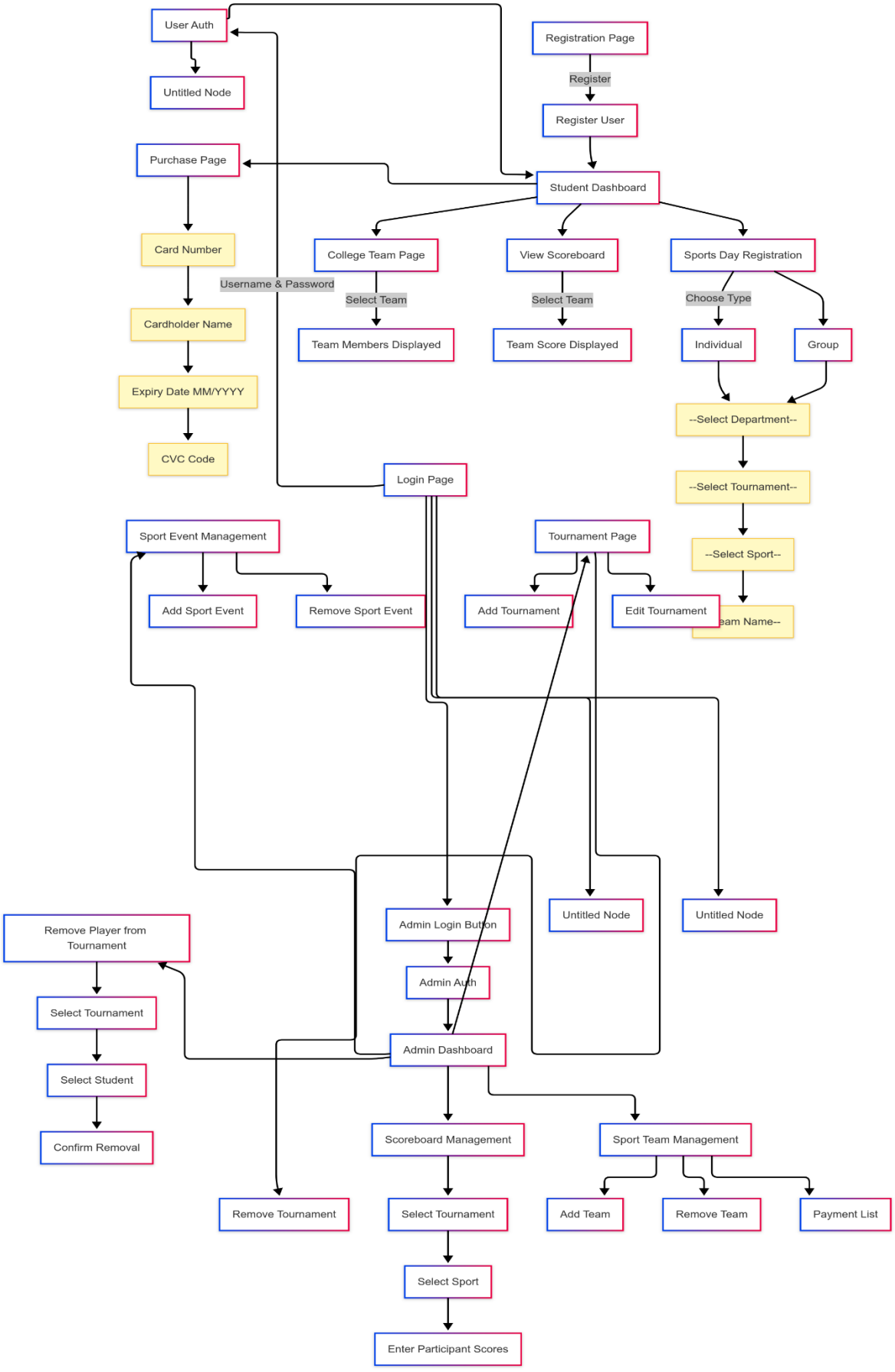
First Level DFD –



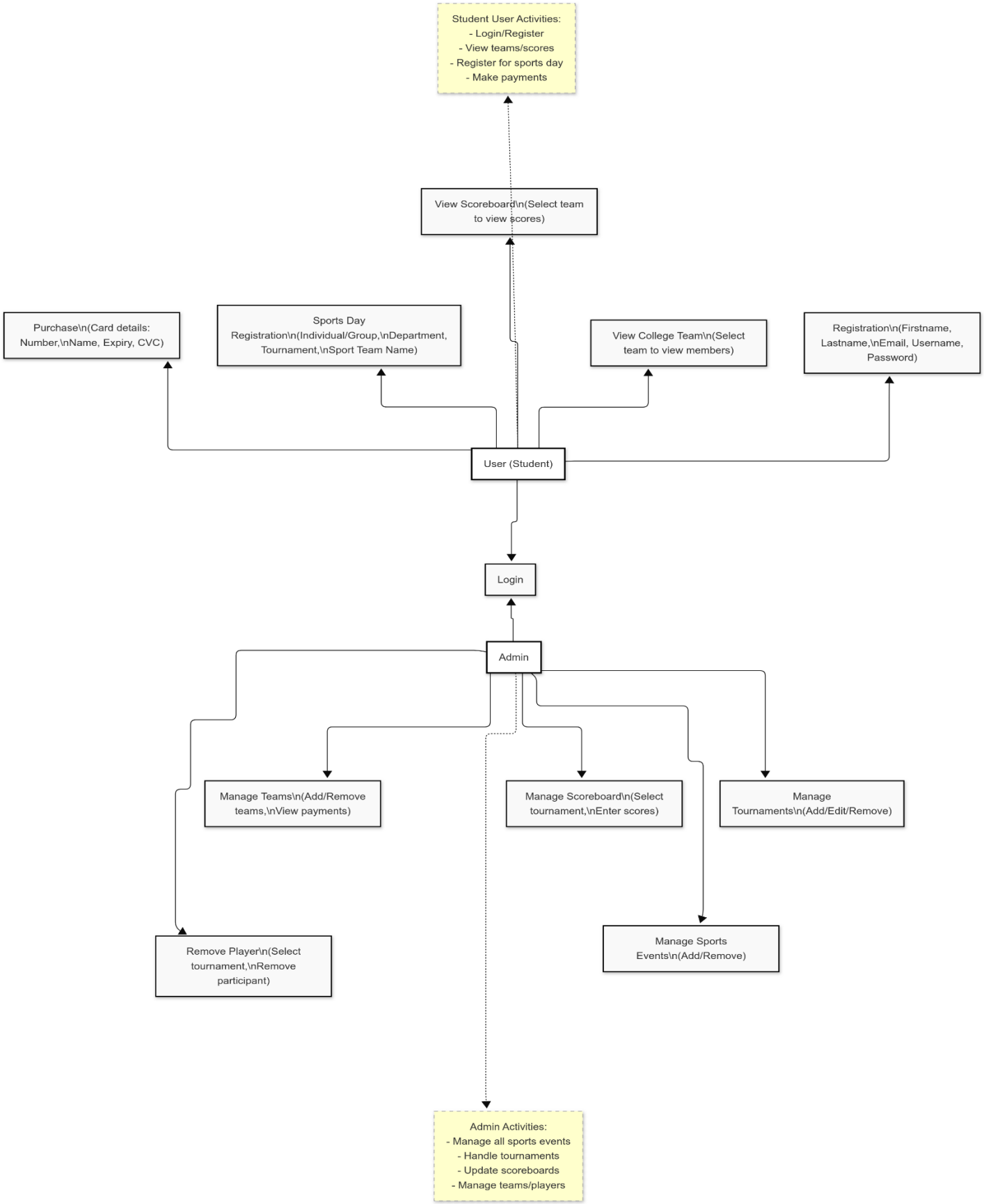
Second Level DFD –



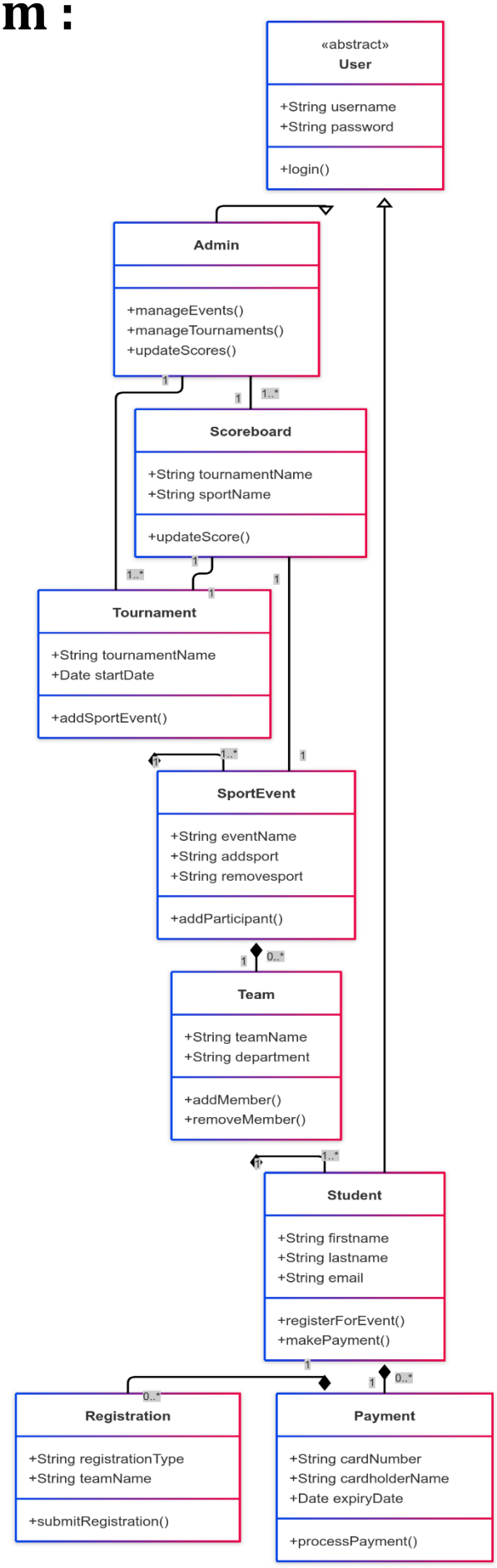
Entity Relationship Diagram (ERD) :-



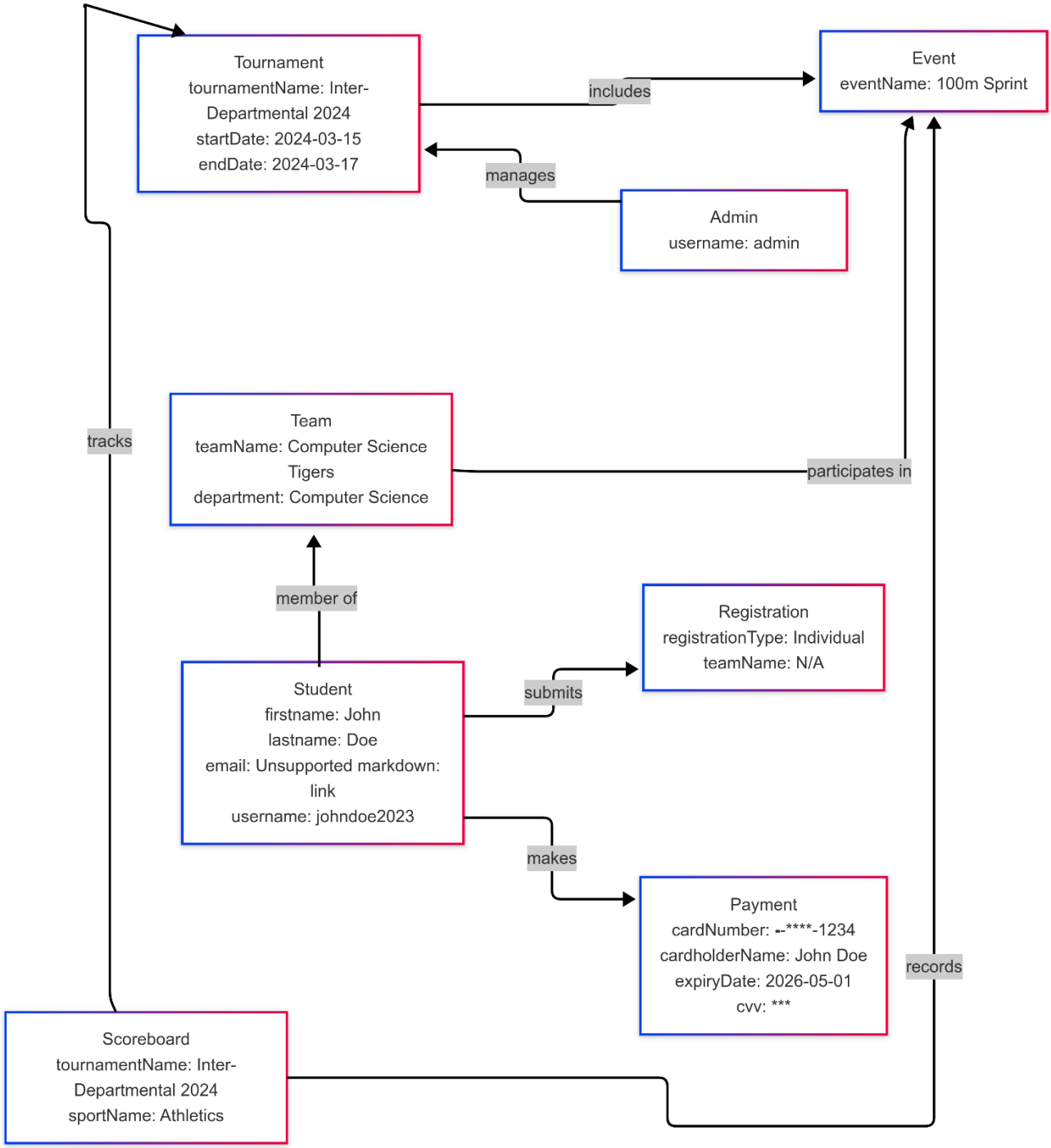
3. UML :-
a. Use Case Diagram :



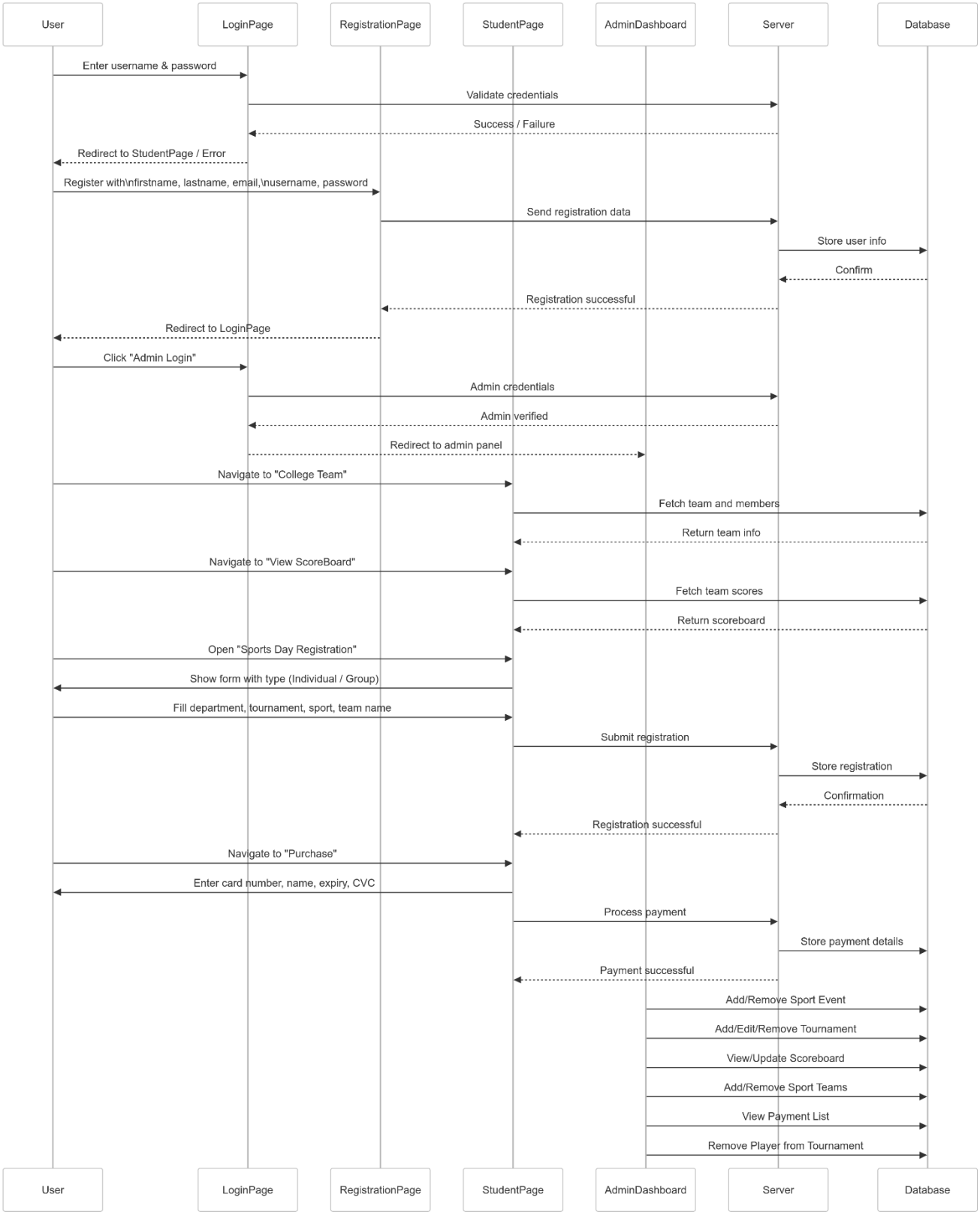
b.Class Diagram :



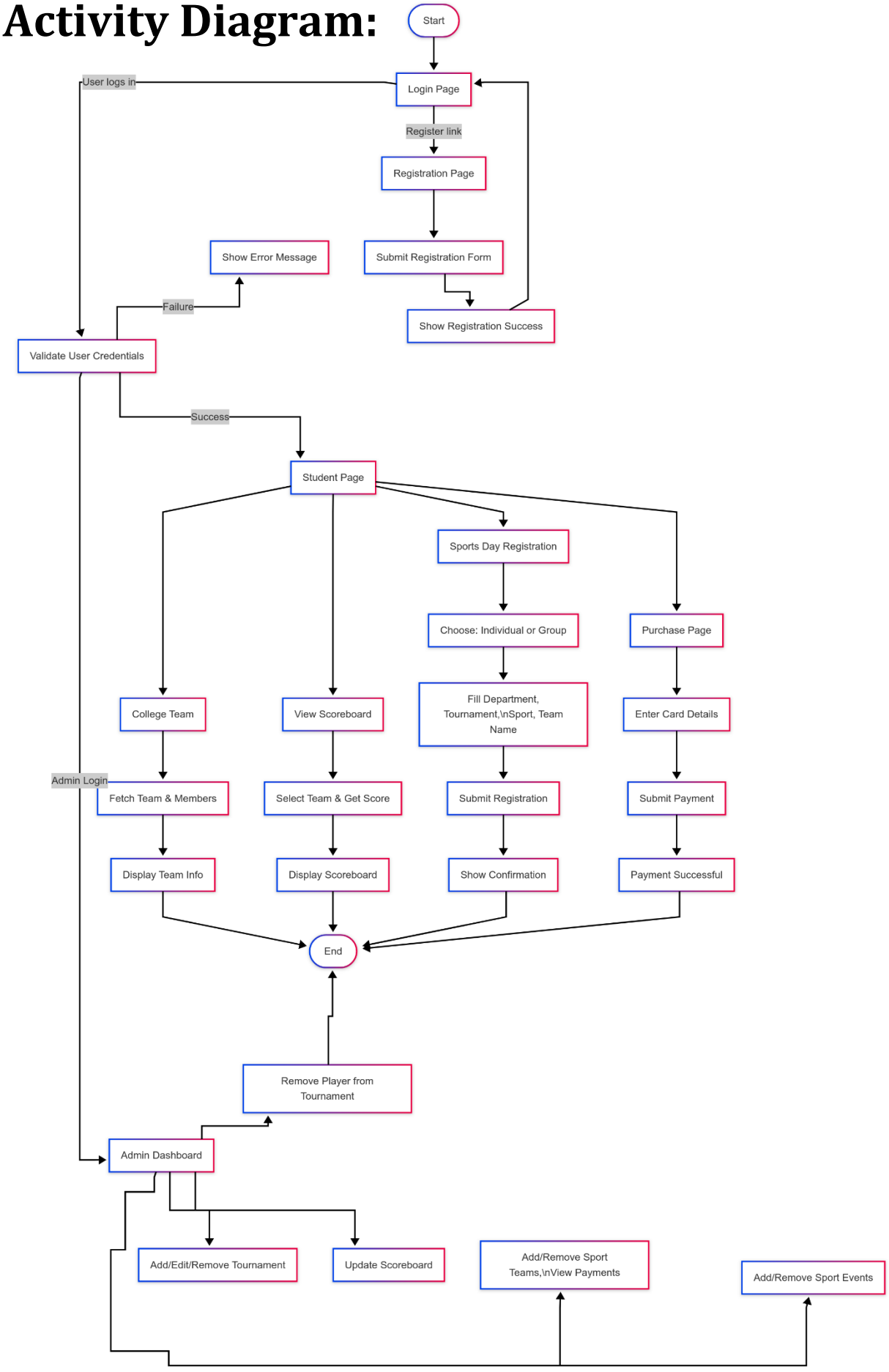
c. Object Diagram



d. Sequence Diagram:



f. Activity Diagram:



SYSTEM DESIGN

DATABASE DESIGN

4.1. Database Design

1] Table: Login

Description: It maintains login details uses data from **Table 2** .

2 Table: Registration Info

Sr. No.	Field Name	Datatype	Constraints	Description
1	fname	varchar(64)	NULL	First name of user
2	lname	varchar(64)	NULL	Last name of user
3	username	varchar(64)	NULL, UNIQUE	Username of user
4	email	varchar(128)	NULL, UNIQUE	Email address of user
5	pass	varchar(128)	NULL	Password of user

Description: It maintains Registration info

3] Table : dummystudenttable

Column Name	Data Type	Allow Nulls	Description
studentid	varchar(50)	No	Unique identifier for student
studentname	text	No	Full name of the student
mobile	numeric(10,0)	No	Contact number (10 digits)
dob	varchar(50)	No	Date of birth (YYYY-MM-DD)
courseid	varchar(50)	No	Identifier for enrolled course
section	text	No	Class section/group designation

Description : It maintain the **dummystudenttable** details.

4] Table : addtournamenttable

Column Name	Data Type	Allow Nulls	Description
tournamentid	int	No	Unique ID for the tournament
tname	varchar(50)	No	Name of the tournament
startdate	varchar(50)	No	Start date (YYYY-MM-DD format)
tenddate	varchar(50)	No	End date (YYYY-MM-DD format)
tdesc	text	No	Detailed description of tournament

Description : It maintain addtournamenttable details.

5] Table : coursetable

Column Name	Data Type	Allow Nulls	Description
courseid	varchar(50)	No	Primary key; unique identifier for each course
coursename	text	No	Name/title of the course
course_desc	text	No	Detailed description of the course

Description : It maintain the coursetable details.

6] Table : groupsportdetail

Column Name	Data Type	Allow Nulls	Description
token	int	No	Primary key; unique token assigned to each registration entry
sportid	int	No	Foreign key referencing the specific sport
tournamentid	int	No	Foreign key referencing the tournament
teamname	varchar(50)	No	Name of the team participating in the tournament
courseid	varchar(50)	No	Foreign key referencing the course or department

Description : It maintain groupsportdetail details.

7] Table : groupsporteventstudentlist

Column Name	Data Type	Allow Nulls	Description
token	int	No	Primary key; unique token for each team entry
sportid	int	No	Foreign key referencing the sport
tournamentid	int	No	Foreign key referencing the tournament
teamname	varchar(50)	No	Name of the registered team
courseid	varchar(50)	No	Course or department ID associated with the team

Description : It maintain the groupsporteventstudentlist details.

8] Table : paymenttable

Column Name	Data Type	Allow Nulls	Description
transactionid	int	No	Primary key; unique identifier for each transaction
benefactor	varchar(50)	No	Name of the person making the transaction
amount	numeric(18, 0)	No	Transaction amount
benefactorid	varchar(50)	No	Unique ID of the benefactor
purchaseitem	varchar(50)	No	Item or service purchased in the transaction

Description : It maintain the paymenttable details.

9] Table : producttable

Column Name	Data Type	Allow Nulls	Description
pid	int	No	Primary key; unique ID for each product/item
pname	varchar(50)	No	Name of the product/item
pprice	int	No	Price of the product/item

Description : It maintain the producttable details.

10] Table : scoreboardtable

Column Name	Data Type	Allow Nulls	Description
Id	int	No	Primary key; unique identifier for each score entry
tid	int	No	Foreign key referencing the tournament
sid	int	No	Foreign key referencing the sport
studentid	varchar(50)	No	Foreign key referencing the student
score	numeric(3, 0)	Yes	Score achieved by the student

Description : It maintain the scoreboardtable details.

11] Table : sport_team_list

Column Name	Data Type	Allow Nulls	Description
sportteamid	int	No	Primary key; unique identifier for the sport team
sportid	int	No	Foreign key referencing the sport
studentid	varchar(50)	No	Foreign key referencing the student in the team

Description : It maintain the sport_team_list details.

12] Table :sporteventtable

Column Name	Data Type	Allow Nulls	Description
sportid	int	No	Primary key; unique identifier for the sport
sportname	varchar(50)	No	Name of the sport
sportdesc	text	No	Description of the sport
max_players	int	No	Maximum number of players allowed

Description : It maintain the sporteventtable details.

13] Table :tournament_sport_table

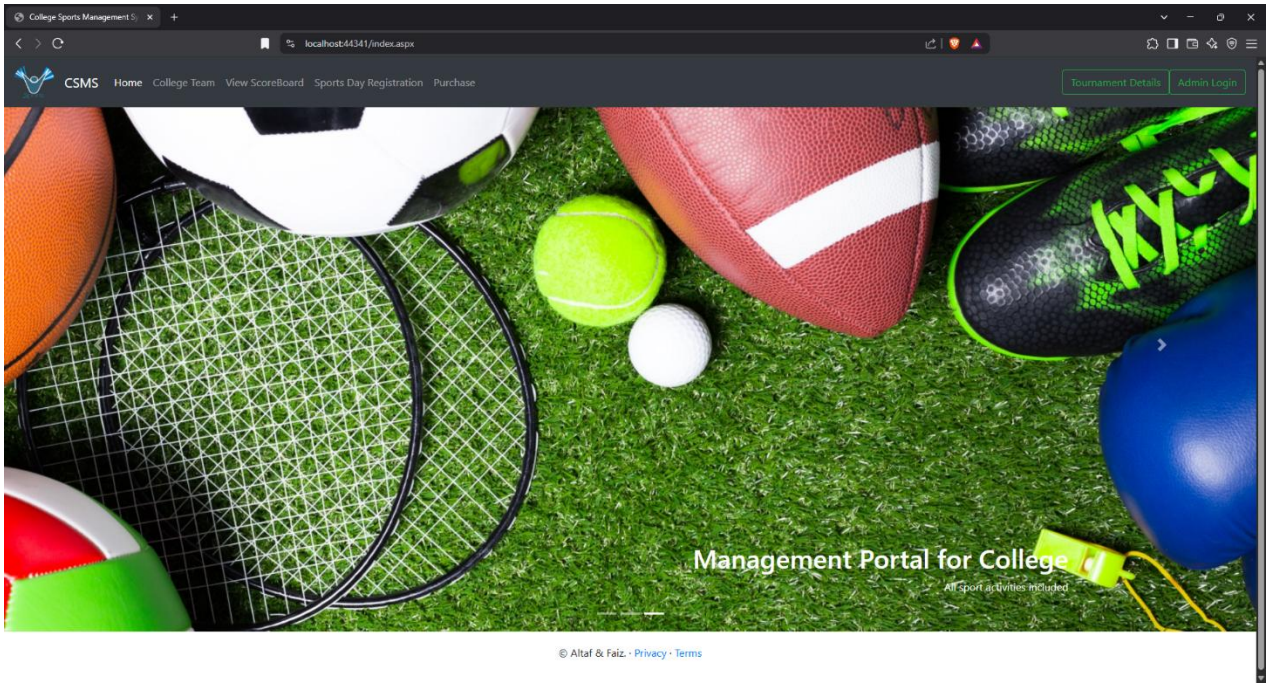
Column Name	Data Type	Allow Nulls	Description
tid	int	No	Primary key; unique identifier for the team
sid	int	No	Foreign key referencing the sport
max_players	int	Yes	Maximum number of players allowed (optional)

Description : It maintain the tournament_sport_table details.

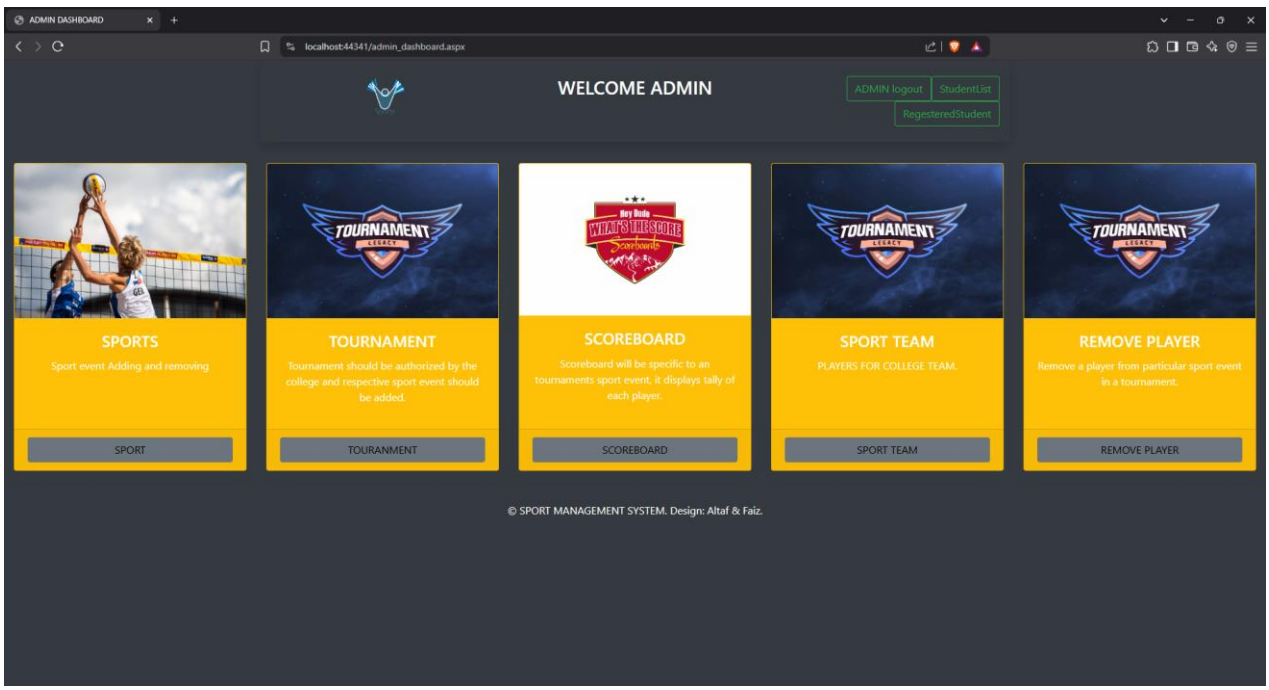
INPUT DESIGN

1Home Page:

a. Description: Main page for Student

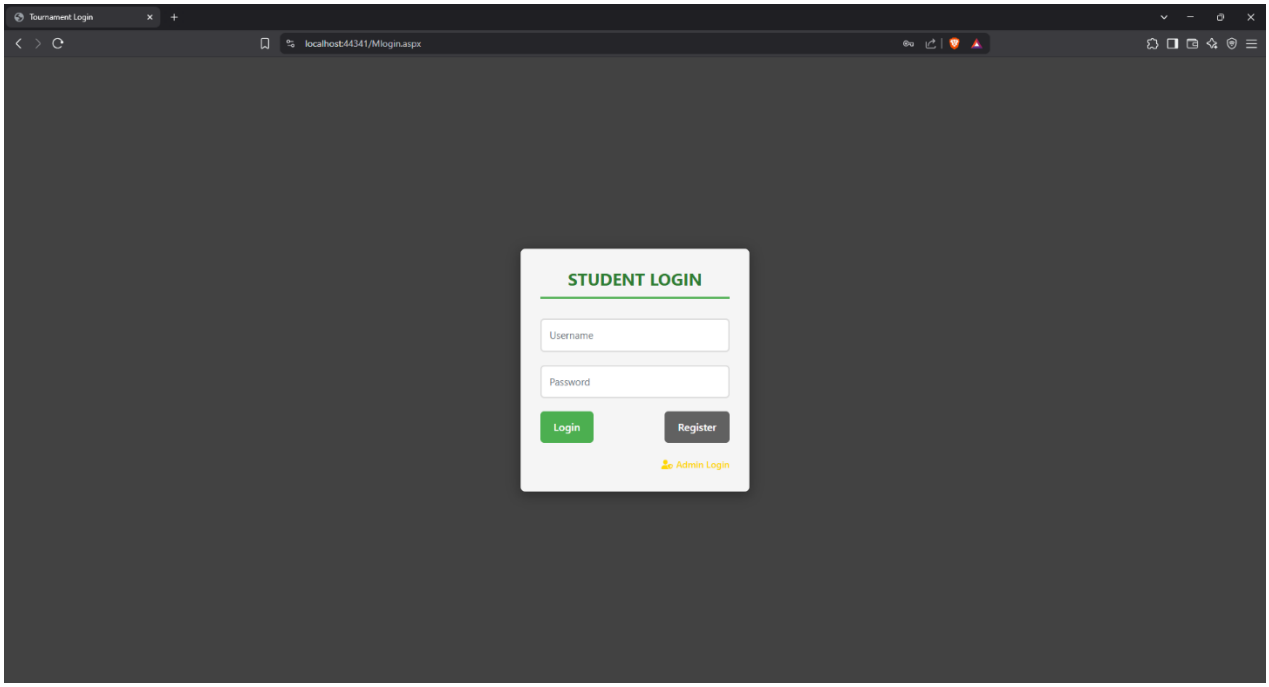


b. Description: Main page for Admin



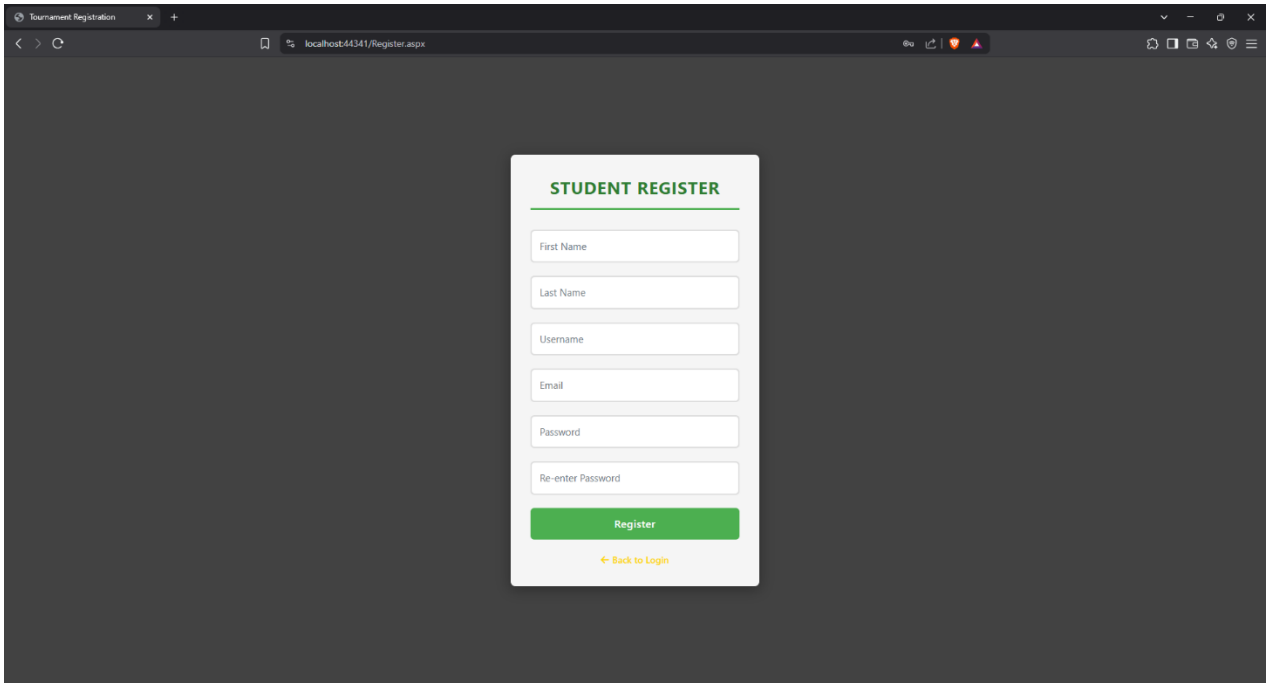
2)Login Page:

Description: Login page for Students



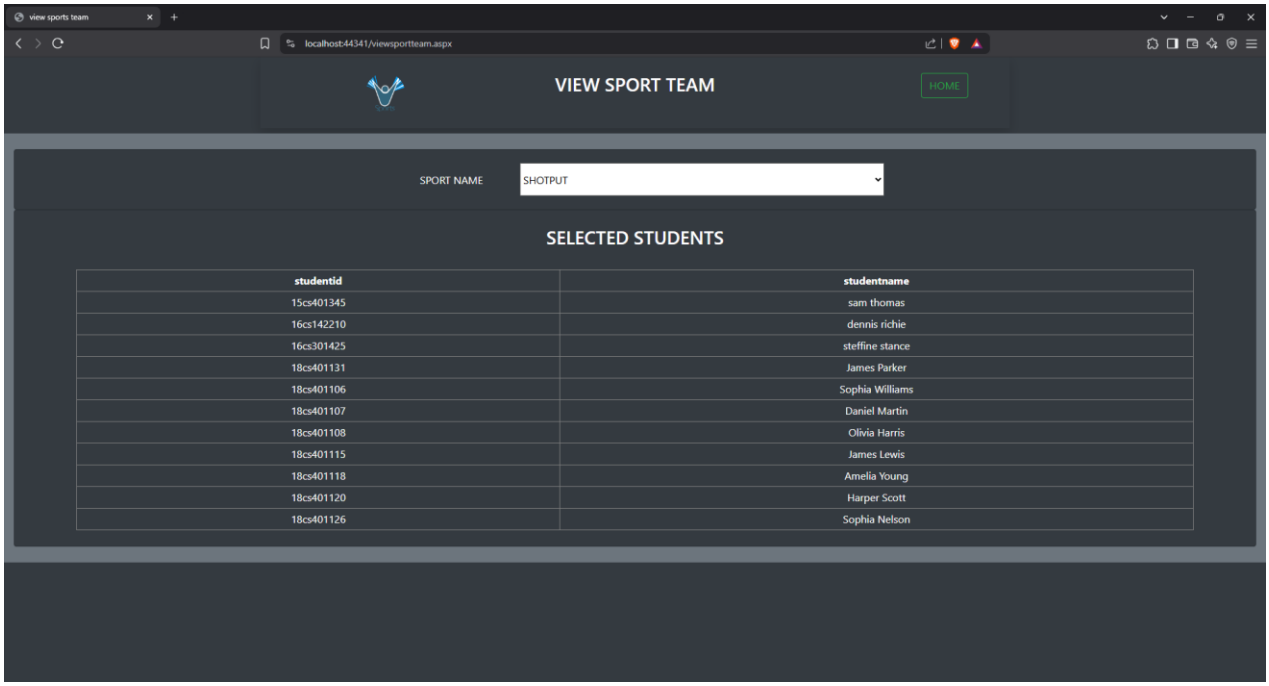
Registration Page:

Description: Students can Register here



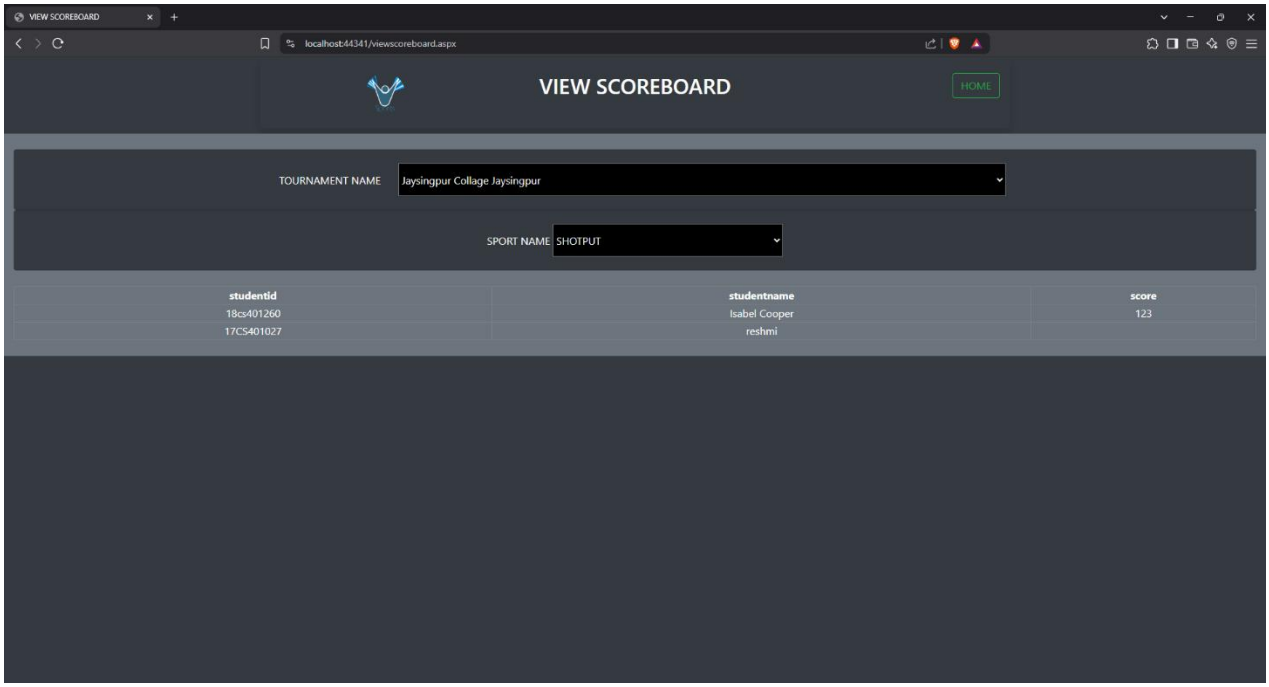
Student Collage Team Page:

Description: Students can see the Registered Collage Teams here



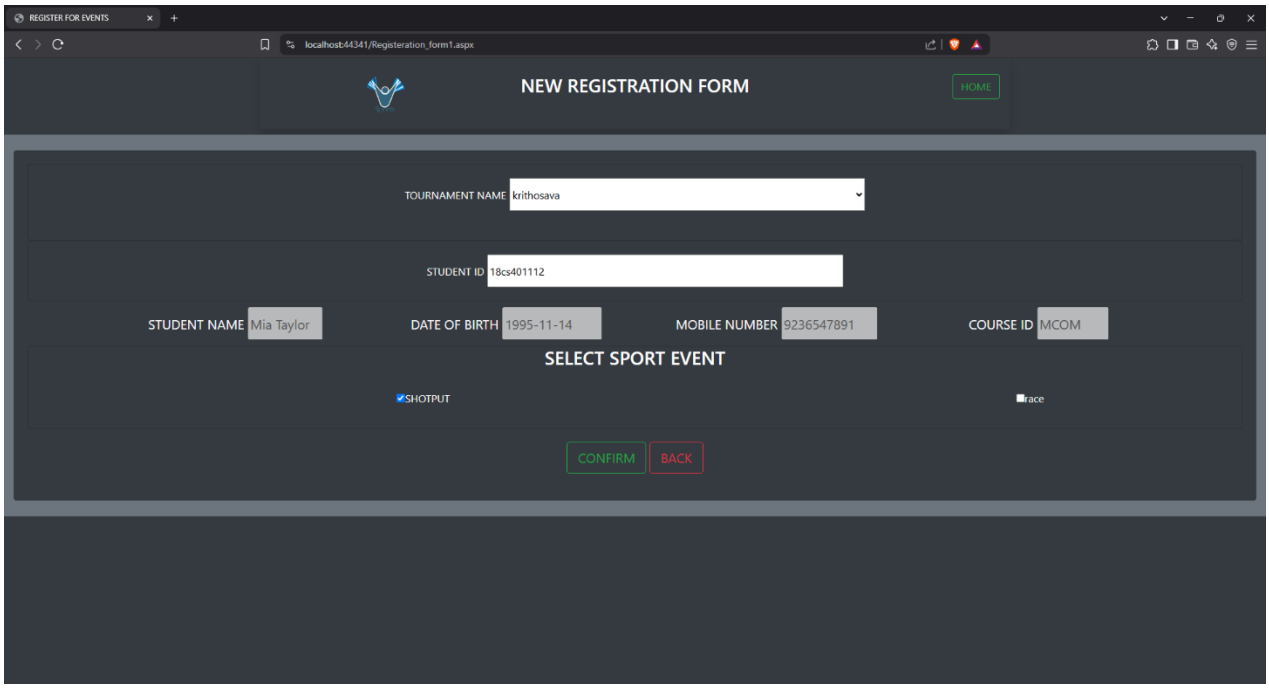
View Scoreboard:

Description: Scores are shown here.



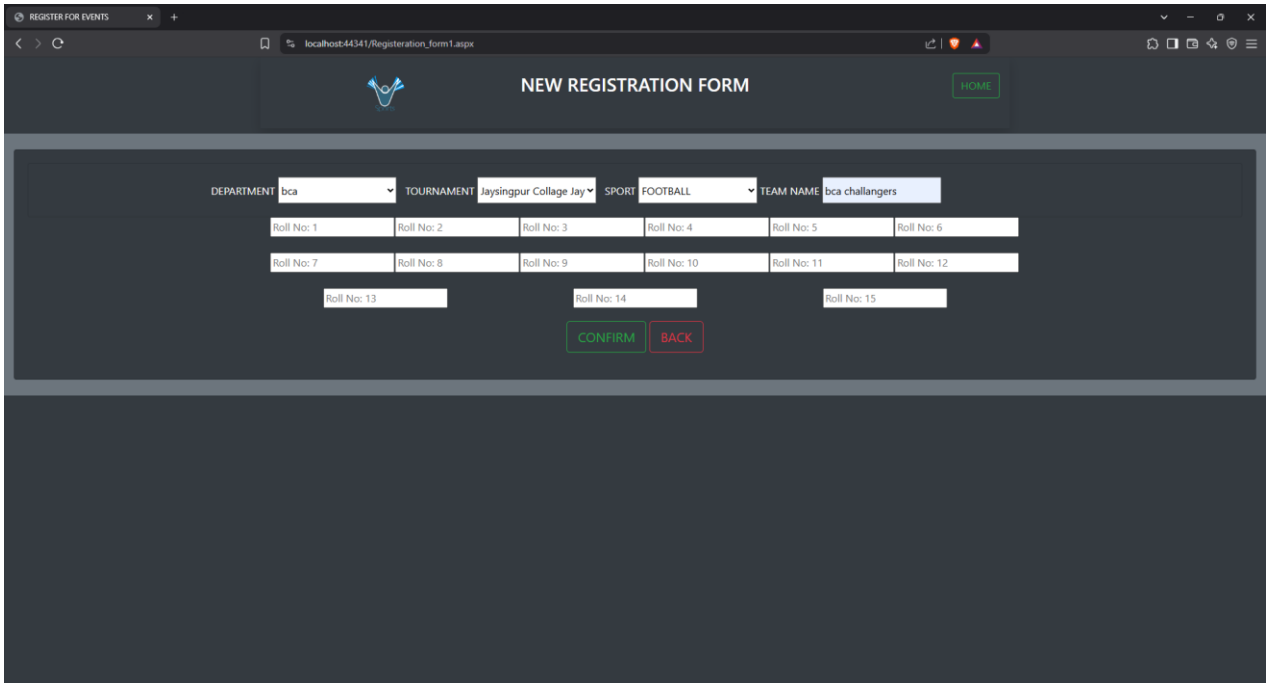
Sports Day Registration:

Description: Students registration for individual event .



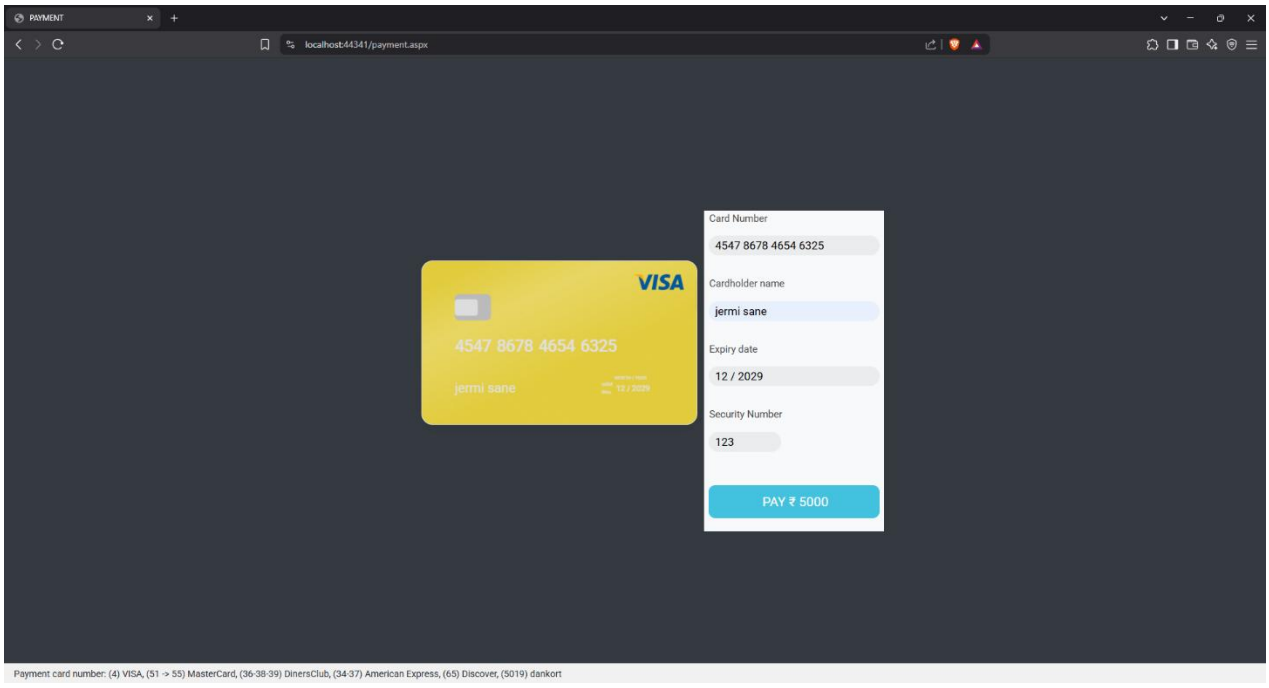
Sports Day Registration:

Description: Students registration for Group event .



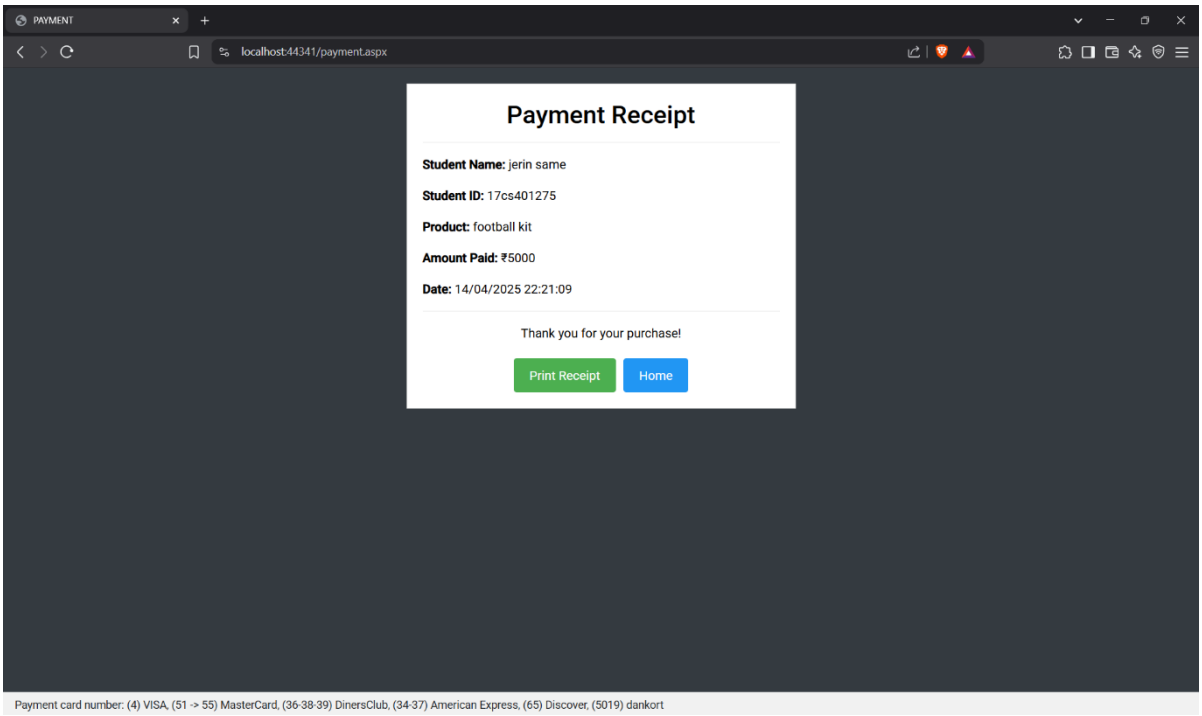
Payment Page:

Description: Students can pay for specific kit



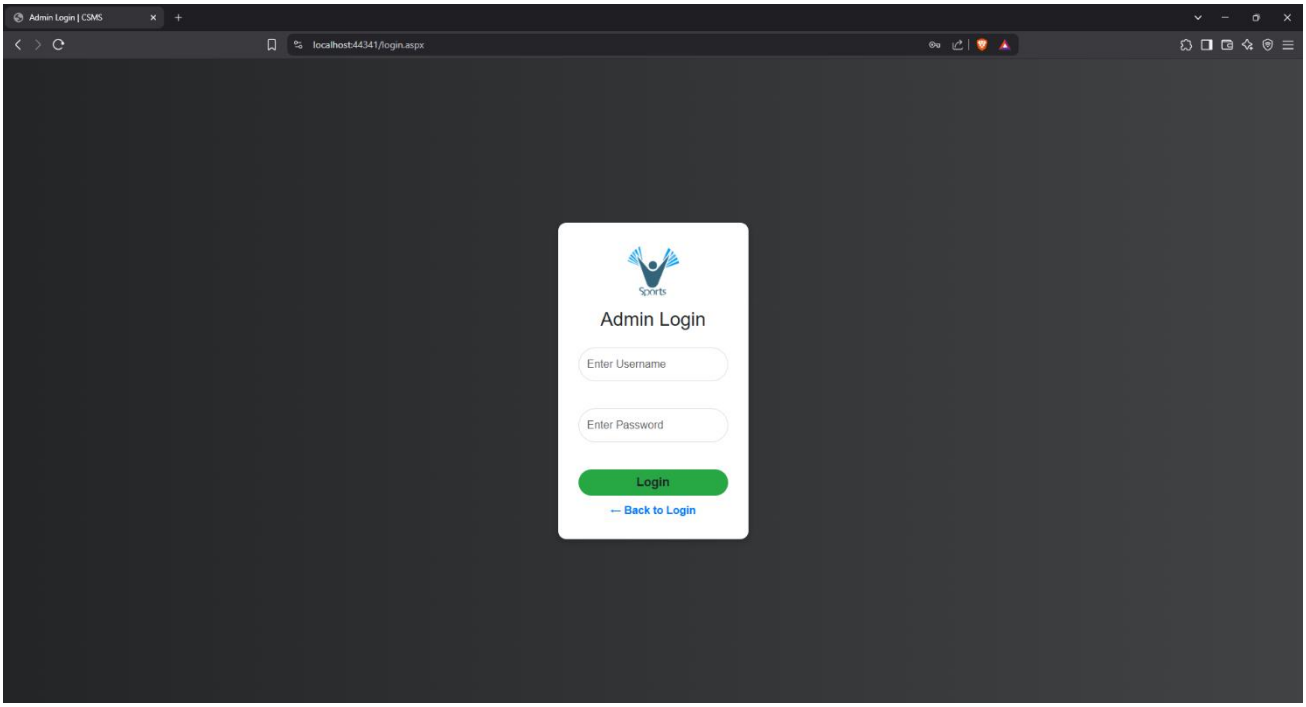
Payment Receipt:

Description: After Payment Student Receive Payment Receipt.



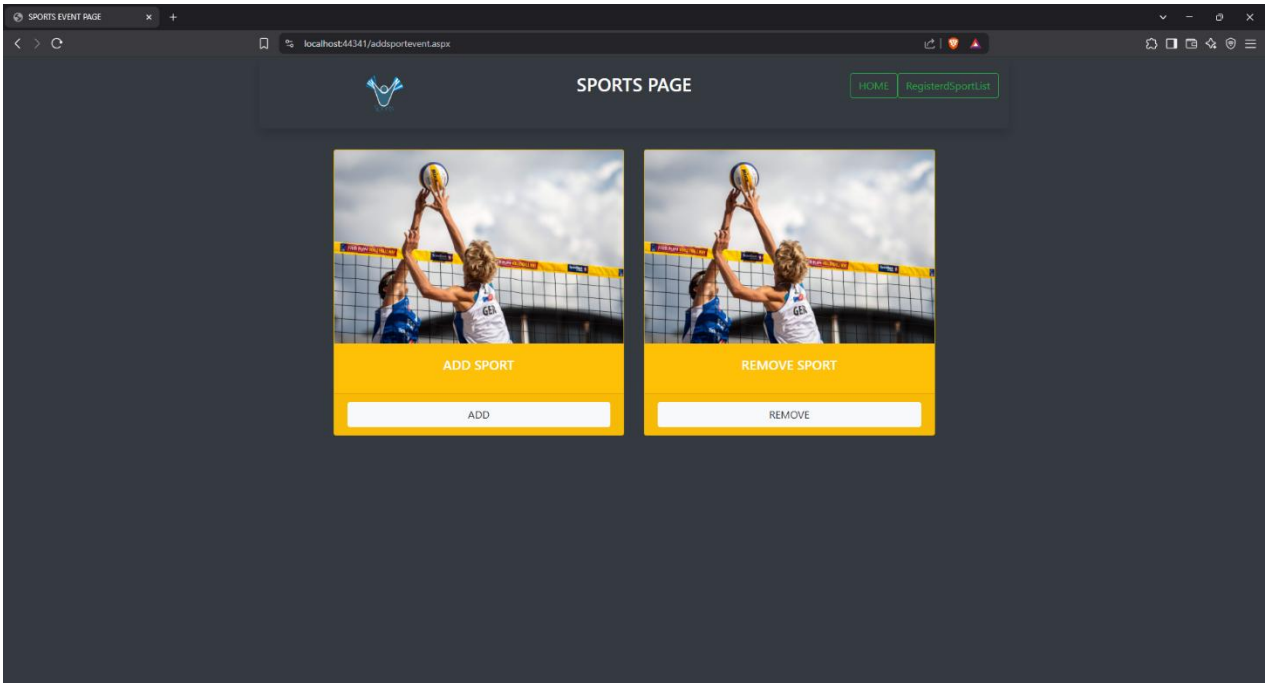
Admin Login Page:

Description: Login page for Admin



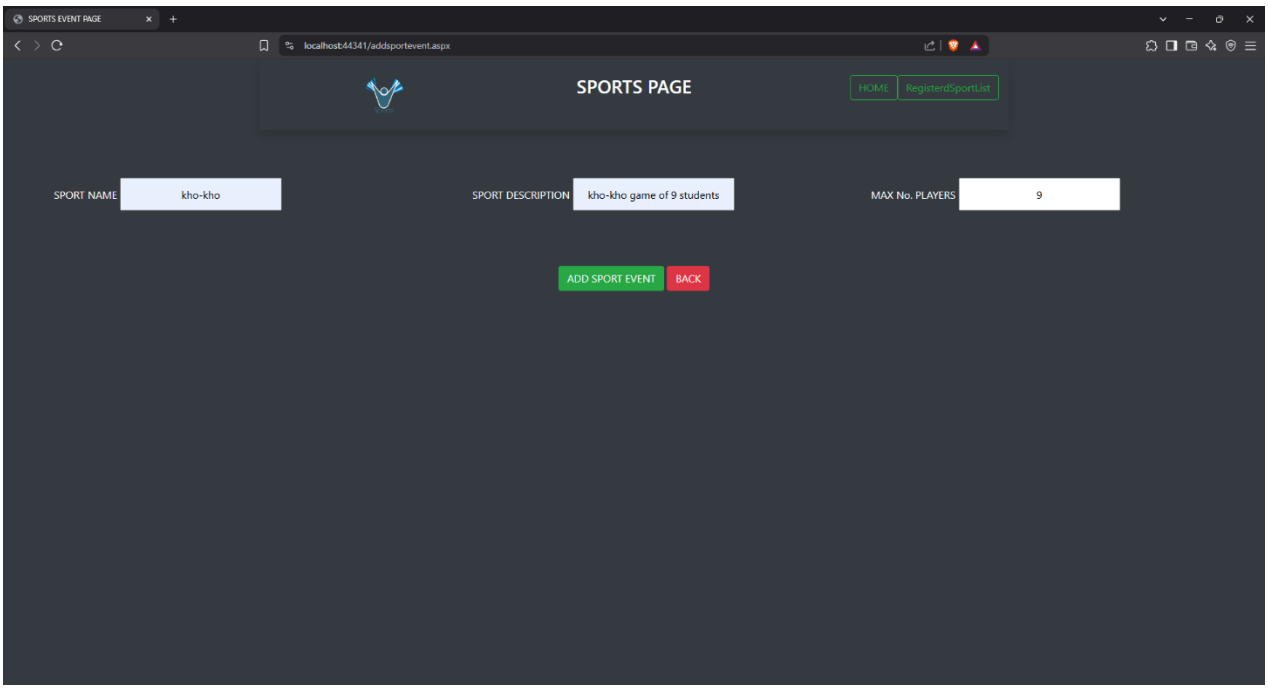
Sports:

Description: Admin Sports Page



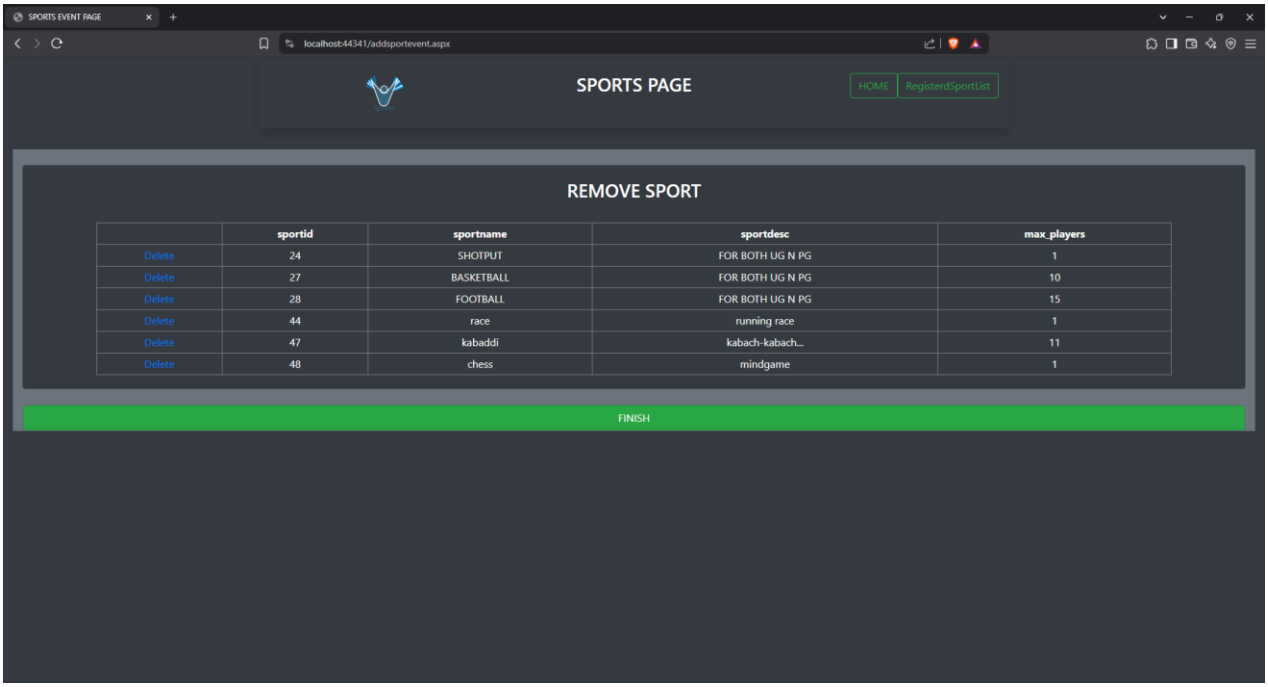
Sports:

Description: Admin Sports Page to Add a Sport.



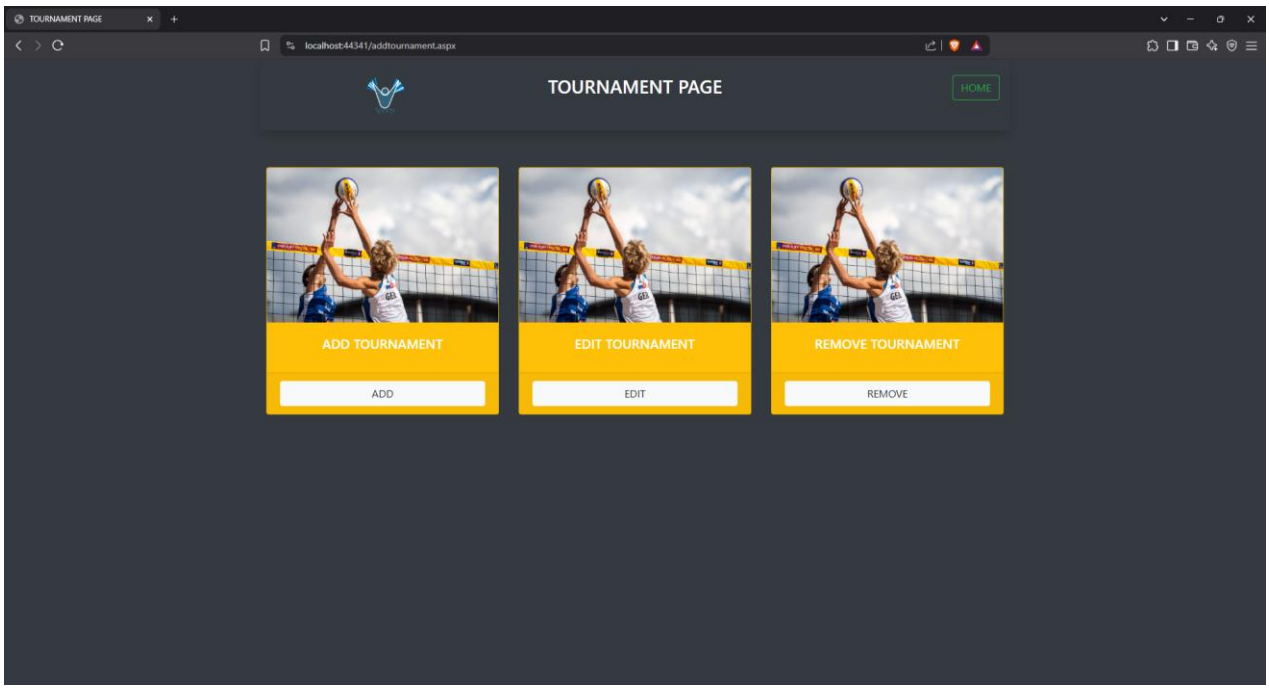
Sports:

Description: Admin Sports Page to Remove Sport.



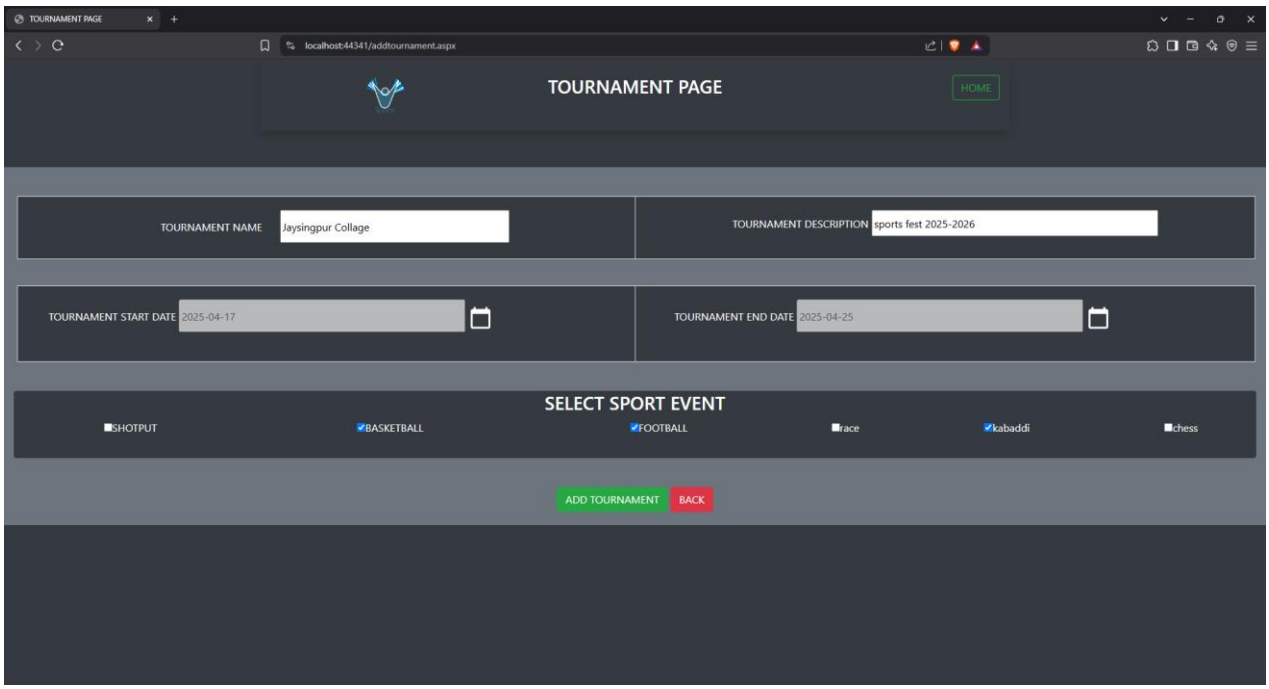
Tournament:

Description: Admin Tournament page



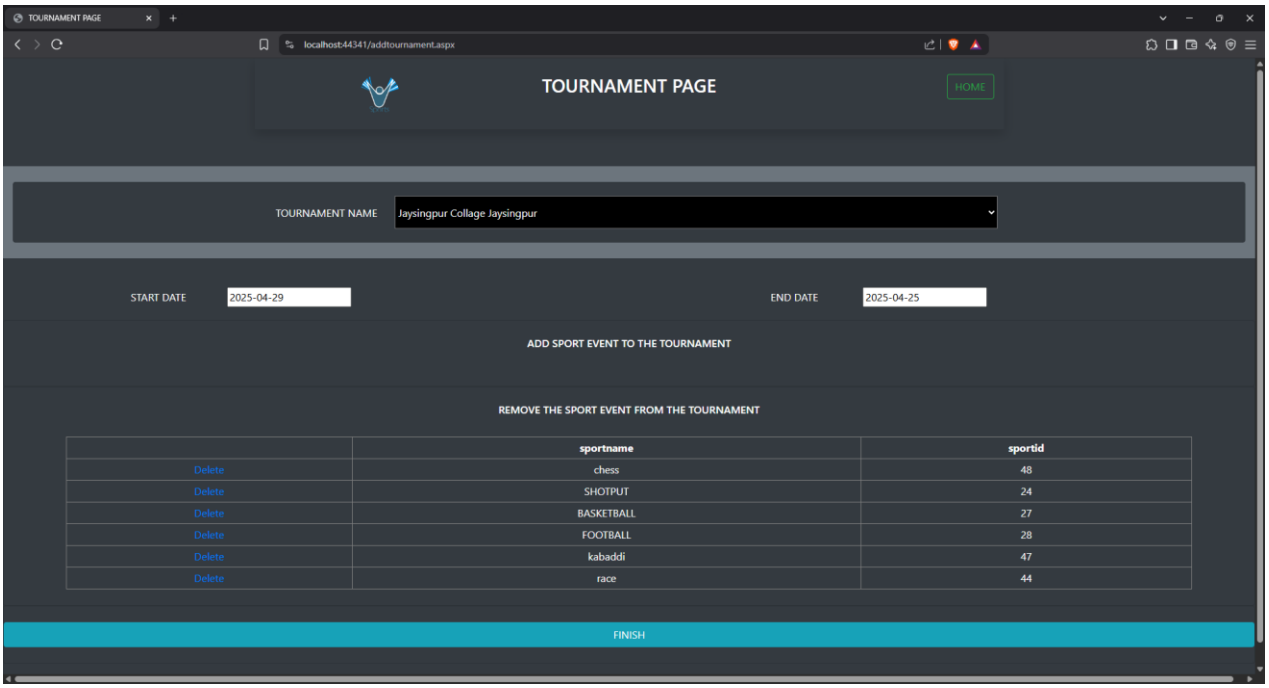
Tournament:

Description: Admin Tournament page to Add Tournament



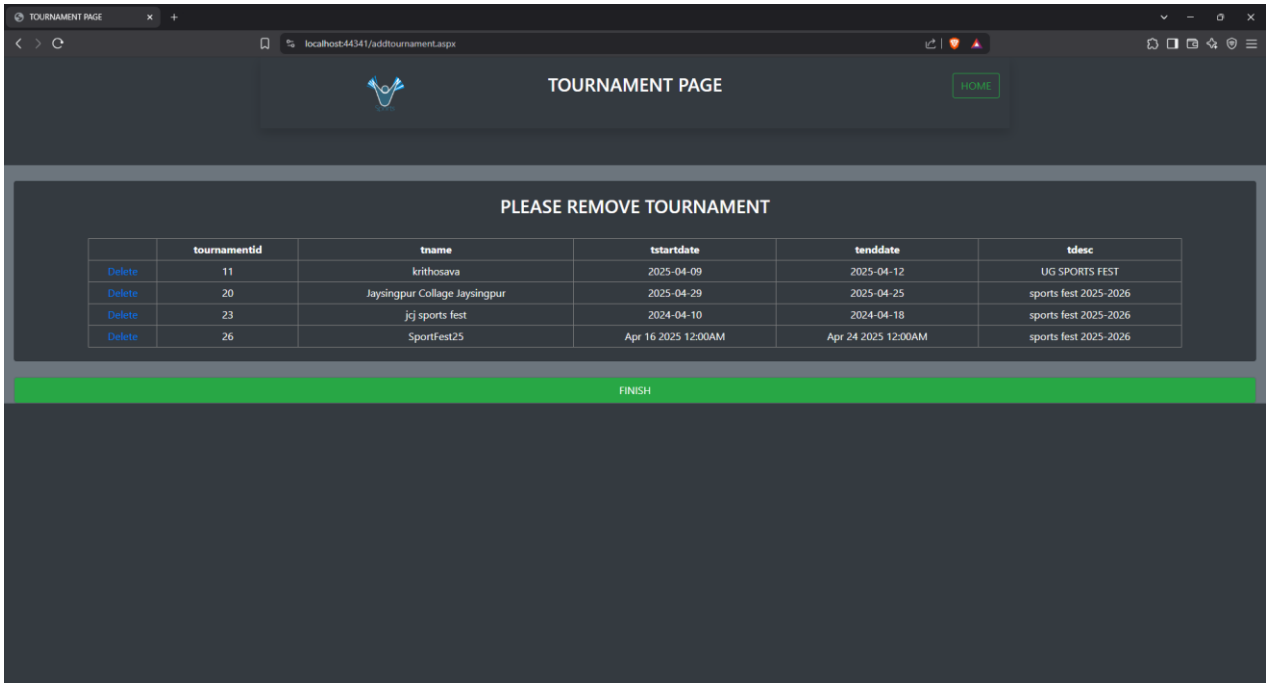
Tournament:

Description: Admin Tournament page to Edit Tournament



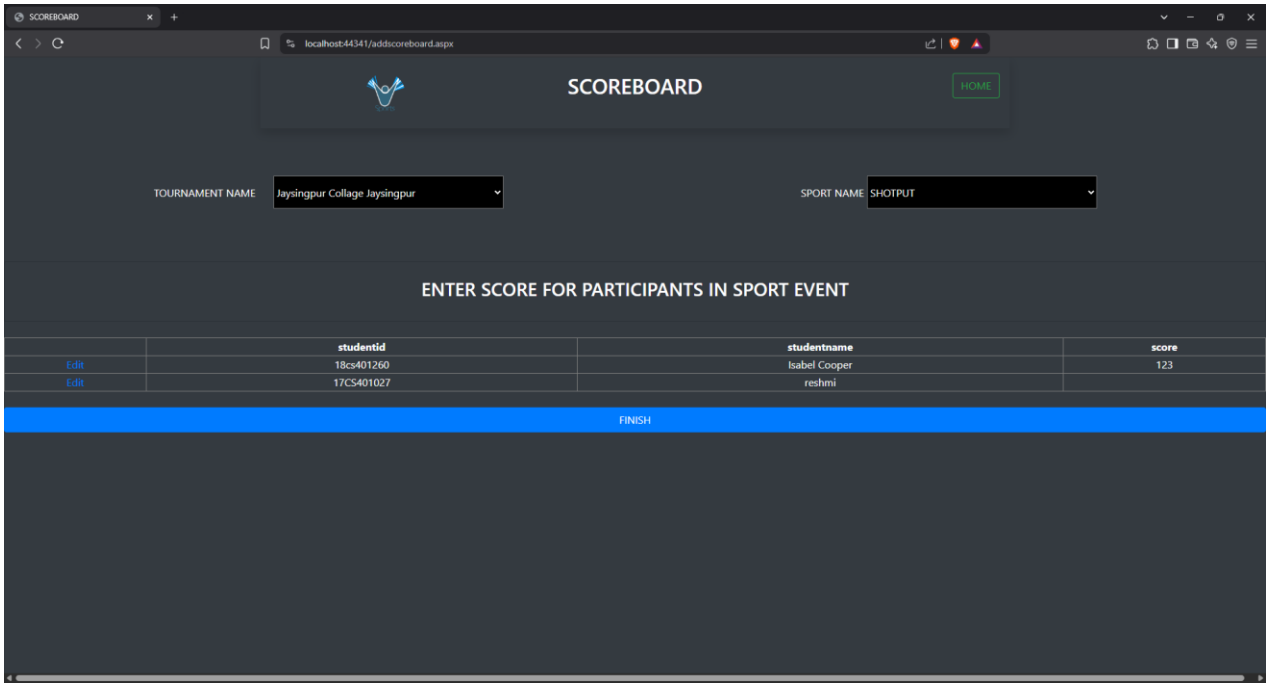
Tournament:

Description: Admin Tournament page to Remove Tournament



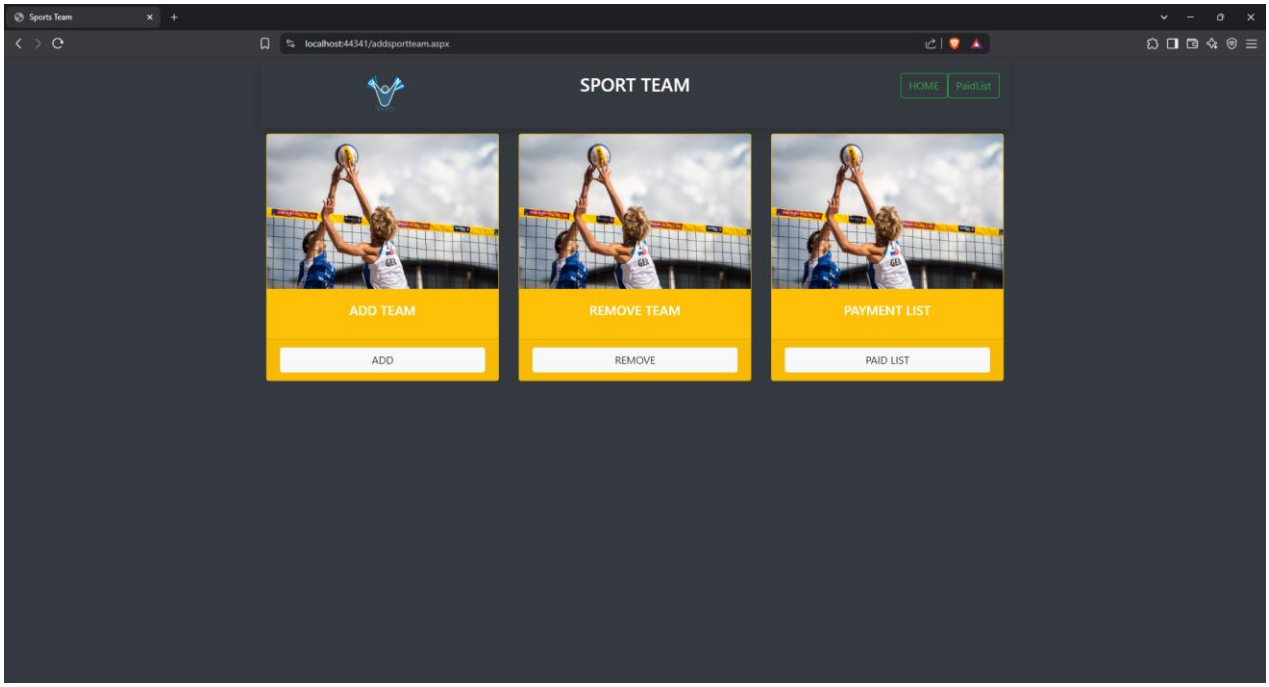
Admin Scoreboard:

Description: Admin Scoreboard to edit and update score.



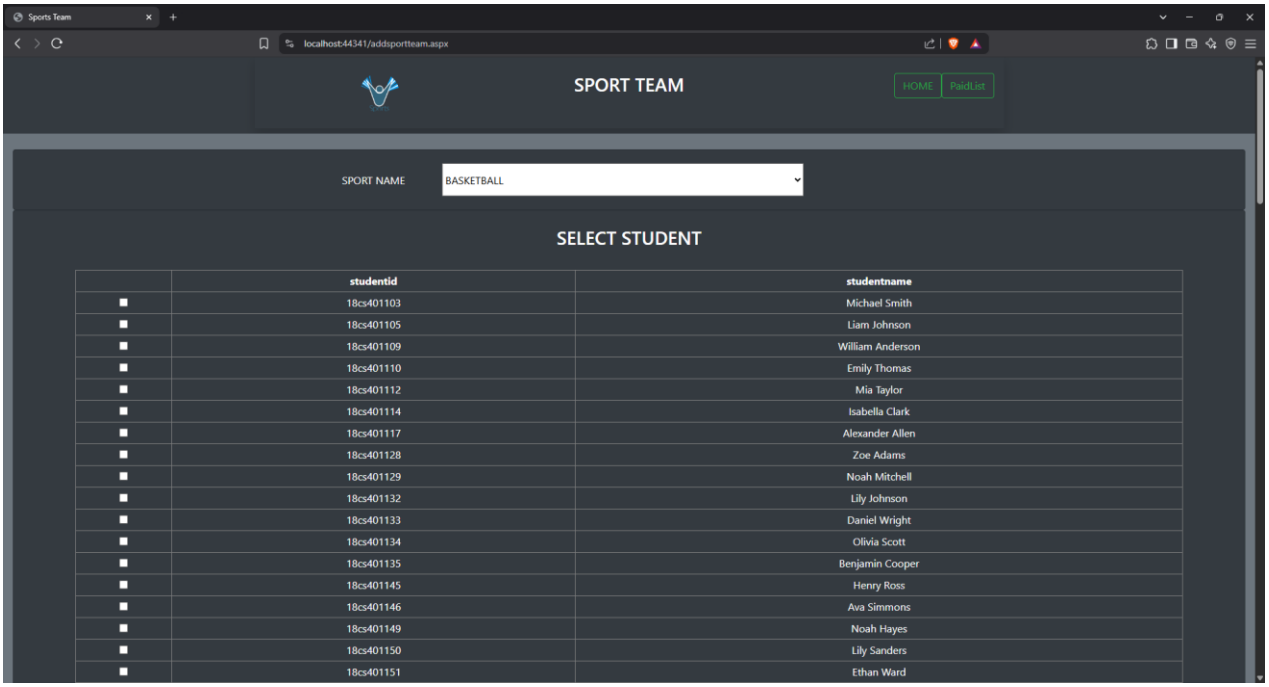
Sports Team:

Description: To add , remove and see payment list **.**



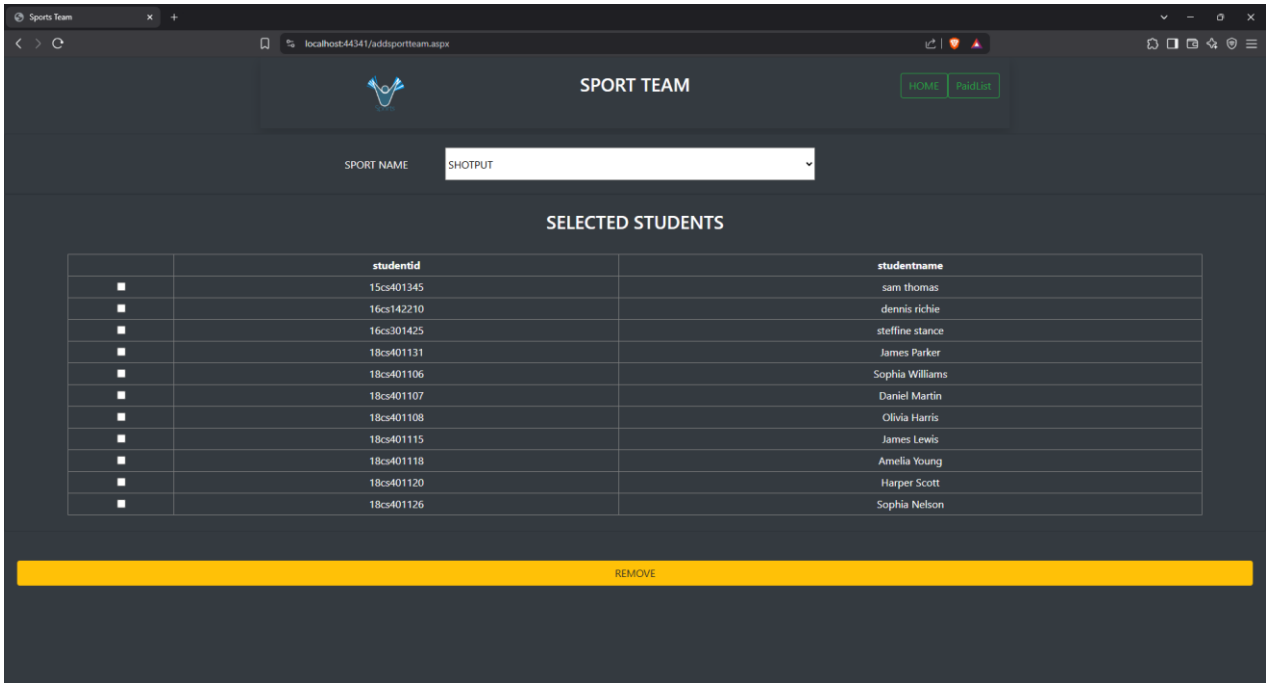
Sports Team:

Description: To Add Sport Team



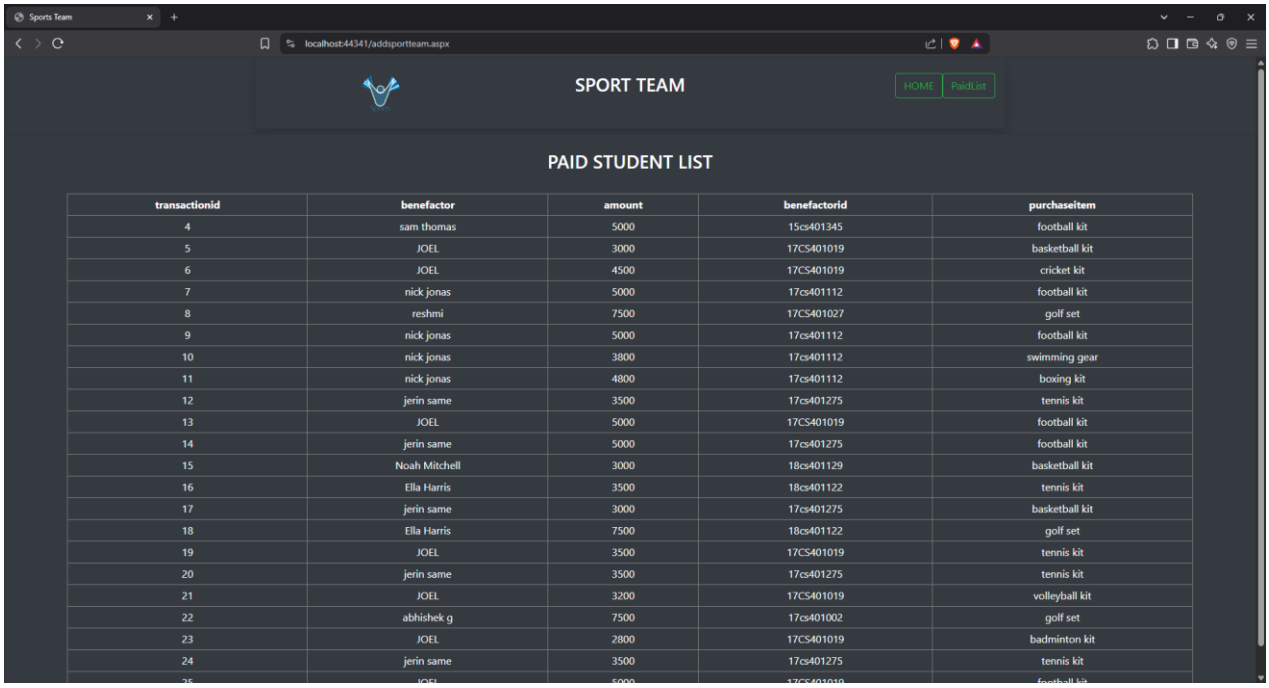
Sports Team:

Description: To Remove Sport Team



Sports Team:

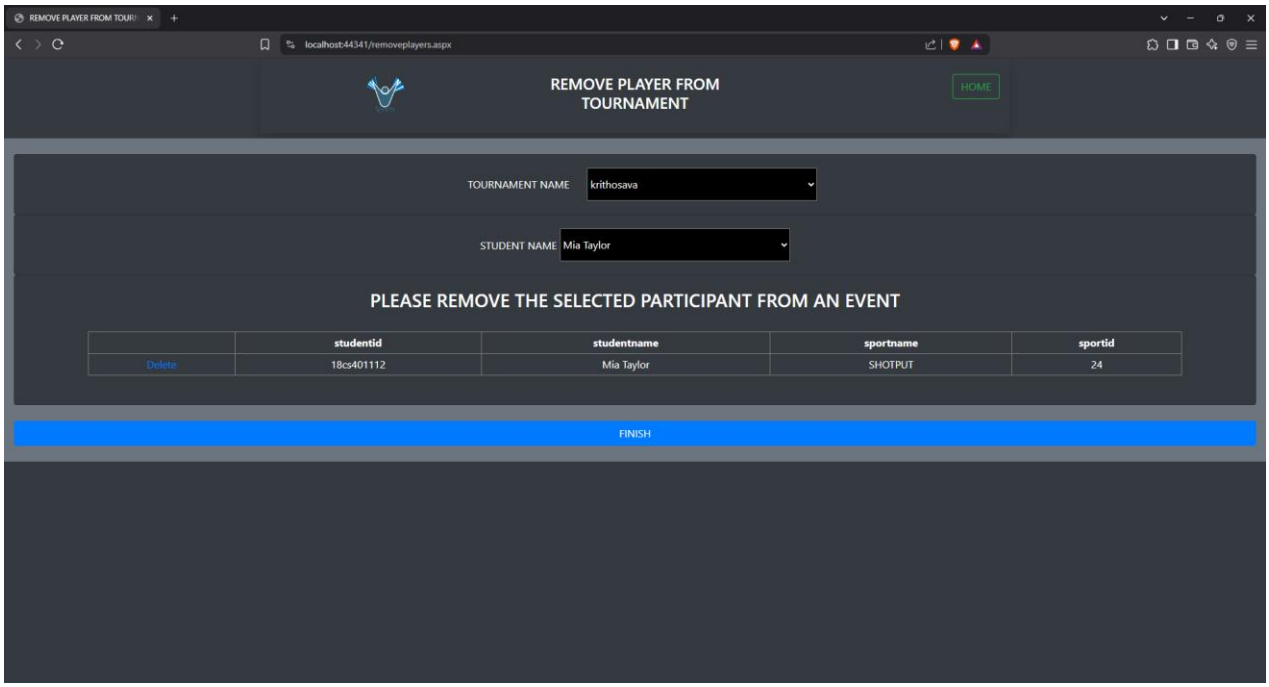
Description: To See Payment List Of Students.



transactionid	benefactor	amount	benefactorid	purchaseitem
4	sam thomas	5000	15cs401345	football kit
5	JOEL	3000	17CS401019	basketball kit
6	JOEL	4500	17CS401019	cricket kit
7	nick jonas	5000	17cs401112	football kit
8	reshmi	7500	17CS401027	golf set
9	nick jonas	5000	17cs401112	football kit
10	nick jonas	3800	17cs401112	swimming gear
11	nick jonas	4800	17cs401112	boxing kit
12	jerin same	3500	17cs401275	tennis kit
13	JOEL	5000	17CS401019	football kit
14	jerin same	5000	17cs401275	football kit
15	Noah Mitchell	3000	18cs401129	basketball kit
16	Ella Harris	3500	18cs401122	tennis kit
17	jerin same	3000	17cs401275	basketball kit
18	Ella Harris	7500	18cs401122	golf set
19	JOEL	3500	17CS401019	tennis kit
20	jerin same	3500	17cs401275	tennis kit
21	JOEL	3200	17CS401019	volleyball kit
22	abhishek g	7500	17cs401002	golf set
23	JOEL	2800	17CS401019	badminton kit
24	jerin same	3500	17cs401275	tennis kit

Remove Player:

Description: To Remove Player From Tournament**.(**Registered for IndividualEvent**)**



OUTPUT DESIGN

Payment Details (For Admin):

College Sports Management System

Paid Student List

Date - 4/16/2025

transactionid	benefactor	amount	benefactorid	purchaseitem
4	sam thomas	5,000.00	15cs401345	football kit
5	JOEL	3,000.00	17CS401019	basketball kit
6	JOEL	4,500.00	17CS401019	cricket kit
7	nick jonas	5,000.00	17cs401112	football kit
8	reshmi	7,500.00	17CS401027	golf set
9	nick jonas	5,000.00	17cs401112	football kit
10	nick jonas	3,800.00	17cs401112	swimming gear
11	nick jonas	4,800.00	17cs401112	boxing kit
12	jerin same	3,500.00	17cs401275	tennis kit

Tournament Details (For Student):

1)For Date 2025-04-10

Collage Sports Management System

4/16/2025

Tournament Details

tournament	tname	tstartdate	tenddate	tdesc
23	jcj sports fest	2025-04-10	2025-04-18	sports fest 2025-2026

2)For Date 2025-04-29

Collage Sports Management System

4/16/2025

Tournament Details

tournament	tname	tstartdate	tenddate	tdesc
20	Jaysingpur Collage Jaysingpur	2025-04-29	2025-04-25	sports fest 2025-2026

5. IMPLEMENTATION

5.1 Hardware Interface

To ensure smooth operation and performance, the system requires the following hardware specifications:
• **Hard Disk**: 1TB (or higher for better storage capacity)
• **RAM**: 4.00 GB or higher (8GB recommended for optimal performance)
• **Processor**: Intel(R) Core(TM) i3-1035H or higher
• **System Type**: 64-bit or 32-bit
• **Operating System**: Windows 11 or any previous version

5.2 Software Interface

The system is built using modern web technologies to provide an interactive and responsive user experience:
• **Front End**: ASP.NET (MVC5), HTML, CSS, JavaScript
• **Back End**: SQL Server
• **Development Tools**: Visual Studio, NetBeans
• **Database Connectivity**: ADO.NET or Entity Framework
• **Security Measures**: Role-based authentication, encrypted passwords, and a secure login system

5.3 User Guideline

The **College Sports Management System** is a web-based platform designed to streamline college sports activities for both students and administrators. The application supports user registration, team management, performance tracking, sports day registrations, secure purchases, and full admin control over events and tournaments.

A. Student/User Panel

The student panel allows users to interact with the system through the following subpages:

• **College Team View**: Students can select their team and view the list of current members.

• **View Scoreboard**: Allows students to select a team and view the scores for various sports events and tournaments.

• **Sports Day Registration**: A form-based module that allows students to register for sports events either as individuals or as part of a group. It includes fields for:

- Department (dropdown)
- Tournament
- Sport
- Team Name

• **Purchase**: A secure card payment form where students can enter:

- Card Number
- Cardholder Name
- Expiry Date (MM/YYYY)
- CVC/Security Number

B. Admin Dashboard

The administrator has full access to manage the system with the following submodules:

• **Sports Management**: Admin can add or remove sports events from the system.

• **Tournament Management**: Includes functionality to:

- Add new tournaments
- Edit existing tournaments
- Remove tournaments from the list

• **Scoreboard Management**: Admin selects a tournament and a sport, and then enters scores for participants involved in the sport event.

• **Team and Payment Management**:

- Add or remove college sport teams
- View and manage payment records from students

• **Remove Player from Tournament**:

- Admin selects a tournament name and the student name
- Removes the selected participant from that specific sport event

C. Security Features

To ensure data security and prevent unauthorized access, the system includes:
• **User Authentication**: Role-based login system for Admins and Students.
• **Data Encryption**: All sensitive information (login credentials, card details) is encrypted.
• **Regular Backups**: Automated backups of the SQL database to prevent data loss.
• **Audit Logs**: Maintains logs of all system operations for accountability and issue tracking.

D. System Performance & Scalability

• The system is optimized for fast load times, even under high concurrent usage.
• It uses SQL Server to manage large sets of records and ensure future scalability.
• Modular code and architecture allow for easy future upgrades and new feature integration.

5.4 Installation Process

The installation of the **College Sports Management System (CSMS)** follows these steps:

1. Server Environment Setup

• Choose a hosting platform or set up a local server with IIS or Apache.
• Ensure necessary tools are installed: ASP.NET, SQL Server, HTML/CSS/JS, and Visual Studio.

2. Obtain CSMS Files

• Download the system files from the repository or the development source.
• Ensure all necessary files and libraries are present.

3. Database Setup

• Create a new database in SQL Server.
• Run the provided SQL scripts to create tables and seed required data.

4. Configuration

• Update configuration files with database connection strings, file paths, and mail server settings if applicable.

5. File Transfer

• Deploy the system files to the server's root directory using FTP or direct copy.
• Set proper permissions on the server for file access and execution.

6. Dependency Installation

• Install additional packages using NuGet or NPM as needed for frontend/backend functionality.

7. Testing and Debugging

• Run functional and integration tests across modules like registration, event creation, payments, and scoreboard.
• Debug any errors using the logs and browser console.

8. Security Implementation

• Enforce HTTPS and strong password policies.
• Regularly update components and check for security vulnerabilities.
• Configure firewalls and admin-level access restrictions.

9. Documentation and Training

• Document each step of the installation for future reference.
• Train administrative staff and student representatives for smooth usage.

10. Maintenance and Updates

• Monitor system logs and performance metrics regularly.
• Apply updates for security, performance, and usability improvements.
• Back up the database periodically.

6. CONCLUSION

The **College Sports Management System** is a comprehensive and user-friendly platform designed to simplify the management of college-level sports activities.

It successfully automates key administrative processes such as team management, tournament organization, score tracking, and event registration, ensuring efficient coordination between students and administrators.

The system's user panel empowers students to register for sports events, view team details, check scores, and make secure payments.

On the other hand, the admin dashboard offers full control over sports events, tournaments, scores, team management, and participant removal—making it a powerful backend solution to handle real-time sports operations.

The integration of a secure login system, role-based access control, and performance monitoring ensures the platform is both safe and scalable.

The use of ASP.NET with SQL Server enhances reliability, while modern web technologies provide a smooth and responsive user experience.

In conclusion, the system not only addresses the challenges faced in manual sports administration but also promotes transparency, efficiency, and active student engagement in sports.

With proper maintenance and future enhancements, the platform can be expanded further to support inter-college competitions, athlete analytics, and mobile access—contributing to a more dynamic sports culture on campus.

6.2 Future Enhancement:

While the **College Sports Management System (CSMS)** currently provides a strong foundation for managing sports activities within a college environment, there are several areas where the system can be enhanced in the future:

• **Mobile Application Integration**
Develop a mobile app version of the system to allow students and administrators to access features such as registration, notifications, and score viewing on the go.

• **Inter-College Sports Management**
Extend the system to support inter-college tournaments, allowing for coordination and competition between multiple institutions.

• **Performance Analytics Dashboard**
Implement detailed performance tracking and analytics for athletes, including statistics, progress charts, and performance comparisons over time.

• **Online Certificate Generation**
Add functionality to automatically generate and issue participation or achievement certificates to students after events.

• **Live Score Updates**
Introduce a live score tracking module that allows users to view real-time updates during ongoing sports events.

• **Email and SMS Notifications**
Integrate automated notification systems to alert students and admins about event schedules, changes, or updates via email and SMS.

• **AI-Based Team Suggestions**
Use artificial intelligence to suggest optimal teams based on player stats and past performance records.

• **Cloud Storage Integration**
Store records and data on cloud platforms to ensure better accessibility, backup, and scalability.

These enhancements will further improve the usability, functionality, and impact of the CSMS, turning it into a fully digital sports ecosystem.

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- **Entity Framework Core** in Action [Author – Jon P Smith]