

SPORTS DETAILS MANAGEMENT SYSTEM

*A project report submitted in partial fulfillment of the requirements for
the award of the degree of*

**Integrated M.Sc. in Computer Science
with Specialization in
Artificial Intelligence and Machine Learning**

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Padnekad P.O., Kasaragod Dt., Kerala - 671314



CERTIFICATE

This is to certify that report entitled "**SPORTS DETAILS MANAGEMENT SYSTEM**" is a bonafide report of the mini project (6B25ICSC - Project) presented during VIth semester by **Sutheerth P** with Register No. **NA21PICS16**, in partial fulfillment of the requirements for the award of the degree of Integrated M.Sc. in Computer Science with Specialization in Artificial Intelligence and Machine Learning.

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Head of the Department

External Examiner

Internal Examiner

DECLARATION

I, **Sutheerth P**, VI Semester Integrated M.Sc. in Computer Science with Specialization in Artificial Intelligence and Machine Learning Student of Nehru Arts and Science College Kanhagad under Kannur University do hereby declare that the project entitled "**SPORTS DETAILS MANAGEMENT SYSTEM**" is original work carried out by me under the supervision of **Shibil V. K** towards the partial fulfillment of the requirement of Integrated M.Sc. in Computer Science with Specialization in Artificial Intelligence and Machine Learning, and no part thereof has been presented for the award of any other degree.

Sutheerth P

ACKNOWLEDGMENT

I would like to place on record my sincere thanks to all those who have contributed to the successful completion of my project. I express my gratitude to the Mr. Shibil V K., Assistant Professor, Department of Computer Science for rendering me all the facilities for the successful completion and presentation of my project. I also thank all the faculties of the Department of Computer Science for their wholehearted co-operation and guidance in completeing my project successfully. Finally, I thank our family and friends who contributed to the successful fulfillment of this project.

Sutheerth P

ABSTRACT

The Sports Details Management System (SDMS) is a user-friendly, web-based application specifically designed to enhance the management of sports activities within educational institutions. This comprehensive system covers a wide range of administrative tasks, including student information management, attendance monitoring, picture management, and certificate tracking.

Student Management: SDMS enables administrators to add, view, edit, and delete student records, maintaining detailed information such as names, university registration numbers, departments, programs, years of admission, places, cities, districts, postal codes, and dates of birth. This thorough management ensures all necessary student information is stored in one place, making it easily accessible for administrative purposes.

Sports Item Assignment: The system allows for the efficient assignment of sports items to students, tracking which items have been collected and returned. This feature is crucial for managing the inventory of sports equipment, ensuring that students are accountable for the items they use and helping to prevent loss or misplacement.

Attendance Tracking: SDMS provides tools for marking and viewing student attendance at sports events and practice sessions. It accurately tracks student participation and monitors hours missed due to sports activities, ensuring that attendance records are up-to-date and easily accessible. This functionality is essential for maintaining accurate records of student involvement in sports.

Picture Management: The system supports the uploading and viewing of pictures related to sports events. Pictures can be categorized by team and year, which helps in organizing and retrieving visual records. This feature not only maintains a visual history of sports events but also enhances the documentation and promotion of sports activities within the institution.

Certificate Management: SDMS also includes functionality for recording and managing certificates awarded to students for their participation in sports activities. It tracks whether students have collected their certificates, ensuring that all awards are accounted for and properly distributed.

Overall, the Sports Details Management System is designed to be an effective solution for organizing and managing various aspects of sports administration in educational institutions. Its comprehensive features improve the efficiency and organization of managing student sports activities, equipment, attendance, pictures, and certificates, making the administration process more streamlined and effective.

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Chapter 1

Introduction

1.1 Overview

The Sports Details Management System (SDMS) is a web-based application designed to transform how educational institutions manage their sports activities. It acts as a central hub for handling various crucial functions efficiently.

At its core, SDMS simplifies administrative tasks by offering robust features across different areas. It enables easy management of student records, including names, registration numbers, academic details, addresses, and dates of birth. This consolidated database ensures quick access to essential student information for administrative decisions and reporting.

The system includes tools for tracking attendance at sports events and practices. It records participation levels, analyzes attendance trends etc...

For documentation, SDMS allows users to upload, organize, and categorize event photos, creating a visual archive of sports achievements. This feature supports promotional efforts and recognizes student successes in sports.

Additionally, SDMS manages the issuance of certificates for student participation in sports. It tracks certificate details and ensures timely distribution, boosting student morale and supporting the institution's sports culture.

In essence, SDMS is a comprehensive solution that enhances sports administration in educational settings. With its user-friendly interface and powerful tools, SDMS streamlines operations, improves accountability, and effectively celebrates sports achievements.

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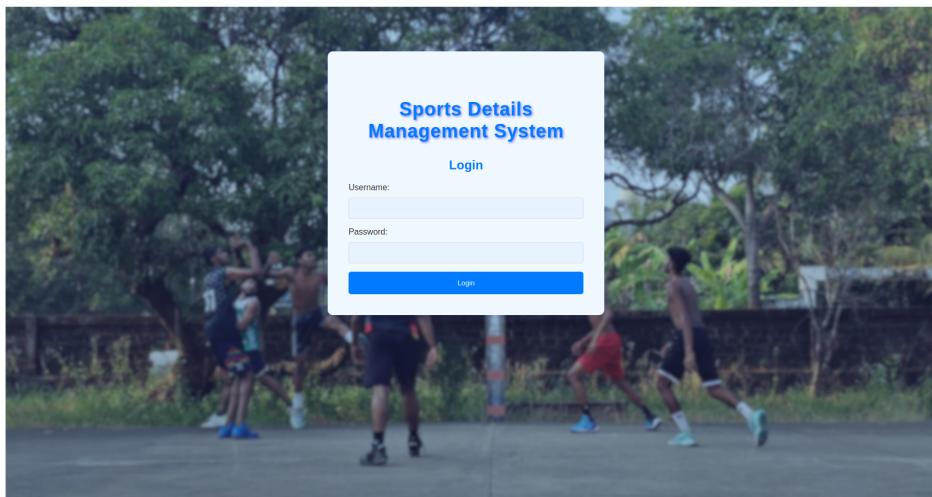


Figure 1.1: Login page of SDMS

1.1.1 Modules

There are 5 Modules

- Student Management
- Team Management
- Attendance Management
- Certificate
- Picture Gallery

1.1.2 Use Case Diagrams

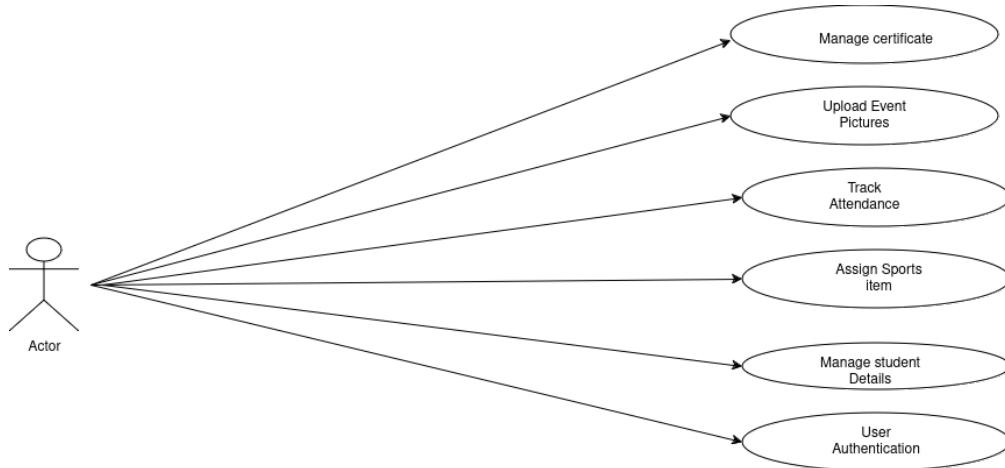


Figure 1.2: Use case Diagram

1.2 Feasibility Study

Feasibility study lets the developer see the future of the project and the usefulness. Feasibility study is a test of system proposed regarding its workability, impact on the organizations, ability to meet the need and effective use of resources.

1.2.1 Technical Feasibility

The Technical Feasibility study of Sports Details Management System involves evaluating the system's hardware and software requirements.

Hardware Requirements

- Minimum RAM: 2GB
- Processor: Pentium or equivalent with similar performance

Software Requirements

- Operating System: The system is platform independent, use SQLite for Database. HTML, CSS, JavaScript for frontend, thus SDMS is feasible.
- Web Browser: The application runs on modern web browsers like Google Chrome, Mozilla Firefox, Safari, Microsoft Edge etc....
- Programming Languages and Technologies:
 - Frontend: Specify the frontend programming languages and technologies:

- * HTML: For structuring web pages.
- * CSS: For styling and layout.
- * javascript: For interactive features and user interface enhancements.
- Backend: Specify the backend programming languages and technologies:
 - * Django: Chosen for its robust framework capabilities, Django was used to manage the back-end processes, handle requests, and integrate seamlessly with the SQLite database.
 - * SQLite: As the relational database management system.

This system is a platform-independent application that utilizes SQLite for its database management, Django as its backend framework, and HTML for its user interface. Therefore, the development of a Sports Details Management System is technically feasible.

1.2.2 Economical Feasibility

The economic feasibility of the Sports Details Management System is evaluated by examining the financial aspects of the project. This system proves to be a financially efficient choice for sports organizations and stakeholders, primarily due to the following factors:

- Cost-Effective Solution: The Sports Details Management System is designed to provide a cost-effective solution. By leveraging open-source technologies, it eliminates the need for expensive, proprietary software licenses. Sports organizations can implement and utilize the system without incurring significant licensing costs, thus promoting financial sustainability.
- Scalability: Our system is engineered to scale seamlessly with the organization's needs. Whether there is an increase in the number of athletes, teams, or data volume, the system can adapt efficiently without requiring substantial additional investments in infrastructure or operations.
- Maintenance and Support: The system's use of widely-adopted open-source technologies ensures that maintenance and support are both accessible and affordable. With a large community of developers and extensive documentation, sports organizations can easily find solutions to technical issues, reducing the need for costly specialized support services.
- Reduced Administrative Costs: By automating many of the administrative tasks associated with managing sports details, the system reduces the time and resources required for manual data entry and management. This leads to lower labor costs and allows staff to focus on more strategic activities.

The Sports Details Management System offers economic feasibility by optimizing resources, reducing costs, and promoting efficient management of sports-related information within organizations. It stands as a financially prudent choice for sports organizations seeking to enhance their operational efficiency while maintaining fiscal responsibility.

1.2.3 Behavioural Feasibility

The Sports Details Management System demonstrates strong behavioral feasibility, as it encompasses various aspects that enhance its ease of use and efficiency in operation. Here are the behavioral feasibility considerations for the system:

- User-Friendly Interface: The system is designed with a user-friendly interface that ensures ease of use for Physical Education Teachers.
- Reduced Human Effort: The new system significantly reduces the manual effort required for result analysis and reporting. It automates the process, minimizing the need for extensive human intervention.
- Historical Student Data Access: One of the unique features of the system is its ability to access previous student details. This capability allows educators and administrators to retrieve and analyze the performance history of students who have graduated or completed previous academic terms.

The Sports Details Management system's user-friendly features, reduced manual effort, accessibility.

Chapter 2

Related Works

2.1 System Analysis

System analysis is a detailed study of the various operations performed by a system and their relationship within and outside of the system. One aspect of analysis is defining the boundaries of the system and determining whether or not a candidate system should consider other related systems. During analysis, data are collected on the valuable file, decision points, and transactions handled by the present system. Once the analysis is completed the system analyst has a firm understanding of what is to be done. System analysis and study has mainly two parts. They are Existing System and Proposed System.

2.1.1 Existing System

The current system operates in a manual mode, demanding considerable effort and consuming a substantial amount of time. Currently, many educational institutions use manual or basic digital systems to manage sports details. This often means keeping paper records for student information, equipment check-out and return, and event attendance. These paper logs can be hard to manage and easy to mess up. Some schools use spreadsheets like Excel or Google Sheets, which are better than paper but can still be difficult to handle with lots of data and are prone to mistakes. Others use simple digital tools, like basic databases or email, but these lack the advanced features needed for efficient sports management.

Disadvantages

- Time consuming
- High chance of error
- High manual effort
- Difficulty in Accessing Information:
- Inefficient Communication:
- Security and Privacy Concerns:
- Documentation is a challenging

2.1.2 Proposed System

The proposed Sports Details Management System (SDMS) aims to revolutionize sports management in educational institutions by addressing the limitations of current systems. It features a centralized database for storing comprehensive student information, enabling quick and easy access for decision-making and reporting. The system offers robust tools for monitoring attendance at events and practice sessions, and analyzing participation patterns. Additionally, SDMS includes a photo management module to organize and archive event photos, enhancing institutional memory and promotional efforts. It also facilitates the issuance and tracking of certificates, ensuring timely recognition of student achievements. With a user-friendly interface and role-based access, the system is designed for ease of use by administrators, coaches, and students. Advanced reporting and analytics capabilities provide valuable insights for informed decision-making, while integration features ensure seamless operation with existing school systems. The proposed SDMS prioritizes security and privacy, implementing robust measures to protect sensitive data and ensure compliance with regulations. Comprehensive training programs and ongoing support are provided to ensure users can effectively utilize the system. Overall, SDMS promises to streamline sports management processes, improve efficiency, and enhance accountability within educational institutions.

Advantages

- Time-efficient
- Reduced chance of error
- Minimized manual effort
- Easy access of information
- Secure
- Streamlined documentation

2.2 Requirement Elicitation and Analysis

The analysis of requirements for the Sports Details Management System commenced with a comprehensive gathering of information from various stakeholders, includes only Physical Education Teacher. This initial phase aimed to collect all relevant data that would serve as the foundation for defining the system's requirements. The collected information underwent a thorough analysis to establish a precise and unambiguous understanding of the project's objectives, while also addressing any ambiguities or inconsistencies in the initial problem statement.

2.2.1 Requirement Gathering

For the requirement gathering process,a combinationof methods was employed,including personal interviews and group discussions.These methods allowed for a holistic ap-

proach to gathering insights and need for the project. The following techniques are utilized:

- Personal Interviews: Interviews were conducted with key stakeholder to identify the activities involved in managing sports details, comprehend the limitations of the existing system, and discern the types of reports and functionalities required.
- Checklists: Checklists were employed to systematically identify the areas within the sports management system that required thorough analysis. This approach helped prioritize aspects of the system based on their significance and impact on the overall functionality.
- Record Review: The examination of existing documentation played a pivotal role in understanding the standard operating procedures, forms, documents, and various reports utilized by the current system. This review provided a foundation for identifying gaps and areas for improvement in the new system.

Chapter 3

Methodology

3.1 System Development

The development of the Sports Details Management System was executed using Django, a high-level Python web framework that enables rapid development of secure and maintainable websites. The user interface was crafted using HTML, CSS, and JavaScript to create an interactive and user-friendly front end. Django provided the foundation for the back-end logic. The development environment was established using tools like Visual Studio Code.

3.2 Database Design and Data Integration

In our project, we recognized the importance of leveraging existing student data, which was already stored in the database of the college's Student Management System. This integration allowed us to build upon the foundation of pre-existing student details, eliminating the need to re-enter redundant data.

To seamlessly integrate the Sports Details Management System with the Student Management System's database, we extended the database schema to accommodate additional information related to sports activities and achievements. The models created for the project include:

Department: Captures the department names.

Programme: Stores details about various academic programs.

Student: Contains student-specific details such as name, year of admission, admission number, programme, registration number, place, department, phone number, Aadhaar number, date of birth, city, district, and pincode.

Item: Holds information about sports items and types, including the number of players.

Stud item: Associates students with sports items, recording player status, team selection status, position, and the year.

Attendance: Tracks attendance records for students during sports activities.

Picture: Stores images related to sports events and items.

Certificate: Manages certificates awarded to students, capturing details such as the item, certificate collection status, year, programme, department, and position type.

By integrating with the existing Student Management System's database, we were able to build a seamless and comprehensive Sports Details Management System while minimizing data duplication and maintaining data consistency across the college's information systems. This approach not only saved time and effort but also ensured that student, sports, and attendance data remained accurate and synchronized.

We introduced additional database tables specifically designed to capture and manage detailed information related to students' sports activities. These tables include fields for various attributes such as course ID, student ID, and marks, ensuring that all data is appropriately organized, securely stored, and easily accessible for analysis and reporting.

3.3 User Feedback

The Sports Details Management System (SDMS) has been well-received by users for its intuitive interface and efficient functionality. Users find it easy to navigate, which simplifies the management of sports-related data and reduces administrative workload. The integration with the existing Student Management System is highly praised, as it eliminates redundant data entry and ensures data consistency.

Key features like attendance tracking, certificate management, and item assignment are particularly valued. The ability to generate detailed reports on student participation and achievements is also appreciated.

However, some users have noted that the system can be slow with large data volumes and expressed a desire for better mobile compatibility. There is also interest in more customization options for reports and data views.

Overall, SDMS is appreciated for its user-friendly design and comprehensive features, with some areas identified for further improvement to enhance user satisfaction.

3.4 Framework and Tool Selection

In the process of developing a web app, we rely on a range of essential tools. Such as:

- **Visual Studio Code :** It is an advanced code editor that offers features like debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and integrated Git support.

Chapter 4

Design and Implementation

4.1 Architecture

4.1.1 Database Design

- Table Name : Department (Table 4.1)

Description : Details of Department

Column name	Data Type	Description
id	int(primary key)	id of Department
dept_name	char	name of Department

Table 4.1: Department Details

- Table Name : Student (Table 4.2)

Description : Details of Student

SPORTS DETAILS MANAGEMENT SYSTEM

Column name	Data Type	Description
id	int(primary key)	id of student
name	varchar(100)	name of student
year_of_admission	varchar(12)	year of admission
admission_no	char(1)	admission number
uty_reg_no	int	university register number
place	varchar	place
city	varchar	city
District	Varchar	District
pincode	int	pincode
department	int	id of department
programme_id	int	id of programme
dob	date	Date of birth
phone_no	int	phone number
aadhar_number	int	aadhar number
gender	varchar	gender of student

Table 4.2: Student Details

- Table Name : Programme

Description : programme

Column name	Data Type	Description
id	int (primary key)	id of programme
name	varchar	name of programme

Table 4.3: Programme Details

- Table Name : Item

Description : Details of Item

SPORTS DETAILS MANAGEMENT SYSTEM

Column name	Data Type	Description
id	int(primary key)	id of item
item_name	varchar	name of the item
item_type	varchar	type of item
no_of_players	int	number of players

Table 4.4: Item Details

- Table Name : student item

Description : Details of student item

Column name	Data Type	Description
id	int(primary key)	id of student
player_status	varchar	status of player
uty_team_selection	varchar	university team selection
position	int	position
year	int	year
item_id	int	id of item
stud_id	int	id of student
gender	varchar	gender of student

Table 4.5: Student item Details

- Table Name :Attendance

Description : Marking The Attendance

Column name	Data Type	Description
id	int(primary key)	id of student
date	date	Date
hour	int	five hours of the day
student_id	int	id of student
item_id	int	id of tem

Table 4.6: Attendance Details

- Table Name :Picture

Description : Picture Gallery

Column name	Data Type	Description
id	int(primary key)	id of student
year	int	Year of Admission
image	long int	image
item_id	int	id of item

Table 4.7: Picture Gallery

- Table Name: Certificate
- Description: Details of Certificate Collection

Column name	Data Type	Description
id	int (primary key)	ID of the certificate
student_id	int	ID of the student
item_id	int	ID of the item
certificate_collected	boolean	Whether the certificate is collected
year	int	Year of certificate collection
programme_id	int	ID of the programme
department_id	int	ID of the department
item_position	varchar(40)	Position in the item

Table 4.8: Certificate Details

4.1.2 ER Diagram

An entity-relationship diagram is a data modeling technique that creates a graphical representation of the entities, and the relationships between entities, within an information system. This Diagram provide an insightful view of datamodel that underlies our Sports Details Management system.

Entities:

- Student
- Certificate
- Attendance
- Stud-item
- Item
- Department
- Programme
- Picture

Relationships:

- : One-to-Many
- Programme to Volunteer: One-to-Many
- Event to Attendance_status: One-to-Many
- Attendance_status to Attendance: One-to-Many
- Volunteer to Attendance: One-to-Many
- Event to Attendance: One-to-Many
- Event to Event_details: One-to-One
- Event to Event_Photos: One-to-Many

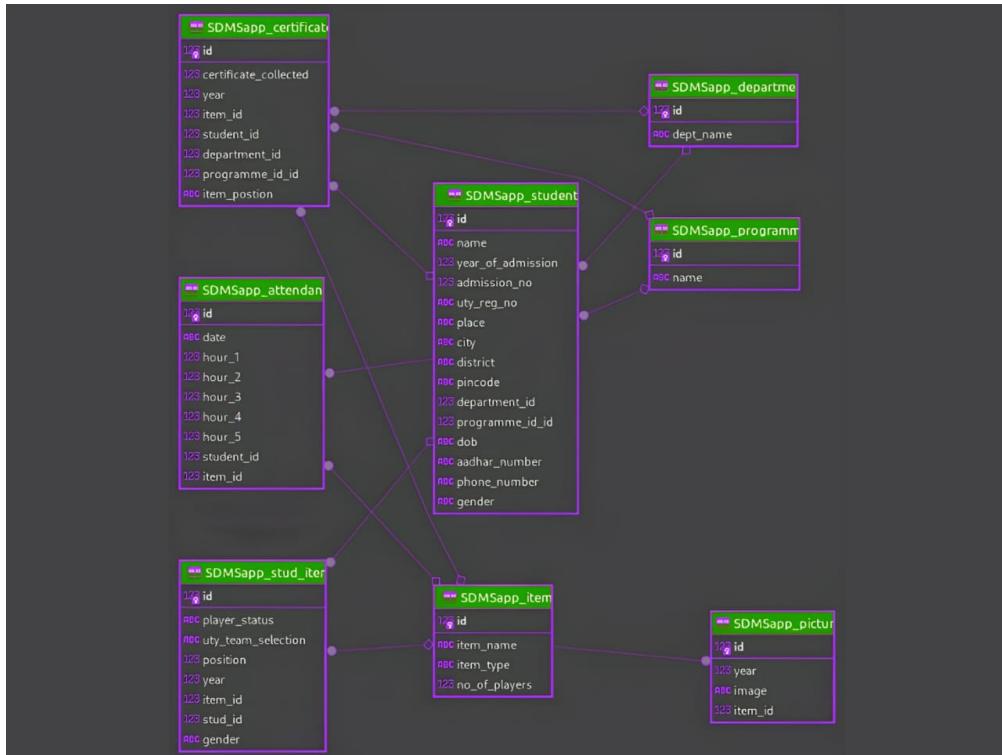


Figure 4.1: Entity Relationship Diagram

4.2 Implementation

During our research, we gathered information through personal interviews with teachers, checklists, previous analyses, and record reviews. Our primary observation was that manual analysis processes were time-consuming and prone to errors. Consequently, we concluded that implementing an automated system within the college context would be a sensible solution. We have developed the proposed system using Django for the back-end, with HTML, CSS, and JavaScript utilized for design and user interface components. MySQL is employed as the back-end database to manage and store data efficiently. Testing and validation are essential for ensuring the reliability of the Sports Details Management System (SDMS). We conducted unit testing to verify the correct functioning of individual components. Integration testing ensured that different modules worked together seamlessly. System testing involved end-to-end testing in a production-like environment.

Chapter 5

Testing

Testing is a critical phase to ensure that the system functions correctly and meets its intended objectives.

5.1 Testing Strategy

5.1.1 System Testing

System testing evaluates the entire system as a whole, including end-to-end functionality. It aims to assess the system's overall functionality, performance, security, and reliability in a real-world or simulated environment. This testing includes Data insert and validation test and User interface test.

5.1.2 Unit Testing

Unit testing involves testing individual components and functions of the application to ensure they perform as expected. This process helps identify and fix bugs early, improving the system's reliability and performance.

5.1.3 Integration Testing

Integration testing for the Sports Details Management System (SDMS) ensures seamless functionality across its various modules. In attendance monitoring, the system checks that recorded attendance for events accurately reflects in student records and generates correct reports. For photo management, integration testing ensures that event photos are properly linked to teams and years, maintaining an organized visual archive. Finally, for certificate issuance, the system confirms that issued certificates are correctly recorded in student profiles, tracking their status effectively. This comprehensive integration testing guarantees that all SDMS components work together smoothly to enhance sports administration in educational institutions.

5.2 Test Cases

In this section, We outline the test cases designed to evaluate the functionality of our Sports Details Management System. Each test case focuses on specific aspects of the system, ensuring comprehensive coverage.

5.2.1 Student Management Testing

Test Case 1: Add New Student

Objective: To verify that a new student can be successfully added with all required details.

Steps: only Teacher can navigate the "Student Management" section, click "Add New Student," input essential student details including name, registration number, academic department, program, admission year, address, and date of birth, and submit the form to successfully add the new student to the system and Display the new student in the student list with all entered details accurately.

Expected Result: Successfully create a new student record in the database.

The screenshot shows a web application interface for 'SPORTS DETAILS MANAGEMENT SYSTEM'. At the top, there is a blue header bar with the system's name. Below it is a dark navigation bar containing links for 'Home', 'Student Management', 'Team Management', 'Attendance', 'Picture Gallery', 'Certificate Portal', 'user authentication', and a 'Logout' button. The main content area has a light gray background. In the center, there is a white rectangular form titled 'Add Student'. The form contains six input fields: 'Name:' (text input), 'Year of admission:' (text input), 'Admission no:' (text input), 'Programme id:' (dropdown menu), 'Uty reg no:' (text input), and 'Place:' (text input). At the bottom of the form, there is a small text 'Copyright © 2024'.

Figure 5.1: Add Student

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows the 'Add Student' form. At the top, there is a blue header bar with the text 'SPORTS DETAILS MANAGEMENT SYSTEM'. Below it is a dark grey navigation bar with links: Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and a Logout button. The main content area has a white background and features a title 'Add Student' at the top. It contains several input fields: 'Name:' with a placeholder 'Sutheeth.P', 'Year of admission:' with a placeholder '2021', 'Admission no.' with a placeholder '23455', 'Programme id:' with a dropdown menu showing 'ug', 'Uty reg no.' with a placeholder '9497602669', and 'Gender:' with a dropdown menu showing 'Male'. At the bottom right of the form, there is a small text 'Copyright © 2024'.

Figure 5.2: Add Student

Test Case 2: Edit Student Information

Objective: To ensure that existing student records can be accurately updated.

Steps: Navigate to the "Student Management" section, select the desired student record for update, edit relevant information like address or contact details, and save the changes to the student record.

Expected Result: Reflect the updated information accurately when viewing the student's details.

The screenshot shows the 'Edit Student' form. The layout is identical to the 'Add Student' form, with a blue header bar, a dark grey navigation bar, and a white content area. The title 'Edit Student' is at the top. The input fields are pre-filled with data: 'Name:' ('Sutheeth.P'), 'Year of Admission:' ('2021'), 'Admission No.' ('23455'), 'Gender:' ('Male'), 'Programme ID:' ('ug'), 'Place:' ('NILESHWAR'), 'Department:' ('computer science'), and 'phone number:' ('9497602669'). The bottom right of the form also includes the copyright notice 'Copyright © 2024'.

Figure 5.3: Edit Student

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web-based application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main content area is titled "Edit Assignment" and contains the following form fields:

- Stud: Sufheerth.P
- Item: BASKETBALL
- Player status: Active
- Uty team selection: Not Selected
- Position: 0
- Year: 0

A green "Save" button is located at the bottom of the form. At the very bottom of the page, there is a dark footer bar with the text "Copyright © 2024".

Figure 5.4: Edit Assignment

Test Case 3: Delete Student Record

Objective: To verify that student records can be deleted without any unintended data loss

Steps: Navigate to the "Student Management" section, select the student record intended for deletion, and confirm the deletion action.

Expected Result: Successfully delete the student record from the database without any unintended data loss.

Test Case 4: View Student Details

Objective: To verify that student details can be accurately viewed.

Steps: Navigate to the "Student Management" section. Select a student from the list to view their details. Verify that all student details, including name, register number, academic department, program, admission year, address, and date of birth, are displayed accurately.

Expected Result: All student details are displayed accurately when viewing a student's record.

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the navigation is a search bar labeled "Search by student name: UTY". A table titled "All Students" displays five rows of student information:

Name	UTY Reg No	Department	Profile	Actions
Sutheerth.P	NA21PICS16	computer science	View Profile	Delete Edit
Sidharth T P	NA21PICS15	MATHEMATICS	View Profile	Delete Edit
Rejina Ravi	NA21PICS23	ENGLISH	View Profile	Delete Edit
gargi	NA21PICS22	HISTORY	View Profile	Delete Edit

At the bottom of the page, a dark footer bar contains the text "Copyright © 2024".

Figure 5.5: View Student Details

The screenshot shows a "Profile" section for a student named Sutheerth.P. The profile details are as follows:

- Name: Sutheerth.P
- UTY Reg No: NA21PICS16
- Year of Admission: 2021
- gender: Male
- Admission No: 23455
- Programme ID: ug
- Place: NILESHWAR
- Department: computer science
- Phone Number: 9497602669
- Aadhar Number: 21212121212121
- Date of Birth: June 4, 2024
- City: Kasaragod
- District: KASARAGOD
- Pincode: 671314

At the bottom of the profile section, there is a "Back to Home" link.

Figure 5.6: Profile Of Student

5.2.2 Assign Player Testing

Test Case : Assign Item to Uploaded Student

Objective: To assign a student to a specific item. The assignment can also be deleted, edited, and viewed.

Step: Teacher can use Checkboxes to assign each item.

Expected Result: All assigned sports item details are displayed accurately when viewing the record.

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web-based application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The main menu at the top includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the menu, a sub-menu titled "Assign Students to item" is displayed. It features a dropdown for "Select Item" (set to "None"), a dropdown for "Gender" (set to "Male"), and a search bar for "Search by student name: UTY". A table lists four students: Sutheerth.P, Sidharth T P, Rejina Ravi, and gargi. Each student has a checkbox labeled "Check" next to their name. To the right of the table is a column labeled "Name & UTY Reg No" with the corresponding values. A blue "Assign" button is located at the bottom left of the table area. At the bottom of the page, a dark footer bar contains the text "Copyright © 2024".

Figure 5.7: Assign Students To Item

The screenshot shows a table titled "Assigned Student list" within the "SPORTS DETAILS MANAGEMENT SYSTEM". The table has columns for Sino, Student, UTY REGNO, Item, Gender, Player Status, Team Selection, Position, Year, and Action. The data in the table is as follows:

Sino	Student	UTY REGNO	Item	Gender	Player Status	Team Selection	Position	Year	Action
1	Sutheerth.P	NA21PICS16	BASKETBALL	Male	Active	Not Selected	0	0	Delete Edit
2	Sidharth T P	NA21PICS15	BASKETBALL	Male	Active	Not Selected	0	0	Delete Edit
3	Rejina Ravi	NA21PICS23	KABADDI	Female	Active	Not Selected	0	0	Delete Edit
4	gargi	NA21PICS22	KABADDI	Female	Active	Not Selected	0	0	Delete Edit

At the bottom of the page, a dark footer bar contains the text "127.0.0.1:8088/assignview_student/".

Figure 5.8: Assigned Student List

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the navigation is a search bar labeled "Search by student name: UTY". The main content area is titled "All Students" and displays a table with five rows of student data. The columns are Name, UTY Reg No, Department, Profile, and Actions. Each row contains a "View Profile" link and two buttons: "Delete" and "Edit". The data in the table is as follows:

Name	UTY Reg No	Department	Profile	Actions
Sutheerth.P	NA21PICS16	computer science	View Profile	Delete Edit
Sidharth T P	NA21PICS15	MATHEMATICS	View Profile	Delete Edit
Rejina Ravi	NA21PICS23	ENGILSH	View Profile	Delete Edit
gargi	NA21PICS22	HISTORY	View Profile	Delete Edit

At the bottom of the page, there is a copyright notice: "Copyright © 2024".

Figure 5.9: View Student Details

5.2.3 View Team Testing

Test Case : view team details.

Objective: To view the details of items in a specific year.

Step: Navigate to the "Team Management" section and select the item name and year. The teacher can then view the details of players for the selected item and year, including student details, player status, university team selection, team position, and grace mark percentage.

Expected Result: The teacher can accurately view all relevant details of the players associated with the selected item and year.

SPORTS DETAILS MANAGEMENT SYSTEM

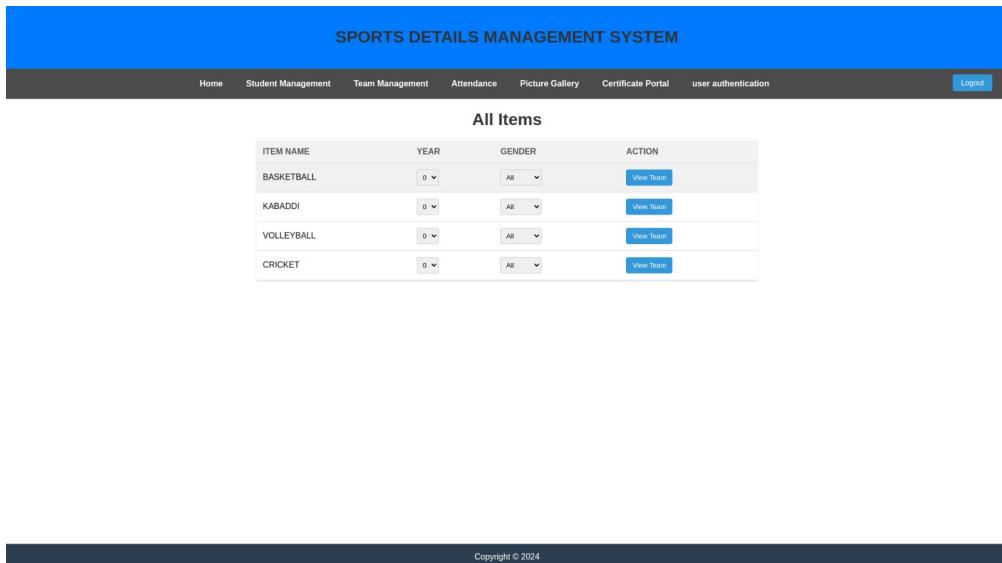


Figure 5.10: View Team

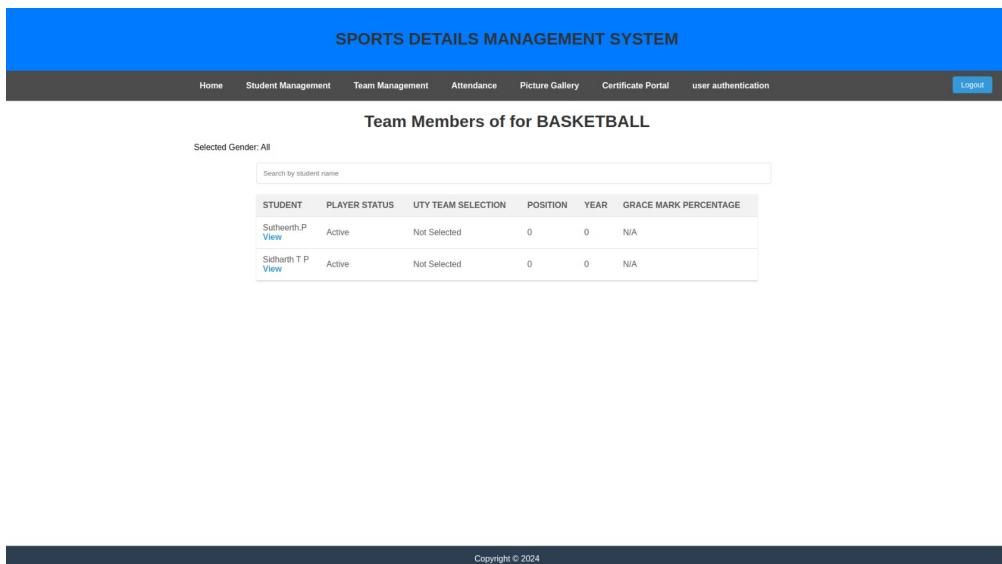


Figure 5.11: View Student Details

5.2.4 Attendance Testing

Test Case 1 : Mark Attendance

Objective: To show the relevant details of students with dates and attendance marks. The teacher can also delete attendance records for specific dates.

Step: The teacher can add student details, date, and item, and mark missed hours using checkboxes.

Expected Result: Attendance records are created in the database.

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the navigation is a form titled "Mark Attendance" with fields for Student (dropdown), Date (dd/mm/yyyy dropdown), Item (dropdown), Hour 1 through Hour 5 (checkboxes), and a "Save" button. At the bottom right of the page is a "Copyright © 2024" notice.

Figure 5.12: Mark Attendance

Test Case 2: View Attendance

Step: View the attendance of a student. Additionally, the attendance can be printed if needed.

Expected Result: Attendance details are already saved in the database, and a report of the attendance details can be printed.

The screenshot shows a web application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the navigation is a section titled "Attendance Records" with a search bar for "Select Date" (dd/mm/yyyy) and "Search" (Search by student name, UTG), and buttons for "View" and "Print". A table displays attendance records for two students: Sutheerth P and Rejina Ravi. The table columns include Student Name, Registration Number, Team, Date, and five hours (Hour 1 to Hour 5) with status (Missed or Not Missed). Action buttons for "Delete" are present for each row.

Student Name	Registration Number	Team	Date	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5	Action
Sutheerth.P	NA21PICS16	BASKETBALL	June 29, 2024	Missed	Not Missed	Missed	Not Missed	Missed	<button>Delete</button>
Rejina Ravi	NA21PICS23	KABADDI	June 28, 2024	Missed	Missed	Not Missed	Not Missed	Not Missed	<button>Delete</button>

Figure 5.13: View Attendance

5.2.5 Picture Gallery Testing

Test Case : Uploading picture to a team.

Objective: To upload a picture of an item for a specific year.

SPORTS DETAILS MANAGEMENT SYSTEM

Step: The teacher can upload a picture of the item.

Expected Result: The picture is saved in the database accurately.

The screenshot shows a web application interface. At the top, a blue header bar contains the text "SPORTS DETAILS MANAGEMENT SYSTEM". Below it is a dark grey navigation bar with links: "Home", "Student Management", "Team Management", "Attendance", "Picture Gallery", "Certificate Portal", "user authentication", and a "Logout" button. The main content area has a white background and features a form titled "Upload Picture". The form includes three dropdown menus: "Item" (set to "BASKETBALL"), "Year" (set to "2024"), and "Image" (with a placeholder "Choose file No file chosen"). A blue "Upload" button is located at the bottom of the form. At the very bottom of the page, there is a dark footer bar with the text "Copyright © 2024".

Figure 5.14: Uploading Picture

Test Case 2: View Picture

Step: The teacher selects the item and year and views the picture.

Expected Result: The teacher can view the picture of the item for the specified year.

The screenshot shows a web application interface. At the top, a dark grey navigation bar contains links: "Home", "Student Management", "Team Management", "Attendance", "Picture Gallery", "Certificate Portal", "user authentication", and a "Logout" button. The main content area has a white background and features a form titled "View Pictures". It includes two dropdown menus: "Item" (set to "BASKETBALL") and "Year" (set to "2024"), followed by a "Filter" button. Below these is a large rectangular frame with a blue border, which contains the text "demo picture" in bold black font. At the bottom of the page, there is a dark footer bar with the text "Copyright © 2024".

Figure 5.15: View Picture

5.2.6 Certificate Collection Testing

Test Case : teacher can view the details on student who collection the certificate.

Objective: can view certificate collection details

Step: The teacher can view the details of students who have collected their certificates from the Physical Education department.

Expected Result: The teacher can accurately view the details of students who have collected their certificates from the Physical Education department.

Figure 5.16: Manage Certificate Collection

Student	UTY REGNO	Department	Programme	Year	Item	Certificate Collected	Item Position	Actions
Regina Ravi	NA21PICS23	ENGLISH	ug	2024	KABADDI	True	inter_collegiate_1st	Edit Delete

Figure 5.17: Certificate Collection List

Chapter 6

Results and Discussion

The development of the Sports Details Management System (SDMS) has led to significant improvements in the management of sports-related activities in educational institutions. The system integrates several key functionalities, providing a comprehensive solution for student management, attendance tracking, event photo documentation, and certificate issuance. Through this system, administrators can efficiently manage student records, capturing essential details such as admission information, program affiliation, and personal data. The seamless management of attendance records for sports events and practice sessions has also been enhanced, allowing administrators to monitor student participation levels and analyze attendance patterns over time. Additionally, SDMS facilitates the organized management of event photos, enabling users to upload, categorize, and maintain a visual archive of sporting events. The system's capability to issue and track certificates for student participation in sports activities ensures timely recognition and boosts student morale.

6.1 Results

6.1.1 Student Management Page

The "Student Management" page in SDMS enables teachers to add, edit, view, and delete student details.

- Teachers can add new student records by entering details such as name, registration number, department, and year of admission.
- Teachers can edit existing student records to update information.
- A table displays student details with options to view, edit, or delete records.
- Search functionality allows teachers to filter students by name, registration number, or sport.

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web-based application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main content area is titled "Add Student" and contains the following fields:

- Name: [Text input field]
- Year of admission: [Text input field]
- Admission no.: [Text input field]
- Programme id: [Dropdown menu]
- Uty reg no.: [Text input field]
- Place: [Text input field]

At the bottom right of the content area, there is a small text "Copyright © 2024".

Figure 6.1: Add Student

This screenshot is identical to Figure 6.1, showing the "Add Student" form. However, it includes an additional field at the bottom:

Gender: [Dropdown menu] (with "Male" selected)

Other than this addition, the form and its layout are the same as in Figure 6.1.

Figure 6.2: Add Student

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows the 'Edit Student' form. The header bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main form fields are:

- Name: Sutheerth.P
- Year of Admission: 2021
- Admission No: 23455
- Gender: Male
- Programme ID: ug
- Place: NILESHWAR
- Department: computer science
- phone_number: 9497602669

At the bottom right of the form area, there is a small text: Copyright © 2024.

Figure 6.3: Edit Student

The screenshot shows the 'Edit Assignment' form. The header bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main form fields are:

- Stud: Sutheerth.P
- Item: BASKETBALL
- Player status: Active
- Uty team selection: Not Selected
- Position: 0
- Year: 0

At the bottom right of the form area, there is a green 'Save' button. At the very bottom right of the entire page, there is a small text: Copyright © 2024.

Figure 6.4: Edit Assignment

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows a web application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The top navigation bar includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the navigation is a search bar labeled "Search by student name: UTY". A table titled "All Students" displays five rows of student information:

Name	UTY Reg No	Department	Profile	Actions
Sutheerth.P	NA21PICS16	computer science	View Profile	Delete Edit
Sidharth T P	NA21PICS15	MATHEMATICS	View Profile	Delete Edit
Rejina Ravi	NA21PICS23	ENGLISH	View Profile	Delete Edit
gargi	NA21PICS22	HISTORY	View Profile	Delete Edit

At the bottom of the page, a dark footer bar contains the text "Copyright © 2024".

Figure 6.5: View Student Details

The screenshot shows a "Profile" page for a student named Sutheerth.P. The page displays various personal and academic details:

- Name: Sutheerth.P
- UTY Reg No: NA21PICS16
- Year of Admission: 2021
- gender: Male
- Admission No: 23455
- Programme ID: ug
- Place: NILESHWAR
- Department: computer science
- Phone Number: 9497602669
- Aadhar Number: 2121212121212121
- Date of Birth: June 4, 2024
- City: Kasaragod
- District: KASARAGOD
- Pincode: 671314

At the bottom of the profile section, there is a link "Back to Home".

Figure 6.6: Profile Of Student

6.1.2 View Attendance Page

The "View Attendance" page in the Sports Details Management System (SDMS) enables teachers to manage and view attendance records for sports events and practice sessions.

- Teachers can select a sports event from a dropdown menu to view attendance details.
- Selected event details, including event name, date, and location, are displayed prominently.

SPORTS DETAILS MANAGEMENT SYSTEM

- If attendance status is "pending for approval," only designated authorities can see the option to approve attendance.
- Teachers can delete attendance records if necessary.
- A table displays student names and their corresponding sports activity details.
- A link is provided to view the full attendance report for comprehensive details.

The screenshot shows a web application interface for the Sports Details Management System. At the top, there is a blue header bar with the title 'SPORTS DETAILS MANAGEMENT SYSTEM'. Below it is a dark navigation bar containing links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main content area is titled 'Attendance Records' and features a search bar with fields for 'Select Date' (dd/mm/yyyy), 'Search' (Search by student name, UTN), and buttons for 'View' and 'Print'. Below the search bar is a table with the following data:

Student Name	Registration Number	Team	Date	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5	Action
Sutheerth.P	NA21PICS16	BASKETBALL	June 28, 2024	Missed	Not Missed	Missed	Not Missed	Missed	<button>Delete</button>
Rejina Ravi	NA23PICS23	KABADDI	June 28, 2024	Missed	Missed	Not Missed	Not Missed	Not Missed	<button>Delete</button>

At the bottom of the page, there is a dark footer bar with the text 'Copyright © 2024'.

Figure 6.7: View Attendance

6.1.3 Picture Management Page

The "Picture Management" page in SDMS allows teachers to upload and view pictures related to sports events.

- Teachers can upload pictures by selecting the sports event and year.
- A gallery displays uploaded pictures, categorized by event and year.
- Teachers can delete pictures if necessary.

SPORTS DETAILS MANAGEMENT SYSTEM

The screenshot shows the 'Upload Picture' page of the SDMS. At the top, there is a blue header bar with the system name. Below it is a dark grey navigation bar containing links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. The main content area has a white background. It features a form titled 'Upload Picture' with three dropdown menus: 'Item' (set to 'BASKETBALL'), 'Year' (set to '2024'), and 'Image'. A file input field shows 'No file chosen'. A blue 'Upload' button is at the bottom of the form. At the very bottom of the page, there is a dark footer bar with the text 'Copyright © 2024'.

Figure 6.8: Uploading Picture

The screenshot shows the 'View Pictures' page of the SDMS. The layout is similar to Figure 6.8, with a blue header, a dark grey navigation bar, and a white content area. The title 'View Pictures' is at the top of the content area. Below it is a search bar with dropdowns for 'Item' (set to 'BASKETBALL') and 'Year' (set to '2024'), and a 'Filter' button. The main content is a large blue-bordered frame containing the text 'demo picture'. At the bottom of the content area, there is a small link 'Download Details'. The page ends with a dark footer bar containing 'Copyright © 2024'.

Figure 6.9: View Picture

6.1.4 Certificate Management Page

The "Certificate Management" page in SDMS allows teachers to manage certificates awarded to students for their participation in sports activities.

- Teachers can record certificate details, including student names, sports events, and certificate status.
- A table displays certificate information, allowing teachers to update or delete records.

SPORTS DETAILS MANAGEMENT SYSTEM

- Teachers can generate reports on certificate distribution

The screenshot shows a web-based application titled "SPORTS DETAILS MANAGEMENT SYSTEM". The main menu at the top includes links for Home, Student Management, Team Management, Attendance, Picture Gallery, Certificate Portal, user authentication, and Logout. Below the menu, a central panel is titled "Manage Certificate Collection". This panel contains several input fields: "Student" (a dropdown menu), "Item" (another dropdown menu), "Certificate collected" (a checkbox), "Year" (an input field), "Programme id" (a dropdown menu), "Department" (a dropdown menu), and "Item position" (a dropdown menu). At the bottom of the panel is a blue "Submit" button. The footer of the page displays the copyright notice "Copyright © 2024".

Figure 6.10: Manage Certificate Collection

The screenshot shows a table titled "Certificate Collection List" within the "SPORTS DETAILS MANAGEMENT SYSTEM". The table has columns for Student, UTY REGNO, Department, Programme, Year, Item, Certificate Collected, Item Position, and Actions. A single row is visible, showing data for a student named "Rajesh Rayi" with UTY REGNO "NA21PICS23", Department "ENGILSH", Programme "ug", Year "2024", Item "KABADDI", Certificate Collected "True", Item Position "inter_collegiate_1st", and Actions "Edit" and "Delete". The footer of the page displays the copyright notice "Copyright © 2024".

Student	UTY REGNO	Department	Programme	Year	Item	Certificate Collected	Item Position	Actions
Rajesh Rayi	NA21PICS23	ENGILSH	ug	2024	KABADDI	True	inter_collegiate_1st	Edit Delete

Figure 6.11: Certificate Collection List

6.2 Discussion

The introduction of the proposed Sports Details Management System (SDMS) represents a significant advancement in the management of sports activities within our educational institution. By analyzing the limitations of the current system and

identifying its challenges, SDMS was designed to address the inefficiencies inherent in manual, paper-based processes.

A primary focus of the discussion on SDMS is its potential to streamline sports operations and enhance overall efficiency. Transitioning from manual processes to an automated system, SDMS aims to simplify and accelerate various aspects of sports administration, attendance monitoring, and certificate management. This shift is expected to reduce the administrative burden on staff and provide a more organized and effective way of managing sports activities.

The user-friendliness and accessibility of SDMS are also key points of discussion. The system's intuitive interface and user-centric design are intended to ensure ease of use include Physical Education. By incorporating user-friendly controls and functionalities, SDMS is more likely to be readily adopted and utilized, thereby enhancing user engagement and overall satisfaction.

Additionally, the discussion highlights the modular approach of SDMS, which includes distinct modules for specific areas such as student management, sports item assignment, attendance tracking, picture management, and certificate management. This modular design not only promotes flexibility and scalability but also allows for customization to meet the unique needs and requirements of the institution's sports programs.

Furthermore, the comprehensive reporting capabilities integrated into SDMS are expected to facilitate better data management and informed decision-making. Enhanced reporting tools will enable administrators to generate detailed reports on various aspects of sports management, thereby improving the oversight and effectiveness of sports activities.

In conclusion, the SDMS is poised to significantly improve the management of sports activities by automating processes, enhancing user engagement, and providing robust tools for data management and reporting. This system is a step towards modernizing sports administration and ensuring that all aspects of sports management are handled efficiently and effectively.

Chapter 7

Contributions

In this project, we collaborated to develop the Sports Details Management System. We divided the work into phases, including planning, design, implementation, testing, and evaluation. Here, we'll outline each team member's contributions, the challenges we encountered, and the lessons we took from the project.

Sutheerth

- **Technical Contributions:**

- Developed the backend using Django, ensuring seamless data processing and functionality
- Implemented the database using PostgreSQL to store and manage student, sports item, attendance, picture, and certificate details.
- Created RESTful APIs using Django REST Framework to facilitate communication between the frontend and backend.***

- Design Contributions

- Played a crucial role in designing the backend architecture to ensure efficient data handling and processing.
- Worked on creating efficient database schemas to support the various modules of the SDMS.
- Ensured the integration of backend processes with the frontend for a cohesive system experience.

- Overcoming Challenges

- Addressed security vulnerabilities identified during testing, implementing measures such as tokens and secure data handling practices.
- Worked on optimizing database queries and Django ORM to enhance system performance and reduce load times.

- Reflection and Growth

- Gained significant experience in backend web development, particularly in Django and PostgreSQL.
- Enhanced skills in database management and optimization for better system performance.

- Developed a deeper understanding of security practices in web application development.

Rejina Ravi

• Technical Contributions:

- Developed the frontend using HTML, CSS, and JavaScript, ensuring an intuitive and user-friendly interface for users.
- Created dynamic web pages for student management, sports item assignments, attendance tracking, picture uploads, and certificate management.
- Created dynamic web pages for student management, sports item assignments, attendance tracking, picture uploads, and certificate management.

• Design Contributions

- Played an important role in designing the login page, analysis page, and other user interfaces, ensuring a user-friendly and visually appealing experience for teachers.
- Utilized HTML, CSS, and JavaScript to enhance the styling and responsiveness of the user interface.
- Worked on integrating the frontend with the backend to ensure smooth data flow and functionality.

• Overcoming Challenges

- Addressed issues related to cross-browser compatibility to ensure the system works seamlessly across different web browsers.
- Resolved frontend integration issues to ensure seamless communication between frontend and backend components.

• Reflection and Growth

- Gained significant experience in frontend web development, particularly in HTML, CSS, and JavaScript.
- Enhanced skills in designing user-friendly interfaces that improve system usability.
- Created RESTful APIs using Django REST Framework to facilitate communication between the frontend and backend.*****

Chapter 8

Conclusion

The Sports Details Management System (SDMS) project marks a significant milestone in our institution's journey towards modernizing and enhancing the management of sports activities. This project represents a dedicated effort to address the challenges of the traditional, paper-based approach to sports administration and to introduce a new era of efficiency, transparency, and effectiveness.

At the core of the SDMS project is a commitment to streamlining processes and improving user experience. Recognizing the limitations of the existing system, such as manual procedures, cumbersome record-keeping, and a lack of comprehensive reporting capabilities, motivated the development of SDMS. Through careful analysis and stakeholder consultation, we have created a system that not only addresses these challenges but also empowers users to engage more effectively with sports activities.

The SDMS is designed with usability and accessibility in mind. We have prioritized developing an intuitive user interface and user-friendly features to ensure that all stakeholders, regardless of their technical skills, can navigate the system with ease. From teachers and coaches overseeing sports activities to students participating in them, the SDMS is tailored to meet the diverse needs of our institution's community.

Moreover, the SDMS is built to adapt and grow with our institution's sports programs. Its modular architecture allows for scalability and flexibility, enabling us to incorporate new features and functionalities as our needs evolve. This ensures that the SDMS remains relevant and effective in the face of changing circumstances and requirements.

Looking ahead, the SDMS holds the promise of transforming sports administration from a burdensome chore into a streamlined and efficient process. By leveraging technology, we aim to maximize the impact of sports activities, fostering a culture of athletic excellence and holistic development within our institution.

In conclusion, the SDMS represents a bold step forward in our quest to enhance sports management within our institution. Its successful implementation will not only alleviate administrative burdens but also empower us to amplify the reach and impact of sports activities, leaving a lasting legacy of positive change in our community and beyond.

Bibliography

- [1] K. Scarfone and P. Mell, “Guide to intrusion detection and prevention systems (idps),” *NIST Special Publication*, vol. 800, no. 2007, p. 94, 2007.
- [2] Wikipedia, “Donald Knuth.” http://en.wikipedia.org/wiki/Donald_Knuth.

Appendices

Appendix A

Sample Code

```
#include <iostream>
using namespace std;
main()
{
    cout << "Hello world \n";
    return 0;
}
```