

# **SPORTS RESOURCE MANAGEMENT**



Mini Project submitted in partial fulfillment of the requirement for the award of the

degree of

**BACHELOR OF TECHNOLOGY  
IN**

**COMPUTER SCIENCE AND ENGINEERING**

Under the esteemed guidance of

**Mrs. Dr. Krishna Jyothi  
Associate Professor**

By

**Srujan. C (20R11A05D1)**



**Department of Computer Science and Engineering**  
**Accredited by NBA**

**Geethanjali College of Engineering and Technology**  
**(UGC Autonomous)**

(Affiliated to J.N.T.U.H, Approved by AICTE, New Delhi)  
Cheeryal (V), Keesara (M), Medchal.Dist.-501 301.

**September-2023**

# **Geethanjali College of Engineering & Technology**

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## **CERTIFICATE**

This is to certify that the B. Tech Mini Project report entitled “**SPORTS RESOURCE MANAGEMENT**” is a bonafide work done by **Srujan. C(20R11A05D1)**, in partial fulfillment of the requirement of the award for the degree of Bachelor of Technology in “**Computer Science and Engineering**” from Jawaharlal Nehru Technological University, Hyderabad during the year 2023-2024.

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## **DECLARATION BY THE CANDIDATE**

I, **Srujan. C** bearing **20R11A05D1** hereby declare that the project report entitled “**SPORTS RESOURCE MANAGEMENT**” is done under the guidance of **Mrs. Dr. Krishna Jyothi, Associate professor**, Department of Computer Science and Engineering, Geethanjali College of Engineering and Technology, is submitted in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science and Engineering**.

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## **ABSTRACT**

The College Sports Resource Booking Application has been developed in order to enable the students to book sports resources. The administrator can keep a tab on the availability of the resources. This application overcomes the problems prevailing in the existing manual system. It also makes it extremely simple for the students to book a resource or to check the availability of the resources and for the administrator to issue resources.

The application also shows the colleges upcoming tournaments and also has all the data of the previous tournaments won. It has many different functionalities that help both the college and its students without any hassle.

This application can be used to reduce the problems faced by the manual system. The administrator can issue and reject a booking in one click and it even helps the admin to keep a tab on the Booking History . The administrator can also add or delete the resources. It makes it easy for the administrator to keep track of all the resources and bookings. The application makes it so simple for the users to book a resource .

In the proposed system, the users can reserve and book the resource from wherever they are and collect it. The user can view all the resources available in the sports block with its count. This reduces the inquiry time at the issue counter. The application also shows the colleges upcoming tournaments and also has all the data of the previous tournaments won.

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## LIST OF ABBREVIATION

S.NO	ABBREVIATION	EXPANSION
1	DB	Data Base
2	JS	Java Script
3	HTML	Hyper Text Markup Language
4	CSS	Cascading Style Sheets



## LIST OF SNAPSHOTS

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# **1.INTRODUCTION**

## **1.1 GENERAL**

The Sports Resource Management System is a powerful software solution designed to revolutionize the way sports resources are managed. Sports Resource Management System provides a comprehensive and intuitive platform that enables sports entities to streamline their operations, optimize resource allocation.

## **1.2 ABOUT THE PROJECT**

Sports Resources Management System is a web application. The admin can add and delete resources on the web and manage the users in accepting and rejecting resources. The users can book the resources from the website and collect them from the office within 20 min and even cancel the request.

In the existing system, the users have to visit the sports office manually and collect the resources. And also, the users cannot reserve for a resource from wherever he/she is. Students have to visit sports room and place their ID card before acquiring any type of resource.

## **1.3 OBJECTIVE**

In the proposed system, the users can reserve and book the resource from wherever they are and collect it within 20min. In this system, user can book any type of resource and can also do slot booking, based on the time slots available user can book sports grounds and multiple resources provided.

## **2.SYSTEM ANALYSIS**

### **2.1 EXISTING SYSTEM**

In the existing system, the students have to visit the sports office manually, submit their ID card and collect the resources. And also, the users cannot reserve a resource from wherever he/she is. Then before leaving the college the student had to submit the resource and collect their ID card. If any damage done to the resource, he/she must pay the fine.

### **2.2 PROPOSED SYSTEM**

In the proposed system, the users can reserve and book the resource from wherever they are and collect it. The user can view all the resources available in the sports block with its count. This reduces the inquiry time at the issue counter. The application also shows the colleges upcoming tournaments and also has all the data of the previous tournaments won.

The software takes care of all the requirements and is capable of providing easy and effective storage information related to students that book sports resources. With the provision of an easily accessible user interface, the entire process of booking and approval of resources, along with other features, have become extremely facile while also significantly averting the numerous errors that would otherwise be caused in a manual system

This system will feature a user-friendly interface that enables administrators to handle all the available and currently utilized resources, scheduling of the slot times, and reset the resources on a daily basis, with its scalability and adaptability. This proposed system will be a game-changer for sports management, promoting efficiency, transparency.

## **2.3 FEASIBILITY STUDY**

### **2.3.1 IMPACT ON ENVIRONMENT**

The development and deployment of my Sports Resource Management Website do not directly impact the environment in terms of operating system or software usage. However, there are indirect environmental benefits associated with the implementation of this digital solution. By digitizing Sports Resource management processes and reducing the reliance on paper-based systems, my website contributes to a reduction in paper consumption. This shift towards a paperless approach promotes sustainability by saving trees and reducing the carbon footprint associated with paper production. Additionally, the website's ability to streamline Sports Resource Management and execution may lead to more efficient resource allocation, indirectly contributing to environmental conservation efforts.

### **2.3.2 SECURITY**

In terms of safety, my Sports Resource Management Website prioritizes various aspects, including data security and user privacy. Data security measures are in place to protect sensitive information, ensuring that user data and personal information remain confidential and free from unauthorized access. Robust network security protocols are employed to safeguard against potential threats and breaches. Furthermore, the website adheres to ethical principles by not exposing personal details of users, thereby prioritizing the privacy and safety of individuals.

### **2.3.3 ETHICS**

My website upholds ethical standards in several ways. It is designed to ensure that it does not harm any person physically or virtually. Personal information of users is securely handled, with stringent measures in place to protect user privacy and data. Secure login procedures are implemented to safeguard user accounts, and sensitive personal details are never exposed in any form without user consent. These ethical considerations are integral to our commitment to providing a safe and responsible digital platform.

### **2.3.4 COST**

The cost considerations associated with my Sports Resource Management Website encompass development, usage, and maintenance. The development phase involves initial expenses related to design, coding, and testing. However, these costs are offset by the long-term benefits of reduced operational expenses. Overall, the project demonstrates a cost-effective approach to sports resource management.

### **2.3.5 TYPE**

My website is categorized as an online application. It operates as a web-based platform accessible through internet browsers, providing users with a convenient and accessible means of Booking Resources. This application type offers the advantage of universal accessibility, allowing users to access information and registration from a variety of devices without the need for specific software installations.

My website not only offers practical benefits for Students, but also aligns with principles of environmental responsibility, safety, ethics, and cost-effectiveness. Its online application format ensures widespread accessibility, making it a valuable tool for streamlining Sports management while minimizing its environmental footprint and prioritizing user safety and data privacy.

## **2.4 SCOPE OF THE PROJECT**

This application can be used to reduce the problems faced by the manual system. The administrator can issue and reject a booking in one click and it even helps the admin to keep a tab on the Booking History. The administrator can also add or delete the resources. It makes it easy for the administrator to keep track of all the resources and bookings. The user can view all the resources available in the sports block with its count. This reduces the inquiry time at the issue counter. The application also shows the colleges upcoming tournaments and also has all the data of the previous tournaments won.

## **2.5 MODULE DESCRIPTION**

### **Features of User**

User is a student who is going to use the Web Application “Sport Resource Management”. The app has the following features:

- Can view all the resources available in the sports block with its count in the app. This reduces the enquiry time at the issue counter.
- He can send a booking request with just one click so that he can collect it in 20mins from his booking time.
- User also has an option to cancel the booking request within 20 minutes of the booking time.
- User can book number of resources and even ground slots.

### **Features of Administrator**

The administrator is the one who accepts and approves booking requests. They handle the Web application. The functionalities of the admin module include:

- Adding and deleting the resource when required.
- Accepting or rejecting the resource requested by the user based on the timetable.
- Updating the booking depending on whether the resources were returned or not and imposing fines accordingly.
- Note down the user details from booking history manually if the resource is damaged.
- Collecting fine manually.

## **2.6 SYSTEM CONFIGURATION**

### **2.6.1 GENERAL**

These are the requirements for doing the project. Without using these tools and software's I can't do the project. So, I have two requirements to do the project. They are

1. Hardware Requirements.
2. Software Requirements.

### **2.6.2 HARDWARE REQUIREMENTS**

The hardware requirements may serve as the basis for a contract for the implementation of the system and should therefore be a complete and consistent specification of the whole system. They are used by software engineers as the starting point for the system design. It should what the system does and not how it should be implemented.

#### **HARDWARE**

- Modern Operating System:
  - Windows 7 or 10
  - Mac OS X 10.11 or higher, 64-bit
  - Linux: RHEL 6/7, 64-bit (almost all libraries also work in Ubuntu)
- x86 64-bit CPU (Intel / AMD architecture)
- Minimum 4 GB RAM
- Minimum 5 GB free disk space

### 2.6.3 SOFTWARE REQUIREMENTS

The software requirements document is the specification of the system. It includes both a definition and a specification of requirements. It is a set of what the system should do rather than how it should do it. The software requirements provide a basis for creating the software requirements specification. It is useful in estimating cost, planning team activities, performing tasks and tracking the teams and tracking the team's progress throughout the development activity.

- Front End : HTML,  
CSS,  
JavaScript,  
Bootstrap
- Back End : MY SQL  
Node JS
- Operating System : Windows 7 or later
- IDE : VS code



### **3. LITERATURE OVERVIEW**

Sports Resources Management System is a web application. The admin can add and delete resources on the web and manage the users in accepting and rejecting resources. The users can book the resources from the website and collect them from the office within 20 min and even cancel the request.

In the existing system, the users have to visit the sports office manually and collect the resources. And also, the users cannot reserve for a resource from wherever he/she is. The user can view all the resources available in the sports block with its count. This reduces the inquiry time at the issue counter.

The application also shows the colleges upcoming tournaments and also has all the data of the previous tournaments won. In the proposed system, the users can reserve and book the resource from wherever they are and collect it within 20min.

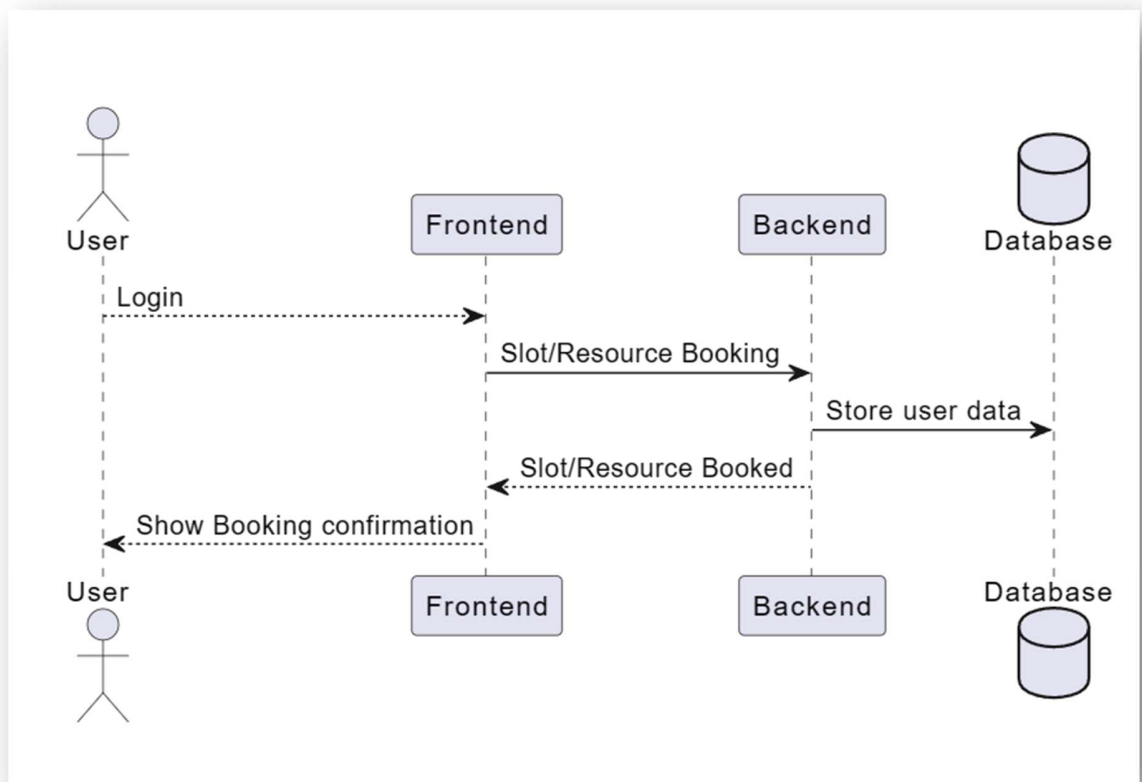
There is an admin and the user i.e., student. The minimum requirement of the user is that he/she must understand basic English and must know how to book a resource, check the resources and collect from the sports office. The admin must know how to accept the users request, block the user, issue resources .

## 4. SYSTEM DESIGN

### 4.1 SYSTEM ARCHITECTURE

#### 4.1.1 DATA FLOW DIAGRAM

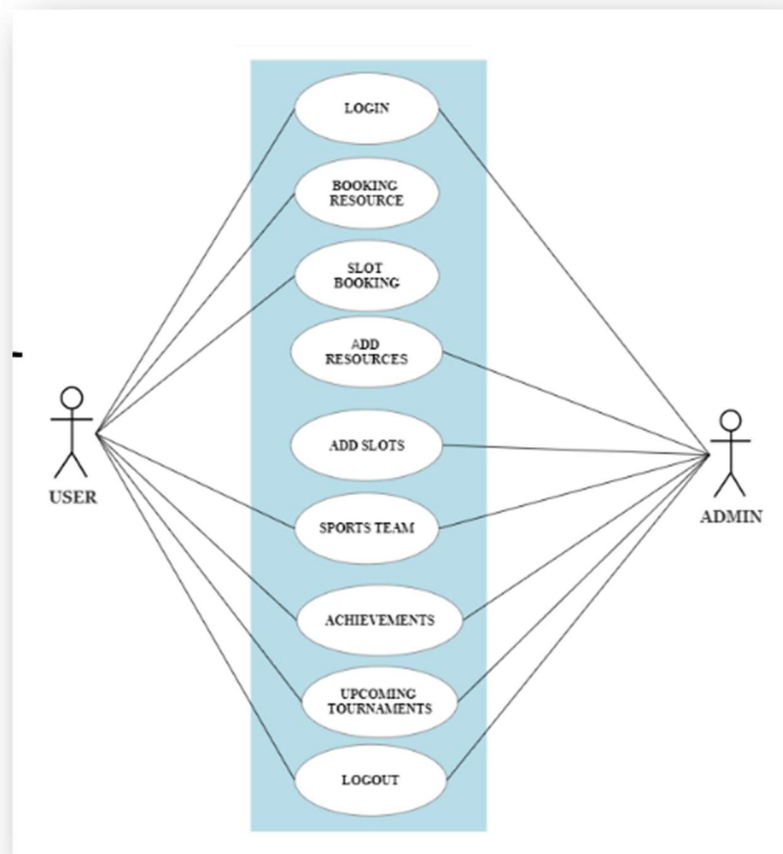
The Fig. 4.1.1 illustrates the flow of data between external entities, processes, and data stores. This DFD offers a concise view of how data moves within the system, facilitating a clear understanding of its functionality and interactions.



**Fig 4.1.1 Data Flow Diagram**

### 4.1.2 USE CASE DIAGRAM

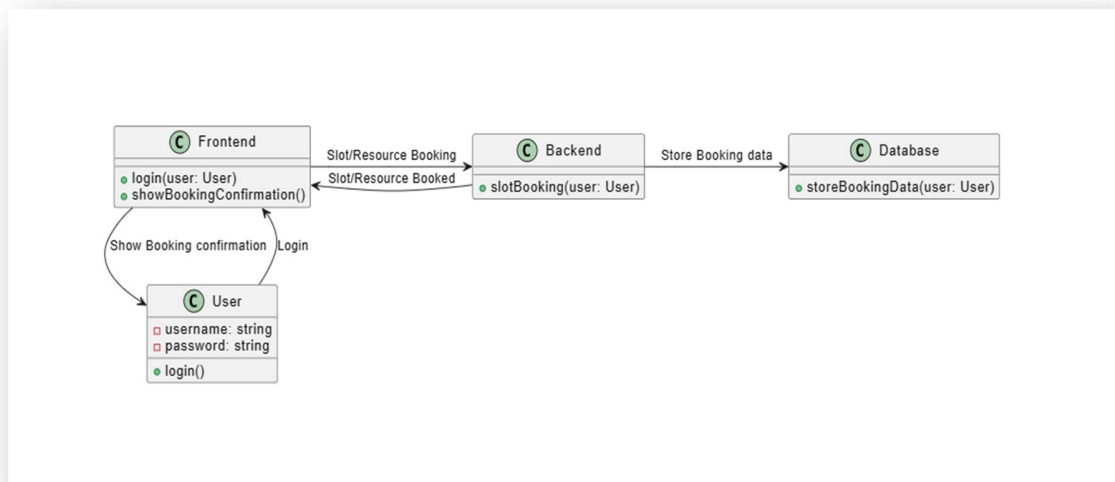
The Fig.4.1.2 illustrates the two different entities user and admin. The functions performed by the user or the actions performed by the user are Login, Booking Resource, Slot Booking. The user can also view Sports Team, Achievements, Upcoming Tournaments. The Admin can View, Add, Update and Delete Resources and can also manage available slots.



**Fig 4.1.2 Use Case Diagram**

### 4.1.3 CLASS DIAGRAM

The Fig. 4.1.3 represents how the classes with attributes and methods are linked together to perform the verification with security. From the above diagram shown the various classes involved in my project.



**Fig 4.1.3 Class Diagram**

#### 4.1.4 ER DIAGRAM

The Fig. 4.1.4 visualizes the relationships between entities in the system which are Admin, Booking, Students and Resources. I created individual tables in the database for the above entities. These entities in the database have all the properties as shown in the Figure.

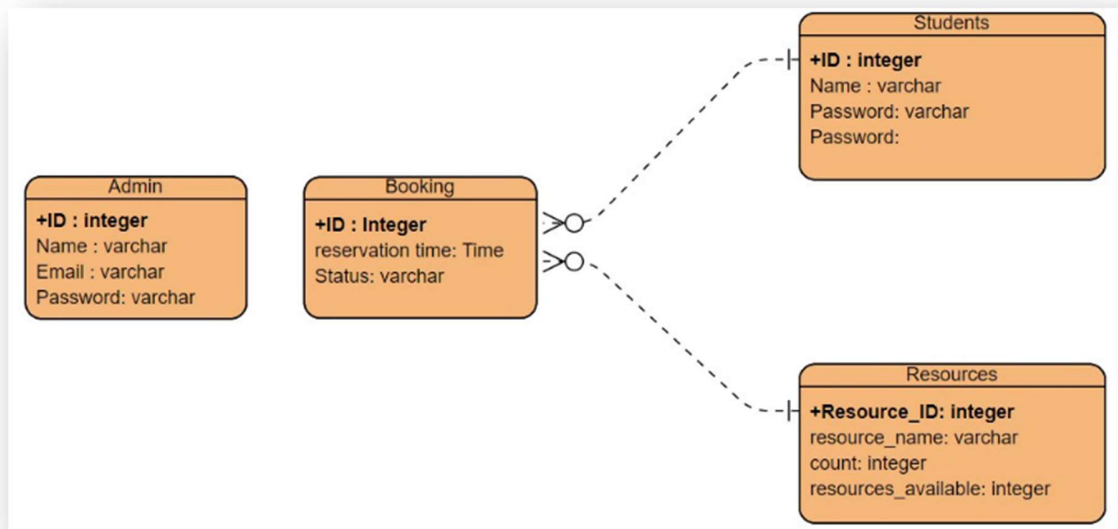


Fig 4.1.4 ER Diagram

## 5.IMPLEMENTATION

## 5.1 GENERAL

The implementation is nothing but the source code of the project

## 5.2 IMPLEMENTATION

```
sports > < admin-m.html > html > body > div.main-container > div.main > div#report-container.report-container > div.report-head
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta http-equiv="X-UA-Compatible"
7          content="IE=edge">
8      <meta name="viewport"
9          content="width=device-width,
10             initial-scale=1.0">
11      <title>Sports Hub</title>
12      <link
13          rel="stylesheet"
14          href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css"
15      />
16      <link rel="stylesheet"
17          href="adminstyle.css">
18      <!-- <link rel="stylesheet"
19          href="responsive.css"> -->
20      <script src="admin.js"></script>
21      <script src="https://unpkg.com/axios/dist/axios.min.js"></script>
22  </head>
23
24  <body>
25
26      <!-- for header part -->
27      <header>
28
29          <div class="logosec">
```

```

};
resourceArray = testData.resourceTable//response.data.resourceTable;
slotArray = testData.slotTable//response.data.slotTable;
array = testData.data//response.data.data;
console.log(array);
console.log(resourceArray);
console.log(slotArray);
let parentDiv = document.getElementById("count-box-container");
array.forEach((individualCount, i) => {
    // console.log(i);
    // console.log(individualCount.countSlots);
    const boxNo = document.createElement("div");
    boxNo.className = `box box${i + 1}`;
    const text = document.createElement("div");
    text.className = "text";
    const topicHeading = document.createElement("h2");
    topicHeading.className = "topic-heading";
    topicHeading.innerHTML = individualCount.count;
    const topicName = document.createElement("h2");
    topicName.className = "topic";
    topicName.textContent = individualCount.name;
    const setImage = document.createElement("img");
    setImage.src = individualCount.image;
    // console.log(setImage.src);
    setImage.alt = "Image";
    text.appendChild(topicHeading);
    text.appendChild(topicName);
    boxNo.appendChild(text);
    boxNo.appendChild(setImage);
    parentDiv.appendChild(boxNo);
});

```

```

    }
    body {
      background-color: var(--background-color4);
      max-width: 100%;
      /*overflow-x: hidden;*/
    }

    header {
      height: 70px;
      width: 100vw;
      padding: 0 30px;
      background-color: var(--background-color1);
      position: fixed;
      z-index: 100;
      box-shadow: 1px 1px 15px rgba(161, 182, 253, 0.825);
      display: flex;
      justify-content: space-between;
      align-items: center;
    }

    .logo {
      font-size: 27px;
      font-weight: 600;
      color: rgb(47, 141, 70);
    }

    .icn {
      height: 30px;
    }

    .menuicn {

```

Ln 319, Col 3 Sp



```

<ul class="responsive-table">
  <li class="table-header">
    <div class="col col-1">S.No</div>
    <div class="col col-2">Roll.No</div>
    <div class="col col-3">Student Name</div>
    <div class="col col-4">Group</div>
    <div class="col col-5">year</div>
  </li>
  <li class="table-row">
    <div class="col col-1" data-label="Job Id">42235</div>
    <div class="col col-2" data-label="Roll No">20r11a05c1</div>
    <div class="col col-3" data-label="Customer Name">Kamist Uncle</div>
    <div class="col col-4" data-label="Amount">CSE</div>
    <div class="col col-5" data-label="Payment Status">4th year</div>
  </li>
  <li class="table-row">
    <div class="col col-1" data-label="Job Id">42442</div>
    <div class="col col-2" data-label="Roll No">20r11a05c3</div>
    <div class="col col-3" data-label="Customer Name">Akhil Velati</div>
    <div class="col col-4" data-label="Amount">ECE</div>
    <div class="col col-5" data-label="Payment Status">1st year</div>
  </li>
  <li class="table-row">
    <div class="col col-1" data-label="Job Id">42257</div>
    <div class="col col-2" data-label="Roll No">20r11a05d4</div>
    <div class="col col-3" data-label="Customer Name">Daddy</div>
    <div class="col col-4" data-label="Amount">EEE</div>
    <div class="col col-5" data-label="Payment Status">5th year</div>
  </li>
</ul>

```

```

> JS slotbook.js > ...

async function booking() {
  try {
    function message(params) {
      const danger = document.getElementById("danger");
      if (dataArray.length == 0) {
        danger.style.display = "block";
      }
      setTimeout(() => {
        danger.style.display = "none";
      }, 3000);
      return;
    }
    message();
    if (dataArray.length == 0) {
      return;
    }
    let bookedUser = localStorage.getItem("username");
    console.log(bookedUser);
    let bookedId = localStorage.getItem("userID");
    console.log(bookedId);
    const response = await axios.post("http://localhost:8801/slots_booking", {
      array: dataArray,
      user: bookedUser,
      id: bookedId,
    });
    console.log("Server response:", response.data);
    const serverData = response.data.messaage;
    console.log(serverData);
    updateDiv(serverData);
  }
}

```

```

var swiper = new Swiper(".reviews-slider", {
  grabCursor:true,
  loop:true,
  autoHeight:true,
  spaceBetween: 20,
  breakpoints: {
    0: {
      slidesPerView: 1,
    },
    700: {
      slidesPerView: 2,
    },
    1000: {
      slidesPerView: 3,
    },
  },
});

let loadMoreBtn = document.querySelector('.packages .load-more .btn');
let currentItem = 3;

loadMoreBtn.onclick = () =>{
  let boxes = [...document.querySelectorAll('.packages .box-container .box')];
  for (var i = currentItem; i < currentItem + 3; i++){
    boxes[i].style.display = 'inline-block';
  };
  currentItem += 3;
  if(currentItem >= boxes.length){
    loadMoreBtn.style.display = 'none';
  }
}

```

## **6.TESTING**

### **6.1 INTRODUCTION**

Testing and validation of the code was a crucial part of the project. It was impossible to determine all of the exceptional cases that have arisen during the design. Hence testing served as a useful way to find the flaws in both the structure of the code and the implementation of the various functions.

### **6.2 DESIGN OF TEST CASES AND SCENARIOUS**

The test cases were designed keeping in mind where the code is liable to fail and throw errors or give erroneous outputs. The following cases are some of the important scenarios to be kept in mind.

#### **6.2.1 INVALID CREDENTIALS**

If the admin tries to enter the wrong credentials, it does not let the admin login.

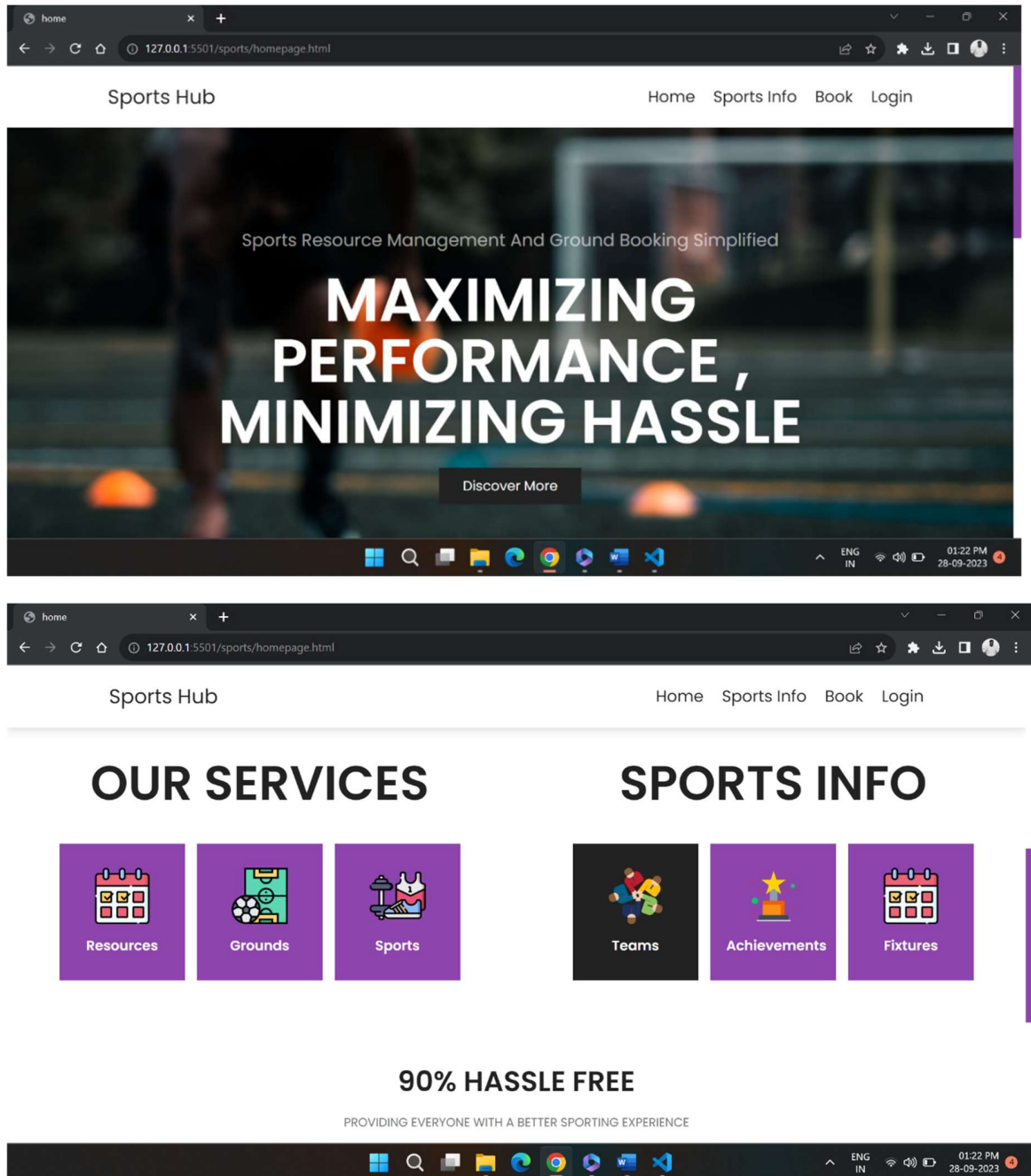
#### **6.2.2 BOOKING RESTRICTIONS**

A user can Book Slot only once per day and user cannot book a slot which is already booked . If he tries it pops up a message saying “This Slot is already Booked ” .

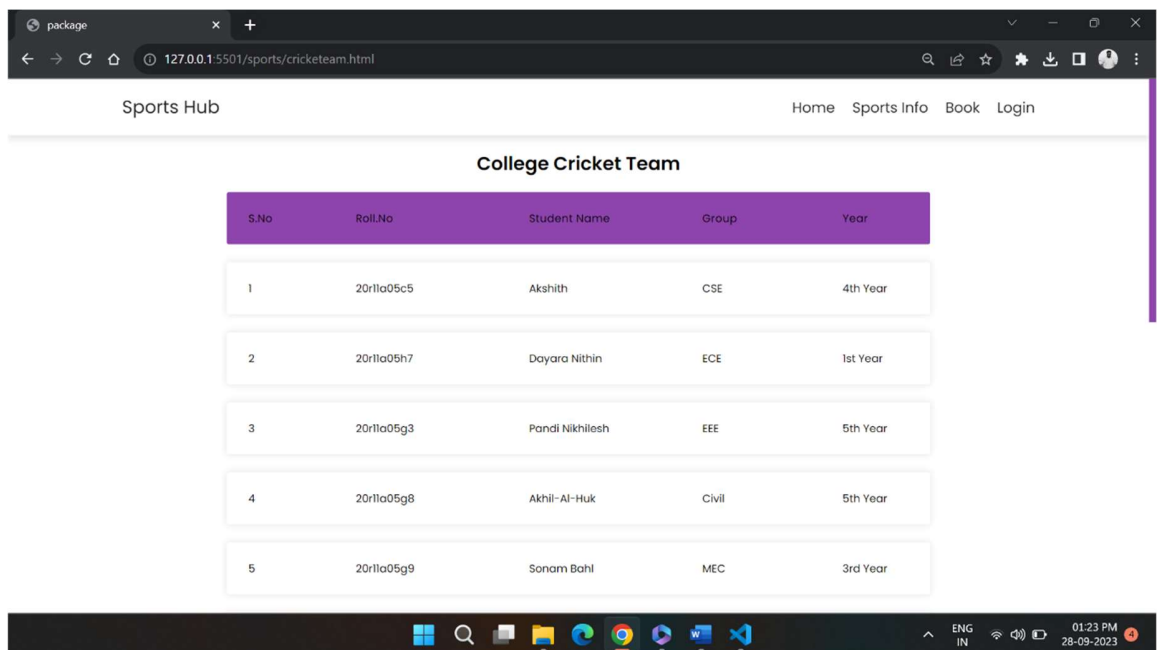
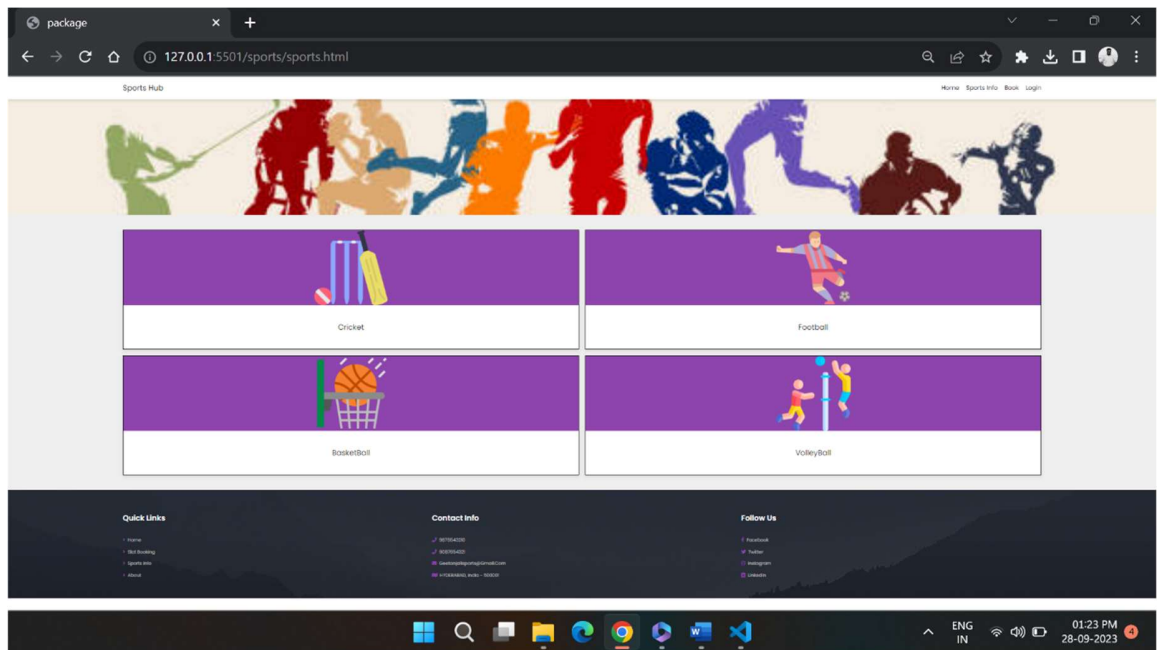
### **6.3 VALIDATION**

The code was validated by running all the test cases mentioned above, for example like with both wrong and correct login credentials. Care was taken to include all possible exceptional cases and other problematic scenarios in the input.

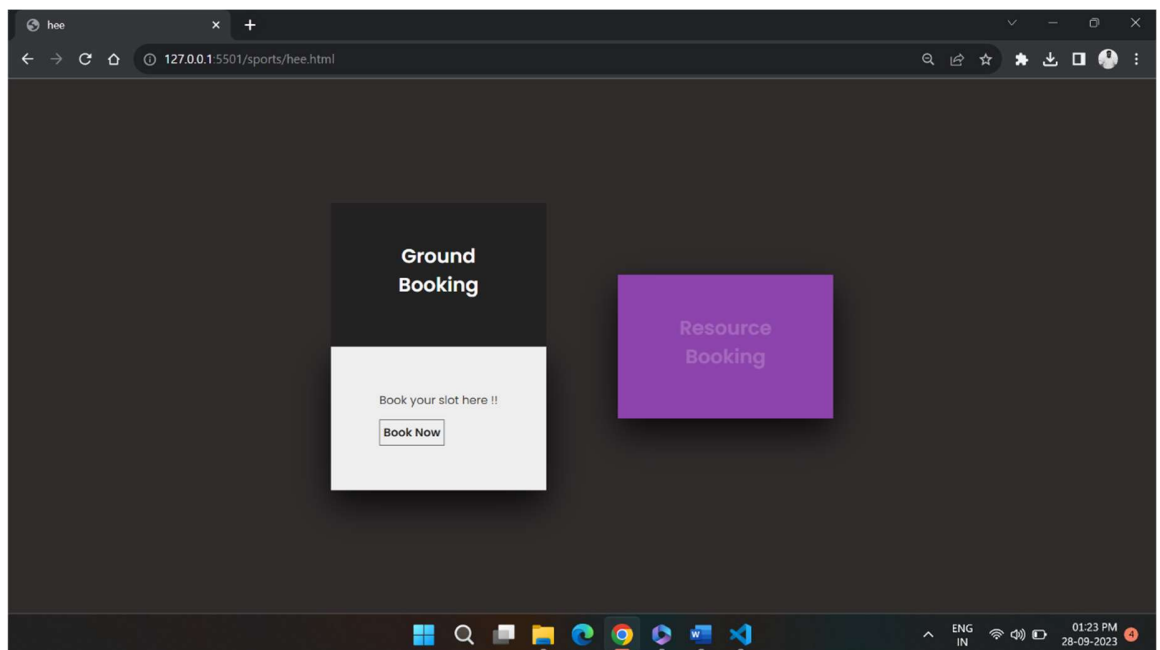
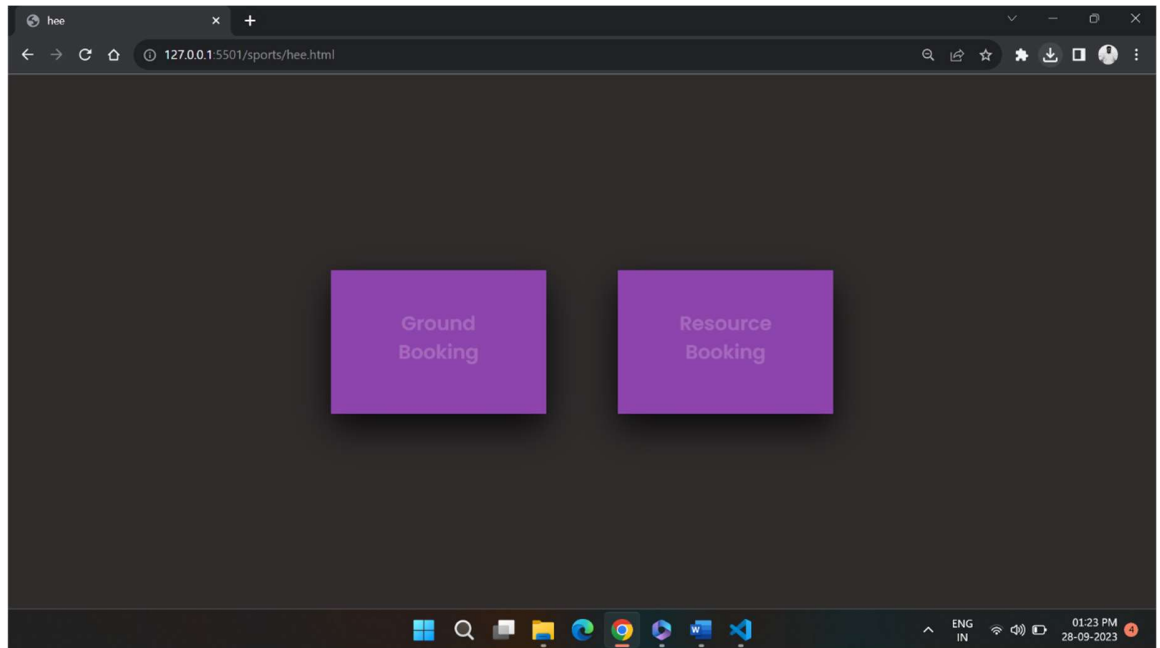
## 7.OUTPUT SCREENSHOTS



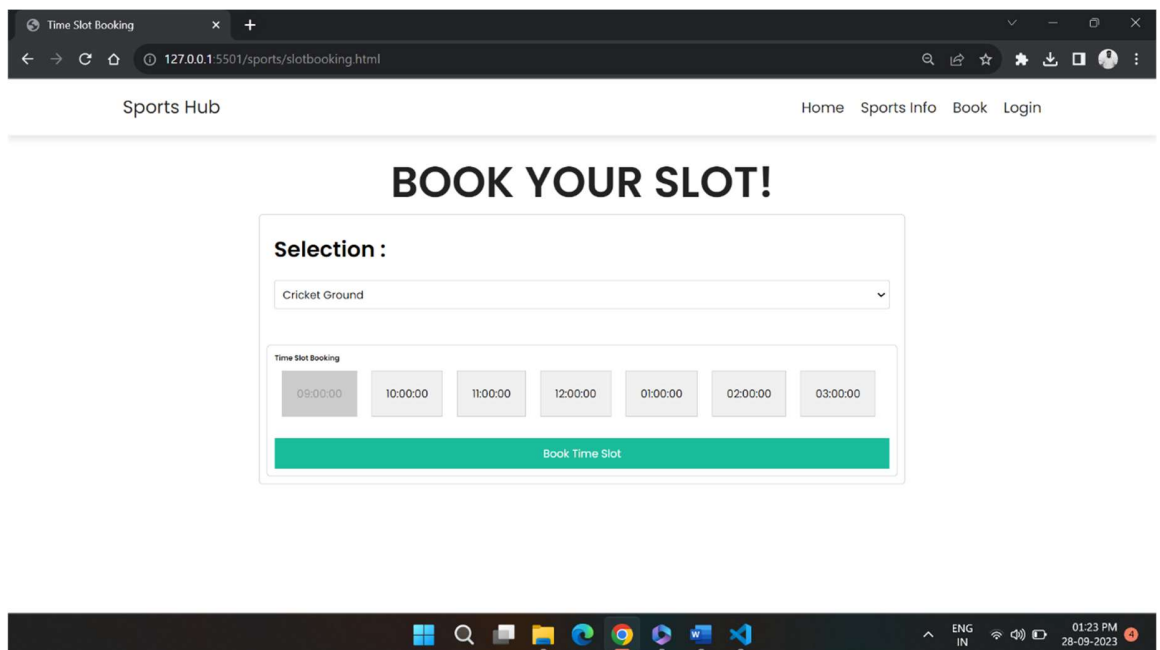
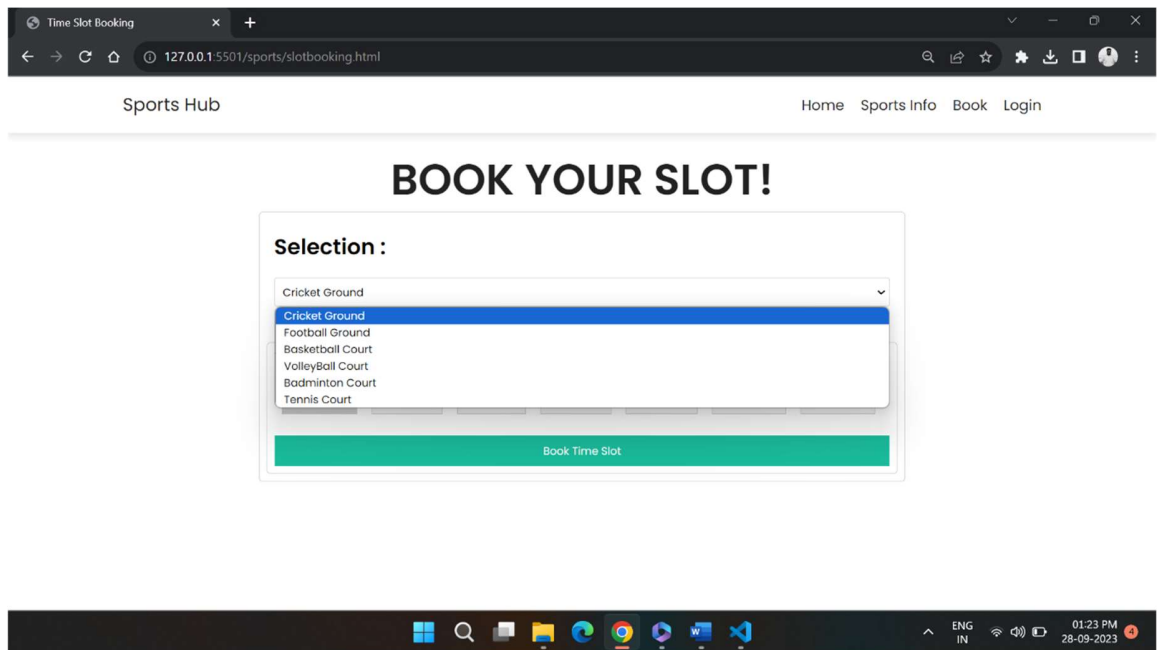
### 7.1 Homepage



## 7.2 Sports Info

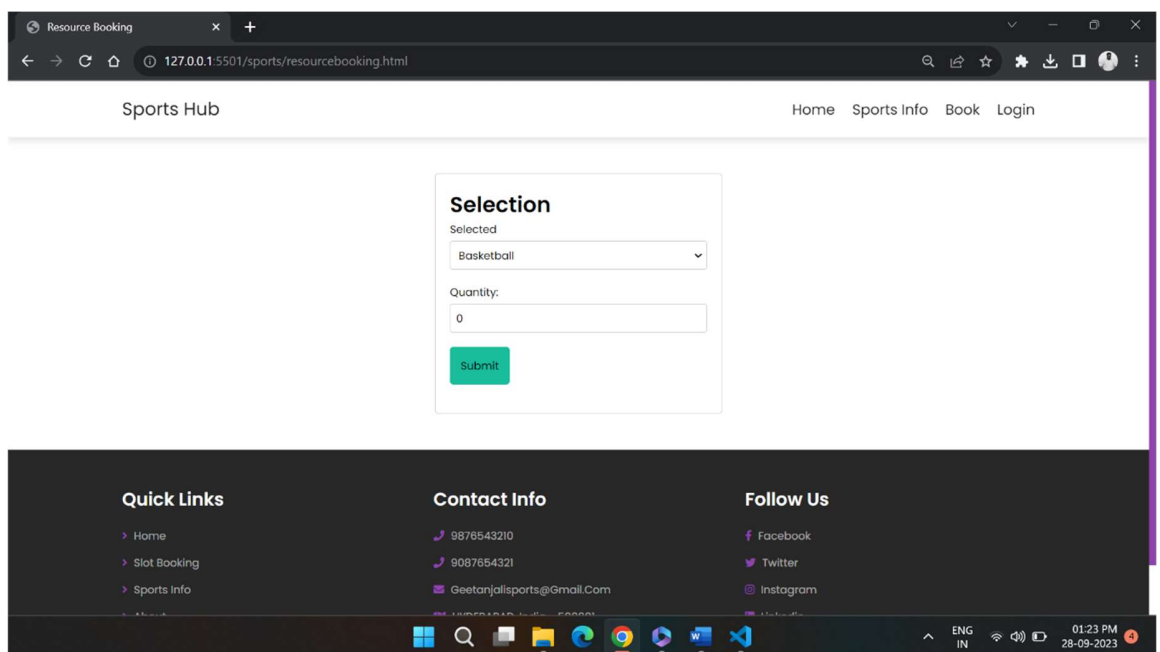
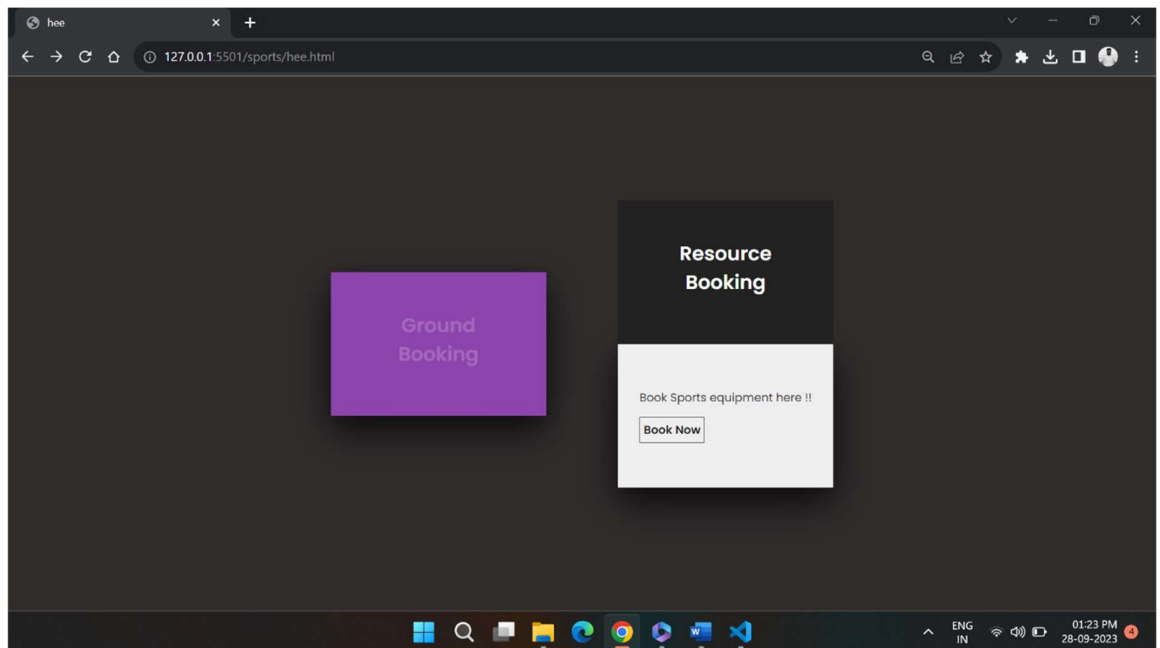


### 7.3 Booking Menu

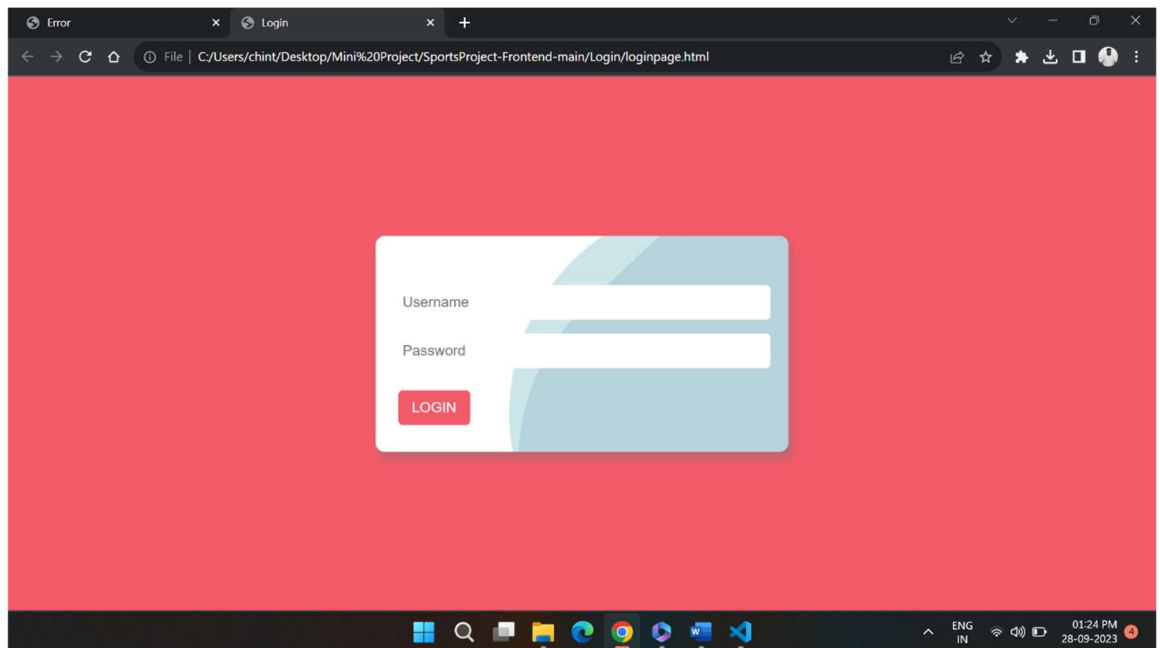


## 7.4 Ground Booking

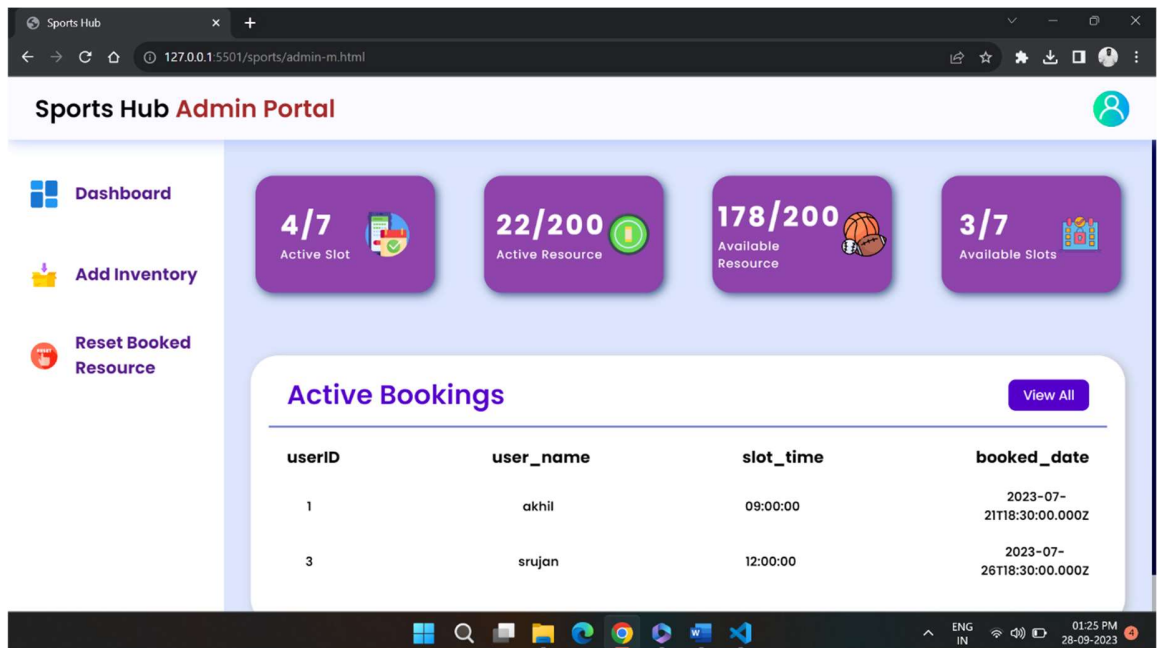




## 7.5 Resource Booking



## 7.6 Login Page



## 7.7 Admin Page

## **8.CONCLUSION**

### **8.1 CONCLUSION**

This project is for computerizing the work employed in order to borrow a sports resource. It is a great improvement over the manual system. The computerization of the system has speed up the process. In the current system, the front office management is very slow. This application was thoroughly checked with dummy data and thus is found to be very reliable. The software takes care of all the requirements and is capable of providing easy and effective storage information related to students that book sports resources. With the provision of an easily accessible user interface, the entire process of booking and approval of resources, along with other features, have become extremely facile while also significantly averting the numerous errors that would otherwise be caused in a manual system. With this platform I developed, I am are hoping to achieve the following:

- Reduced time wastage
- Providing comfortable facilities to students
- Provide easy data flow
- Less employee investment

## **8.2 LIMITATIONS**

The admin has to check the timetable while issuing a resource. The deadline for the user to return the resources is at the end of college hours and no notification system to intimate the user to return the resources.

## **8.3 FUTURE SCOPE**

This application can be enhanced by including numerous new features. One such feature is adding a notification system through which the admin can send notifications to a user regarding his bookings. In the current system, the user should manually go into the website and check whether the resource is accepted or not. Instead, an improvement to this would be sending a confirmation to the user when his booking request is approved by the admin. In case of unavailability of a resource, a “notify when available” button could be included too. As of now, when a student wants to book a resource, the admin manually checks whether the student has a free hour at that particular time and issues the resource accordingly. But in the future, an app can be made which itself detects whether the student is having a free hour or not, thereby eliminating the involvement of the admin. Subsequently, a separate page linked to admin webpage could also be developed, where the admin can add updates about college team members in such a way that these updates will also be visible in the for students, therefore allowing them to be aware of current college sports team players or upcoming sports players.

## **9.BIBLIOGRAPHY**

### **9.1 WEBSITE REFERENCES**

[1] <https://developer.mozilla.org/en-US/>

[2] <https://www.w3schools.com/>

[3] <https://www.javatpoint.com/>

[4] <https://www.geeksforgeeks.org/>

[5] <https://www.udemy.com/>

## **10.APPENDICES**

### **10.1 SOFTWARE USED**

#### **HTML**

With the help of HTML, I rendered the documents into multimedia web pages. It also described the structure of the web page semantically and originally included cues for the appearance of our website.

#### **CSS**

I used Cascading Style Sheets (CSS) to enable the separation of presentation and content, including layout, colors, and fonts. This separation improved content accessibility, provided more flexibility and control in the specification of presentation characteristics, enabled multiple web pages to share formatting by specifying the relevant CSS in a separate .CSS file, and reduced complexity and repetition in the structural content.

#### **EXPRESS JS**

I used Express.js, for routing, middleware management, HTTP requests and responses which allowed to focus on building the applications core functionality with a vibrant ecosystem of extensions. Express JS helped to connect frontend and backend.

#### **MYSQL**

Using MySQL I stored, managed, and retrieved structured data efficiently. I was able to create different tables for our entities Admin, Student, Resources Booking and Slot Booking.

## **10.2 TESTING METHODS USED**

### **Types Of Tests**

#### **Unit Testing**

I did Unit testing which involved the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow were validated. It was done after the completion of an individual unit before integration. With the help of Unit testing, I performed basic tests at component level and system configuration. With the help Unit testing I ensured that each unique path performs accurately and contains clearly defined inputs and expected results.

#### **Integration Testing**

After performing Unit testing, I performed Integration testing. It helped to test integrated software components to determine if they actually run as one program. While Integration testing it demonstrated that although the components were individually working well, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing helped in exposing the problems that arise from the combination of components.

## 11.PLAGIARISM REPORT

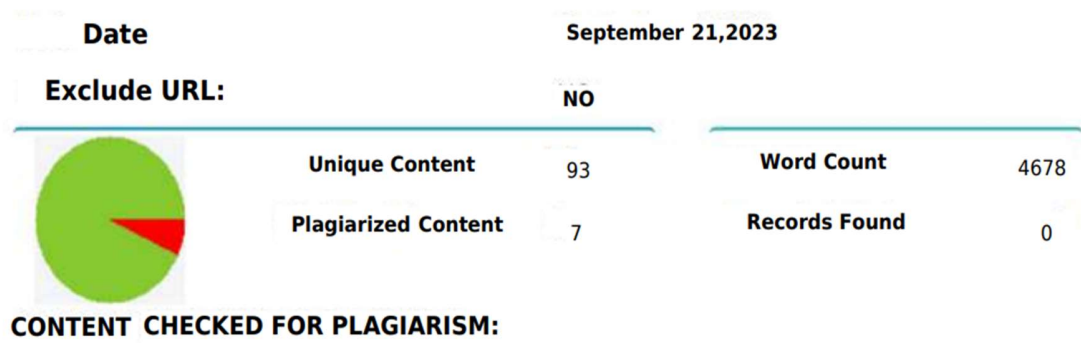



Fig 11: Generated Report



## PAPER PUBLICATION

**Journal of Xidian University**  
*An UGC-CARE Approved Group - 2 Journal (Scopus Active Journal)*  
ISSN NO: 1001-2400  
Scientific Journal Impact Factor - 5.4

  
Journal of XIDIAN University

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
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**DATE**  
6-Oct-23

Sincerely,  
Best regards,  
**Jenny Corbett**

  
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