Minor Project

Stadium Seat Booking System

SWARUP DEB

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STADIUM SEAT BOOKING SYSTEM

A Project File

Submitted in the partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

IN

GAMING AND GRAPHICS

Submitted by:

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DECLARATION

I, **'Swarup Deb**, student of **'Bachelor of Engineering in Graphics & Gaming'**, **session:2019-23**, Department of Computer Science and Engineering, Apex Institute of Technology, Chandigarh University, Punjab, hereby declare that the work presented in this Project Work entitled '**Stadium Seat Booking System'** is the outcome of our own bona fide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics. It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

(Swarup Deb)

19BCG1077

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Place: Tripura

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I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to (Sharanjit Kaur) for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project. I would like to express my gratitude towards my parents and my department for their kind co-operation and encouragement which help me in completion of this project.

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ABSTRACT

The aim of this research work was to create a reliable and easy to use online ticket booking system for use by fans, customers and the management at the National Stadium, the major goals of the project were to: (a) Create a system which makes it easier for customers to purchase the tickets that they want online. (b) To create a more efficient and modern system for providing entry to the ground on a match day, which will reduce costs on a match-by-match basis. (c) To provide a fairer system for distributing tickets for away matches. Unfortunately, the current ticket management system leads to misplacement of fees payment details, and late release of reports and insecurity to records. This research project is equally aimed at computerizing all the ticket booking activities and generating reports for management decision making. In order to achieve this goal, a thorough System Study and investigation was carried out and data was collected and analysed about the current system using document and data flow diagrams. The concept of report production has been computerized hence, no more delay in report generation to the stadium manager. Errors made on hand held fees collectors are dealt out completely. I would like to recommend that each of the departments should be supplied with a computer set and a central computer for easy networking and access to the database of the software, and gives adequate report and workload of each department in line with the technological trends of the 21st century. The further upgrade of the software should be done as the advancement comes up in technology.

CHAPTER 1: INTRODUCTION

This research work was carried out because I believe that there are significant improvements that could be made to the current stadium seat booking system which would benefit the national stadium management team, saving them time and money, as well as the customers, the fans, who would find it easier to purchase and use their tickets, leading to an altogether more enjoyable match day experience, and, hopefully, more frequent visits to the stadium. The National Stadium Management team is responsible for the day-to-day management and running of the stadium. Buying tickets in person is by far the easiest way to purchase tickets, however many fans live outside of the area, or cannot get down to the stadium to purchase tickets in advance due to work. This results in large queues at the ticket office on a match day. To easy stadium seat booking task, there is need for a software system which must be created using well established principles of software engineering and latest technologies that guarantee a high degree of reliability and enhance ways of buying elsewhere, hopefully a larger number of people would buy in advance, easing the congestion.

The main aims of the project are to create a reliable and easy to use system which will simplify the stadium seat booking processes. A more efficient and modern entry system to the ground, which will reduce costs on a match-by- match basis. And to provide a fairer system for distributing away tickets.

1.1PROBLEM DEFINITION

A stadium (plural stadiums or stadia): Corbett, James School of Science Macmillan ISBN 978-14050-3431-9 described stadium as a place or venue for (mostly) outdoor sports, concerts, or other events and consists of a field or stage either partly or completely surrounded by a tiered structure designed to allow spectators to stand or sit and view the event.

A **ticket:** Harper Collins Publisher 2009 defined ticket as a voucher that indicates that one has paid for admission to an event or establishment such as a theatre, amusement park or tourist attraction, or permission to travel on a vehicle (such as with an airline ticket, bus ticket or train ticket) typically because one has paid the fare. A ticket may be free, and serve simply as a proof of reservation.

Stadium seat booking System is software that saving stadium management time and money, as well as the customers, the fans, who would find it easier to purchase and use their tickets, leading to an altogether more enjoyable match day experience, and, hopefully, more frequent visits to the stadium (Techopedia 2009).

1.2Project Overview

To simplify the stadium seat booking processes and drastically reduce the stress involve in stadium seat booking at national stadium, there is need to designing software that handle all stadium seat booking activities.

The following are some of the problems/challenges facing the current system:

- Duplication of ticket by customers and fans.
- Insecurity of data because it is prone to vandalization and unauthorized accessibility.

- Poor information storage method: The use of office files and file cabinet is not a good form of information storage.
- Poor billing and report generation process.
- Lack of prompt updating: Various changes to information like changing booking or cancelling booking are difficult to reflect in paper work.
- Data losses: Loss of data perhaps would happen if all information is kept only inside papers and not in the databases.

1.3AIMS OF THE STUDY

The main aims of the project are to create a reliable and easy to use system which will simplify the stadium seat booking processes.

Other aims of the work include the following

a) To work towards the elimination of ineffective modes of operation. It centers on the users having a good atmosphere for work thereby minimizing stress.

b) To work towards combating all the problems discovered on the existing system, which are listed under the problems of study.

c) Safeguarding of information and ticket fees through effective monitoring.

d) Electronic security is maintained as the fans, customers and management are able to login and access the system depending on their privileges. They are also able to work on the policies and claims more effectively and efficiently.

e) The level of accuracy in the proposed system will be higher. All operations would be done correctly and it ensures that whatever ticket sold is from the stadium management team and genuine.

1.4 PURPOSE OF THE STUDY

The Software is for the automation of stadium seat booking system at national stadium.

The Software includes: -

- Maintaining ticket Details to avoid duplication by fans/workers.
- Maintaining ticket fees Details.
- Maintaining the details of all payment records
- Billing and Report generation for management decision making.

1.5 SIGNIFICANCE OF THE STUDY

Currently the national stadium operates a manual stadium seat booking system.

With the introduction of an automated system the following will be achieved;

- The system is a land mark in the field of modern technology since its automated it becomes a quick access to the required information as it is only „one click away.

- In the field of ICT, decision support and information availability which is required by the administration. This is because it is able to generate reports. This makes it simple for stadiums' managers to make decisions.

- Electronic security is maintained as the fans, staff and management are able to login and access the system depending on their privileges.

1.6 Hardware Specifications (Minimum):

- Operating System: Microsoft Windows 7, 64-bit. Microsoft Windows 8.1, 64-bit.
- Processor: Intel® Core i5 4th generation (or an equivalent AMD processor)
- RAM. 8 GB for Composer.
- Graphics Card. 1 GB RAM.
- Storage. SSD (Solid State Drive) at least 120GB.

1.7 Software Specifications:

The proposed system will be designed using Eclipse compiler for the interface design, MySQL Server for database design and java programming language for coding entity diagram and flowchart for diagrammatic representations.

CHAPTER-2 LITERATURE REVIEW

2.1 Introduction Review

The basic objective of software engineering is to develop methods and procedures for software development that can scale up for large systems and that can be used to consistently produce high quality software at low cost and with a small cycle time. That is, the key objectives are consistency, low cost, high quality, small cycle time, and scalability. The basic approach that software engineering takes is to separate the development process from. The software. The premise is that the development process controls the quality, scalability, consistency, and productivity. Hence to satisfy the objectives, one must focus on the development process. Design of proper development process and their control is the primary goal of the software engineering. It is this focus on the process that distinguishes it from most other computing disciplines. Most other computing disciplines focus on some type of the product- algorithms, operating systems, databases etc. while software engineering focuses on the process for producing products. To better manage the development process and to achieve consistency, it is essential that the software development be done in phases We have developed this system after duly spending time on each software development phase individually and freezing the status before we move on to the next phase Le.

We have used Linear Sequential model in this application under which:

I. In the analysis phase, we have attempted to understand the system completely in terms of its objectives & the problems faced. All the objectives were further subdivided into a set of smaller objectives which in turn were subdivided in to the set of actions. The analysis also gave us an overview, about the individual expectations from each function and the challenges faced by that function due to which the ultimate objective is not achieved.

2. Before we moved to the designing phase, the objectives & challenges were clearly understood and we actually converted the set of objectives & actions into modules. The modules were designed in terms of their input, output, flow of information, storage of information & communication amongst each other, with the user and with the system. All the data objects were carefully designed and classified in terms of their inputs & outputs .

3. After the analysis & design phases were over, we moved on to coding phase, where the implementation of tasks or functions on-paper were actualized. This was the phase where we actually became the use to have the look & feel of the application, where we actually thought from the user's perspective & company's perspective keeping all the objectives & challenges into consideration.

4. Then came the testing phase in which after developing the complete system, we rigorously tested it using all the testing types and checked every characteristic I attribute of the application of whether it coincides and is in line with the company's objectives and user's comfort.

2.2 Information Gathering:

In this phase information is gathered from the customer, if some information is missing then we need to go to customer and take the required information. Mainly this is done by the Business Analyst as they are the one who are completely involved in Software Development life Cycle. The Document Prepared during this phase is: Business Requirement Specification (BRS) or Customer Required Specification (CRS) Or User Requirement Specification (URS).

2.3 Requirement Analysis:

The analysis of the system was done rigorously because this is such a phase where all the loopholes had to be discovered keeping company's objectives & challenges in mind. We performed the analysis in 2 parts i.e., Feasibility Analysis & Requirements

1. We studied the whole system & its objectives. Calculated the total time & resources incurred on every function being done manually.
2. Bifurcated the complete system into a list of functions & the users who operate on them.
3. Further subdivided all the functions into a list or source of requirements inputs & clearly defined the output/expectation from each function.
4. The interaction, communication & dependency of all the functions between each other were carefully analysed in terms of sequence & information.
5. The source & flow of the information was determined & how would it be processed & used was considered.
6. Finally, we visualized the complete system with automated functions & compared the total time & resources being incurred to check the feasibility & see whether it is fulfilling all the necessary objectives.

2.3.1 Feasibility Analysis & Requirements

1. This was a subset of feasibility analysis in which we defined a set of objectives for the Complete system after thoroughly analysing it.
2. All the objectives were further subdivided into a set of function(s).
3. The inputs(s) required by each function & the expected output(s)/behaviour was/were clearly defined.
4. The source of information input to every function was determined & its corresponding processing, usage &storage were also taken into account.
5. After this the independency & communication was finalized.

2.4 Design:

2.4.1 Architectural Design: Under architectural design, after defining the wholes system into set of objectives further subdividing them into function, we defined the basic dependency & communication between them. This means that all the prime functions, their required inputs, expected output/behaviour &interdependency between other functions were clearly defined. The corresponding interfaces for the user for each function were designed to ensure user-friendliness. We actually addressed the system-level problems here and made a conscious effort to build a robust design which can result in an effective communication within itself and with the system in terms of raw data or processed information. All the primary database design for data storage was also done in this phase.

2.4.2 Detailed Design: In this phase, we further subdivided every function into a set of modules & defined required inputs & expected behaviour for each of them. All the minute correlations, interdependencies, communication between the modules were clearly defined. The source, usage & processing of data for every module was carefully done. The database design was also normalized at this stage to ensure that, the data is efficiently stored & retrieved. Detailed design helped us to exactly concretize every problem into inputs & outputs and visualize them in terms of their communication with each other. We focused on interdependency & interoperability between the broken modules here.it was this design phase where the factors like user- friendliness ease of use, scalability and self-explanation of interfaces & outputs were actually realized. For all the modules, the placement of controls, passing of information, communication of different interfaces, user messages, data transfer to databases was defined.

2.4.3 Coding: The goal of the coding phase is to translate the design of the system into code in a given programming language. Hence during coding, the focus should be on developing programs that are easy to read and understand, and not simply on developing programs that are easy to write.

2.4.4 Testing: The testing is the major quality control measure used during software function is to detected error in software. Testing not only uncover errors introduced during coding, but also errors introduced during the previous phases. Thus, the goal of the testing is to uncover requirement, design and coding errors in the programs. Therefore, different levels of testing are used. Testing is an extremely critical and time-consuming activity. It requires proper planning of the overall testing process. The output of the testing phase is the test report and the error report. Test report contains the set of test cases and the result of executing the code with these test cases. The error report describes the error encountered and the action taken to remove the errors. We have used the below mentioned testing techniques to thoroughly test our application.

2.4.5 Implementation & Maintenance: Software maintenance is a task that every development group has to face, when the software is delivered to the customer's site, installed and is made operational. Software maintenance is a very broad activity that includes error correction, enhancement of capabilities, deletion of obsolete capabilities and optimization.

2.4.6 Implementation: Once testing is finished and the software is proven good for implementation ،it is released to the public or will be removed from beta version. It's expected that on first days, developers will face serious challenge of fixing different bugs as they are discovered one by one by different users. The main difference of the implementation stage to the testing is the number of bugs expected. Since they are implemented to the public or a wider audience, it's already expected that it should work properly.

2.4.7 Maintenance: Software engineering is the modification of a software product after delivery to correct faults, to improve performance or other attributes, or to adapt the product to a modified environment.

Software maintenance can best be described as a 6-step process mentioned below:

1. The implementation processes contain software preparation and transition activities, such as the conception and creation of the maintenance plan, the preparation for handling problems identified" during development, and the follow-up on product configuration management.
2. The problem and modification analysis process, which is executed once" the application has become the responsibility of the maintenance group. The maintenance programmer must analyse each request, confirm it (by reproducing the situation) and check its validity, investigate it and propose a solution, document the request and the solution proposal, and, finally, obtain all the required authorizations to apply the modifications.
3. The process considering the implementation of the modification itself.

4. The process acceptance of the modification, by confirming the modified work with the individual who submitted the request in order to make sure the modification provided a solution.

5. The migration process (platform migration, for example) is exceptional, and is not part of daily maintenance tasks. If the software must be ported to another platform without any change in functionality, this process will be used and a maintenance project team is likely to be assigned to this task.

6. Finally, the last maintenance process, also an event which does not occur on a daily basis, is the retirement of a piece of software.

CHAPTER 3: BACKGROUND OF PROPOSED METHOD

The National stadium, are used to play various games such as football cricket etc., as well as a centre for various social and cultural events. The National Stadium Management team is responsible for the day-to-day management and running of the stadium. The National Stadium Booking System contains Matches Schedules, Price of Seats, Seat Reservation, Food Orders and Ticket records. Buying tickets in person is by far the easiest way to purchase tickets which is the current system at National stadium, however many fans live outside of the area, or cannot get down to the stadium to purchase tickets in advance due to work. This results in large queues at the ticket office on a match day. To avoid long queue and easy stadium seat booking task, there is need for a web-based software system which must be created using well established principles of software engineering and latest technologies that guarantee a high degree of reliability and enhance ways of buying elsewhere. Buying tickets before was done manually which involves a stressful process and at the same time waste time in the process of reserving a seat for the audience. As a result of this problem is encountered by many of the stadium in the country. It was important for the National stadium management to computerize the seat booking system in the country. This may also enhance the capacity and prevent the long Queues outside the Stadium.

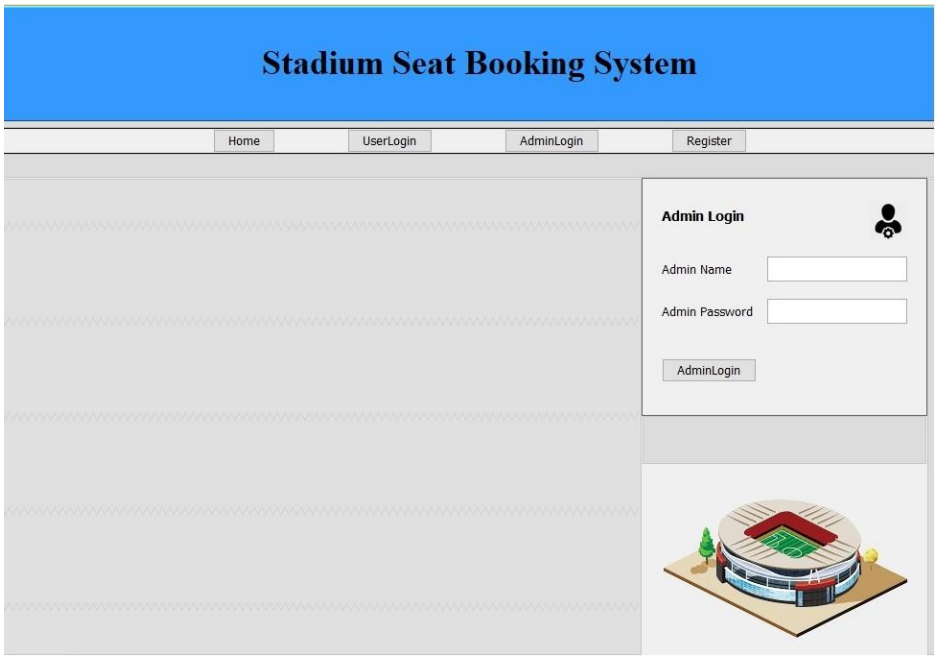
CHAPTER 4: METHODOLOGY

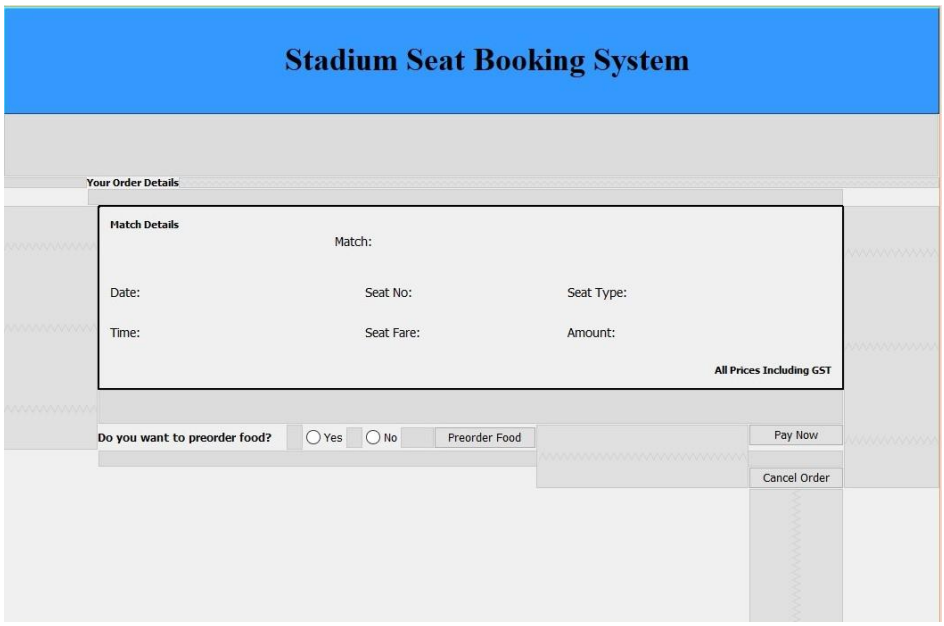
The proposed system will be designed using NetBeans compiler for the interface design, Microsoft SQL Server for database design and java programming language for backend coding. Entity diagram and flowchart for diagrammatic representations.

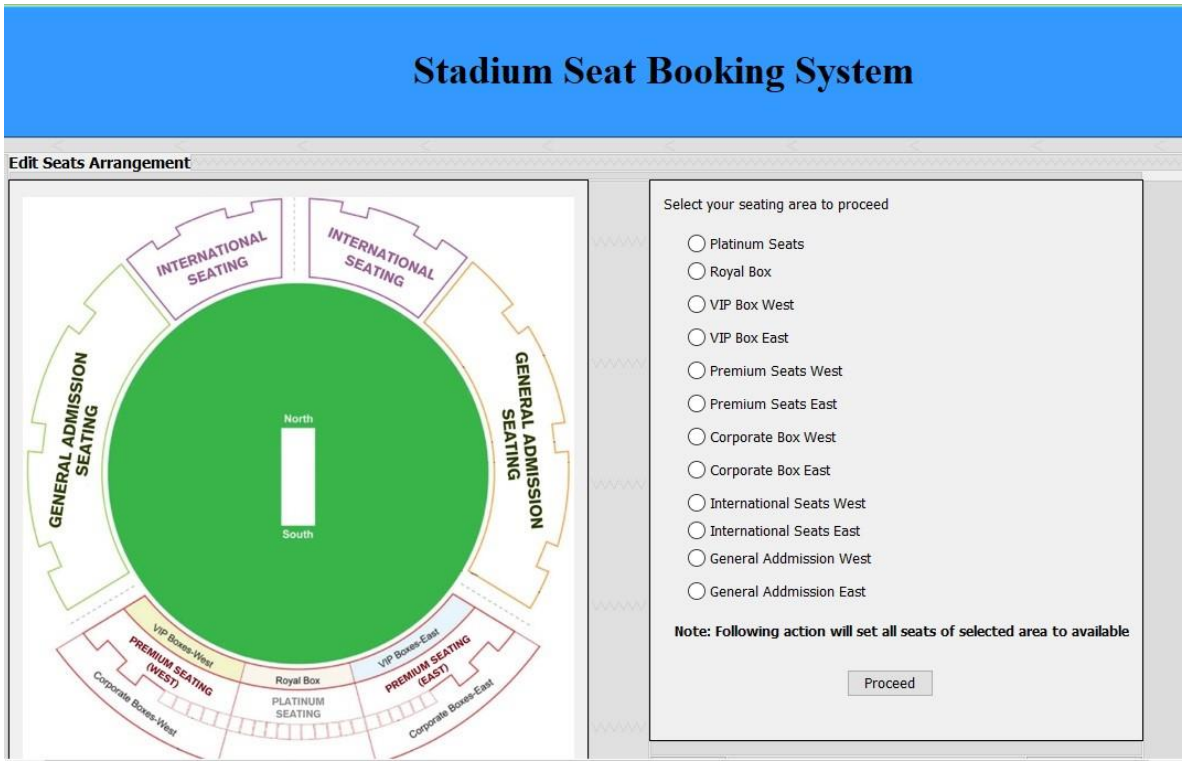
CHAPTER 5: THE EXPERIMENTAL SETUP

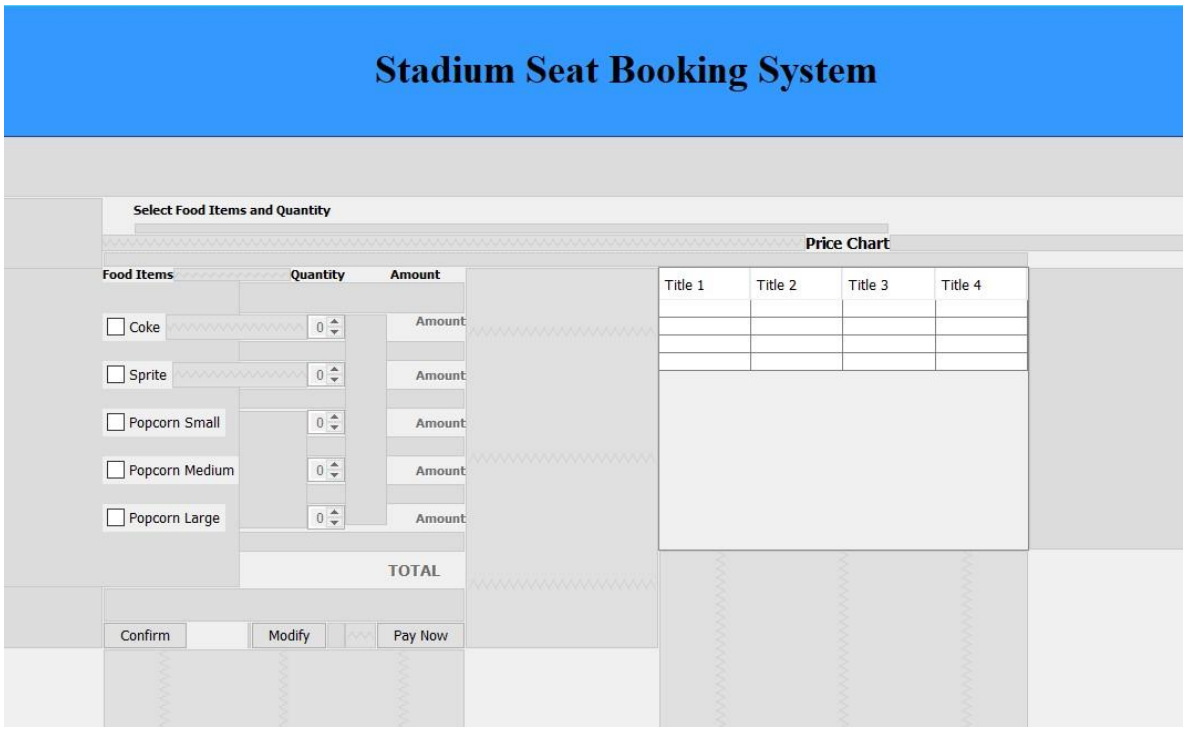
5.1 Introduction: In this chapter, the experimental results of the proposed system are discussed and some scenarios are given here to showhow the system is really working with different cases and how the ticket reservation is done, then sending the required information using C# .NET language's in ASP.NET for sending Email, SMS using internet connection.

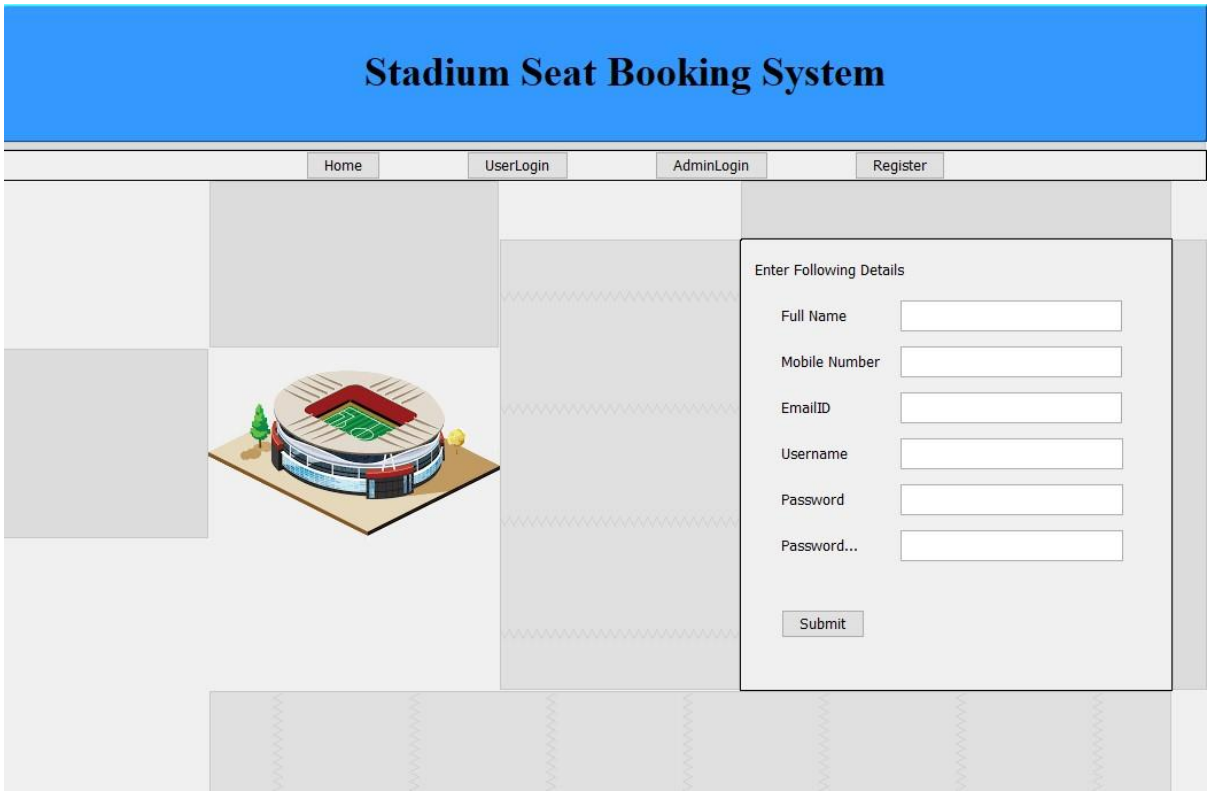
5.2 The Software Interfaces: The user can interact with the system throw GUI based system, where a user can run the system.

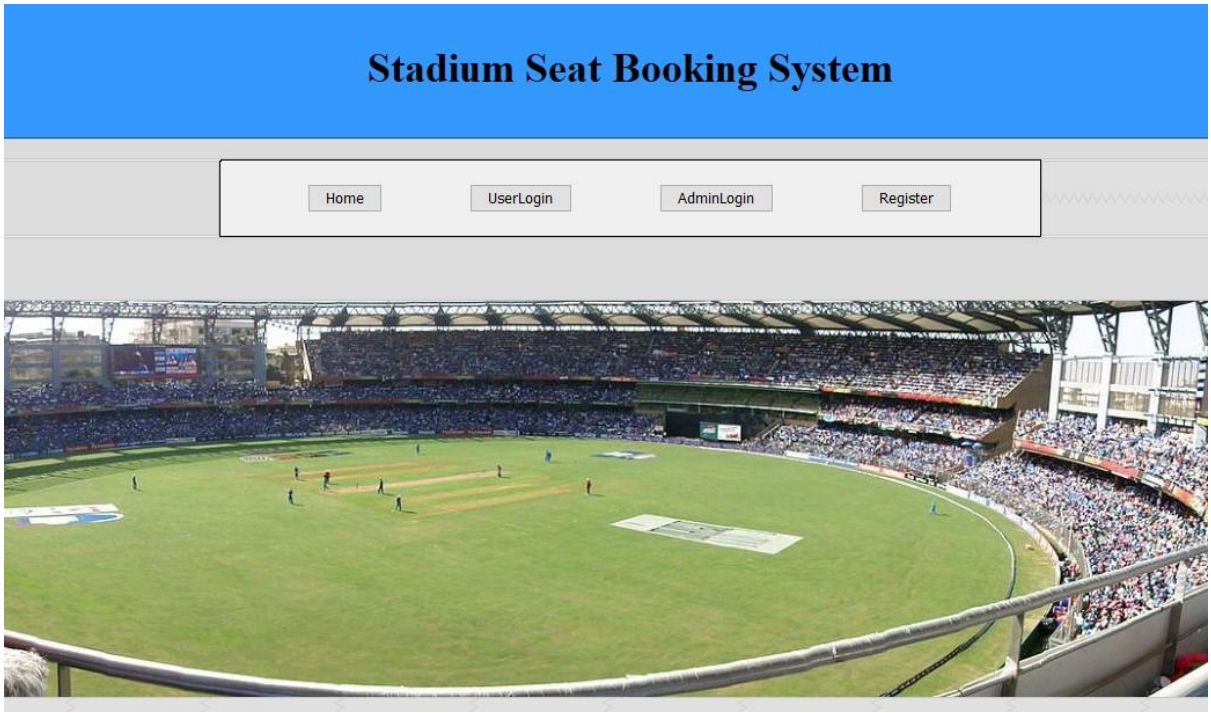





Stadium Seat Booking System
Edit Seats Arrangement
INTERNATIONAL SEATING
INTERNATIONAL SEATING
GENERAL ADMISSION SEATING
GENERAL ADMISSION SEATING
North
South
VIP Boxes-West
PREMIUM SEATING (WEST)
Corporate Boxes-West
Royal Box
PLATINUM SEATING
VIP Boxes-East
PREMIUM SEATING (EAST)
Corporate Boxes-East
Select your seating area to proceed
Platinum Seats
Royal Box
VIP Box West
VIP Box East
Premium Seats West
Premium Seats East
Corporate Box West
Corporate Box East
International Seats West
International Seats East
General Addmission West
General Addmission East
Note: Following action will set all seats of selected area to available
Proceed


Stadium Seat Booking System
Select Food Items and Quantity
Price Chart
Food Items
Quantity
Amount
Coke
Sprite
Popcorn Small
Popcorn Medium
Popcorn Large
Amount
TOTAL
Confirm
Modify
Pay Now
Title 1
Title 2
Title 3
Title 4


Stadium Seat Booking System
Home
UserLogin
AdminLogin
Register
Enter Following Details
Full Name
Mobile Number
EmailID
Username
Password
Password...
Submit


Stadium Seat Booking System
Home
UserLogin
AdminLogin
Register

5.3 Project Testing: Integration testing is any type of software testing that seeks to verify the interfaces between components against a software design. Software components may be integrated in an iterative way. Normally the former is considered a better practice since it, allows interface issues to be localized more quickly and fixed. Integration testing works to expose defects in the interfaces and interaction between integrated components (modules). Progressively larger groups of tested software components corresponding to elements of the architectural design are integrated and tested until the software works as a system.

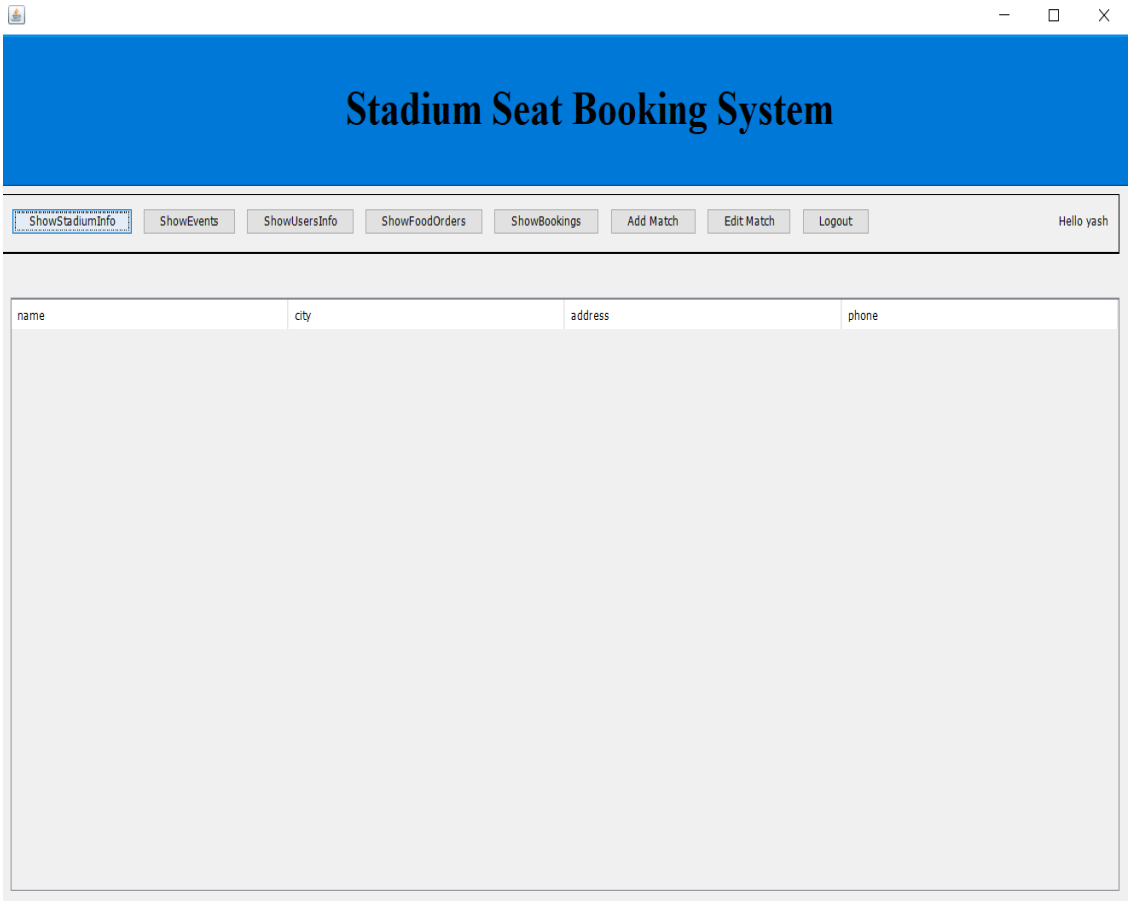
CHAPTER-6: RESULT AND DISCUSSION

The Results of the proposed system of stadium ticket booking system are discussed and some scenarios are really here, to show that our proposed system is working with different cases. The project is purely based on the information using java language at backend and Microsoft server for database design

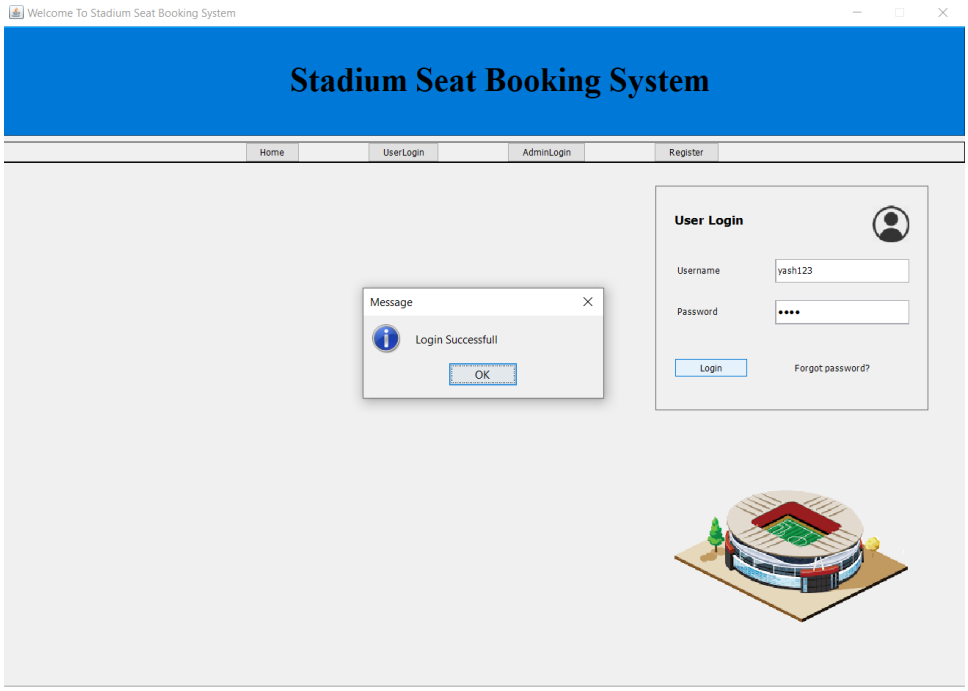
However, it is desktop application, in which only desktop users can access this system. Here, we have some interfaces regarding our system like software interface in which user can draw attention to the system, where user can interact and run the system or website easily. Many interfaces are there in our website system such as user registration, and admin login, user home interface and stadium selecting and booking, and payment option through any mode of payment and the interface for Number of matches and seats. So, in this way users can access this system.

6.1The Software interfaces:

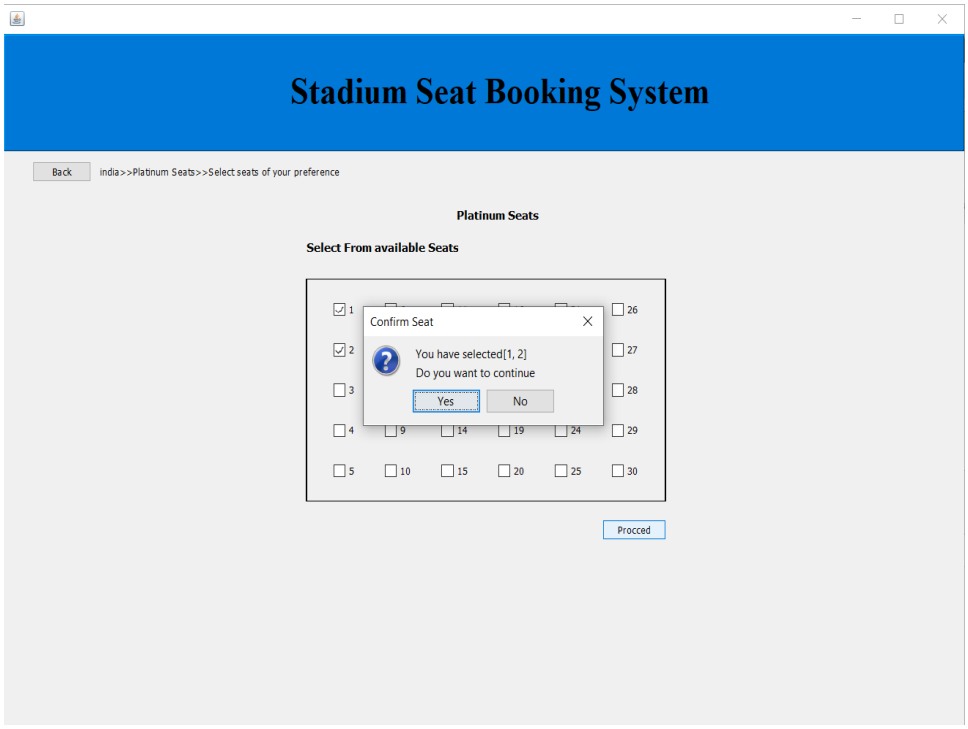
i) Admin login:



ii)User login:

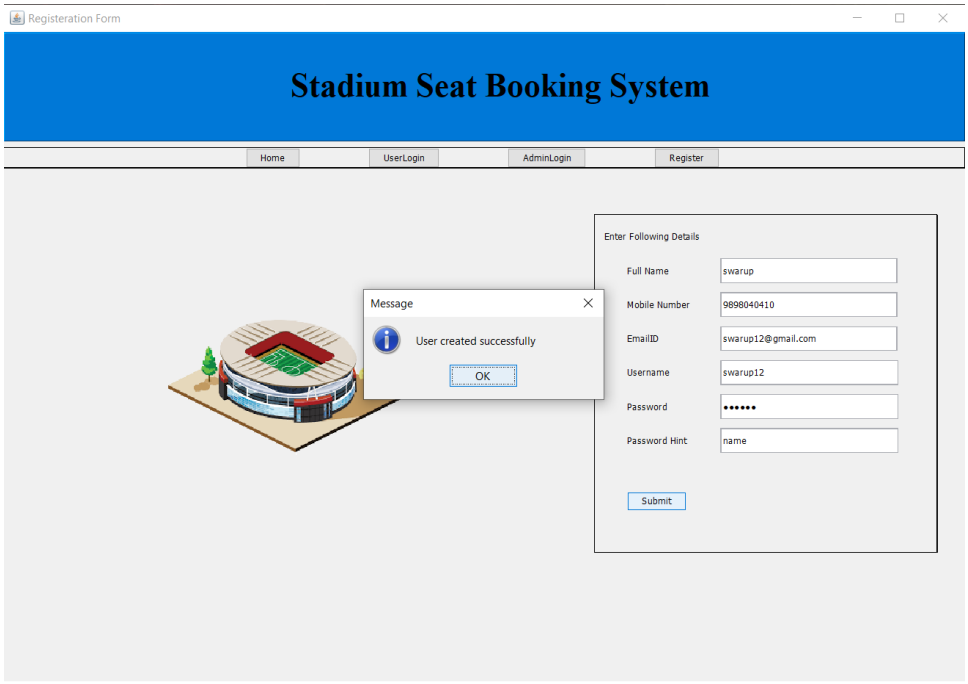


iii)Stadium seat plan

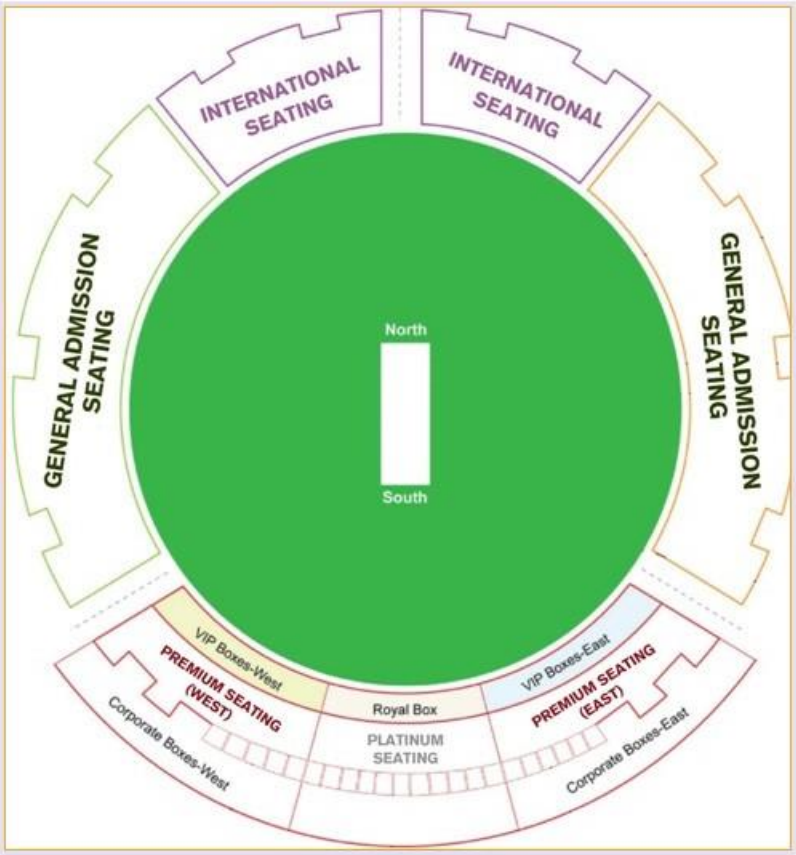


iv) Stadium reservation system

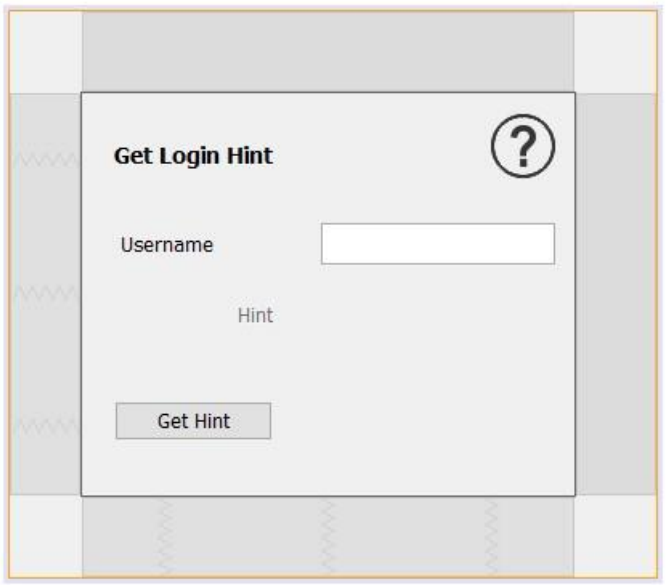
v) Register Interface



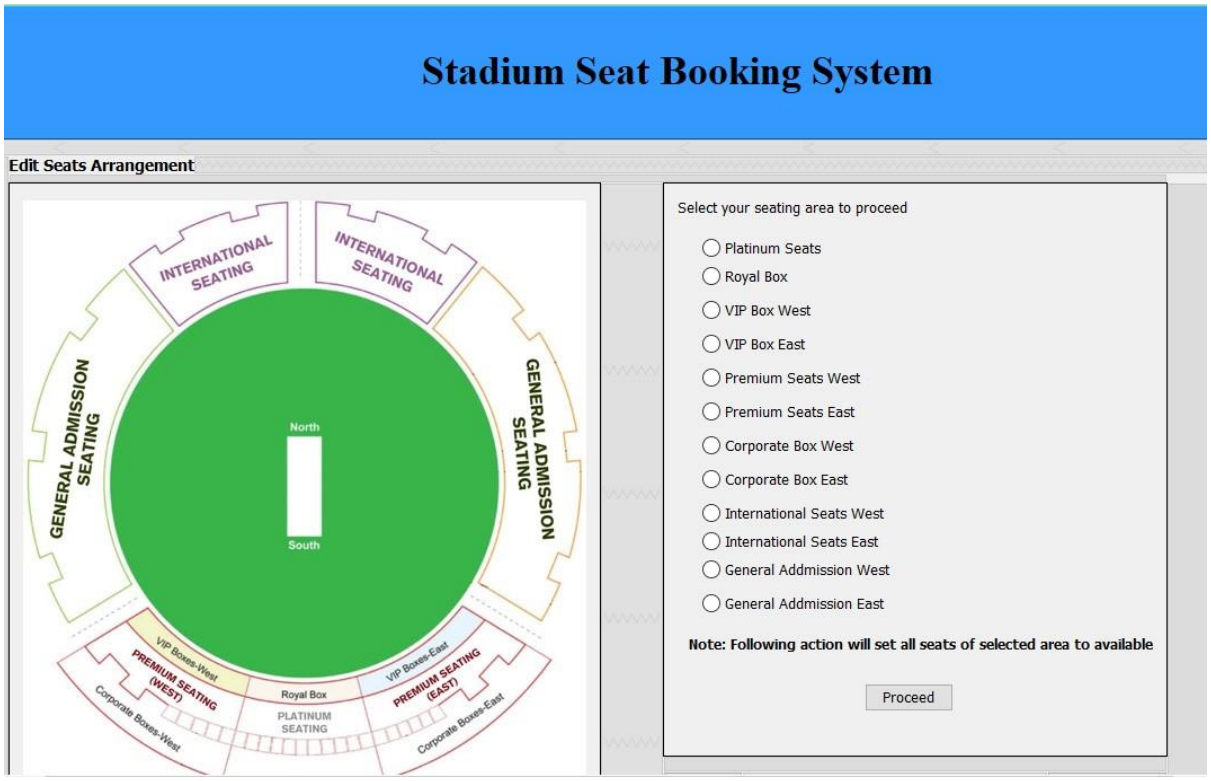
vi) Stadium layout



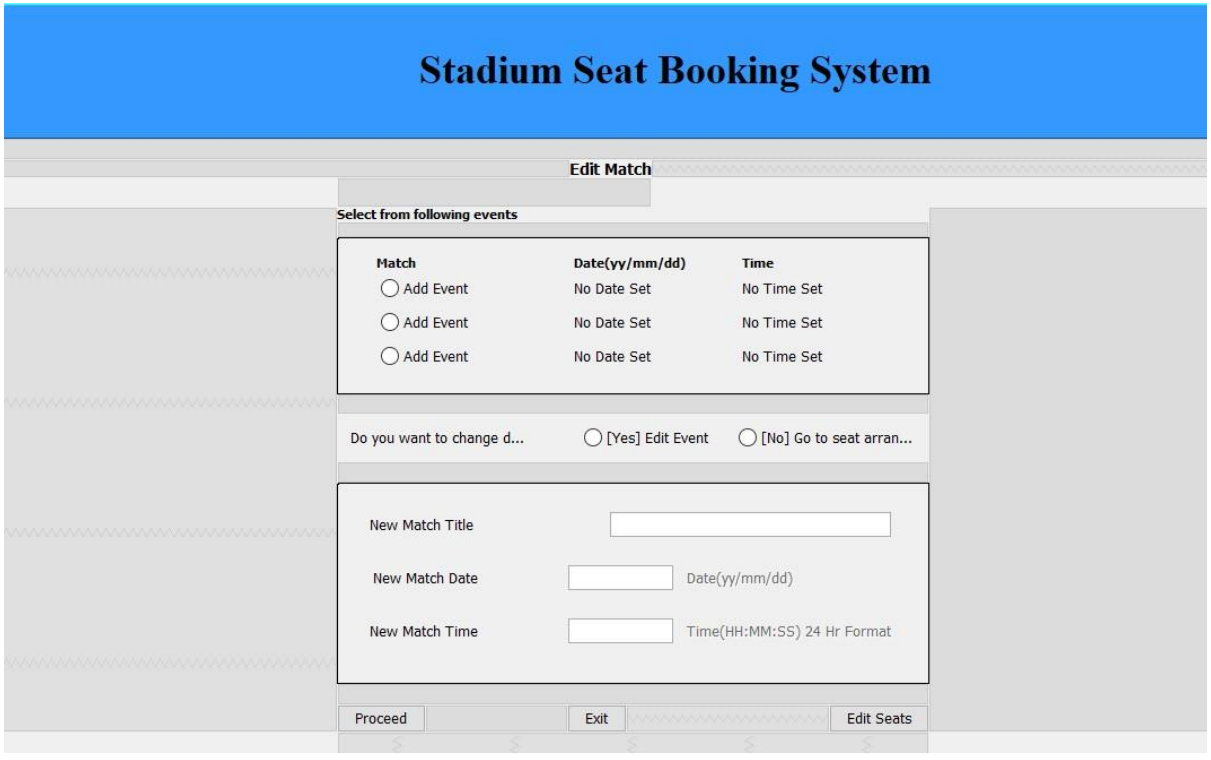
vii) Forgot password



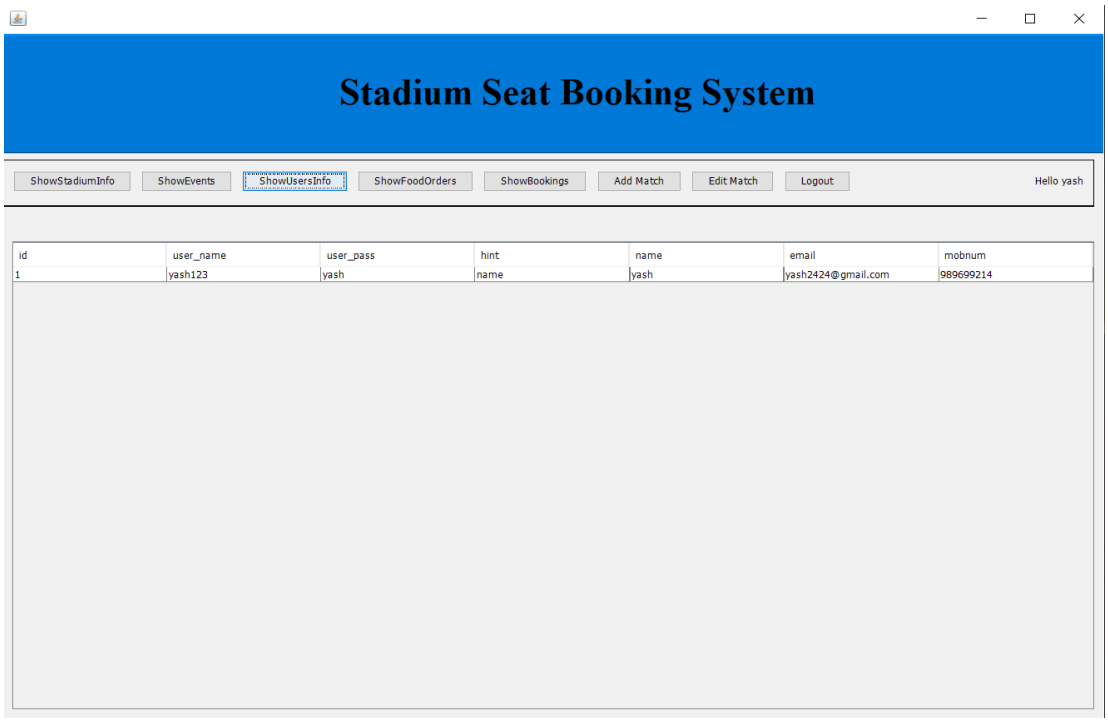
viii) Edit seat

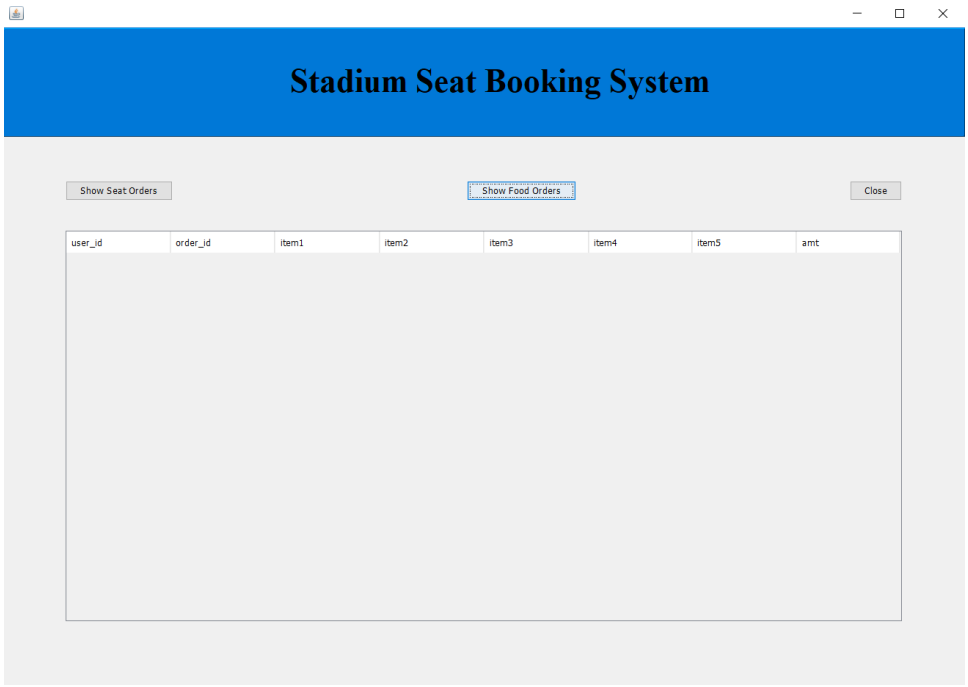


ix) Edit match

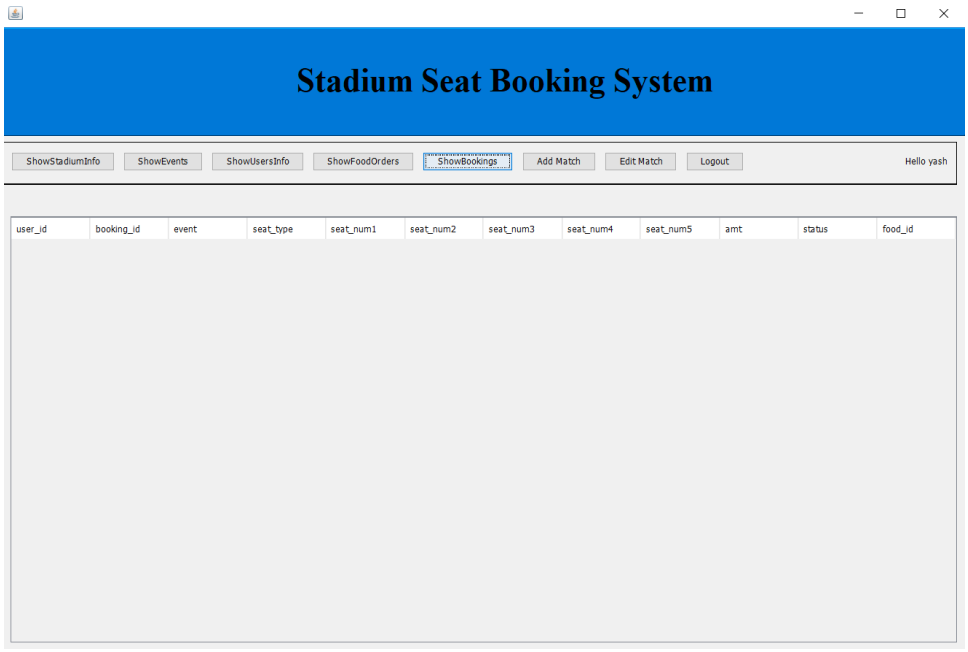


x) Food option

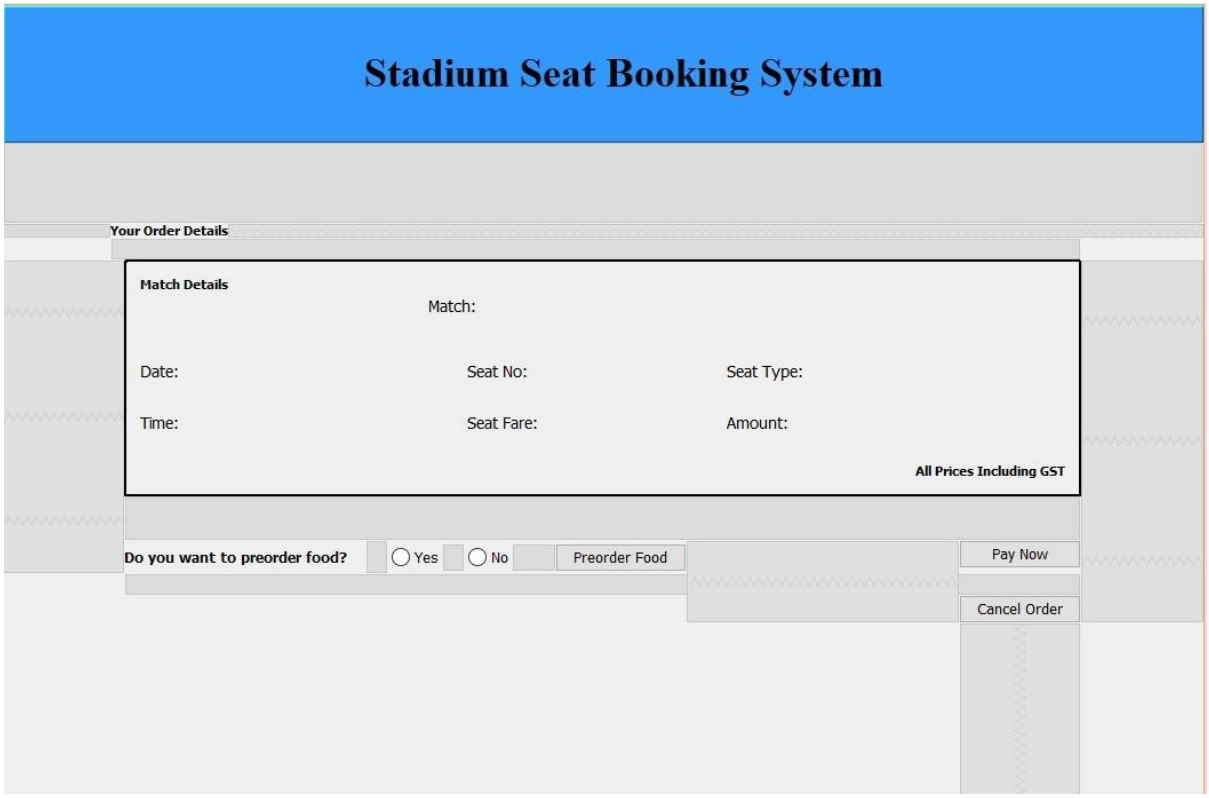




xi) Booking seat



xii) Booking checkout option



6.2 Project Testing:

Software has been tested to verify the interfaces between software design and all Codes like admin login interface, user login interface, and stadium. Users can access freely know without any problem or issue. Generally, users may get problem to access with some software. That is the reason of testing this software. So, it was running quite well and successful with no issues. This is Software system are integrated or tested successfully.

CHAPTER7: CONCLUSION AND FUTURE SCOPE

This chapter summarize the overall work and indicating possible future work of the proposed system that can be down to improve the quality of the system in general.

7.1 Conclusion

In this project, we present the implementation of "Stadium seat Booking System". This system is an effort to develop a software that can be accessed through the internet connection via computer. Our project makes the seat booking simple and easy.

7.2Future Work

The system uses desktop application to book a stadium seat. The future work for this project is to create an application for smart phone (Android, iOS) operating system which is easy for user and a web-based application. We are working on payment method also.

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