

A Minor Project II Report on

“FUTSA”



Submitted To

Department of Computer and Software Engineering

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FUTSA

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BONAFIDE CERTIFICATE

This is to certify that this project titled **FUTSA** in partial fulfillment of the requirements for the degree of **BACHELOR OF ENGINEERING IN SOFTWARE ENGINEERING** is a bonafide work of **Saroj Aryal, Amrit Adhikari, Suraj Gautam, Chiranjibi Ranabhat** under the supervision of Er. Rishi Khanal. It is further certified that this work doesn't form part of any other project work on the basis of which a degree or award was conferred on any earlier occasion on this by any other candidate.

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Abstract

FUTSA is a technical way of managing the futsal booking process. It will manage the time and the user can book futsal wherever and whenever. We will try to develop the project in such a way that users may not have any difficulty in using it and are highly secure. This system can be used by any Futsal owners, who intend to make the booking process in their business Online and simple to the players. The libraries and tools that we used to develop are Reactjs, Nodejs, Mongoddb, Flutter.

Keywords:

Booking System, Futsal.

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Table of Contents

Bonafide Certificate	1
Abstract	2
Acknowledge	3
Table of Contents	4
List of Tables	5
List of Figures	6
Abbreviations	7
Introduction	1
1.1 Background	1
1.2 Problem Statement	1
1.3 Objectives	2
1.4 Implication	2
Literature Review	3
2.1 Research	3
Methodology	4
3.1 Required tools	4
3.2 Design	5
3.2.1 Use case diagram	5
3.2.2 E-R diagram	8
3.2.3 System sequence diagram	9
Test Cases	10
4.1 Software Testing	10
4.2 Test Objectives	10
4.3 Test Results	11

Results and Discussion	12
5.1 Limitations	12
5.2 Future Improvements	12
5.3 Conclusion	13
References	14

List of Tables

Table 1. Comparison of different FBS

3

List of Figures

Figure 1. Block Diagram	6
Figure 2. Use Case Model	6
Figure 3. Entity Diagram	9
Figure 4. System Sequence Diagram	10

Abbreviations

FBS	Futsal Booking System
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Chapter 1

Introduction

1.1 Background

The present era has achieved glorious milestones and has reached extraordinary landmarks, in contrast to this achievement we have been kind of lost in this maze of technological revolution. Our life is being limited to bounded walls and virtual screens and we have lost our nativeness and social life. There needs to be recreational aspects in our lives apart from these monotonous bounded live sports is one of the ways that leads people out of the maze. So we focus on resolving this burning issue with our small efforts.

Regarding this issue, we aim to develop a web application Futsal booker (a smart user interactive site), which lets people book the futsal instantly with just a click that minimizes the conventional way of booking. Our platform is effective in a sense that the informative, user-friendly digitized system makes it easy for the people to fulfill their objectives.

1.2 Problem Statement

We people from different walks of life have many ways to let go of our stress. In the present context the most preferred one is Futsal (**Place where football is played in an indoor environment**). However, we have very few Futsal grounds throughout the country and yet they are not digitally accessible. Focusing on this issue we have decided to develop an online Futsal Booking System namely FUTSA. This system focuses on digitized solutions of finding the available futsal with available time & schedule nation-wide from any corner inside the country and hence booking the schedule of the game which eradicates the conventional problems saving our precious time, making us more informative and with ease of access.

1.3 Objectives

The main objectives of this project are:

- To find nearby and easily accessible futsal.
- To eradicate complicated phone based booking processes.
- To enable the users to book the playing schedule.

1.4 Implication

Our system won't have all the features required to be a versatile Booking System, still it won't lag to reduce the practice of manual system, distribute the services to futsal owners and to allow the players who want to facilitate the sports sector. The system will be highly scalable with the proper DBMS, API integrations along with proper UI/UX .

Chapter 2

Literature Review

2.1 Research

Futsal is one of the most emerging sports. It is the form of indoor football. It earned the status of FIFA's official form of indoor football in the 1980s as it was recognized as a scaled down version of outdoor football played on indoor environment. It is a 5 v 5 small-sided game played on a hard surfaced, basketball sized court with a smaller, heavier low bounce ball. This is the game that outdoor football players around the globe play to refine and maintain their control skills and touch. It is superior to walled football in terms of developing better skills and technique.

There are different applications to book the futsal games. (We play, 2021), (Futbox, 2019) are some web applications that are similar to our project.

Features \ Apps	Futbox	Weplay	FUTSA
Price Info	No	Yes	Yes
Tournament	Yes	No	Yes
Location search	Yes	No	Yes
Payment Gateway	No	No	Yes

Table 1. Comparison of different FBS

Chapter 3

Methodology

3.1 Required tools

For the development of the project, different tools are necessary. These tools are as follows:

1. Figma
2. Javascript, Nodejs
3. Visual studio code
4. GitHub: For version control
5. Database: Mongodb
6. Framework : Reactjs, Expressjs

3.2 Design

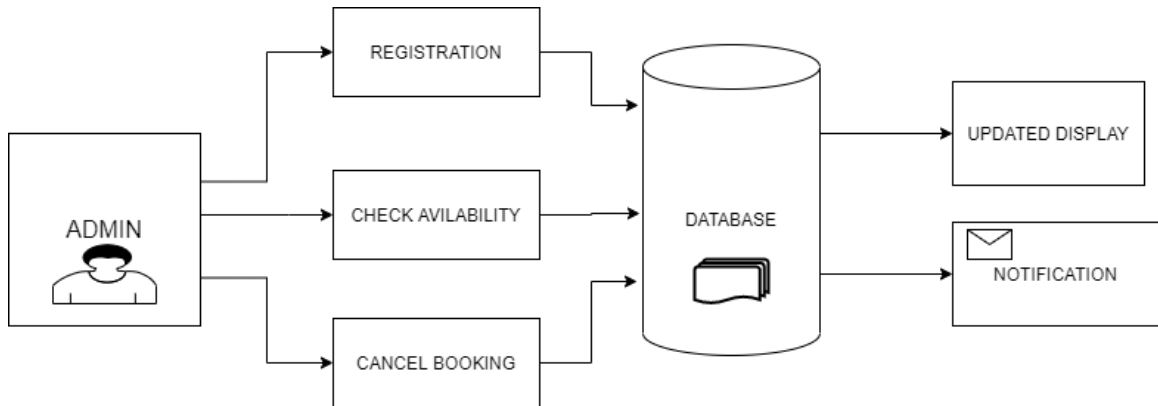


Figure 1: Block Diagram

3.2.1 Use Case Diagram

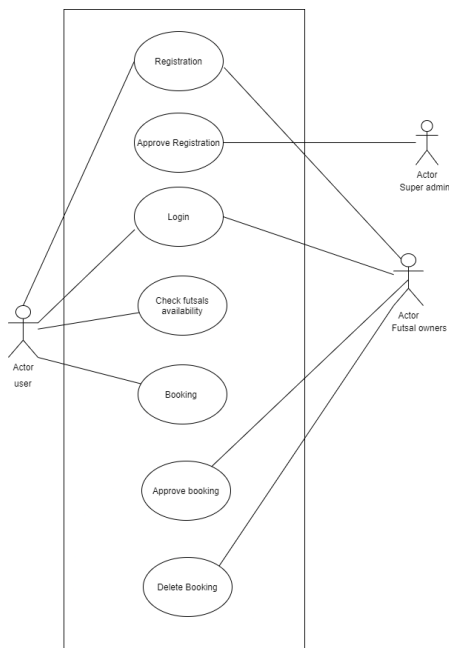


Figure 2 : Use Case Diagram

Use Case UC1: Registration

Primary Actor: Admin

Secondary Actor: System

Stakeholder: Futsal owner

User: Want to fill out a form.

Pre condition: User must enter username

Post condition: Username is registered and the Dashboard is accessed.

Basic flow: User selects appropriate option for the registration.

Alternate Flow:

1. Send Confirmation email.

Use Case UC2: Check Availability

Primary Actor: Customer

Secondary Actor: System

Stakeholder: Customer

User: User wants to know available time

Precondition: User must be registered

Post condition: User gets Available Time.

Basic flow: Users can book the game.

Alternate Flow:

2. Send a Confirmation message.
3. Admin calls for confirmation.

Use Case UC3: Manage Booking

Primary Actor: User

Secondary Actor: System

Stakeholder: User

Precondition: Must Be Registered.

Post condition: Record is Updated.

Basic flow: User information.

Alternate Flow:

- System display the field required.
- Back to registration.

Use Case UC4: Cancel Booking

Primary Actor: User

Secondary Actor:System

Stakeholder: Admin

User: User wants to Cancel the Booking

Precondition: Must be Registered User.

Post condition: Available Time Updated.

Basic flow:

- Admin update the booked time.
- System saves the data.

Alternate Flow:

- Display an error message.
- Error message is displayed.

3.2.2 ER Diagram

The entity relationship diagram shows the relationship between a user and different entities. Those entities are admin, ground, user and reservation as shown in the diagram below. Different entities and their attributes are shown along with the interactions or relationship between them is shown in the diagram below.

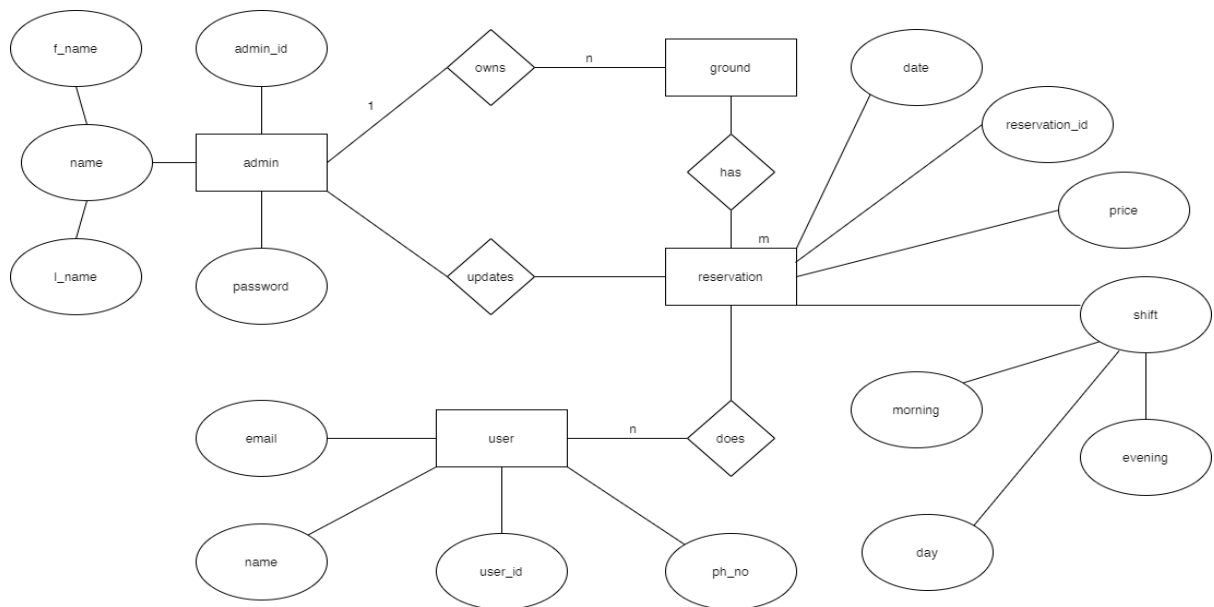


Figure 3. Entity Relationship Diagram

3.2.3 System Sequence Diagram (SSD)

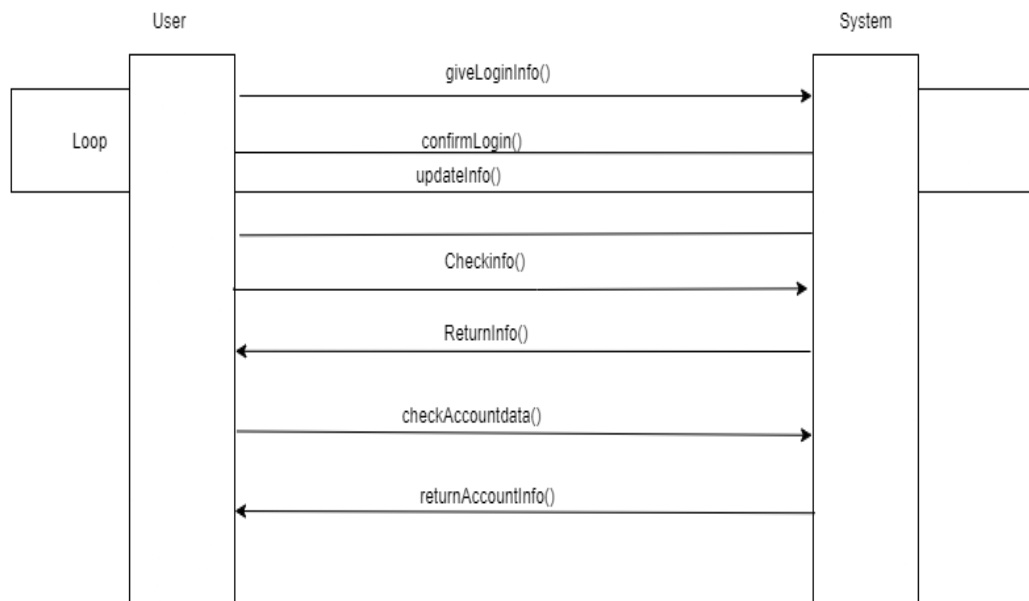


Figure 4. System Sequence Diagram

Chapter 4

Test Cases

4.1 Software Testing

Software testing is a process to evaluate the software application whether it is built or not to meet the intended requirements. It also identifies the defects, bugs to ensure that the product is defect-free in order to produce a quality product.

4.2 Test Objectives

The main objectives of testing FUTSA were:

- To check whether the Web Application is built per the set objectives.
- To ensure errors get fixed before deployment.
- To gain confidence in the level of quality of the system.

4.3 Test Results

SN.	Test Cases	Expected	Observed	Result
1.	Authentication for customer and futsal owner.	Customer and owner with the correct email and password can login.	Only specific emails with its respective correct password were logged in.	ok
2.	Book the time slot for certain date.	Customer authenticated can only view details and book the time for specific time.	Only authenticated user was able to view and book the time for futsal.	ok

3.	Accept or cancel the booking request	Authenticated owner user can only confirm or cancel the booking request.	Only authenticated owner can confirm or cancel the booking request.	ok
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Chapter 5

Result and Discussion

Our project entitled FUTSA helped us to learn in detail about the development of web Application and to learn about project milestones. It provided us the opportunity to learn various related systems with gradual improvements. Our project has fulfilled all its objectives. Customer can view the information and availability of time about futsal .Also, Owners can list their futsal and make booking process digital. This project was completed within the estimated time and with the coordination of team members and our respected supervisor.

5.1 Limitations

This futsal booking system called FUTSA was designed and developed to make easy access of bike information for various users. But there are some limitations. They are listed below:

- **Technical feasibility:** Internet access is required to use the system, people with internet access are comparatively few in some areas. This app targets only specific customers i.e football enthusiasts.
- **Economic feasibility:** Service users and service providers have to bear hardware and software costs, due to which they may feel uneasy to use our web application. Similarly, administrators have to bear training costs.

5.2 Future Improvements

Some of the improvements that can be implemented in the future are as follows:

- Payment gateway integration.
- Google Map integration
- Better user Interface and mobile app.
- More information about futsal and better searching of location.
- Improved security and system.
- Real time chat system for interaction between futsal and customer.

5.3 Conclusion

FUTSA is a web Application which aims to digitize the futsal booking system. It also shows adequate information about futsal and makes browsing easier using features like search and recommendations. Similarly, it has an Owner Dashboard for managing futsals including confirming and declining the request. This web App makes it easier for various users to browse and know information about futsal around them by choosing nearest location according to their needs which saves time and effort rather than manual asking and phone calls.

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APPENDIX