CHRIST
(DEEMED TO BE UNIVERSITY)
BANGALORE · INDIA

Astrobook

by

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Under the guidance of
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ADBMS project report submitted in partial fulfillment of the requirements of II semester MSc(Computer Science), CHRIST(Deemed to be University)

March - 2019

CERTIFICATE

This is to certify that the report titled ***AstroBook*** *is a bona fide record of work done by* ***Akash Dasmondal(1847104), Michael Susheel G(1847113)*** *and* ***Suramalla Stella Florence(1847136)*** *of CHRIST(Deemed to be University), Bangalore, in partial fulfillment of the requirements of II Semester MSc(Computer Science) during the year 2019.*

Head of the Department **Project Guide**

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ACKNOWLEDGEMENTS

AstroBook would not have been possible without the support and guidance of experienced and knowledgeable members of the Department of Computer Science, CHRIST (Deemed to be University), Bengaluru.

We would first like to thank Prof. Joy Paulose, Head of the Department, Department of Computer Science, CHRIST (Deemed to be University), for his endless support, and valuable feedback which has helped us constantly improve both our work processes and our overall project.

We would also like to thank our Coordinator, Dr. Beaulah Soundarabai P, for her encouragement and contributions which helped facilitate the successful execution of this project.

We would like to express our gratitude to our Project Guide, Dr. Anitha H B, for her tireless guidance and innumerable inputs throughout the course of our project development. She helped orient us towards the right direction during each of our project's phases.

We would like to extend our warmest gratitude to the faculty members of the Department of Computer Science, CHRIST (Deemed to be University), for their advice and motivation in helping us stay on track throughout development. We are also thankful to our peers from MSc Computer Science for their assistance and inputs throughout the development process. We thank everyone who has contributed and assisted us during the development of Astrobook both directly and indirectly.

ABSTRACT

Astrobook is a web application that allows users to book access to private sporting facilities in the city of Bengaluru. The application provides comprehensive booking details, from pricing, location, to available slots for each ground. Astrobook also includes a gamified user scoring module, which is divided into a formal and informal system. Formal systems are connected to Astrobook's own records and based on booking of facilities listed on the platform. The informal system provides a platform to users to create their own customized scoring and grading system with varying constraints.

At the moment, there neither exists a consolidated online system to book the pay-per-hour facilities nor a platform to compare the prices and quality of the multiple entities that exist in the city of Bengaluru. This app, AstroBook, aims to provide these two features. AstroBook will allow users to book pitches, or other sport facilities, review available slots, and make payments as well. The facilities on offer will be partnered with the AstroBook platform, and will gain from the consolidated system, and free marketing AstroBook provides. In addition, AstroBook will implement gamification features to increase user engagement and traffic, and make our application a unique gamified sport and athletic platform.

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1. INTRODUCTION

Astrobook is a web application that allows users to book access to private sporting facilities in the city of Bengaluru. The application provides comprehensive booking details, from pricing, location, to available slots for each ground. Astrobook also includes a gamified user scoring module, which is divided into a formal and informal system. Formal systems are connected to Astrobook's own records and based on booking of facilities listed on the platform. The informal system provides a platform to users to create their own customized scoring and grading system with varying constraints.

Modern Indian cities, like Bengaluru, have seen the proliferation of a large number of pay-per-use sports facilities. These are the result of the gradual disappearance of public playgrounds and parks, due to development projects and illegal land grabbing. A large, and active, young population has seen demand rise for facilities and places to engage in sports or other related activities. Since the local governments have failed in providing such facilities, in adequate quantity or quality, private entities have stepped in. There exist numerous such facilities throughout the city of Bengaluru, many of which primarily cater to football enthusiasts, a sport whose popularity in India is rapidly growing. These facilities usually maintain multiple football pitches, built with artificial turf (also known as astroturf), and which can accommodate 10-14 players at once. Access to these pitches is provided via a system of time-slots and bookings, with the size of the pitch and the amount of time determining the cost of booking. Some facilities also choose to charge based on the number of players using the particular pitch.

1.1 OVERVIEW OF THE SYSTEM

This app, AstroBook, aims to provide these two features. AstroBook will allow users to book pitches, or other sport facilities, review available slots, and make payments as well. The facilities on offer will be partnered with the AstroBook platform, and will gain from the consolidated system, and free marketing AstroBook provides.

In addition, AstroBook will implement gamification features to increase user engagement and traffic, and make our application a unique gamified sport and athletic platform. These gamification features are further detailed in the following sections.

2. SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

Existing application exist for booking private football astroturf facilities solely in the city of Mumbai. And such a system does not exist in Bengaluru. There are two Android apps (of sufficient quality) which exist for football turfs in Bengaluru. However, they do not cover other sports facilities.

At the moment, there neither exists a consolidated online system to book these facilities nor a platform to compare the prices and quality of the multiple entities that exist in the city of Bengaluru.

2.2 PROPOSED SYSTEM

The proposed system, Astrobook, is unique in as much as no such web-based booking facility exists in Bengaluru. And there exists no booking platform with a gamified user profile module. In fact, we did not find such a gamified system existing independently either, making Astrobook's gamification module unique in that regard.

This app, AstroBook, aims to provide these two features. AstroBook will allow users to book pitches, or other sport facilities, review available slots, and make payments as well. The facilities on offer will be partnered with the AstroBook platform, and will gain from the consolidated system, and free marketing AstroBook provides.

In addition, AstroBook will implement gamification features to increase user engagement and traffic, and make our application a unique gamified sport and athletic platform. These gamification features are further detailed in the following sections.

2.3 SOFTWARE TOOLS USED

We used HTML and CSS to create the front-end webpages. We made used of tools like Blue Griffon which provided a WYSIWYG feature to help ease our development efforts. We made use of JavaScript for validation and PHP for database connectivity

The pages were hosted using Apache and the database software we used was MySQL. Both provided by XAMPP. Notepad++ was used as the code editor.

- **HTML/CSS:** Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, and enable multiple web pages to share formatting.
- **BlueGriffon:** BlueGriffon is a WYSIWYG content editor for the World Wide Web. It is based on the discontinued Nvu editor, which in turn is based on the Composer component of the Mozilla Application Suite. Powered by Gecko, the rendering engine of Firefox, it can edit Web pages in conformance to Web Standards. It runs on Microsoft Windows, macOS, and Linux.
- **JavaScript:** JavaScript, often abbreviated as JS, is a high-level, interpreted programming language that conforms to the ECMAScript specification. It is a programming language that is characterized as dynamic, weakly typed, prototype-based and multi-paradigm. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it. As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM.
- **PHP:** Hypertext Preprocessor is a general-purpose programming language originally designed for web development. PHP code may be executed with a

command line interface (CLI), embedded into HTML code, or it can be used in combination with various web template systems, web content management systems, and web frameworks. PHP code is usually processed by a PHP interpreted implemented as a module in a web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page.

- **Apache:** The Apache HTTP Server is a free and open-source cross-platform web server software.
- **MySQL:** MySQL is an open source relational database management system (RDBMS). MySQL is free and open-source software under the terms of the GNU General Public License. MySQL is a component of the LAMP web application software stack. MySQL is used by many database-driven web applications, including Drupal, Joomla, phpBB, and WordPress.
- **XAMPP:** XAMPP is a free and open-source cross-platform web server solution. XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply.
- **Notepad:** Notepad++ is a text editor and source code editor for use with Microsoft Windows. Notepad++ is distributed as free software.

3. SYSTEM REQUIREMENTS

3.1 SYSTEM MODEL

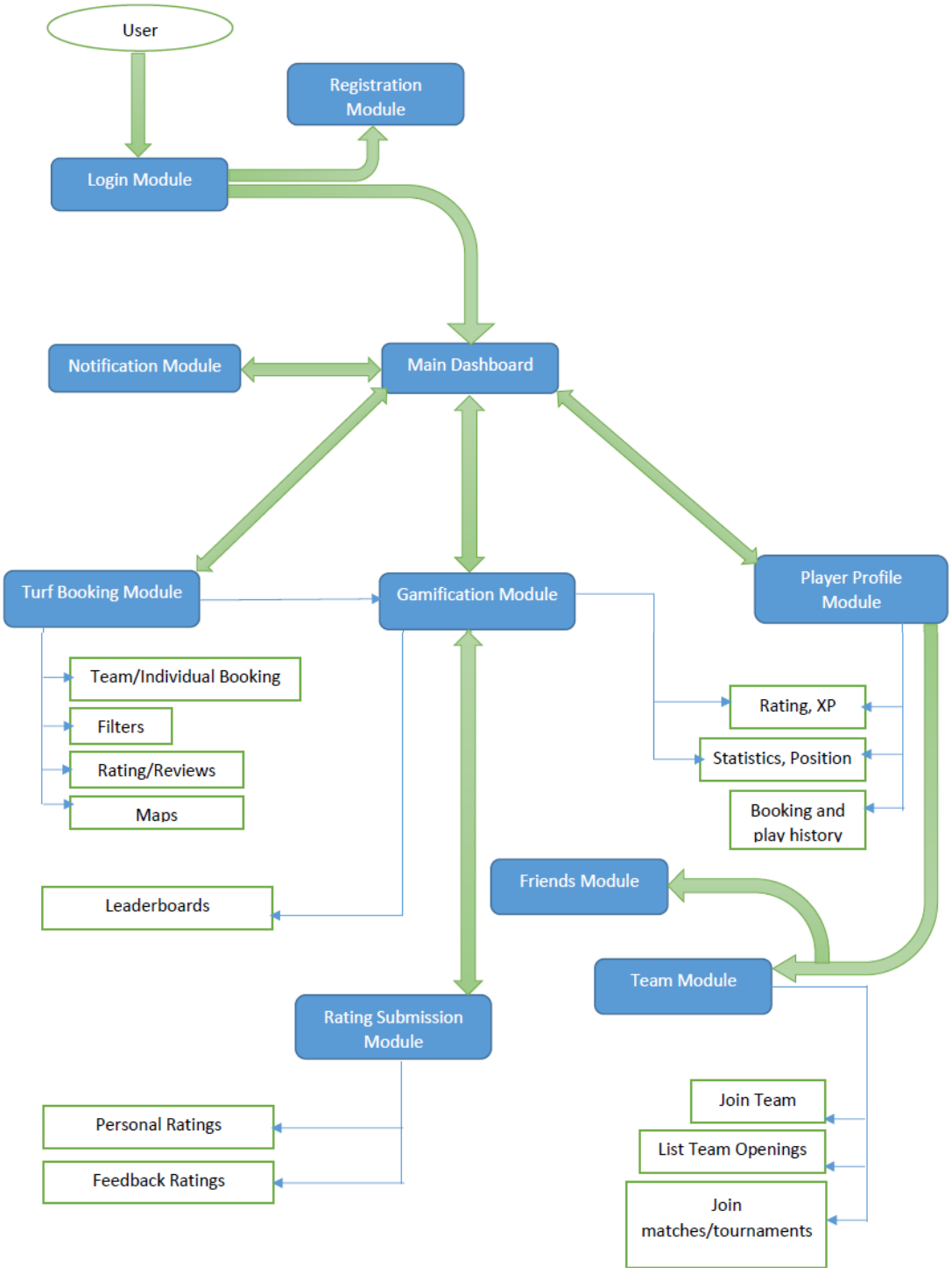

Fig 3.1 System Model

3.2 FUNCTIONAL REQUIREMENTS

In this system, the user will create an account to access the application's modules. The user can then book access to turf through timing slots, and will be provided an estimated cost for the number of players the user registers. The additional players may/may not be registered users of AstroBook themselves. They will need to be registered users in order to make use of the gamified scoring module. The gamified scoring module borrows from the XP (Experience Points) systems where consistent usage of the app and sporting facilities will reflect a higher score on the user profile, and put the user higher on Leaderboards (a separate module in itself).

The gamification module will be divided into two sections. A formal system, and an informal one. The formal gamification module is connected to the Astrobook app and facility booking system and the XP scoring system. The more a user uses facilities connected to Astrobook, and performs better at them, the higher the gamified 'score' earned.

The informal system allows users to create their own customized scoring system. For example, if a coach wants to decide who to pick for the first team, he/she can score the performance of the players, during practice, over a period of time, and when the selections are to be done, the app will provide a comprehensive report of the recorded performance measures. These statistics will not be connected to the main scoring module of Astrobook.

Statistics recorded will be based on the sport played. For football, high-level player statistics will be Speed, Shooting, Passing, Judgement, Defending, Athleticism. These ratings can be updated on the informal system and can be separated into various informal modules, for personal or group use.

A team-building module allows players who are looking to build their own team, fill gaps in their teams, or looking to find a group to play with, to list details regarding their play preferences, which allows team builders to find the right people to group up with, based on coinciding time and location constraints. Also, this module will allow individuals to contact teams requesting to join them.

Table 3.1. Functional Requirements

Sl. no	Name of the module/function	Input	Expected Output	Exceptional Conditions
1.	Login	Username Password Player/Admin	Player/ Admin Dashboard loaded if valid	Error message if invalid login
2.	Registration	Username/Handle Email Password	Registration successful Database updated	Validation prevents missing entries
3.	Player	No input	Data regarding player statistics retrieved and recommendations calculated	None
4.	Facility	Choose one of the listed facilities	Turf page updated with facility's turfs	None
5.	Turf	Choose turf slot to book for a match and submit	Turf booked Booking reflected in database	Only available bookings listed for booking. So no scope for exceptional conditions
6.	Match	Choose one of the previously played matches	Players who played that particular match are listed on the Players Played page	None

7.	Players Played	Choose a player to update his/her statistics	Player stats update page loaded on Stats page	None
8.	Stats	Update players stats for the match and submit	Stats are updated in the database	None Default value taken if stat not updated
9.	Team	No Input	Page retrieves data pertaining to a player's team and teammates	None
10.	Dashboard	Choose module to view	Module page loaded for particular player's session	None

3.3 HARDWARE REQUIREMENTS

The following are the hardware requirements to run the application on a browser:

- An Intel Pentium 4 processor or later that's SSE2 capable
- Minimal requirements to run an Operating System to support a web browser of your choice

3.4 SOFTWARE REQUIREMENTS

The website can be viewed on a HTML5-compatible web browser. The site has been tested to run on:

- Google Chrome
- Mozilla Firefox
- Microsoft Edge

4. DESIGN SPECIFICATION

4.1 ARCHITECTURAL DESIGN

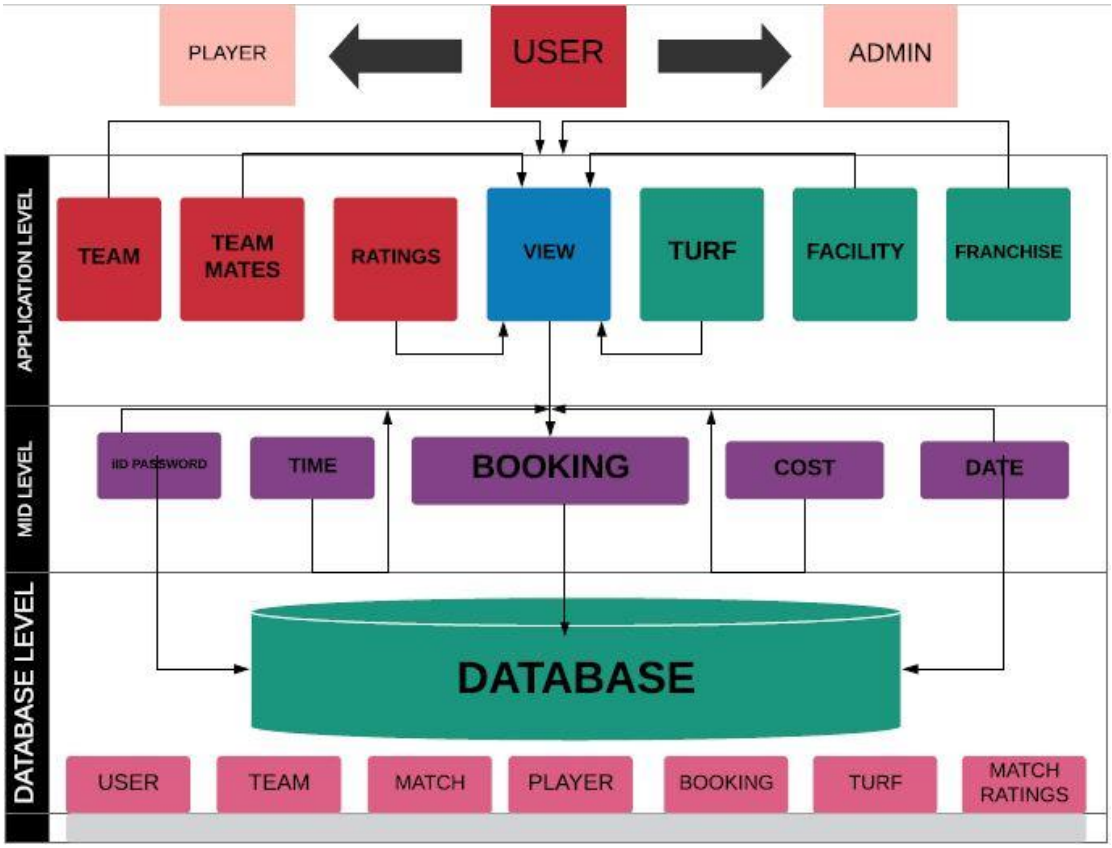

Fig 4.1 Architecture Diagram

4.2 DATABASE DESIGN

4.2.1 TABLE DESIGN

Table 4.1 User Table Design

Name	Data Type	Description
userID	int	Primary key of the table
email	varchar(20)	Email ID of user
password	varchar(20)	Password of user

Table 4.2 Team Table Design

Name	Data Type	Description
teamID	int	Team ID
playerID	int	Player ID
playerNo	int	Number of players

Table 4.3 Match_Player_Rating Table Design

Name	Data Type	Description
matchID	int	Match ID
bookingID	int	Booking ID
playerID	int	Player ID
rating	int	Player Rating
shooting	int	Shooting Rating
dribbling	int	Dribbling Rating
passing	int	Passing Rating
defense	int	Defense Rating
stamina	int	Stamina Rating
pace	int	Pace Rating

Table 4.4 Player Table Design

Name	**Data Type**	**Description**
playerID	int	Player ID. Primary Key
handle	varchar(20)	Player handle
exp	int	Player Experience Points

Table 4.5 Booking Table Design

Name	**Data Type**	**Description**
bookingID	int	Primary Key
playerID	int	Player ID
turfID	int	Turf ID
date	varchar(10)	Date of booking slot for the available turf
start	varchar(10)	Starting time of slot
end	varchar(10)	End time of slot
discount	varchar(10)	Discounts available
cost	varchar(10)	Cost of turf per slot

Table 4.6 Turf Table Design

Name	**Data Type**	**Description**
turfID	int	Primary Key
facilityID	int	Facility ID
base	varchar(10)	Basic turf price
max	int	Maximum number of players

Table 4.7 Facility Table Design

Name	**Data Type**	**Description**
facilityID	int	Primary Key
location	varchar(50)	Location of turf
turfNo	int	Number of turfs
rating	int	Rating for facility

Table 4.8 Franchise Table Design

Name	**Data Type**	**Description**
franchiseID	int	Primary Key
name	varchar(20	Name

Table 4.9 Admin Table Design

Name	**Data Type**	**Description**
adminID	int	Primary Key
franchiseID	int	Franchise ID
facilityID	int	Facility ID

4.2.2 DATA FLOW DIAGRAMS

A data flow diagram (DFD) is a way of representing a flow of a data of a process or a system (usually an information system). The DFD also provides information about the outputs and inputs of each entity and the process itself. A data flow-diagram has no control flow, there are no decision rules and no loops.

DFD Level 0 contains the most important (aggregated) system functions.

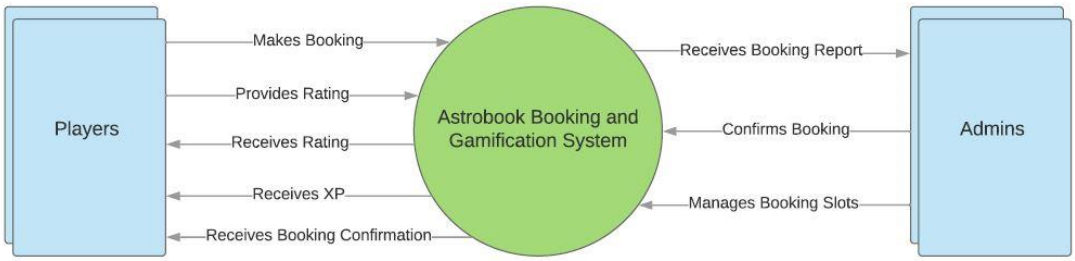

Fig 4.2 Level 0 DFD

This Level 0 DFD of the Astrobook system highlights the core operations occurring between the two users, Players and Admins, with the entire system. The operations listed are:

- Player makes booking
- Player provides rating
- Player receives rating
- Player receives XP
- Player receives booking confirmation
- Admin receives booking report
- Admin confirms booking
- Admin manages booking slots

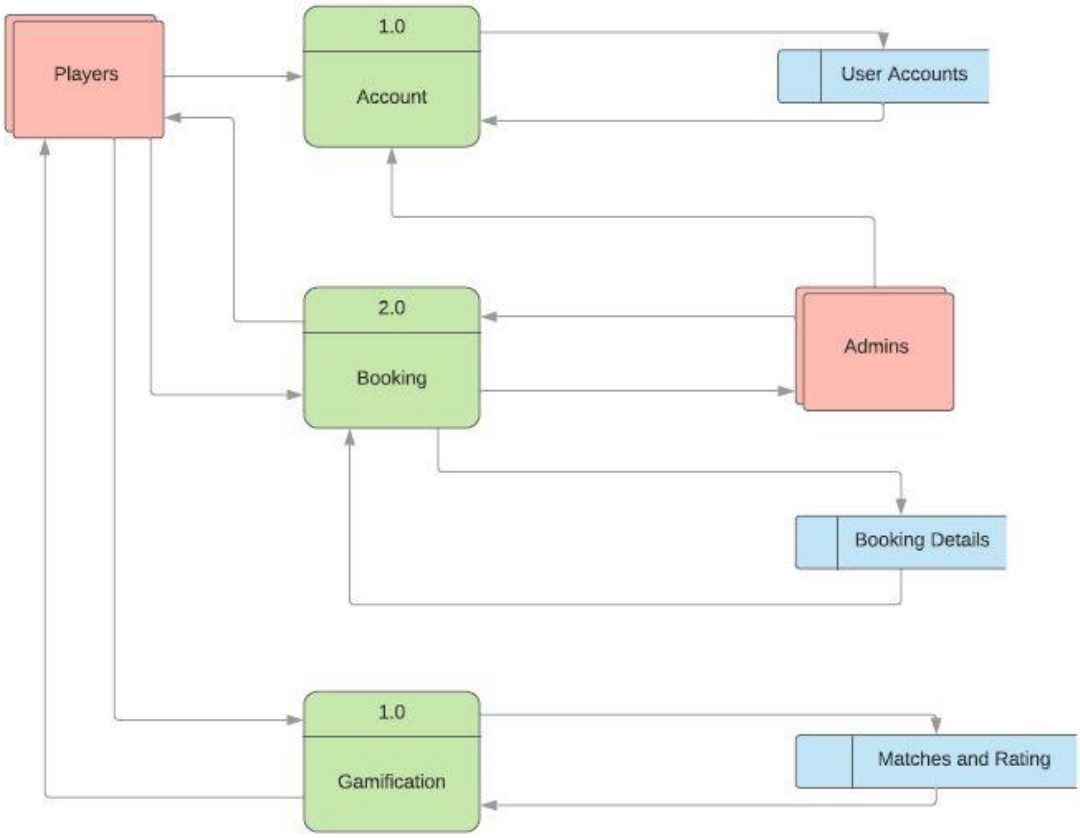

Fig 4.3 Level 1 DFD

A Level 1 DFD is more detailed than a Level 0 DFD but not as detailed as a Level 2 DFD. It breaks down the main processes into sub processes that can then be analyzed and improved on a more intimate level.

Here the core system is split into three separate main modules Account, Booking, Gamification.

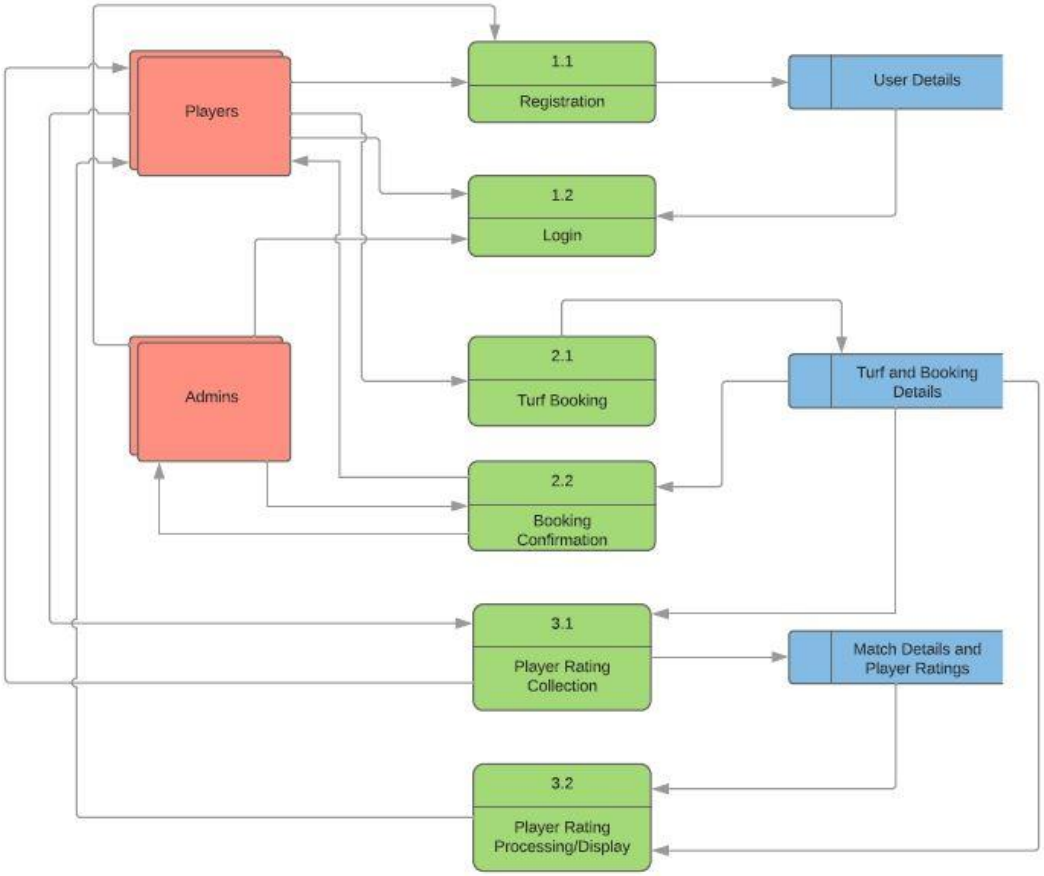

Fig 4.4 Level 2 DFD

The Level 2 DFD involves further breaking down the modules further for more detail.

4.2.3 ENTITY RELATIONSHIP DIAGRAM

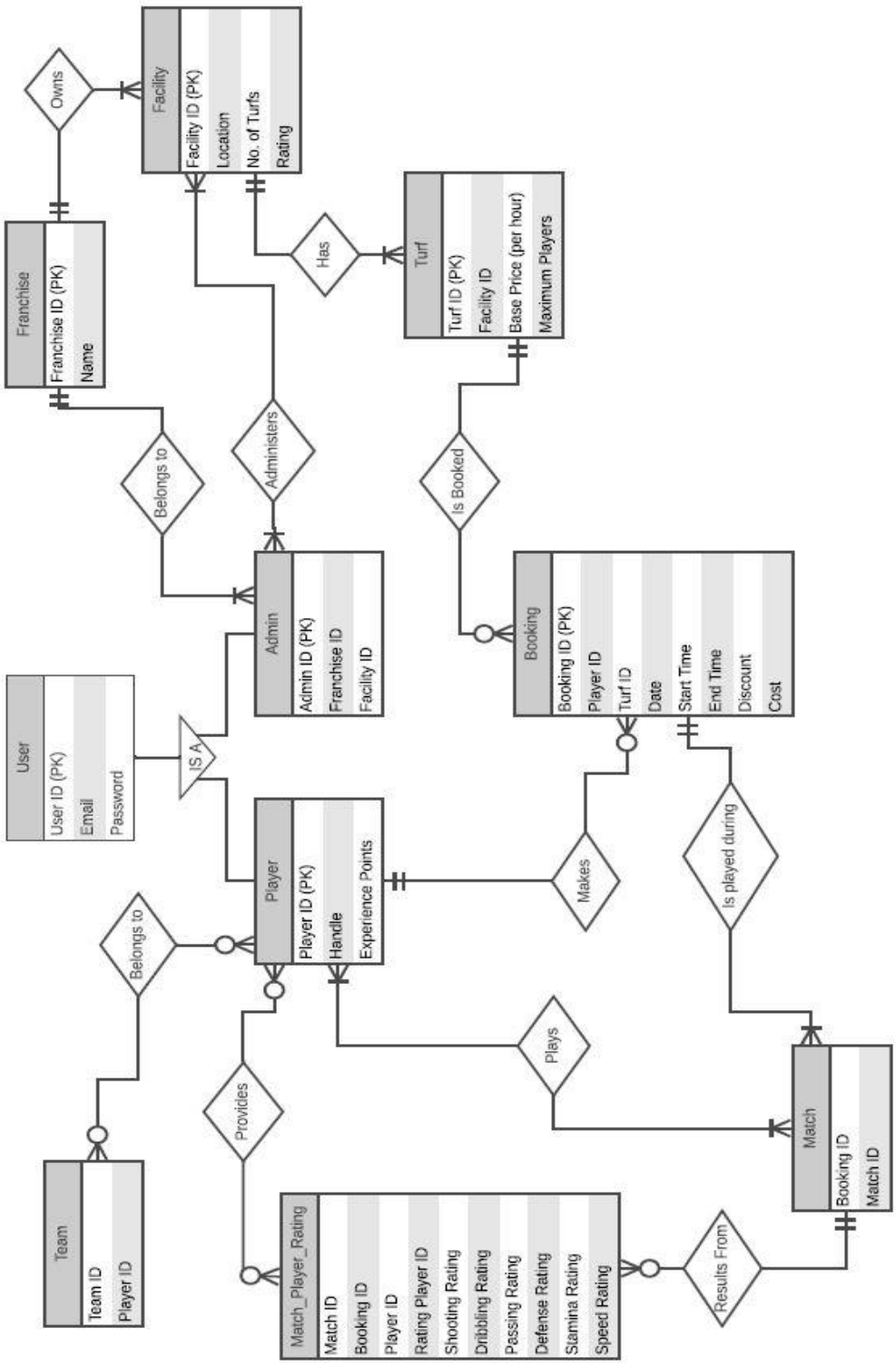

Fig 4.5 ER Diagram

4.2.4 USE CASE DIAGRAMS

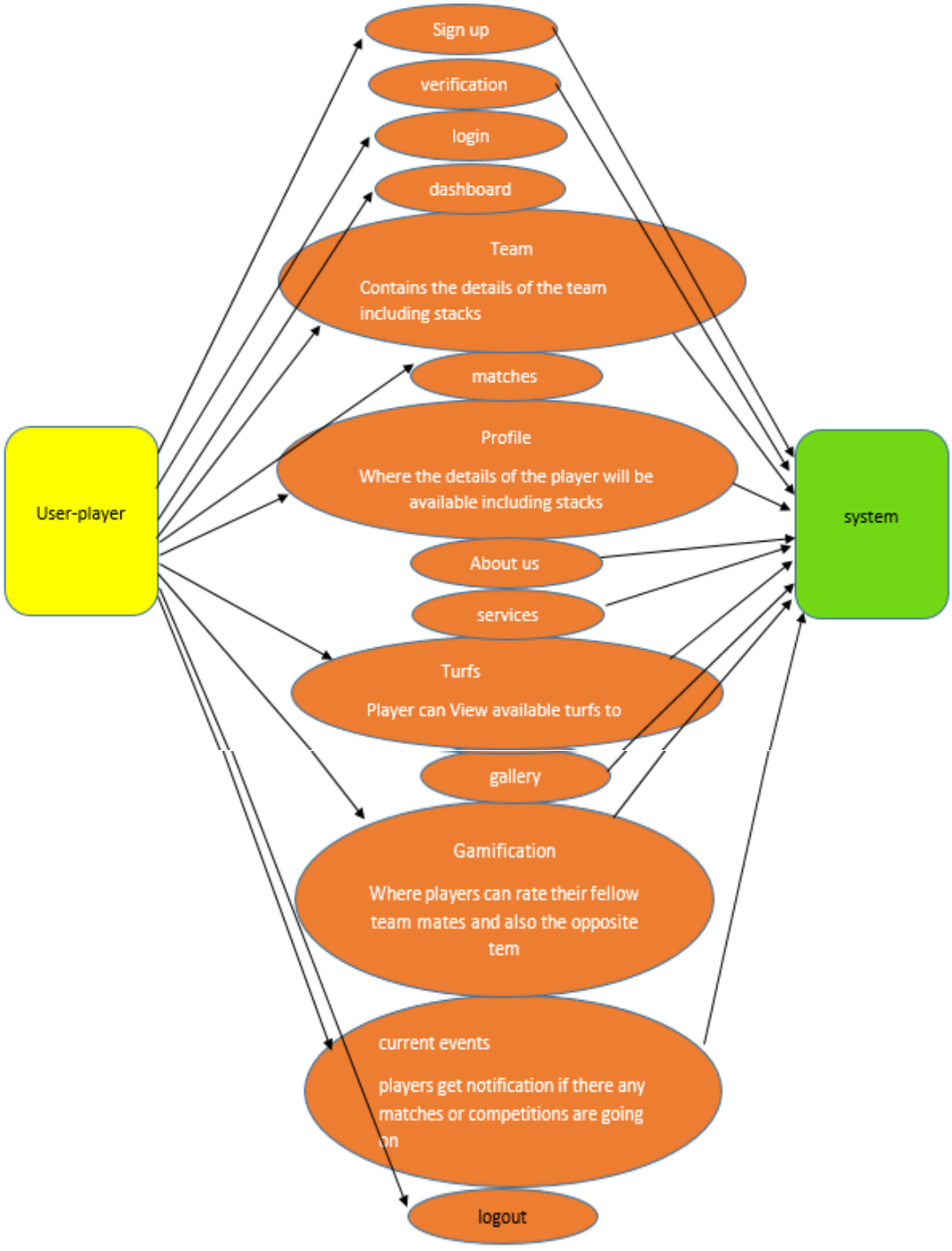

Fig 4.6 User Player Use Case Diagram

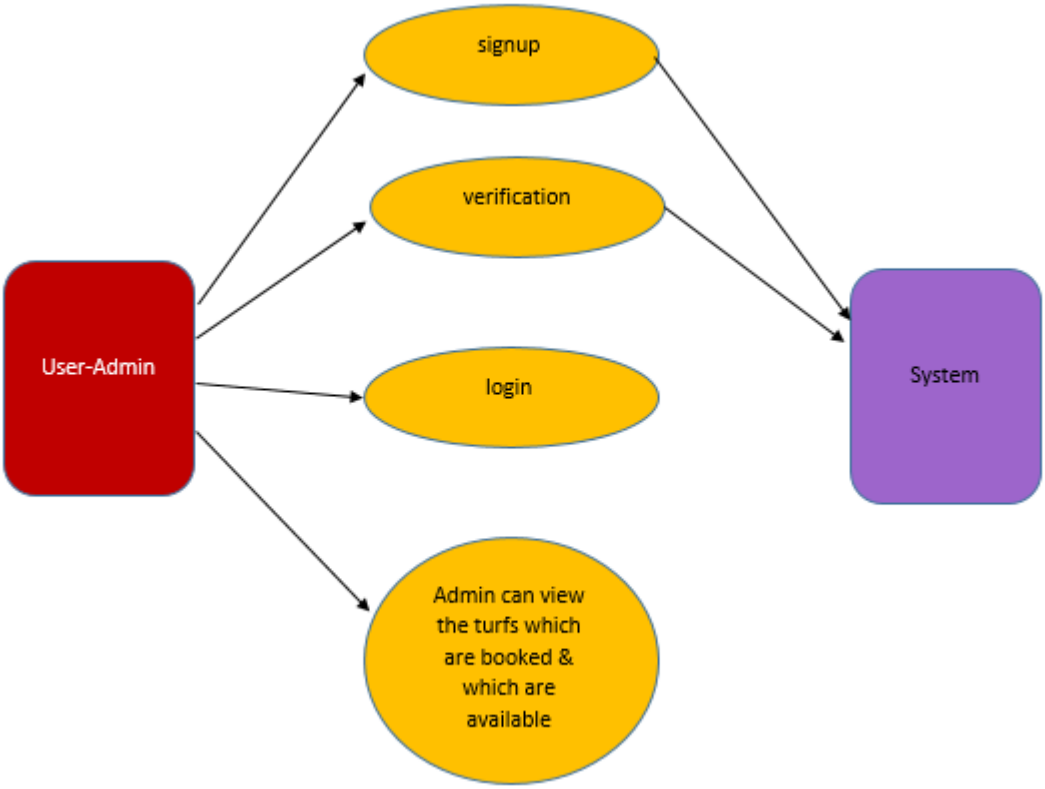

Fig 4.7 User Admin Use Case Diagram

4.2.5 CLASS DIAGRAM

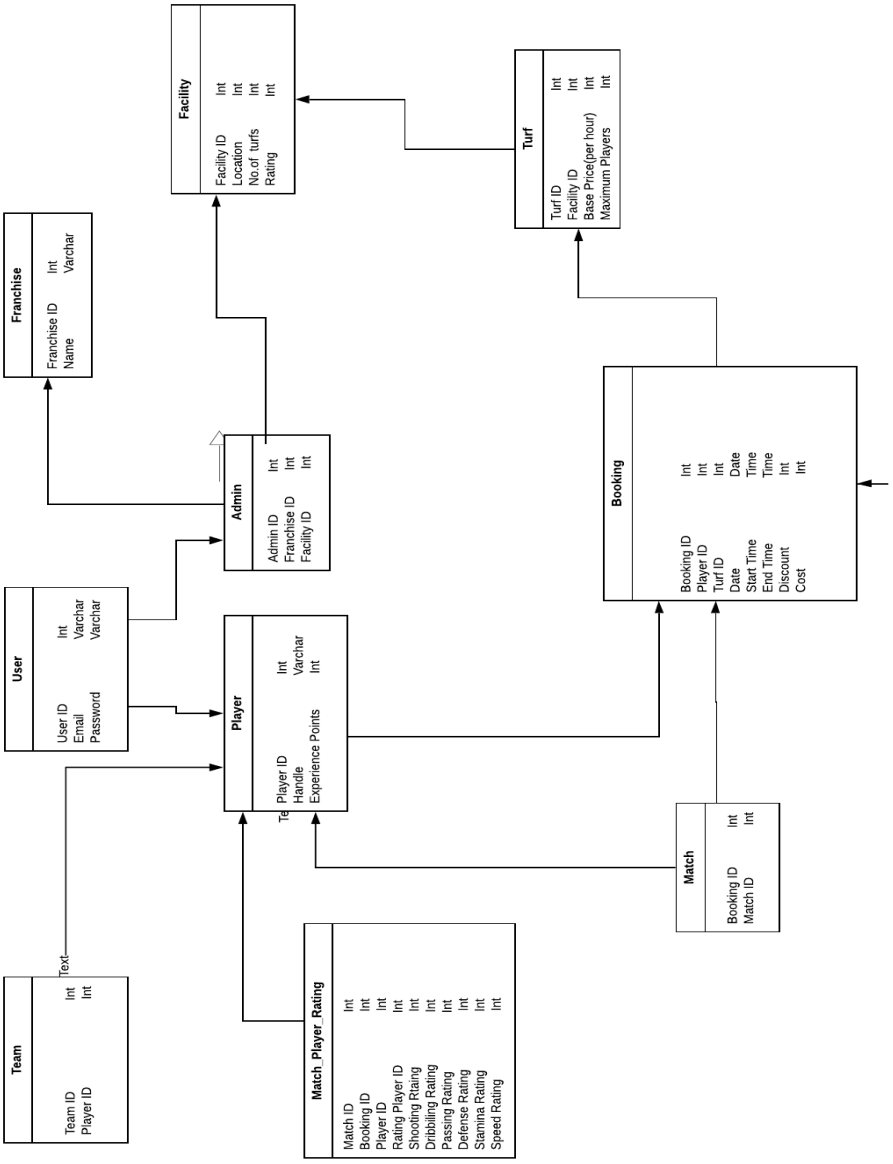

Fig 4.8 Class Diagram

4.3 WEB PAGE SPECIFICATION

4.3.1 SITE MAP

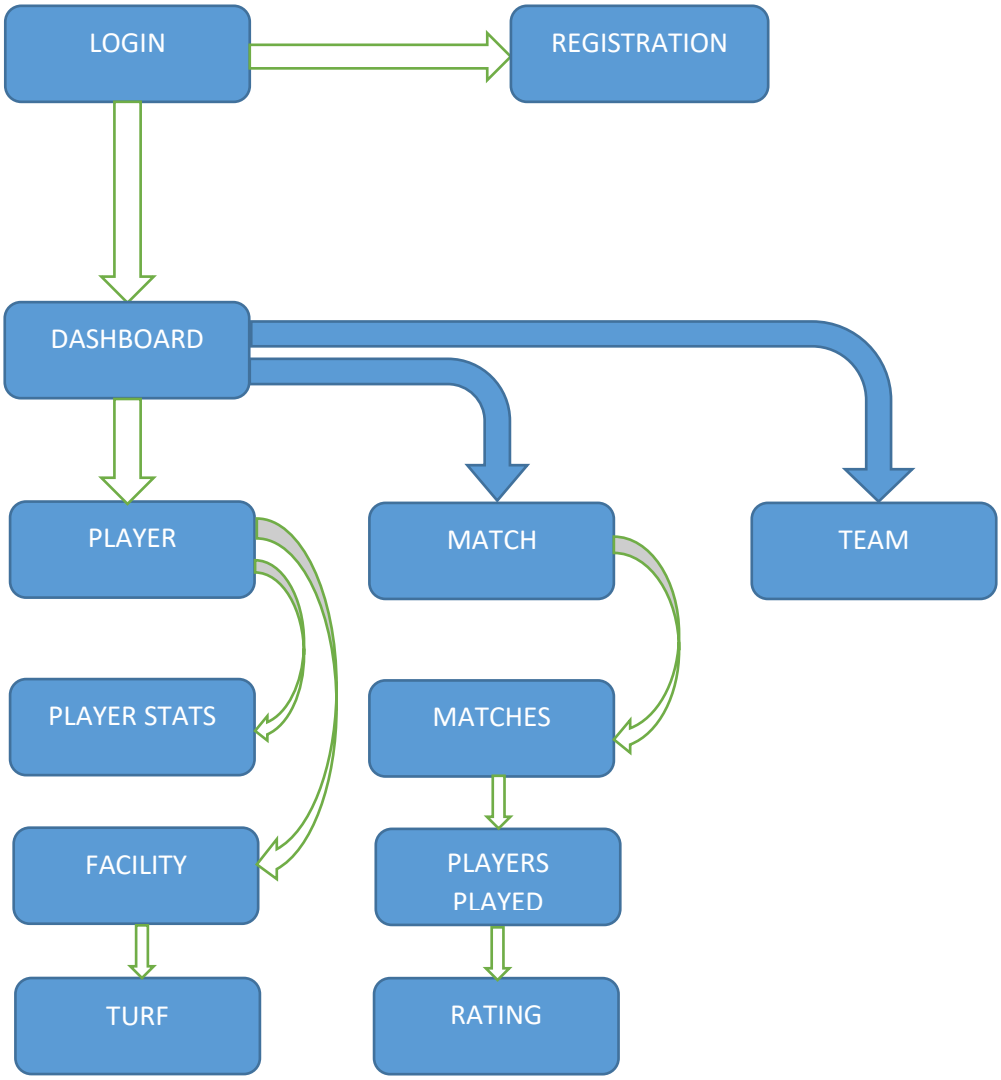

Fig 4.9 Site Map

4.4 USER INTERFACE DESIGN

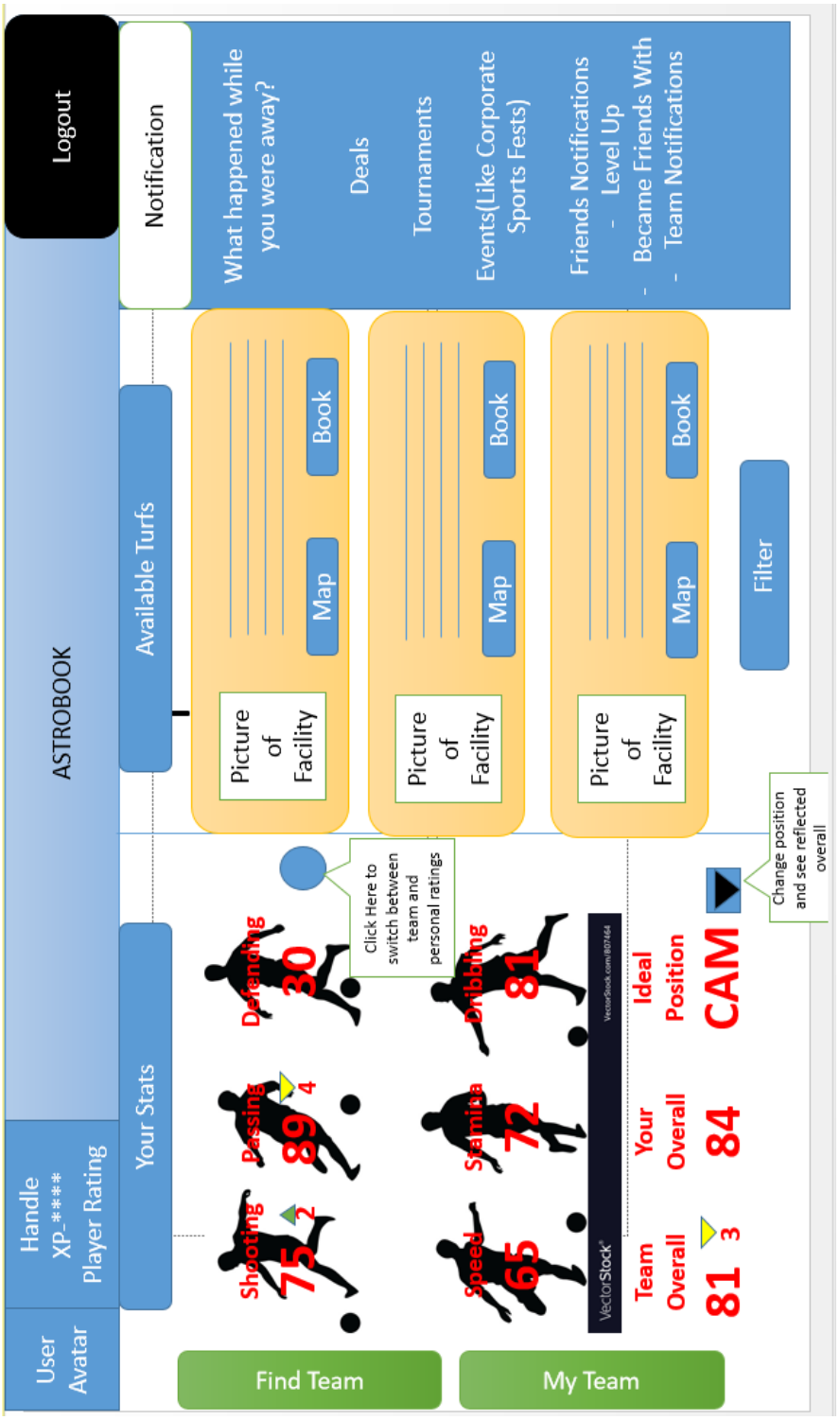

Fig 4.10 Dashboard

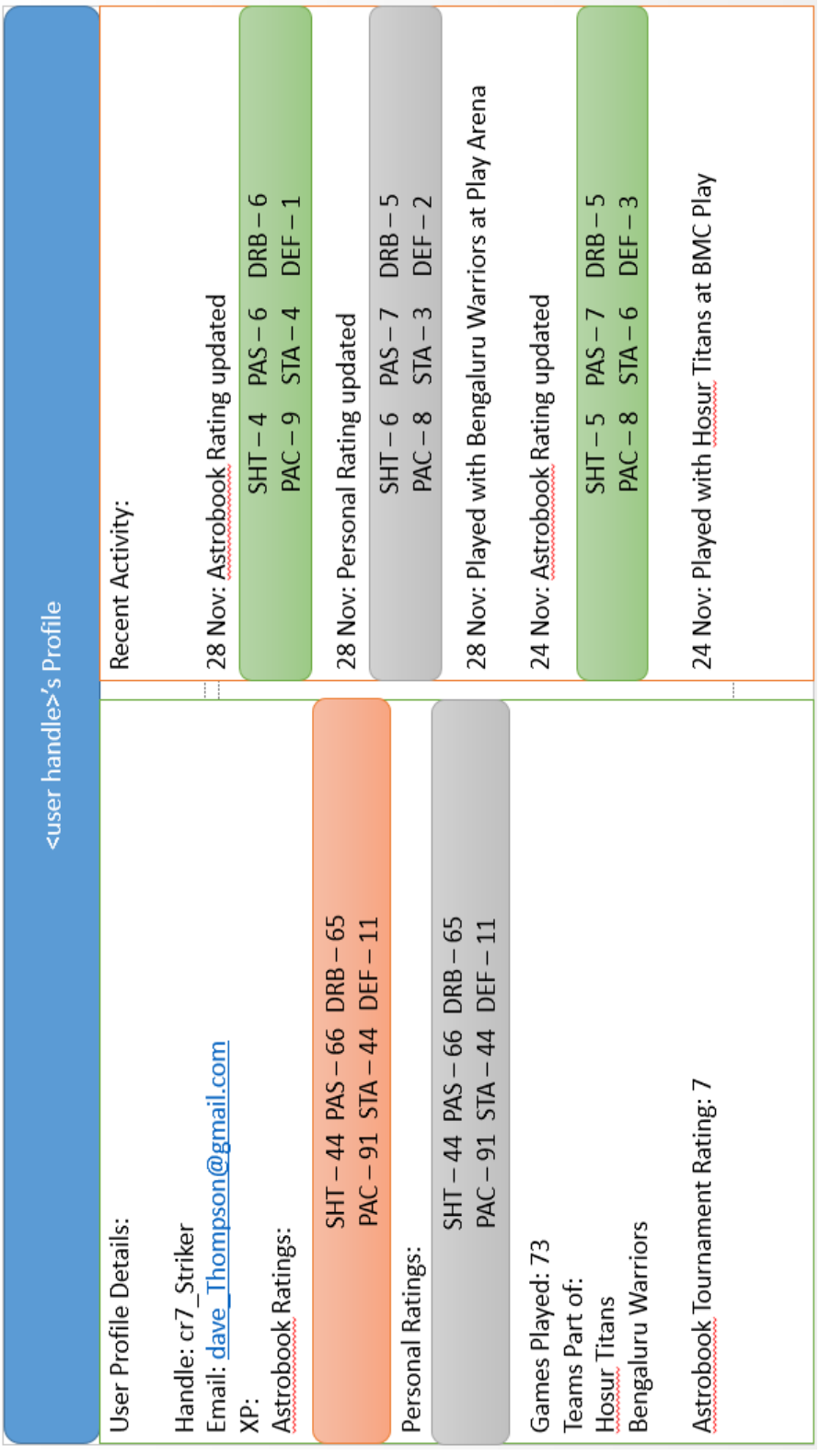

Fig 4.11 Profile

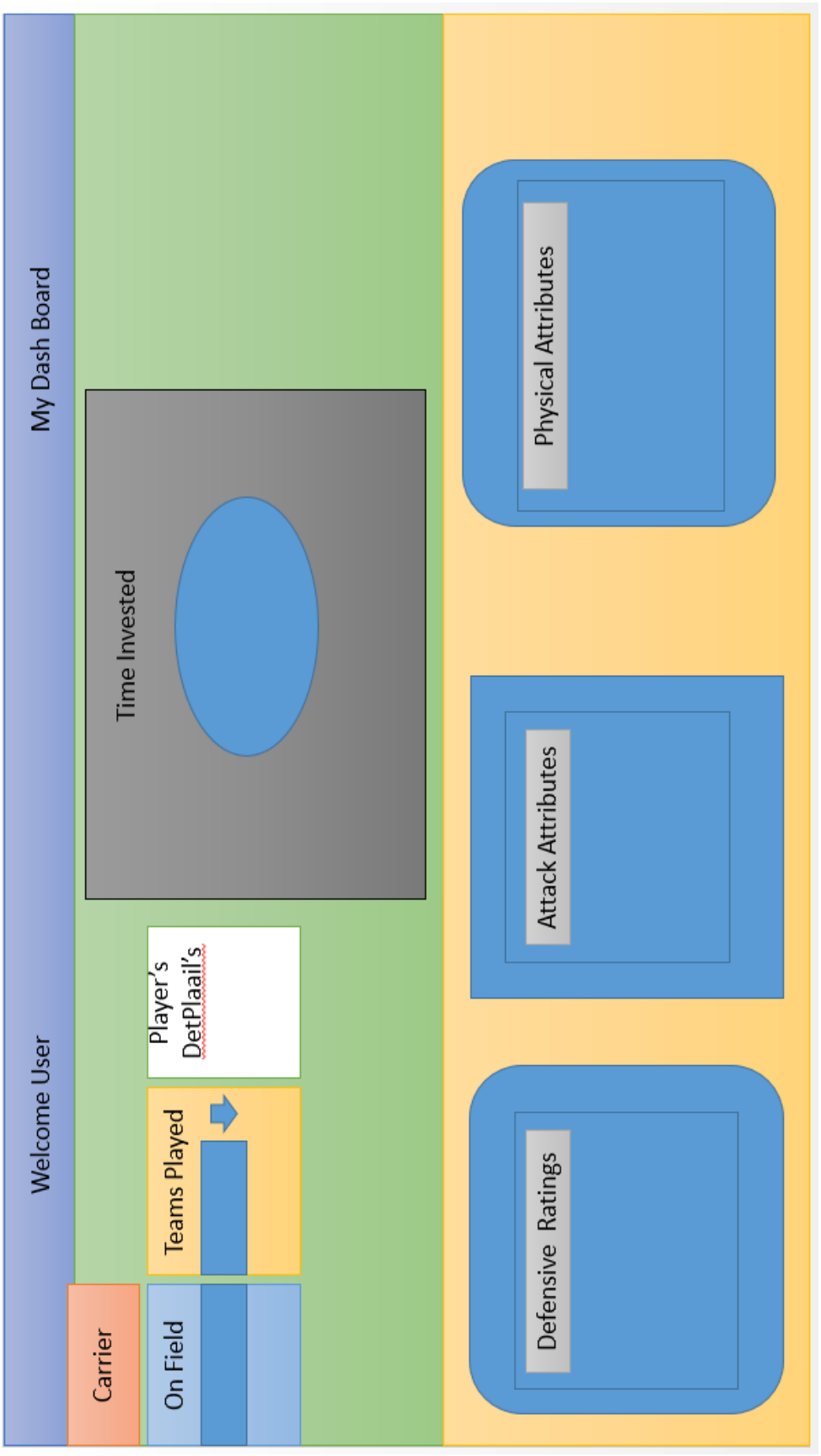

Fig 4.12 Statistics

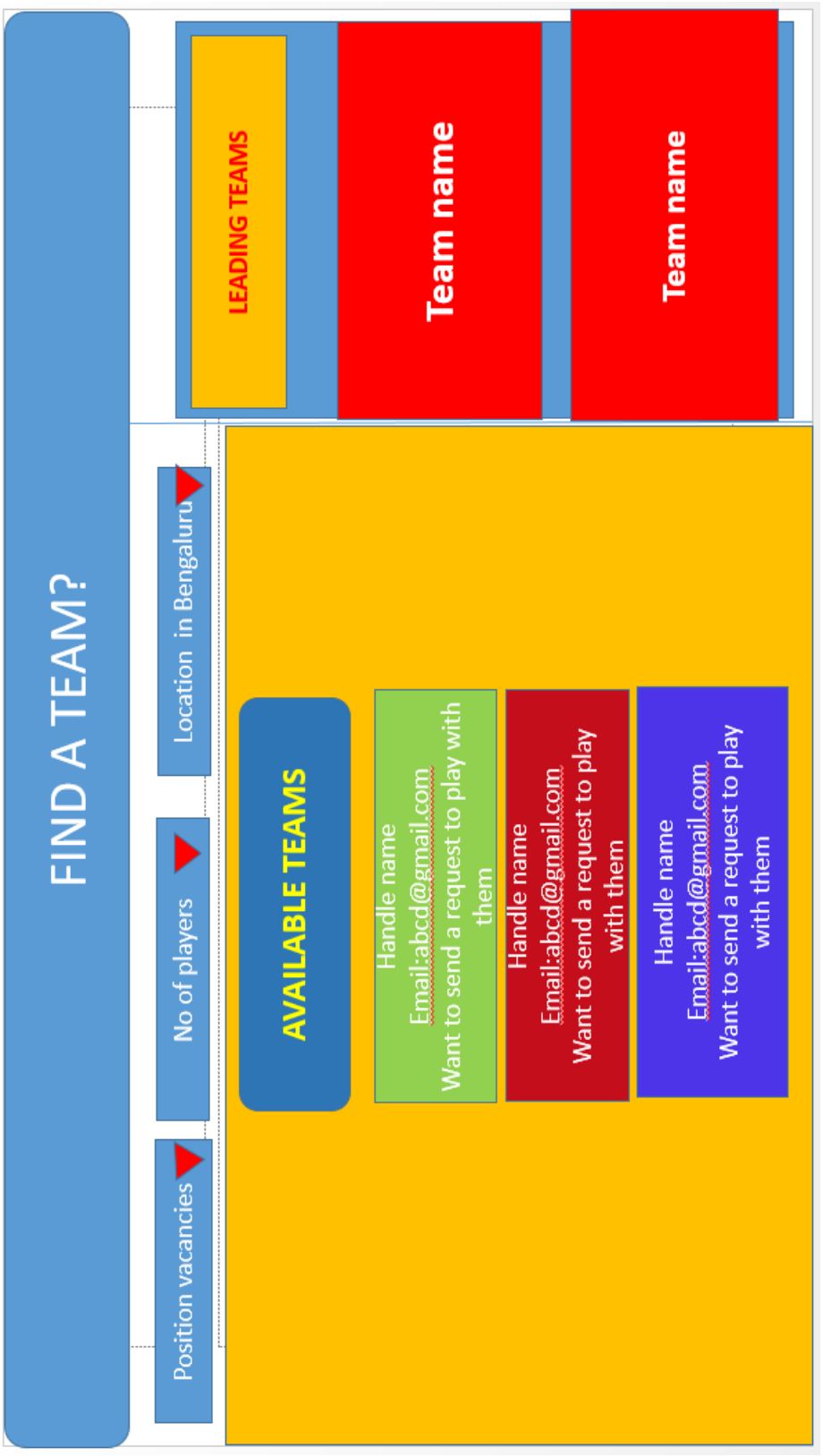
FIND A TEAM?
Position vacancies
No of players
Location in Bengaluru
AVAILABLE TEAMS
Handle name
Email:abcd@gmail.com
Want to send a request to play with them
Handle name
Email:abcd@gmail.com
Want to send a request to play with them
Handle name
Email:abcd@gmail.com
Want to send a request to play with them
LEADING TEAMS
Team name
Team name

Fig 4.12 Team

5. IMPLEMENTATION

5.1 SOURCE CODE

login.html:

```
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="content-type" content="text/html; charset=UTF-8">
    <title>Astrobook</title>
    <style>
    body, html {
  height: 100%;
}
.bg {
  /* The image used */
  background-image: url("http://localhost/project/v2/images/homeback.png");
  /* Full height */
  height: 100%;
  /* Center and scale the image nicely */
  background-position: center;
  background-repeat: no-repeat;
  background-size: cover;
}
      .textbox {
                                        border:2px solid #f45642;
                                        border-radius:10px;
                                        height: 22px;
                                        width: 230px;
}
      /* Hover Button 1 */
```

```
.button {
                                    background-color: #0070b2;
                                    padding-left:6px;
                                    padding-right:6px;
                                    padding-top:3px;
                                    padding-bottom:3px;
                                    color: #ffffff;
                                    border:1px solid #db6600;
 border-radius: 10px;
}
.button:hover {
                                    background-color: #000000;
                                    border:1px solid #000000;
}
   </style>
 </head>
 <body>
   <div class="bg">
     <form method="POST" target="_blank" action="login.php">
       <table style="width: 100%;" border="0">
         <tbody>
           <tr>
             <td                    rowspan="1"                    colspan="6"><img
src="http://localhost/project/v2/images/banner1.png"

                alt="banner" title="banner" style="height: 100%; width:100%"></td>
           </tr>
           <tr>
             <td rowspan="1" colspan="6" style="height: 5px;"><br>
             </td>
           </tr>
```

```
<tr>
 <td rowspan="1" colspan="6" style="text-align: center; "><img src="http://localhost/project/v2/images/loginbanner.png"
    alt="loginbanner" title="loginbanner" style="height: 50px; width:500px;">
 </td>
</tr>
<tr>
 <td rowspan="1" colspan="6" style="height: 20px; text-align: center;"><input
    name="userid" id="userid" placeholder="Enter your User-ID" class="textbox"
    style="height: 30px; width:500px;" type="text"><br>
 </td>
</tr>
<tr>
 <td rowspan="1" colspan="6" style="text-align: center;"><input name="passwd"
    id="passwd" placeholder="Enter your Password" class="textbox"
    style="width: 500px; height: 31px;" type="password"><br>
 </td>
</tr>
<tr>
 <td><br>
 </td>
 <td><br>
 </td>
 <td style="text-align: right;"><input name="type" value="player" checked="checked"
    type="radio">Login as Player<br>
 </td>
 <td style="text-align: left;"><input name="type" value="admin" type="radio">Login
    as Admin<br>
```

```
            </td>
            <td><br>
            </td>
            <td><br>
            </td>
          </tr>
          <tr>
            <td rowspan="1" colspan="6" style="height: 20px; text-align: center;"><input
name="login" value="Proceed" class="button" style="height: 40px; width:200px;"
type="submit"><br>
            </td>
          </tr>
          <tr>
            <td rowspan="1" colspan="6" style="height: 20px; text-align: center;"><input
value="Don't have an account? Click here to register" class="button" style="height:
30px; width:300px;"
type="button"
onclick="location.href='http://localhost/project/working/pages/registration.html';"><b
r>
            </td>
          </tr>
        </tbody>
      </table>
    </form>
  </div>
 </body>
</html>
```

login.php:

```
<?php
                                    session_start();
?>
```

```
<?php
        $con=mysqli_connect("localhost","root","") or die ("Database connection not established");
        $uid=$_POST['userid'];
        $passwd=$_POST['passwd'];
        $type=$_POST['type'];
        $q_use="use astrobook";
        $q_checkplayer="select * from player where playerID='$uid' and password='$passwd'";
        $q_checkadmin="select * from admin where adminID='$uid' and password='$passwd'";
        mysqli_query($con,$q_use);
        if($type=="player")
            $result=mysqli_query($con,$q_checkplayer);

        if($type=="admin")
            $result=mysqli_query($con,$q_checkadmin);
        $count=0;
        while($temp=mysqli_fetch_array($result))
            $count=$count+1;
        //echo $count;
        if($count==1)
        {
            if($type=="player")
            {
                header("location: home.html");
            $_SESSION["player"]=$_POST['userid'];
            }
            else
                header("location: admin_dash.php");
        }
```

```
                                    else
                                        echo "Login failed.";
?>
```

registration.html:

```
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="content-type" content="text/html; charset=UTF-8">
    <title>Astrobook</title>
    <style>
    body, html {
  height: 100%;
}
.bg {
  /* The image used */
  background-image: url("http://localhost/project/v4/images/homeback.png");
  /* Full height */
  height: 100%;
  /* Center and scale the image nicely */
  background-position: center;
  background-repeat: no-repeat;
  background-size: cover;
}
      .textbox {
            border:2px solid #f45642;
            border-radius:10px;
            height: 22px;
            width: 230px;
}
      /* Hover Button 1 */
```

```
.button {
        background-color: #0070b2;
        padding-left:6px;
        padding-right:6px;
        padding-top:3px;
        padding-bottom:3px;
        color: #ffffff;
        border:1px solid #db6600;
 border-radius: 10px;
}
.button:hover {
        background-color: #000000;
        border:1px solid #000000;
}
   </style>
 </head>
 <body>
   <div class="bg">
     <form method="POST" target="_blank" action="register.php"> <br>
       <table style="width: 100%;" border="0">
         <tbody>
          <tr>
            <td rowspan="1" colspan="6"><img
src="http://localhost/project/v6/images/banner1.png"
              alt="banner" title="banner" style="height: 100%; width:100%"></td>
          </tr>
          <tr>
            <td rowspan="1" colspan="6" style="height: 5px;"><br>
            </td>
          </tr>
```

```
<tr>
  <td rowspan="1" colspan="6" style="text-align: center;"><img
src="http://localhost/project/v6/images/regbanner.png"
    alt="regbanner" title="regbanner" style="height: 50px; width:500px;">
  </td>
</tr>
<tr>
  <td rowspan="1" style="width:50%; text-align: right;"> <img
src="http://localhost/project/v6/images/userprompt.png"
    alt="userprompt" title="userprompt" rowspan="1" style="height: 50px;
width: 250px;">
  </td>
  <td rowspan="1" style="text-align: left; width:50%"><input name="userid"
    id="userid" placeholder="Enter a unique user ID of your choice"
    class="textbox" style="height: 35px; width:250px;" type="text"
required><br>
  </td>
</tr>
<tr>
  <td rowspan="1" style="width:50%; text-align: right;"> <img
src="http://localhost/project/v6/images/emailprompt.png"
    alt="userprompt" title="userprompt" rowspan="1" style="height: 50px;
width: 250px;">
  </td>
  <td rowspan="1" style="text-align: left; width:50%"><input name="email"


    id="email" placeholder="Enter your email like: abc@xyz.com"
class="textbox"
    style="height: 35px; width:250px;" type="text" required><br>
  </td>
</tr>
<tr>
```

```
        <td rowspan="1" style="width:50%; text-align: right;"> <img
src="http://localhost/project/v6/images/passprompt.png"
          alt="userprompt" title="userprompt" rowspan="1" style="height: 50px;
width: 250px;">
        </td>
        <td rowspan="1" style="text-align: left; width:50%"><input name="passwd"
          id="passwd" placeholder="Enter a strong password" class="textbox"
          style="height: 35px; width:250px;" type="password" required><br>
        </td>
      </tr>
      <tr>
        <td><br>
        </td>
        <td><br>
        </td>
        <td><br>
        </td>
        <td><br>
        </td>
        <td><br>
        </td>
        <td><br>
        </td>
      </tr>
      <tr>
        <td rowspan="1" colspan="6" style="height: 20px; text-align:
center;"><input
name="register" value="Register Me" class="button" style="height: 40px;
width:200px;"
type="submit"><br>
        </td>
```

```
        </tr>
      </tbody>
    </table>
  </form>
 </div>
</body>
</html>
```

register.php:

```
<?php
        $con=mysqli_connect("localhost","root","") or die ("Database connection not established");
        $uid=$_POST['userid'];
        $passwd=$_POST['passwd'];
        $email=$_POST['email'];
        $q_use="use astrobook";
        $q_checkuser="select * from player where playerid='$uid'";
        $q_checkemail="select * from player where email='$email'";
        $q_insert="insert into player values('$uid','$email','$passwd','0','http://localhost/project/working/images/player/abc.png','60','60','60','60','60','60')";
        mysqli_query($con,$q_use);
        $result=mysqli_query($con,$q_checkuser);
        $flag=0;
        $count=0;
        while($temp=mysqli_fetch_array($result))
                $count=$count+1;
        if($count==1)
        {
                echo nl2br("User handle already exists. Pick another one\n");
                $flag=1;
        }
```

```
	$result=mysqli_query($con,$q_checkemail);


	$count=0;
	while($temp=mysqli_fetch_array($result))
		$count=$count+1;
	if($count==1)
	{
		echo nl2br("Email already registered. Pick another one");
		$flag=1;
	}
	if($flag==0)
	{
		mysqli_query($con,$q_insert) or die("Player insertion failed");
		header("location: player.html");
	}
?>
```

playerBanner.php:

```
<?php
	session_start();
?>
<html>
<head>
	<style>
	.bg {
  /* The image used */
  background-image: url("http://localhost/project/working/images/homeback.png");
  /* Full height */
  /* Center and scale the image nicely */
  background-position: center;
  background-repeat: no-repeat;
```

```
 background-size: cover;
}
        .button {
        background-color: #0070b2;
        padding-left:6px;
        padding-right:6px;
        padding-top:3px;
        padding-bottom:3px;
        color: #ffffff;
        border:1px solid #db6600;
 border-radius: 10px;
}
.button:hover {
        background-color: #000000;
        border:1px solid #000000;
}
        </style>
</head>
<body>
<div class="bg">
<table>
        <tr>
                <td rowspan="2">
<?php
        //echo "<p>First Name:</p>".$_SESSION['player'];
        $con=mysqli_connect("localhost","root","") or die ("Database connection not
established");

        $player=$_SESSION['player'];
        //echo $player;
```

```
$q_use="use astrobook";
$q_player="select * from player where playerID='$player'";
mysqli_query($con,$q_use) or die ("DB cannot be used");
$record=mysqli_query($con,$q_player) or die("Retrieval error");
$row=mysqli_fetch_array($record);
//echo $row[1];
echo "<img src=\"".$row[4]."\" style=\"height:80px;width:80px\"></td>";
echo "<td style=\"font-size:30px;font-weight:bold\">".$row[0]."<td>";
echo "<td rowspan=\"2\" style=\"text-align: center;\"><img
src=\"http://localhost/project/working/images/banner1.png\"
    alt=\"banner\" title=\"banner\" style=\"height: 50%; width:50%\"></td>";
echo "<td rowspan=\"2\" style=\"text-align:right;\"><input type=\"button\"
class=\"button\" value=\"Logout\" style=\"height: 50px; width:100px;\"></td>";
echo "<tr><td style=\"font-size:20px;font-
weight:bold\">XP:".$row[3]."</td></tr>";
?>
</div>
```

playerStat.php:

```
<?php
    session_start();
?>
<html>
  <head>
    <style>
.bg {
  /* The image used */
  background-image: url("http://localhost/project/working/images/homeback.png");
  /* Full height */
  height: 100%;
  /* Center and scale the image nicely */
  background-position: center;
```

```
  background-repeat: no-repeat;
  background-size: cover;
}
.sil {
  background-position: center;
  background-repeat: no-repeat;
  background-size: 100px 100px;
  color: black;
  -webkit-text-fill-color: red; /* Will override color (regardless of order) */
  -webkit-text-stroke-width: 1px;
  -webkit-text-stroke-color: white;
}
</style> </head>
  <body>
    <div class="bg">
      <table align="center" cellspacing="15">
        <tbody>
          <tr>
            <td colspan="3" style="text-align:center;"><img
src="http://localhost/project/working/images/stat.png"
                style="height: 50px; width:250px;"></td>
          </tr>
          <tr>
            <td style="text-align:center;"><img
src="http://localhost/project/working/images/sht.png"
                style="height: 50px; width:100px;"></td>
            <td style="text-align:center;"><img
src="http://localhost/project/working/images/pas.png"
                style="height: 50px; width:100px;"></td>
            <td style="text-align:center;"><img
src="http://localhost/project/working/images/def.png"
```

```
            style="height: 50px; width:100px;"></td>
        </tr>
        <!--<tr>
          <td style="text-align:center;height:100px;width:100px" class="sil"
background="http://localhost/project/working/images/shts.png">
            55 </td>
          <td style="text-align:center;height:100px;width:100px" class="sil"
background="http://localhost/project/working/images/shts.png">
            55 </td>
          <td style="text-align:center;height:100px;width:100px" class="sil"
background="http://localhost/project/working/images/shts.png">
            55 </td>-->
<?php
        $con=mysqli_connect("localhost","root","") or die ("Database connection not
established");

        $player=$_SESSION['player'];
        $q_use="use astrobook";
        $q_player="select * from player where playerID='$player'";
        mysqli_query($con,$q_use) or die ("DB cannot be used");
        $record=mysqli_query($con,$q_player) or die("Retrieval error");
        $row=mysqli_fetch_array($record);
        echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/shts.png\">".$row[6].
        "</td>";
        echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/pass.png\">".$row[8].
        "</td>";
        echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/defs.png\">".$row[10].
        "</td>";
```

```
?>
        </tr>
                    <tr>
          <td style="text-align:center;"><img
src="http://localhost/project/working/images/pac.png"
             style="height: 50px; width:100px;"></td>
          <td style="text-align:center;"><img
src="http://localhost/project/working/images/sta.png"
             style="height: 50px; width:100px;"></td>
          <td style="text-align:center;"><img
src="http://localhost/project/working/images/drb.png"
             style="height: 50px; width:100px;"></td>
        </tr>
          <?php
          echo "<tr><td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/pacs.png\">".$row[5].
          "</td>";
          echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/stas.png\">".$row[9].
          "</td>";
          echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\"
background=\"http://localhost/project/working/images/drbs.png\">".$row[7].
          "</td></tr>";
          ?>
          <tr>
                    <td style="text-align:center;"><img
src="http://localhost/project/working/images/ovr.png"
             style="height: 50px; width:100px;"></td>
          <?php
          if((($row[6]+$row[7]+$row[8])/3-$row[10])>15)
          {
```

```
            if($row[8]>$row[6])
            {
                  if($row[5]>80)
                  {
                        $pos="WNG";
                        $ovr=($row[5]+$row[6]+$row[7]+$row[8])/4;
                  }
                  else
                  {
                        $pos="CAM";
                        $ovr=($row[6]+$row[7]+$row[8])/3;
                  }
            }
            else
            {
                  $pos="STK";
                  $ovr=($row[6]+$row[7])/2;
            }
      }
      elseif(($row[10]-(($row[7]+$row[8]+$row[6])/3)>15))
      {
            if($row[5]>80&&(($row[7]+$row[8])/2-$row[10]<10))
            {
                  $pos="WB";
                  $ovr=($row[5]+$row[7]+$row[8]+$row[10])/4;
            }
            else
            {
                  if($row[5]<80)
                  {
```

```
                        $pos="CDM";
                        $ovr=($row[10]+$row[8]+$row[7])/3;
                    }
                    else
                    {
                        $pos="CB";
                        $ovr=($row[10]+$row[8])/2;
                    }
                }
            }
            else
            {
                $pos="CM";
                $ovr=($row[5]+$row[6]+$row[7]+$row[8]+$row[9]+$row[10])/6;
            }
            echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\" >".$pos.
            "</td>";
            echo "<td style=\"text-align:center;height:100px;width:100px;font-
size:50px;font-weight:bold;\" class=\"sil\" >".(int)$ovr.
            "</td></tr>";
            ?>
            </tr>
        </tbody>
    </table></div>  </body></html>
```

5.2 SCREENSHOTS

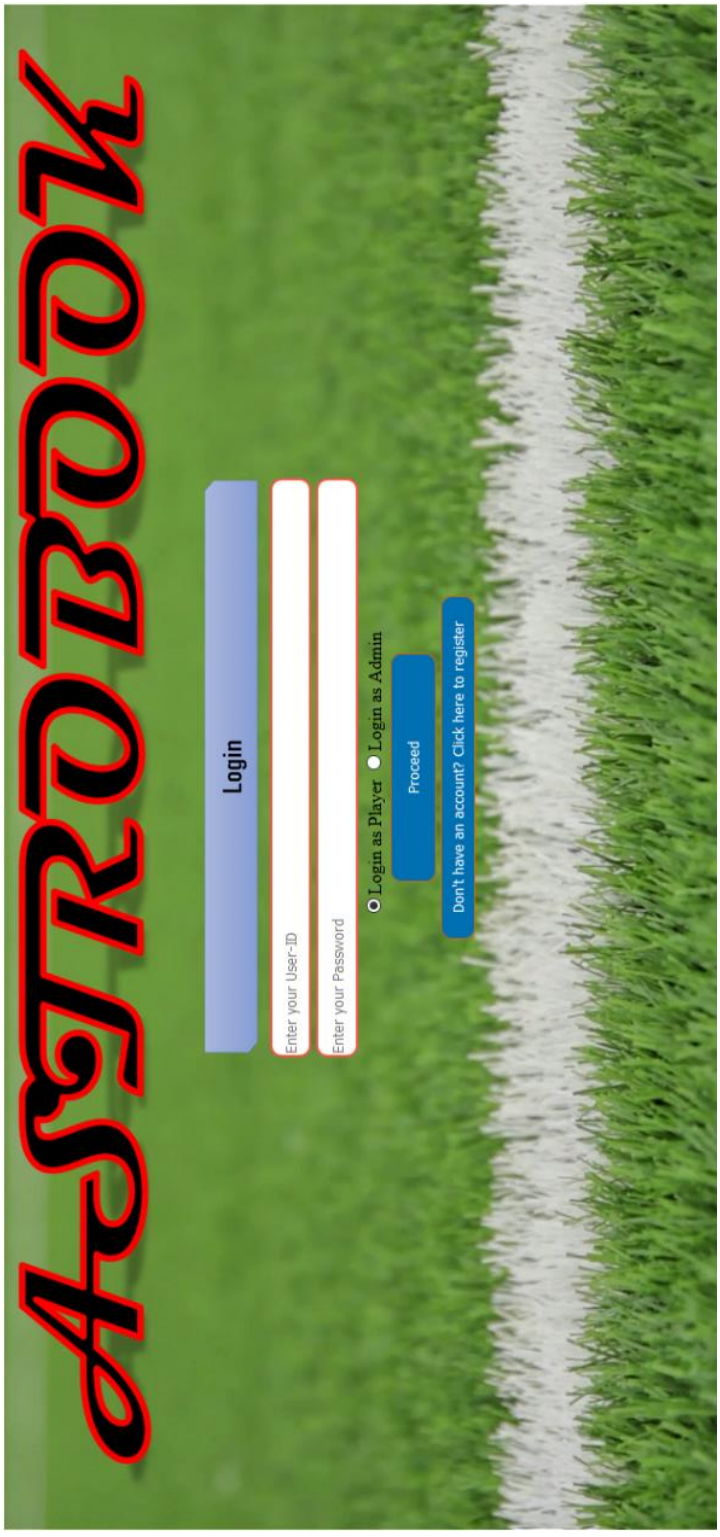

Fig 5.1 Login

Login page where a user can login as either a player or an admin. If user is not registered, they can click on the “Click here to register” button.

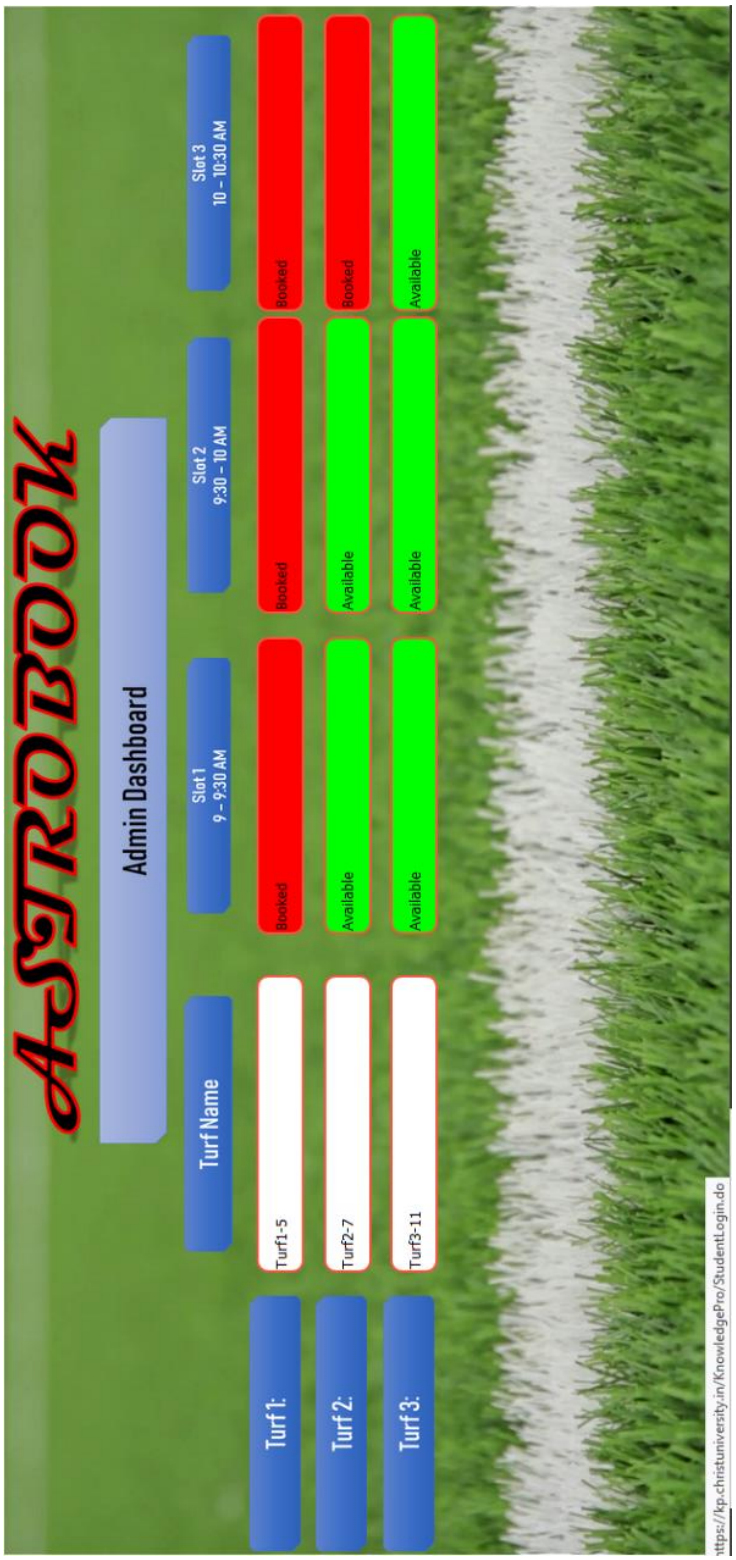

Fig 5.2 Admin Dashboard

This is the administrator dashboard. The administrator in this case refers to the person who runs a football turf facility. He/she can view the booking status of the turfs which are part of the facility, for a particular time slot.

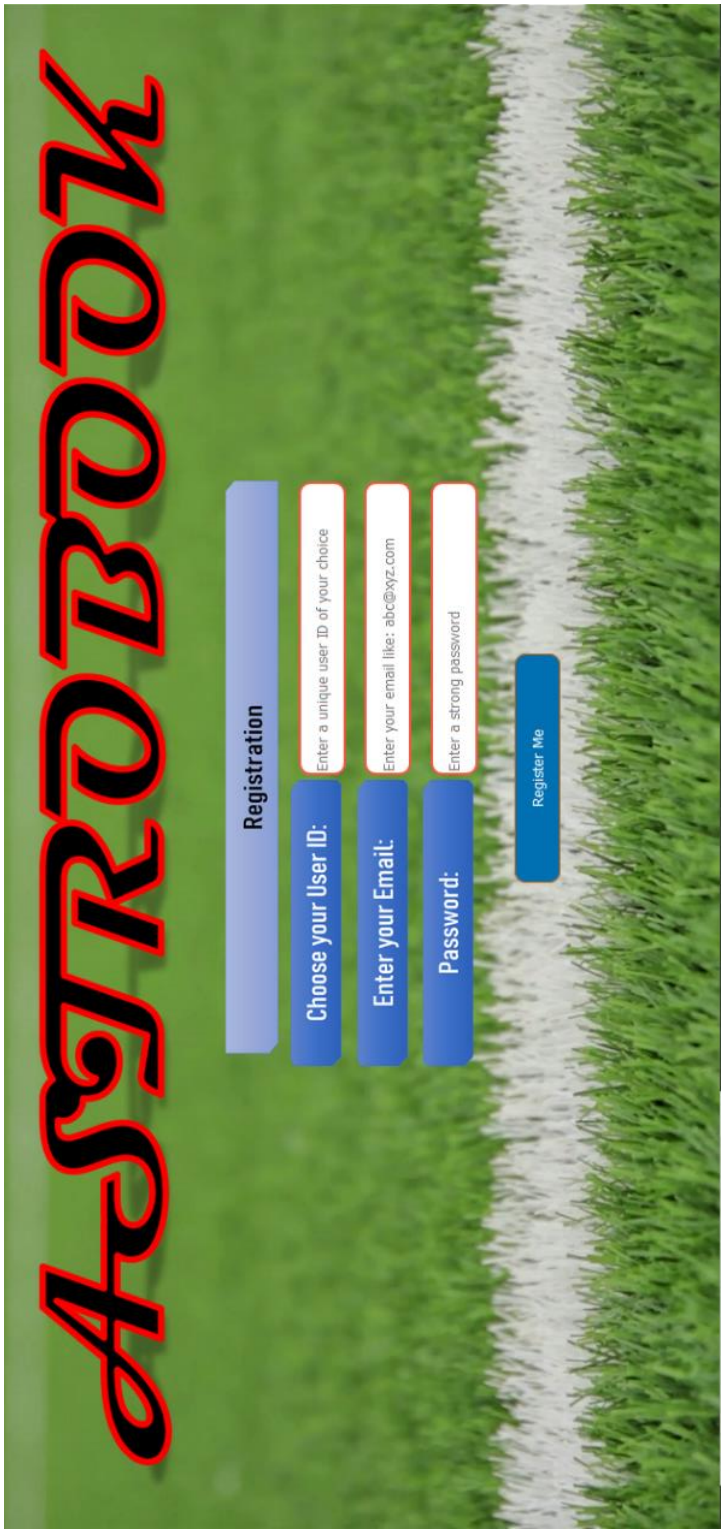

Fig 5.3 Registration

This is the registration page. A user can register as a Player by choosing a unique User ID, a unique Email, and a Password.

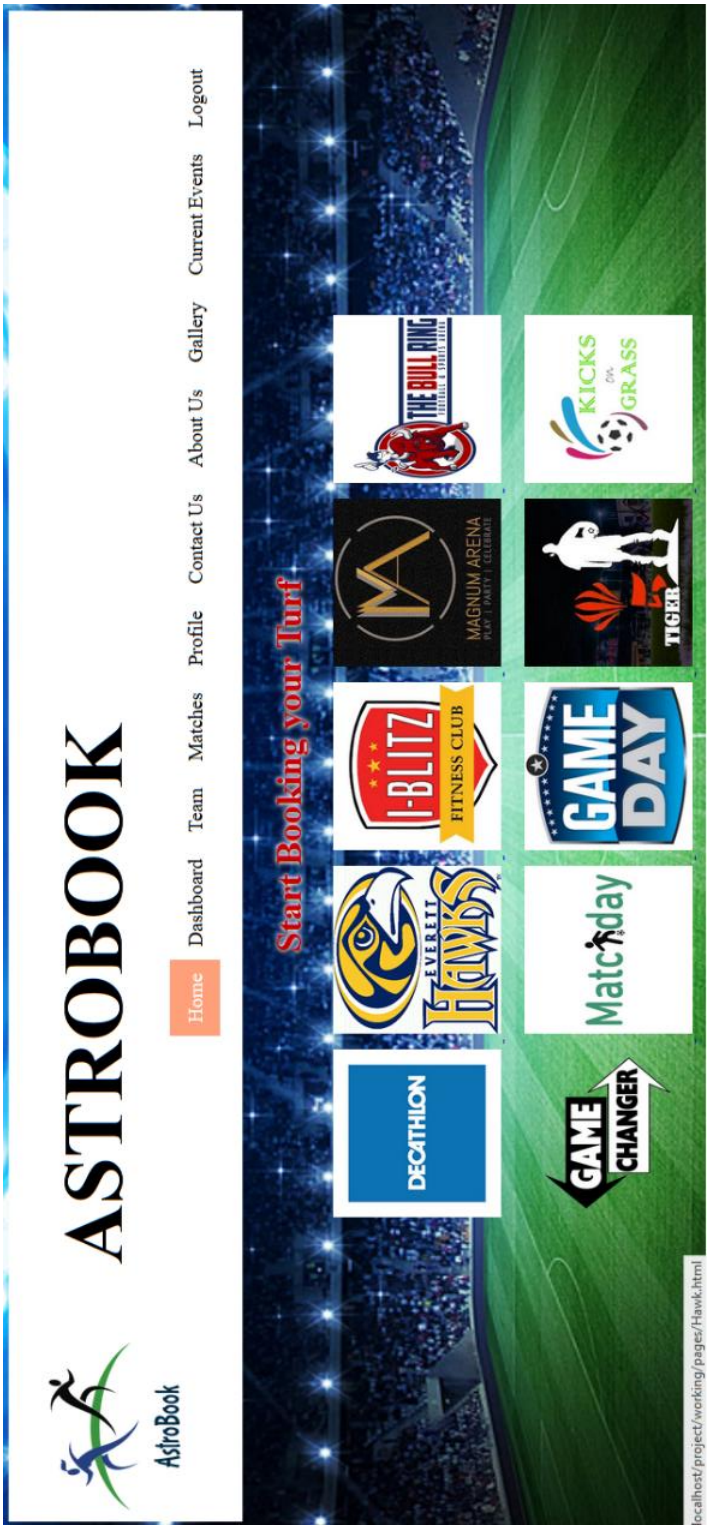

Fig 5.4 Home

This is the Home dashboard which is displayed when a user logs in. From here the user can traverse to the player dashboard, team dashboard, and matches dashboard, along with the other modules.

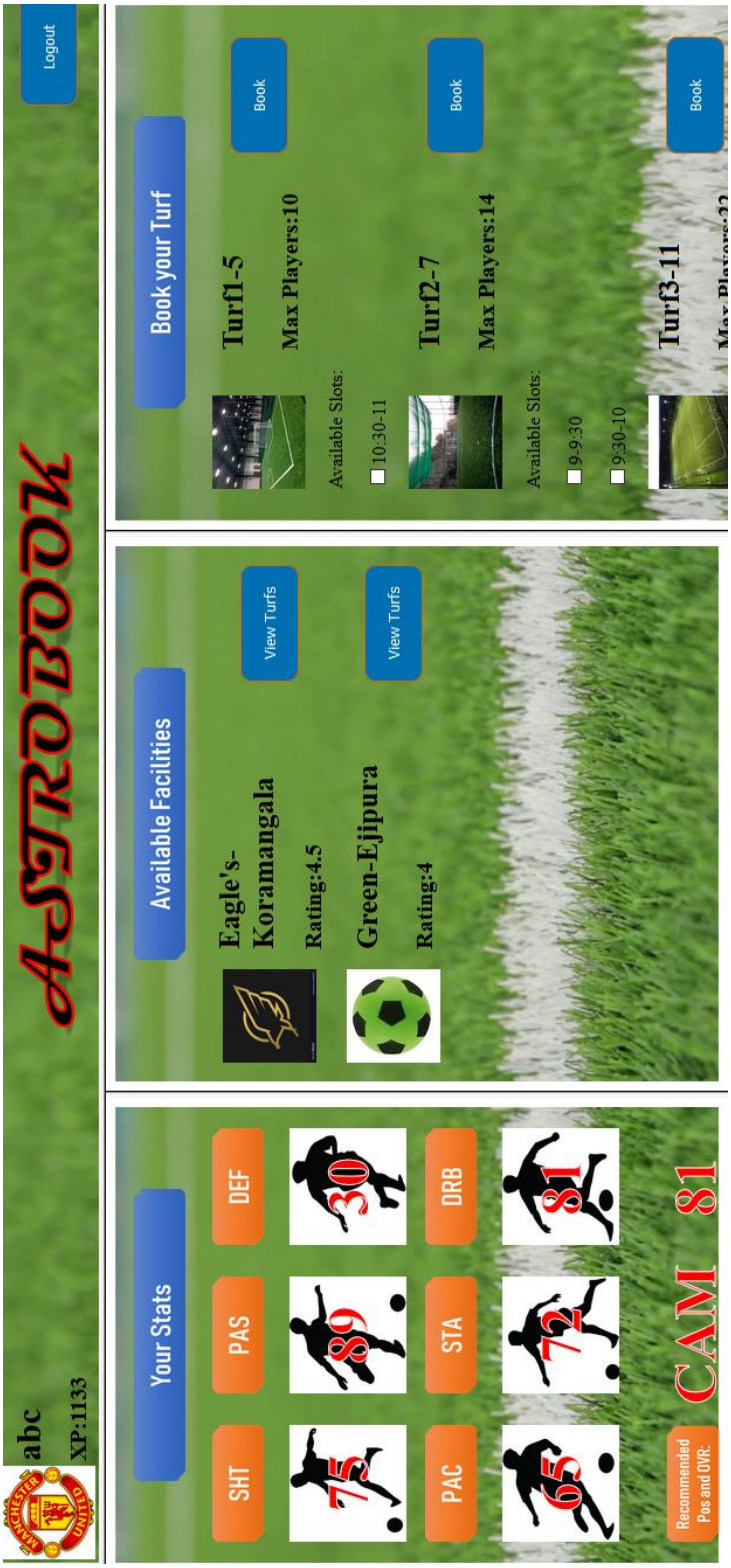

Fig 5.5 Player Dashboard

This is the player dashboard. It is split into four sections. The player banner which includes the username, xp, profile picture. The Stats section, which details player statistics. The Facilities section, which lists facilities which can be booked. The Turf section which lists the turfs for a particular facility and the available time slots which can be booked.

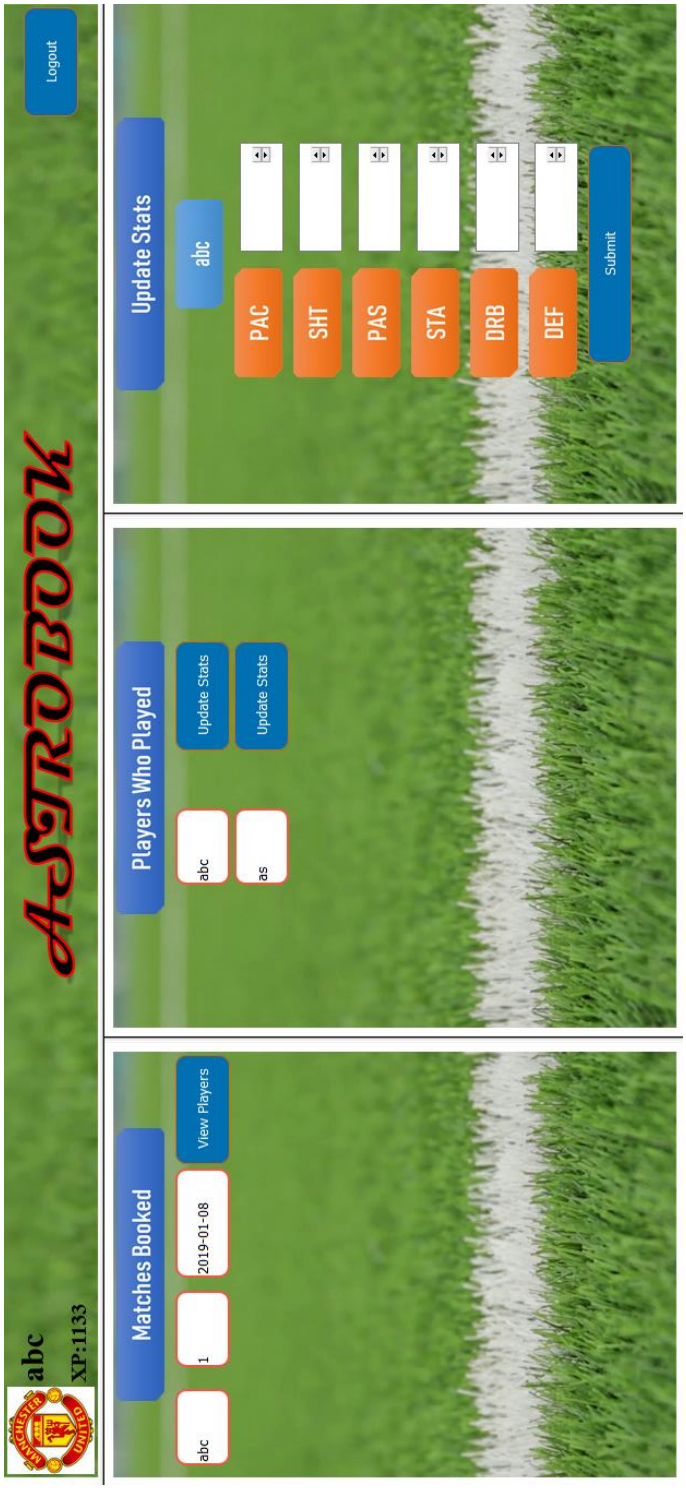

Fig 5.6 Match Dashboard

This is the match dashboard. It includes four sections as well. The player banner as mentioned before. A Booked Matches section which lists all matches the player had booked. A Players Played section which lists all the players who played a particular match. A Update Stats section which allows you to provide statistics for a player for the match

Fig 5.7 Team Dashboard

The Team dashboard lists statistics about the player's team and teammates, along with a team notification ticker.

6. TESTING

6.1 TEST PLAN

Web application testing is a process by which application software developed for handheld desktop devices is tested for its functionality, usability and consistency. Web application testing can be a manual type of testing. Testing is used at key checkpoints in the overall process of development of a project to determine whether the objectives of the system are being met or not. It is vital in a software system that it behaves as expected. To ensure that the system and its components will behave as required a number of tests was taken. Every unit of the system was tested to make sure that the actual result of its operation was what we expected. Furthermore when every unit was integrated with other units during the development it was tested again to check its operation with other system units.

6.2 TEST CASES

Table 6.1 Test Cases

Page	**Input**	**Output**
Sign Up	Email and Password	Registered User
Login	Username and Password	Dashboard loaded
Player Page	None	Turfs retrieved
Admin	None	Turf details retrieved
Booking	Select available turf	Turf Booked
Dashboard	Access modules	Retrieve data from backend
Player Stats	Update Stats	Inserted successfully

7. CONCLUSION

7.1 ADVANTAGES

This app, AstroBook, aims to provide these two features. AstroBook will allow users to book pitches, or other sport facilities, review available slots, and make payments as well. The facilities on offer will be partnered with the AstroBook platform, and will gain from the consolidated system, and free marketing AstroBook provides.

In addition, AstroBook will implement gamification features to increase user engagement and traffic, and make our application a unique gamified sport and athletic platform. These gamification features are further detailed in the following sections.

7.2 LIMITATIONS

The website in its current state does not translate effectively to mobile devices. The gamification module needs additional features to make it truly feature rich.

7.3 FUTURE ENCHANCEMENT

The following enhancements can be carried out to Astrobook:

- Converting it into a full-fledged mobile app
- Feature-rich maps
- Back-end data analytics

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