Online Betting System

Submitted By
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This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

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APPROVAL

This **Project/Thesis** titled "**Online Betting System**", submitted by **Md Moshiul Islam, 142-35-711** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc in Software Engineering and approved as to its style and contents.

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DECLARATION

I hereby declare that I have taken this thesis under the supervision of **Mr. Iftekharul Alam Efat, Lecturer, Department of Software Engineering, Daffodil International University.** I also declare that neither this thesis/project nor any part of this has been submitted elsewhere for award of any degree.

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Acknowledgement

In that project, I would like to take this chance to express my sincere gratitude to my project supervisor which **Iftekharul Alam Efat** who has guided me a lot throughout the project development. I would like to thanks to him for one more time because he share his experience with us that we can get more logical understanding on how to develop a software which suitable for current need.

I especially thanks to **PHPStorm** which I use it entire project to finish my project. We got it free of cost and compiler customizing and debugging system. I also thank notepad++ and sublime text IDE for giving us freely.

Last but not at least, I would like to acknowledge my course mate **Bishawjet Banik** & **Mohammad Ali** they associated me no matter in coding or logical operation. When I met some coding problem, they always teach me with his understanding in programming.

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Chapter 1

Introduction

1.1 Overview

The online betting system is designed to provide a one systematic system for online gamblers to offer sports betting events. Basically the system is created for online betting on upcoming game. In this system the participants can play bet on two type's game like cricket and football. This system provides three types of application method for different user role such as system administrator, bet creator and participants. Only bet creator and system administrator are allowed to access the restricted functions such as create game, result publication etc. The participants see the posted game and can place bet on the game. Participants can take three types bet on a game such as bet on match, bet on toss/withdraw and bet on man of the match. To take bet on a match participants must have an account. When he placed bet the bet amount will be deducted from his account.

1.2 Purpose

The purpose of this project is to provide a system where the gamblers can spontaneously participate to a game in a legal way and easily can get their return amount without any fraud and harassment.

1.2.1 Background

In general we can see that when anyone want to take bet on a game they have to other person who is willing to play bet on that game. For that they will have a medium where they submit all the money and it is held only on the match. When the match end the medium return their money but sometimes the participants get fraud. They don't get their actual money. If they want participate in the world largest betting platform bet365 there they face transaction problem. There participate need international payment gateway and it's the problem for our country to create account on there.so my main purpose of this system are:

- Lacking of trusted platform
- Illegal way
- Transaction problem

1.2.2 Benefits

Participants and the bet creator are the main beneficiaries of this system. Bet creator create game and participants will take bet on this game. When participants place bet on the game the betting amount will be deducted from the participants account and win ratio will be deducted

from the bet creator account. When the bet result will be published system calculate the win participants and add the win amount to the participants account in the meantime the bet amount will be deducted from the loser participants

1.2.3 Goals

The goals of this project will focus on implementing the manual betting system to online base system. The goals are:

- Create a trusted medium
- Making this system easier than the manual system
- Maintain an easier payment gateway
- Game will be available
- Easy to use

1.3 Stakeholders

There are three type's stakeholder's associates to this system. They are:

- **System administrator**

  System administrator maintain the transaction process like accept or reject the request and he also can create bet as well as publish the result.
- **Bet creator**

  Bet creator create the game publish result and can request for coin and withdraw.
- **Bet participants**

  Participants can take bet on a posted game and can request for coin and withdraw.

1.4 Propose System Model

For this system I have proposed a system model to improve the system. Bet creator create game and participants will take bet on this game. When participants place bet on the game the betting amount will be deducted from the participants account and win ratio will be deducted from the bet creator account.

When the bet result will be published system calculate the win participants and add the win amount to the participants account in the meantime the bet amount will be deducted from the loser participants. And the lost participants bet amount will be added to the bet creator account

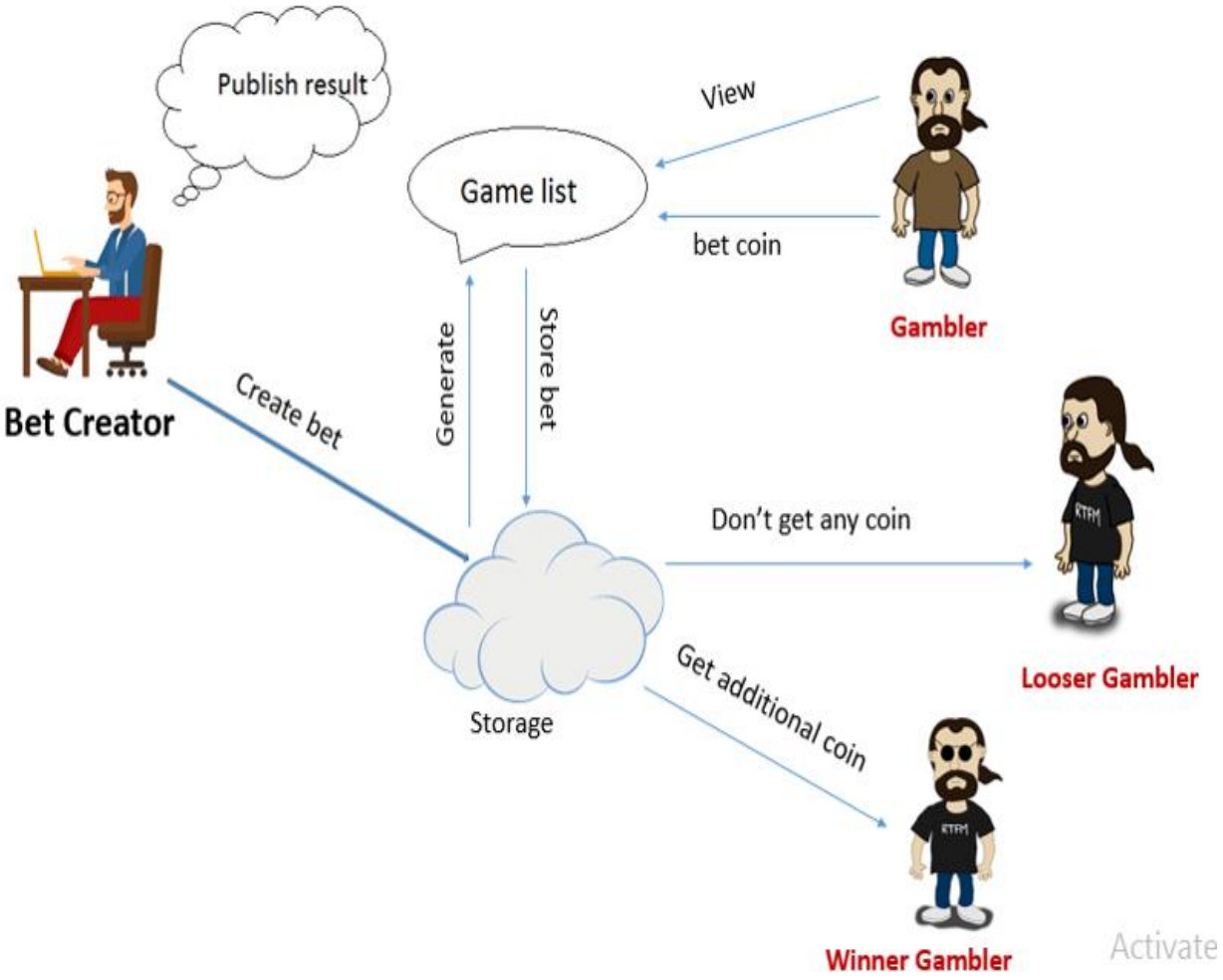

Figure 1.1: Proposed System Model

And here I am showing an example of this overall system that how the system will work. There I assume that a bet creator post a game and two participants placed bet on this game. There are 1000 money in the participants 1 account and 500 money in the participants account. And 2000 money in the bet creator account. And bet creator set 10% win ratio for the game.

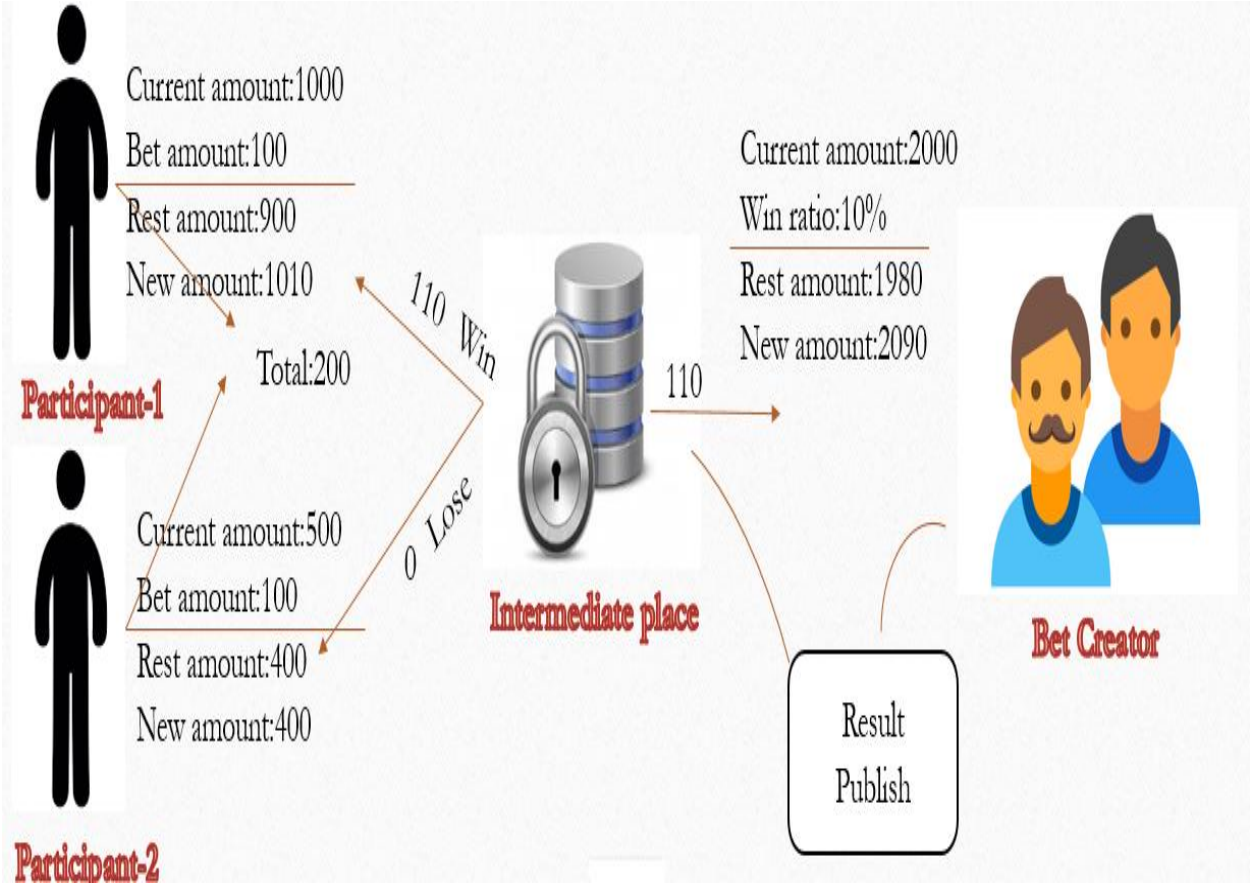

Figure 1.2: Transaction Process

1.5 Project Schedule

Project schedule is a term that is related to project work and overall time for the completion of the project. The project schedule is divided into small tasks and complete the task in the given time.

1.5.1 Gantt Chart

Gantt chart shows the tasks information and gives direction to the project developer to complete his tasks in a certain period of time. From this chart developers also get direction what is the starting date and end date of the task. In this chart green color indicates the actual time of a task and yellow time shows the buffer time.

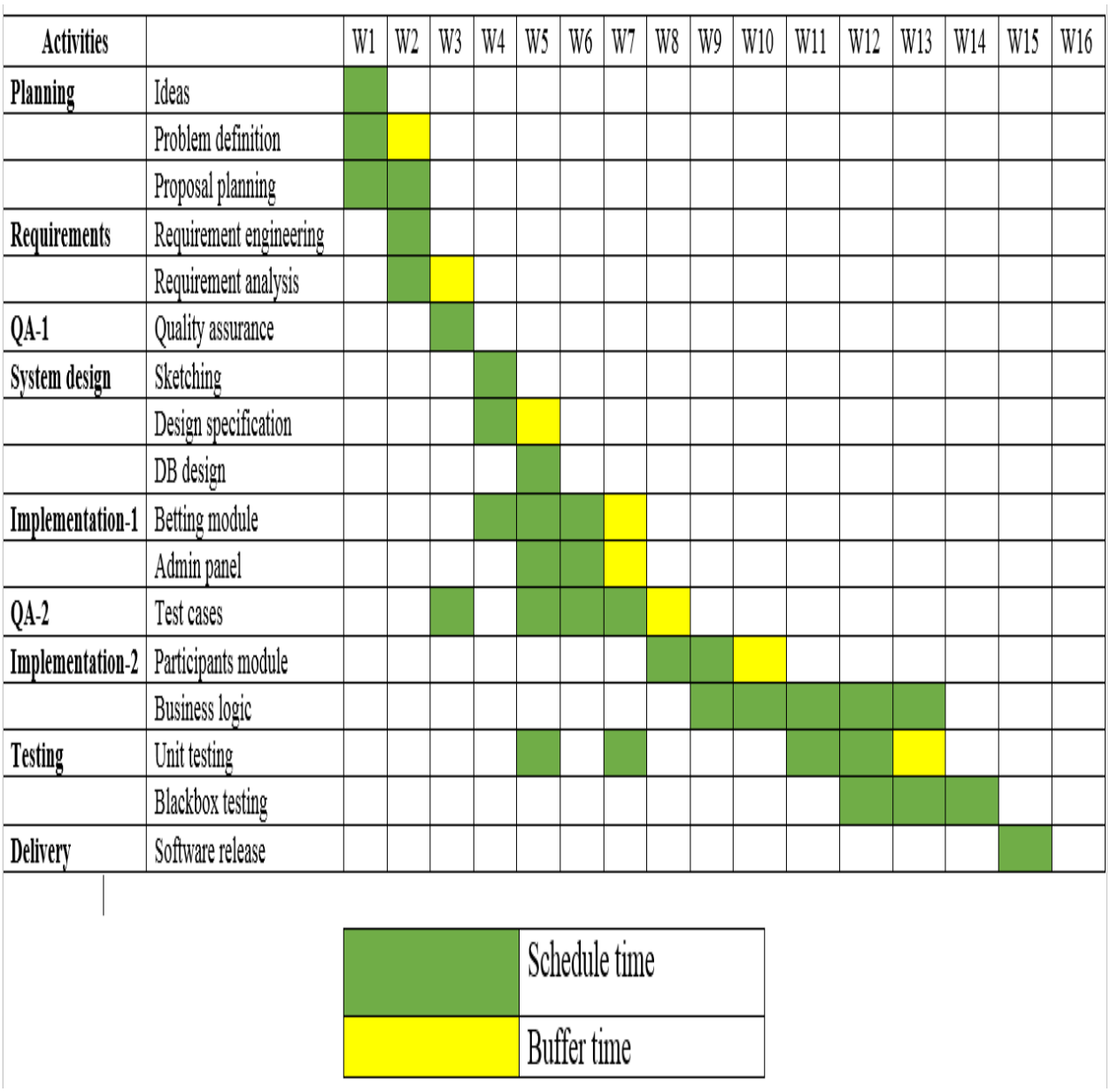

Figure 1.3: Gantt Chart

1.5.2 Milestones

The milestones of this project are given below:

Activities		Duration in Week
	Ideas	Week-1
• **Planning**	Problem Definition	Week-1
	Proposal Planning	Week-1,2
• **Requirements**	Requirement Analysis	Week-2
	Sketching	Week-4
• **System design**	Design Specification	Week-4
	DB Design	Week-5
• **Implementation-1**	Betting Module	Week-4,5,6
	Admin Panel	Week-5,6
• **QA**	Quality Assurance	Week-3
	Test Cases	Week-3,5,6,7
• **Implementation-2**	Participants Module	Week-8,9
	Business Logic	Week-9,10,11,12,13
• **Testing**	Unit Testing	Week-5,7,11,12
	Black box Testing	Week-12,13,14
• **Delivery**	Software Release	Week-15

Chapter 2

Requirement Specification

2.1 Functional Requirements

The functional requirements are those which are mainly implemented on this project and the participants are completely cope with this system this requirements. The participants who don't have the technical he also can easily understand the functionality of this system.

2.1.1 Bet creator can post game

REQS-01	**Bet creator can post game**
Description	In order to create or post a game bet creators need to register on the system. Then he can post a game to bet. To create a bet he need to go to the bet create form then he provide all the necessary information in the form and save it. In this form he can create three types bet on a game 1st bet on the whole match , 2nd bet on the toss/Draw and 3rd bet on player of the match
Stakeholders	Bet creators, participants

2.1.2 Participants view game list

REQS-02	**Participants view game lists**
Description	When participants visit in this system then they can see all the game that is posted by the bet creators. Here participants can see two categories bet these are Cricket & Football
Stakeholders	Bet creators, participants

2.1.3 Participants place a bet on game

REQS-03	**Participants can place on bet**
Description	After view the game the participants choose the game he select his desired team and place the bet amount and submit the bet. If the participants account have the enough money then the system shows his bet placed successfully otherwise system shows another message
Stakeholders	Bet creators, participants

2.1.4 Bet creator show betting history

REQS-04	**Bet creator show betting history**
Description	When a bet creator enters into his account he can see all the bets that he created. He also can see the users who placed bet on his game
Stakeholders	Bet creators, participants

2.1.5 System administrator maintain transaction process

REQS-05	**System administrator maintain transaction Process**
Description	In order to create a bet or bet on a bet both bet creator and participants needs to have some money in his account. Here two type transaction will happened. • Request money • Withdraw money
Stakeholders	Bet creators, participants ,System Administrator ,Bank

2.1.6 Result publish at the end of the game

REQS-06	**Bet creator publish result at the end of the game**
Description	At the end of the game the bet creators announce the bet result that which team is the winner, whose team won the toss and who the man of the match is and submit the result.
Stakeholders	Bet creators, participants

2.1.7 System will calculate profit & lose

REQS-07	**System will calculate the profit & lose**
Description	When the bet creator announce the result then all the bets associates to this bet will be checked that who placed bet on the winning team, toss & man of the match. If the participants bet match the announced result value then the participants will get his bet amount.
Stakeholders	Bet creators, participants

2.1.8 Data scrapping from third party website

REQS-08	Data Scrapping from third party website
Description	Generally bet creator input all the game information manually but if he wants to give it automatically, the system will show him game list from another website. Then the bet creator can choose the game and post-game on this.
Stakeholders	Bet creators, third party

2.2 Performance Requirements

This requirements specifies the requirements of the system speed, precision and accuracy of the system.

2.2.1 Speed and Latency Requirements

The system is required a fair amount of speed especially while browsing game lists to take bet on a posted game.

SLR-1	The system will be faster
Description	While the participants browsing the system the system will be up. It also depends on participant's internet connection.
Stakeholders	Participants

2.2.2 Precision and Accuracy Requirements

There are no specific precision and accuracy requirements

2.2.3 Capacity requirements

The system is able to manage all the request, incoming information from participants and bet creator.

CR-1	The system will manage all betting information in database.
Description	The information of participants and bet creator will be stored in database.
Stakeholders	• System administrator • Bet creator

2.3 Dependability Requirements

This requirements specifies the system overall maintenance requirements and how long the system will be available how much participants rely with this system etc.

2.3.1 Reliability and Availability Requirements

To provide an unavoidable support the system must be available in 24 hours in a day and participants can trust this system.

RAR-1	The system will be available in 24 hours in a day.
Description	• The system must be available 24 hours in a day • The system must be updated regularly • The system must publish the result and update the game in time
Stakeholders	• System administrator • Bet creator • Participants

2.3.2 Robustness and Fault Tolerance Requirements

The system will never crush in any single minor error and the server will never be down.

RFT-1	The system handles over access and system errors
Description	When the system will be full of participants in that time the system will not crush and server will not be down.
Stakeholders	N/A

2.3.3 Safety Critical Requirements

There are no specific safety critical requirements

2.4 Maintainability and Supportability

Maintainability and supportability specifies that if there is occur any system errors or any fault this can be easily maintainable and support any time.

2.4.1 Maintenance Requirements

MR-1	The system helps to update gaming information in any time

Description	The bet creator can post two types game. All the posted games will be stored in database and it will be updated any time
Stakeholders	System administrator Bet creator

2.4.2 Supportability Requirements

The system will provide support in any situation if there occur any of the following cause happens

- system can trace the error
- system can find out what is the root cause of this error

2.4.3 Adaptability Requirements

There are no specific adaptability Requirements.

2.5 Security Requirements

There are no access requirements beside those that have been outlined in the below:

SR-1: Log in as a participants

SR-2: Log in as a bet creator

SR-3: Log out as a participants

SR-4: Log out as a bet creator

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen participants password must be encrypted in hash process.

2.5.1 Access Requirements

To get access to the system, the system provides authorization/authentication way. This system uses various modules.

AR-1	The system provides security strategies.

Description	The system is designed in way that allows all modules to access a mechanism that provides security services.
Stakeholders	System administrator Bet creator Participants

2.5.2 Integrity Requirements

To provide participants as well as bet creator's information all the id and password will be encrypted and all the data will be separated from each other.

2.5.3 Privacy Requirements

The system provides all the security issues and all type users are separate from each other and no one can access to anyone information without the system administrator. The system admin only able to access the database of the system

PR-1	All data will be protected
Description	The main requirement in the context is the generation of participant's data for analysis.
Stakeholders	• System administrator • Bet creator • Bet participants

2.6 Usability and Human Integrity Requirements

This Requirements defines how the system will interact with the participants and bet creator and how easily they can use this system.

2.6.1 Ease of Use Requirements

The system is easy to use and can easily be understandable.

EUR-1	The system must be usable for participants with all associate stakeholders.
Description	The system indicates the several possibilities that the participants has to go on in using the system. The participants is allowed to undo any of the operation.

Stakeholders	• System administrator • Bet creator • Bet participants

2.6.2 Understandability and Politeness Requirements

This section describes more requirements of participants and the bet creator to add more features to this system in future.

UPR-1	The features of participants information
Description	The system is more efficiently ease of use more added features .The system is understandability for both bet creator and participants. The system will not use any term that is not specified in this system.
Stakeholders	• Bet creator • Bet participants

2.6.3 Accessibility Requirements

There are no specific accessibility requirements.

2.6.4 User Documentation

UDR-1	The system developer documentation
Description	To develop my project online betting system i have specified requirement of user documentation the team 5-4 are involved to my project documentation.
Stakeholders	System Developer

2.7 Look and Feel Requirements

The look and feel requirements describes how the system will be look like and how the user interface of this system will display.

2.7.1 Appearance Requirements

It should be clear to the participants which fields need to be filled and which can be left blank in this system.

AR-1	Labels of mandatory fields must be bold
Description	Labels of mandatory fields must be bold to identify them as being of mandatory.
Stakeholders	• System administrator • Participants

2.7.2 Style Requirements

This requirements provides what color will be used for the system design and the how the system will responsive to mobile view etc.

SR-1	The look and feel must be controllable using style sheet.
Description	The styling of the elements of the web based user interface will be defined using css, JS and bootstrap.
Stakeholders	System developer

2.8 Operational and Environmental Requirements

This requirements focuses on how the system administrator and bet creators will operate to this system and what environment will provide by the system to the bet participants.

2.8.1 Expected Physical Requirements

There is no specific expected physical requirements.

2.8.2 Requirement for Interfacing with Adjacent System

This section describes the co-operative application for interfacing with this system

RIAS-1	Adjacent system with external application
Description	The system will show game list to the bet creator from another website. Then the bet creator can choose the game and post-game on this
Stakeholders	• System administrator

	• Bet creator

2.8.3 Release Requirements

There are no specific release requirements but in the project schedule section it was described briefly.

2.9 Legal Requirements

This requirements consider any violence of rules and regulation and which rules should be followed to maintain this system

2.9.1 Compliance Requirements

There are no specific compliance requirements

2.9.2 Standard Requirements

There are no specific standard requirements

Chapter 3

Requirement Analysis

3.1 Use Case Diagram

Use case diagram represents the interactions of the system administrator, bet creator and the participants to this system. This diagrams describes all the interactions of the stakeholders of this system and shows how the system is working.

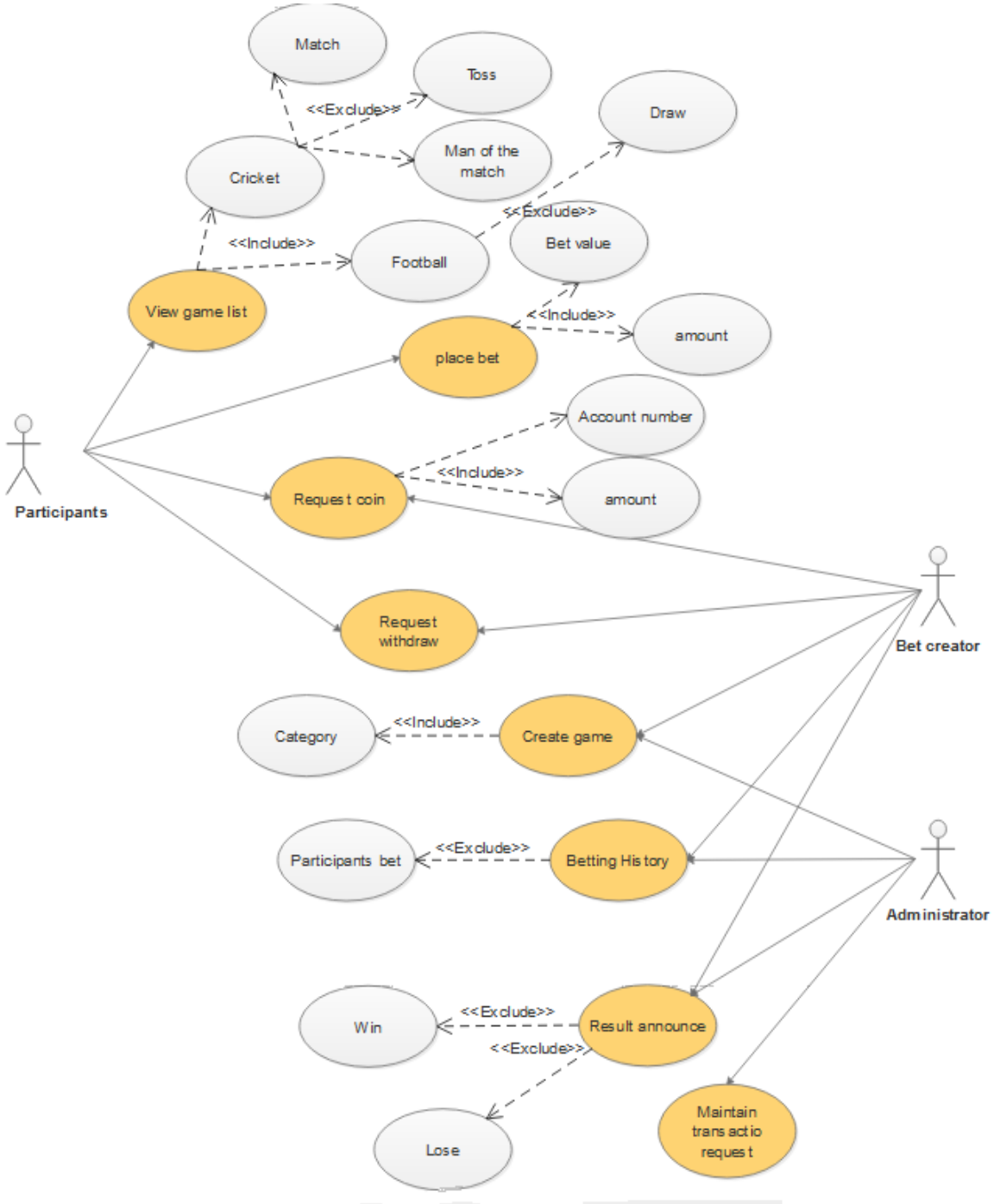

Figure 3.1: Use Case Diagram of Online Betting System

3.1.1 Post Game Use Case

Use case name	**Post game**
Pre-condition	The bet creator who posted the bet he must be registered in the system
Trigger	Game add form will show
Actors	Bet creator, system administrator
Description	• The bet creator select the game type whether it is cricket or football • Fill all the criteria related to the game • Set the value of the win and lose ratio • Submit the game
Alternative flows	• Review all posted game • Edit the posted game
Post condition	The posted game will be shown in the system front page and participants can bet on this game

3.1.2 View Game Use Case

Use case name	**View game**
Pre-condition	Participants visit the system
Trigger	Posted game will show in different categories
Actors	Participants
Description	• Participants can see all posted game • Game will show in two categories
Alternative flows	• Enter into his own account
Post condition	Participants choose the game and can placed bet on chosen game

3.1.3 Place Bet Use Case

Use case name	**Place bet**
Pre-condition	Participants choose the game
Trigger	Bet place form will come
Actors	Participants
Description	• When participants click on the chosen game then game details form will come • Select the desired team and give input of the bet amount • Submit the form
Alternative flows	• Check all the posted bet categories
Post condition	Participants choose the game and can placed bet on chosen game

3.1.4 Betting history

Use case name	**Betting history**
Pre-condition	The bet creator post the bet and participants will place bet on the game
Trigger	All the posted bet of the bet creator will show here
Actors	Bet creator , bet participants
Description	• Bet creator can see all of his posted bet • He also can see who placed bet of his posted bet • He can edit & delete this game
Alternative flows	• Review his profile • Check his account
Post condition	Publish the result or edit, delete the game

3.1.5 Request Coin

Use case name	**Request coin**
Pre-condition	The bet creator and the participants will request for coin
Trigger	Request coin form will come
Actors	Bet creator , bet participants, bank
Description	• Bet creator & participants will submit a request for coin to the system administrator • They also request for withdraw according to their account
Alternative flows	N/A
Post condition	System administrator will accept their request or cancel the request

3.1.6 Withdraw Coin

Use case name	**Withdraw request**
Pre-condition	The bet creator and the participants will request for withdraw
Trigger	Request withdraw form will come
Actors	Bet creator , bet participants, bank
Description	• Bet creator & participants will submit a request for withdraw to the system administrator • They also request for withdraw according to their account
Alternative flows	N/A
Post condition	System will check their current account balance & administrator will accept their request or cancel the request

3.1.7 Result Publication

Use case name	**Result publication**
Pre-condition	The bet creator post the game and the participants will place bet on the bet
Trigger	Select the game and select the winning condition of the game
Actors	Bet creator , bet participants
Description	• Select the game which game he want to publish the result • Choose the wining team , toss winning team and player of the match & submit the result form • System will check the participants who placed bet on the game and select the winner
Alternative flows	• Bet creator can show the participants associates to this game • He also can edit or delete the game
Post condition	After publishing the result system check the participants and their betting amount on this game and refund the winning amount to the participants account as well as bet creator account

3.1.8 Data Scrapping

Use case name	**Data scrapping**
Pre-condition	N/A
Trigger	Automatically select the team name to the game post form
Actors	Bet creator , third party site
Description	• Select the website in which site we need to crawl • Use the crawling data fill the form
Alternative flows	N/A
Post condition	After crawling the desired website get the data from this site and use in my site

3.2 Activity Diagram

I use some activity diagram according to use case diagram so that the user of this system easily can understand what he should do in this system

3.2.1 Post Game Activities

The bet creator first go to the registration page if he already registered to this system then he go to login page. If he successfully login to this system then he can add game to participate bet.

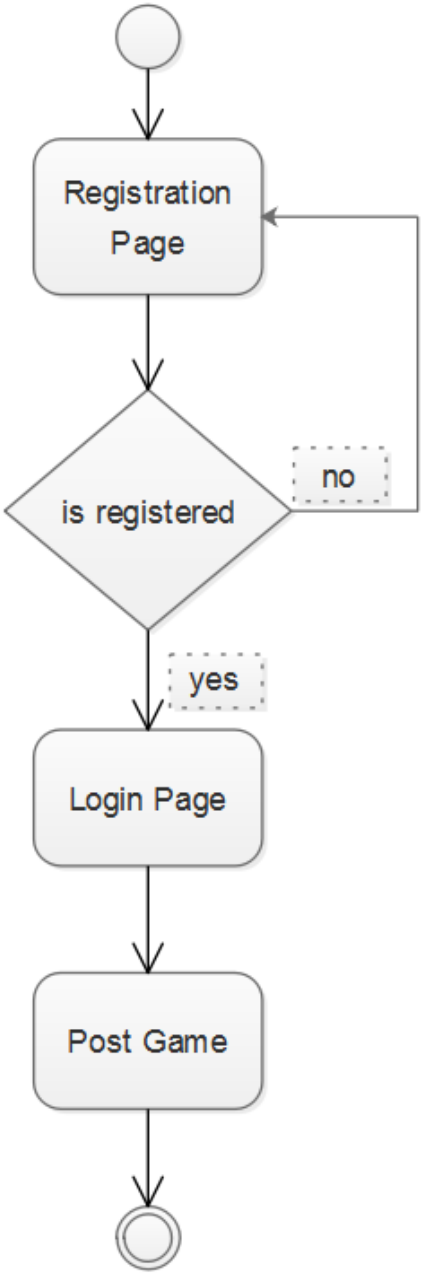

Figure 3.2: Post Game Activities

3.2.2 Place Bet Activities

Participants when enter the system then he can see the posted game list and he can choose anyone. Then the system check the participants are registered or not. If registered only then he can place bet on a game. The system also check his account that his given amount is available or not.

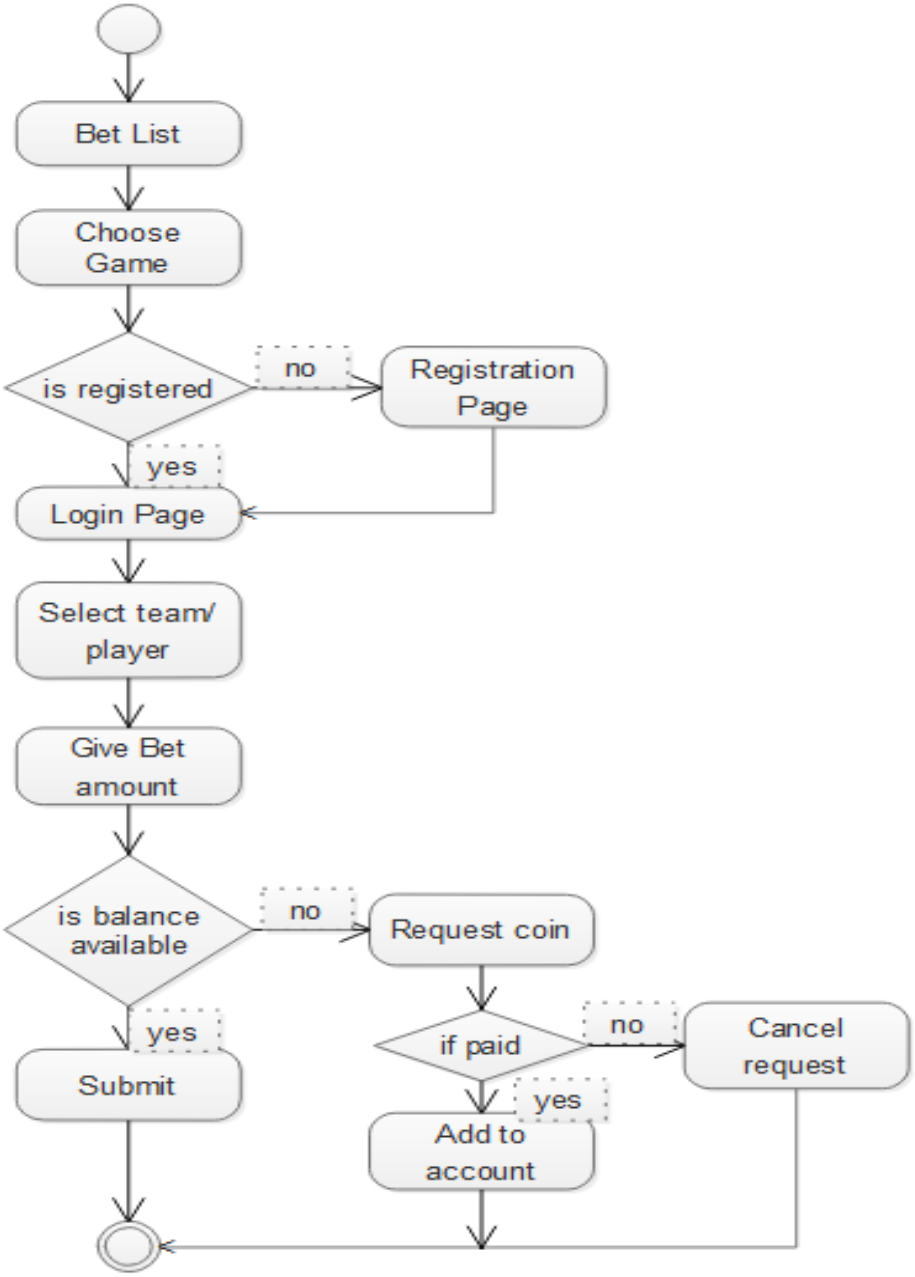

Figure 3.3: Bet Place Activities

3.2.3 Transaction Process Activities

Participants request coin for his account if he paid the requested amount then this amount will add to his account and if he request for withdraw amount then system check his account availability and reduce this amount from his account

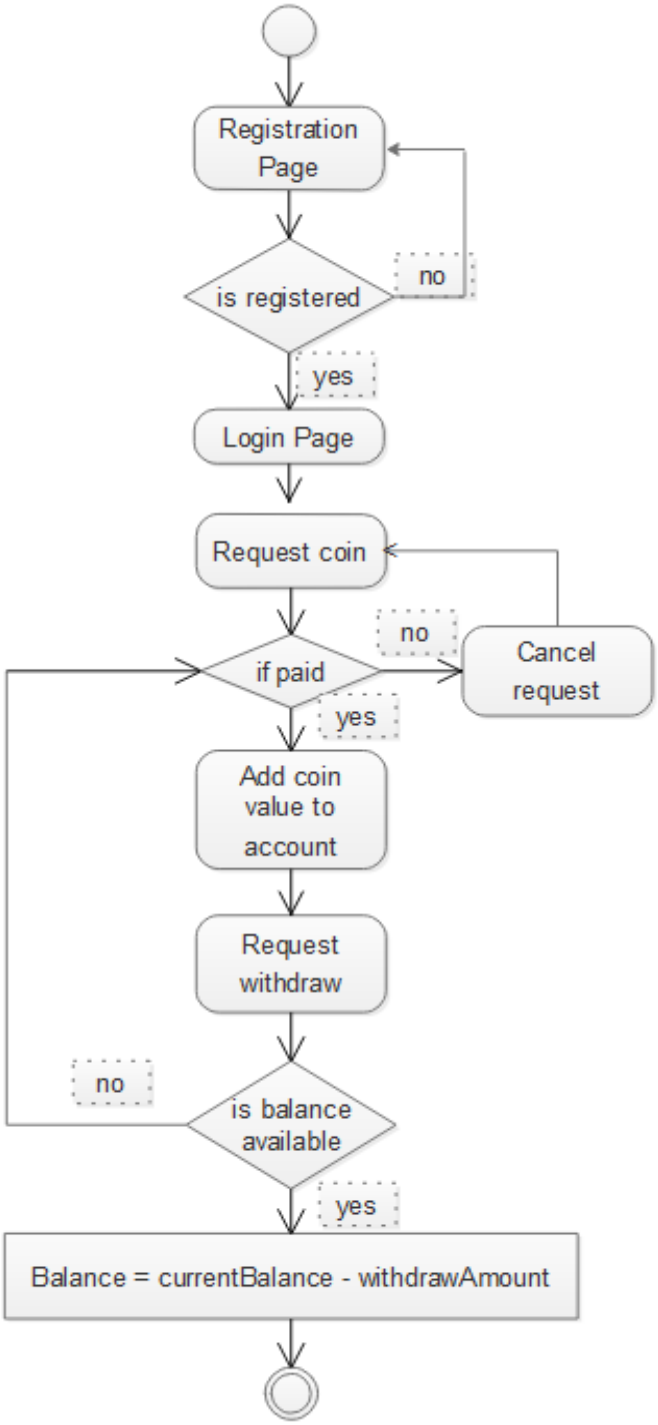

Figure 3.4: Transaction Process Activities

3.3 Sequence Diagram

The sequence diagram shows the interaction between the class and object and the behavior of the system stakeholders with this classes and objects. This diagrams also shows the backend process of this system

3.3.1 Create Game

Form game add page bet creator input all the necessary information needed to a game and set all the winning ratio to a bet and input the match and submit the form. If the form submitted successfully the posted game will be shown in the system index page.

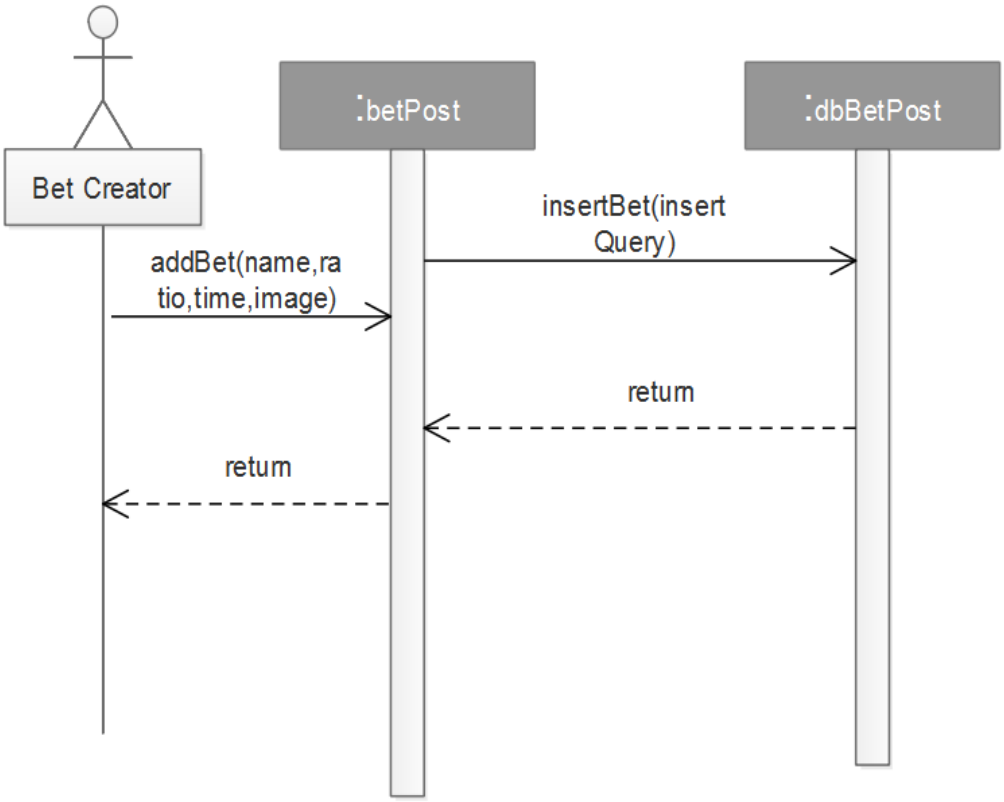

Figure 3.5: Bet Creating Sequence Diagram

3.3.2 Placed a Bet

In this page participants will placed their bet. After choosing the desired game in this page participants can see there is two selection option. Here he also can the win percentage of each team. Participants select his favorite and give the amount he want to bet and then click on the place bet button. If participants account have the sufficient balance then the system shows him a successful message otherwise system will shows an error message. If the bet placed successfully the betting amount will be deducted from the participants account.

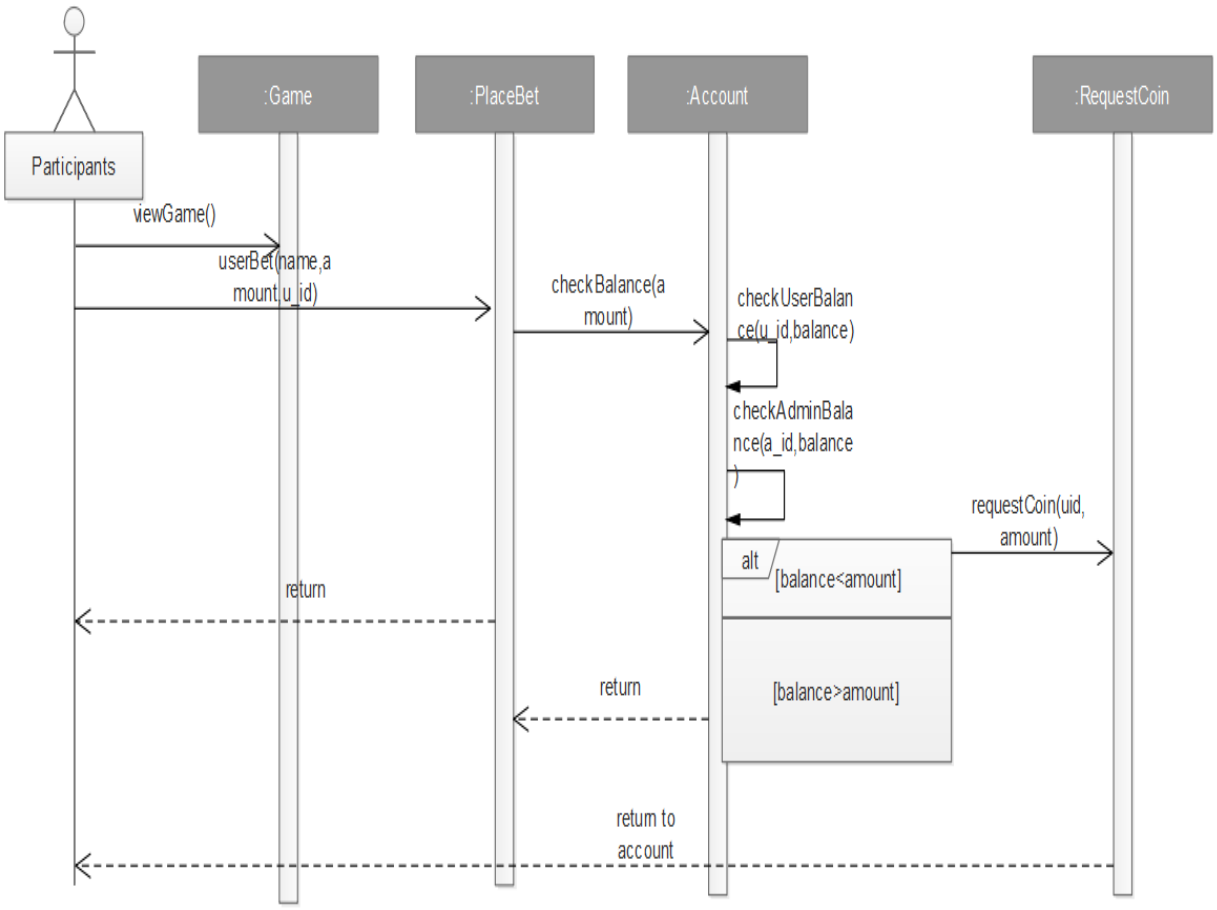

Figure 3.6: Placing a Bet Sequence Diagram

3.3.3 Result Announcement of a Game

When a game is finished then the bet creator publish the game result. First he select the whole match winner team then toss winner and man of the match winner and click the publish button. In the meantime system will calculate the all users that took bet on this game and check their bet status and calculate their winning amount and give back to their account who are the winner of this game.

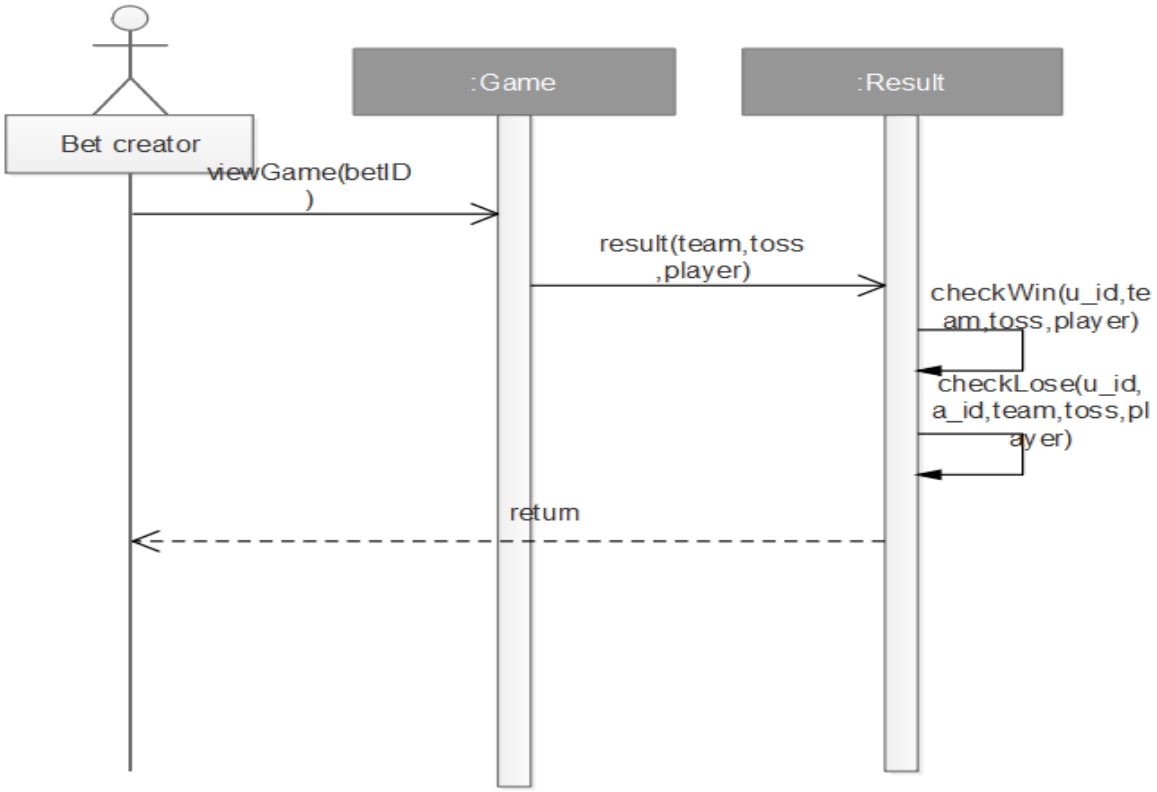

Figure 3.7: Announcing Result Sequence Diagram

Chapter 4

Design and Development

4.1 Development Tools and Technology

Development tools and technologies are those that I have used to implement my project successfully. It also describes a tool that enables developers and testers to view and interact with the user interface of this system.

4.1.1 User Interface Technology

User interface is all about the design of this system and the interactions of stakeholders of this system to this system.

4.1.1.1 Programming Language

For developing this system I have used PHP as a programming language. The full form of PHP is recursively PHP Hypertext Preprocessor. PHP is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. I used PHP for doing all the backend process of this system.

4.1.1.2 jQuery UI

jQuery is the enriched library for of javaScript. I have used this library for doing some of the features of my project. I used this library because I can use HTML and CSS along with this jQuery library. Some features I could easily use to my system as the vast collection of libraries of jQuery.

4.1.1.3 CSS Framework or Bootstrap

CSS is a language that describes the style of the overall systems design. This language is used to style the contents of the HTML element of this system. I can easily use this to style my project interface that which color, and position of a content, element.

I also use the CSS framework that is Bootstrap. I used this framework mainly for the mobile view of the project. Also the main purpose of using bootstrap that what the system will be looking when the system is varied from device to device. Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mix INS, responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery. After adding some classes to existing elements in the HTML-code and altering some CSS code such as removing some values for width given in pixels the site was changing depending on the width of the window. .

4.1.2 Implemented Tools and Platform

Implemented tools and platforms are those that I have used to successfully finish my project in time. This also describes which IDE server that I have used in my project.

4.1.2.1 IDE

I have used phpStorm as an IDE for developing this project. JetBrains developed phpstorm as a coding platform for the PHP developers. Phpstorm provides an editor for php, HTML and JavaScript with on the fly code analysis, errors presentation and automated refactoring's for php and JavaScript code. We can use this platform not only for the PHP code but also for the HTML, CSS JavaScript as well.

We can also integrate the database to this IDE. For a beginner level developer this IDE is so much helpful because this IDE suggest the code or code element that I need to use. And the view of this IDE is so much light weighted.

4.1.2.2 Web Server

As we know that the PHP is the server side scripting language. So its need to a server to run the PHP code in local host. I used the Apache server to run the code of PHP in my system.

4.1.2.3 Database Server

The reason behind to choose the database server are given below:

- Security
- Reporting and Data Mining
- Replication
- Fault tolerance
- Performance diagnosis

4.2 Class Diagram

A class diagram is a diagram that indicates the relation between the dependencies of the system's backend code and classes. This diagram shows the internal methods, variables and object of any classes.

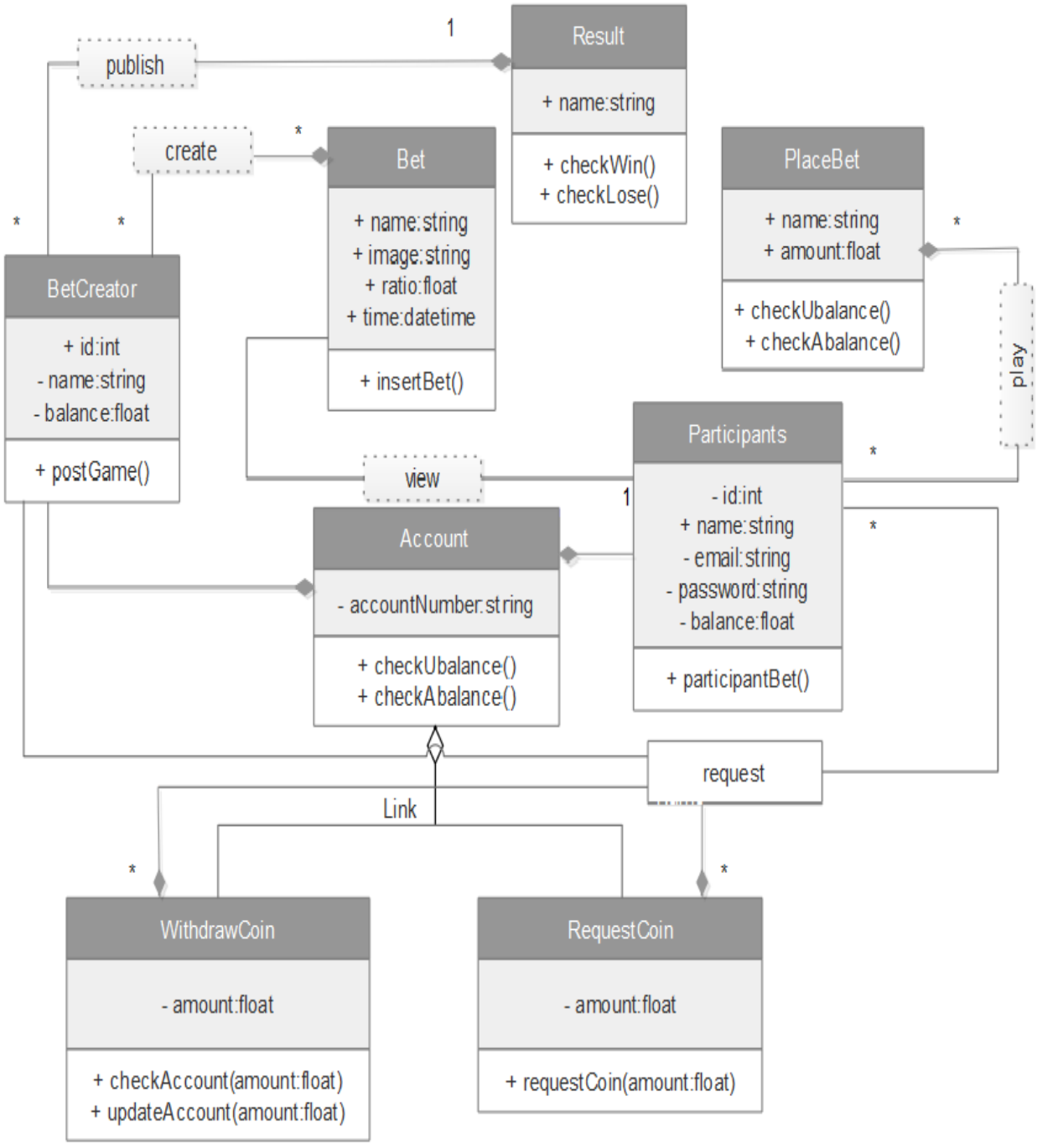

Figure 4.1: Class Diagram of Online Betting System

4.3 Database Diagram

Database diagram shows all the information that I have stored of this system. From this diagram we can know all the stakeholders information as well as the overall system information. This diagram also shows the relation between one tables to another of this system. We also can know the entities between the system.

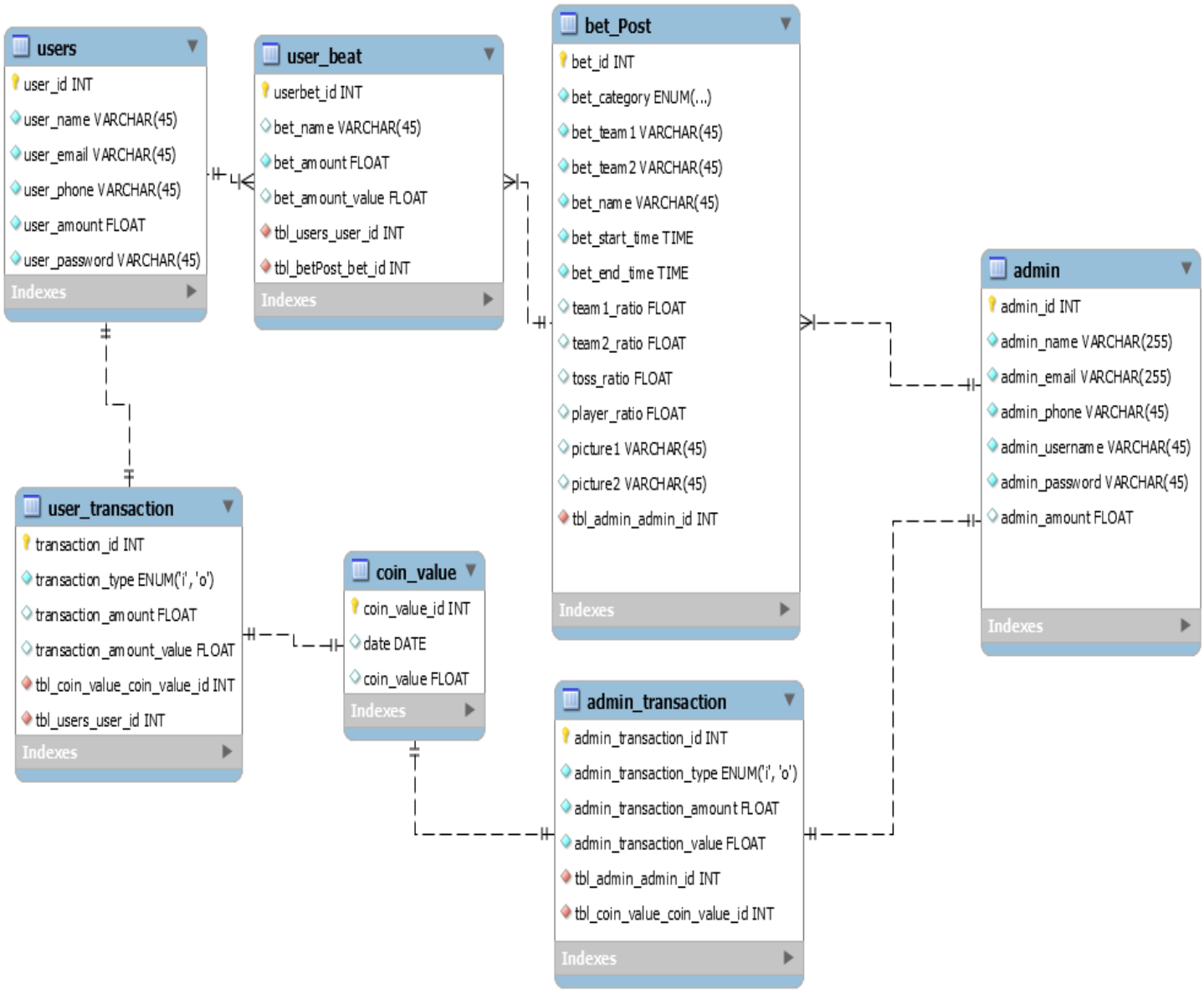

Figure 4.2: Database Diagram of Online Betting System

Chapter 5

Test Plan

5.1 Testing Features

Testing feature is the process of which functionality that I have needed to be tested and which functionality that I have not needed to be tested.

5.1.1 Features to be tested

Features	**Priority**	**Description**
Registration	1	Get all service from this system, it is required to be registered.
Create game	1	Post upcoming game to play bet.
Modify game	3	Edit the game when need
Delete game	2	Delete game from the list
Show list	1	All posted game will show in the index page.
Place bet	1	Participants can take bet on the posted game
Request coin	1	Participants can request for coin
Request withdraw	1	Participants can request for withdraw
Login	1	Login as authenticated user
Logout	1	Logout from the system.
Change password	2	Change password by the participants
Application error message processing	1	It is important for all to get the proper error message
Technological Features		
Database	1	Access to database is frequently needed operation. So this technical feature should be tightly in control for management system

5.1.2 Features not to be tested

The features which have not been tested are

Features	**Description**
Check participants and bet creator status	it is not required because it will be done by system administrator

5.2 Testing Strategy

Testing strategy is a way that I have used to test all of my project features. This also indicates which methods, approach that I have used to test the functionality of this system.

5.2.1 Test Approach

Test approach is the test strategy implementation of a project, defines how testing would be carried out. This indicates the testing methods, objectives, methods of testing features etc. from this we also can know the testing time of the overall system.

5.2.1.1 Black Box Testing

Black box testing is referred to as a functional testing of a system. This is the testing that the function is working precisely or not. This is not the backend testing. The users who have not any technical knowledge he also can perform this testing.

5.2.1.1.1 Equivalence Class Partitioning

To perform the equivalence class partitioning testing all inputs are divided into two parts. One is legal input and another is illegal input.

Legal Input values: The tester set all the legal inputs and test them with the system and check whether the system is working or not

Illegal Input Values: For doing this the tester first set all inputs that are not valid for the system and test the system whether it is working or not

5.2.1.1.2 Boundary Value Analysis

Boundary value analysis is another black box testing techniques that tests the value of the boundary of any input field. First it sets a standard value then check its positive and negative boundary value of this input value.

5.2.1.2 White Box Testing

Black box testing is the process of testing the internal structure of the system. The system developers can perform this technique. The testers as well as programmers are needed to perform this testing methods. The tester needs to have the testing knowledge as well as the coding knowledge to do this testing.

5.2.1.2.1 Unit Testing

For not doing break the functionality of existing the system, we will test individual use cases and list down test cases for each of the use case.

5.2.1.2.1.1 Login

- Identification and password properly initiated, encrypted and validated.
- MySQL injection test.
- Checking for uppercase, lower case, number, special character in ID and Password.
- Either of ID and Password not blank.
- Checking for overlapping ID.
- Checking for weak passwords.
- Checking for e-mail notification about making ID and initiating password.

5.2.1.2.1.2 Login and placed a bet

- Correctly user validated before starting place a bet.
- Not possible to place a bet without funds of his account.
- Displaying list of all available foods.
- Checking for newest version food place on first page.
- Checking for exact number of food stocks.

5.2.1.2.1.3 Logout

- Search history saved properly after logout.
- Checking out information saved in database.
- Customer or chef redirected to the login screen.

5.2.1.2.2 Integration Testing:

To verify each software unit interfaces correctly with other units. Developer also testers perform integration testing, the following information of integration testing.

- System compatible with different web browsers.
- System compatible with different operating system.
- System compatible with 32 bit or 64 bit operation.

5.2.2 Pass/Fail Criteria

The tester set the pass fail criteria that indicates what inputs will be worked on this system and what will be not worked.

- According to the given scenario the expected result need to take place then the scenario will be considered as pass otherwise that criteria should be failed.
- If an item tested 10 times, 9 times perfectly worked and single time do not work properly then it will consider as fail case.
- System failure or crash will be defined as fail case.
- Calculation error will be defined as fail case

5.2.3 Testing Schedule

This section will describe testing schedule.

Test Phase	**Time**
Test Plan Creation	1 week
Test specification creation	2 week
Unit Testing	During Development time
Component testing	1 week
Test Phase	**Time**
Integration Testing	1 week
Use case validation	1 week
User interface testing	1 week
Load testing	1 week
Performance Testing	1 week
Release to Production	1 week

5.2.4 Trace Ability Matrix

BR#	Category/Functional Activity	Requirement Description	Use Case Reference	Test Case Reference	comments
BR_1	Functional	Bet creator can post game	Use case 3.1.1	Test case 5.4.2	
BR_2	Functional	Participants view game list	Use case 3.1.2	N/A	
BR_3	Functional	Participants place a bet	Use case 3.1.3	Test case 5.4.3	
BR_4	Functional	Betting history	Use case 3.1.4	N/A	
BR_5	Functional	Transaction process	Use case 3.1.5, Use case 3.1.6	Test case 5.4.4 Test case 5.4.5	
BR_6	Functional	Result publish	Use case 3.1.7	Test case 5.4.6	
BR_7	Performance requirements	Speed & latency requirements	N/A	N/A	

5.3 Testing Environment

Testing environment is a setup of software and hardware for the testing teams to execute test cases.

For test environment, key area to set up includes

- System and applications
- Test data
- Database server
- Front end running environment

- Client operating system
- Browser
- Hardware includes Server Operating system
- Network
- Documentation required like reference documents/configuration guides/installation guides/ user manuals

5.4 Test Cases

Test cases is the set of conditions of any functionality to check whether the functionality is working or not for s specific task.

5.4.1 Login

Test Case #01			**Test Case Name**: Login		
System: Online Betting System			**Subsystem:** Participants & bet creator ID		
Designed By: Md Moshiul Islam			**Designed Date:** 4/16/2018		
Executed By:			**Executed Date:**		
Short Description: They both are registered and trying to log into the system					
Pre-condition: 1. Participants & bet creator both are registered 2. Assume username is 'moshiul@gmail.com' and password is 'moshiul'					
Step	**Username**	**Password**	**Expected result**	**Pass/ Fail**	**Comment**
1	Moshiul	Moshiul	Wrong username		
2	…	Moshiul	Invalid username		
3		moshiul	Username can't be blank		
4	moshiul@gmail.com		Password can't be blank		
5	moshiul@gmail.com	123qwe	Wrong username		
6	moshiul@gmail.com	@@moshiul@@	Invalid password		
7	moshiul@gmail.com	Moshiul	Successfully logged in		
8			Username & password can't be blank		
9	moshiul123456qwertyu@gmail.com	Moshiul	Username can't be greater than 12 characters		

10	moshiul@gmail.com	Abc	Password cann't be less than 6 characters		
11	moshiul@gmail.com	Assdfghjjkllkjhgf	Username can't be greater than 8 characters		
Post condition: participants and bet creator both successfully logged into this system and can access the system**.**					

5.4.2 Bet Post

Test Case #02			**Test Case Name**: Bet Post	
System: Online Betting System			**Subsystem:**	
Designed By: Md Moshiul Islam			**Designed Date:** 4/16/2018	
Executed By:			**Executed Date:**	
Short Description: Bet creator are registered and willing to post a game to the system				
Pre-condition: 1. Bet creator are logged into the system				
Step	**Action**	**Expected result**	**Pass/Fail**	**Comment**
1	Click add game button	Game post form shows and can add game details		
	Click submit button	Posted game is stored in the system		
Post condition: The posted game will be shown in the system index page and participants can take bet on this posted game.				

5.4.3 Place a Bet

Test Case #03		**Test Case Name**: Placed a Bet		
System: Online Betting System		**Subsystem:**		
Designed By: Md Moshiul Islam		**Designed Date:** 4/16/2018		
Executed By:		**Executed Date:**		
Short Description: Participants take a bet on the selected game				
Pre-condition: Participants must be registered in the system and have sufficient balance in his account.				
Step	**Action**	**Expected result**	**Pass/Fail**	**Comment**
1	Click a post	Chosen game form will show		
2	Click team/player	Selected team or player name will be shown in the submit form		
3	Give amount to the amount field	System will check participants account balance and will show specific message		
4	userBalance>amount	" You don't have sufficient balance "		
5	Amount= -100	" Negative value not allowed "		
Post condition: participants bet stored in the system on a specific game until the result publish				

5.4.4 Request for Coin

Test Case #04		**Test Case Name:** Request for coin		
System: Online Betting System		**Subsystem:**		
Designed By: Md Moshiul Islam		**Designed Date:** 4/16/2018		
Executed By:		**Executed Date:**		
Short Description: Participants can request for coin from their account with a valid account number				
Pre-condition: participants are registered in the system and have a valid account number				
Step	**Action**	**Expected result**	**Pass/Fail**	**Comment**

1	Click on request coin	Request form will show		
2	Input the account number	System will check the account number of the participants or bet creator		
3	Input the requested amount	Participants and bet creator can request as much as they need		
Post condition: If the system administrator accept the request the requested amount will be added to the participant or bet creator account				

5.4.5 Request for Withdraw

Test Case #05		**Test Case Name**: Request for withdraw		
System: Online Betting System		**Subsystem:**		
Designed By: Md Moshiul Islam		**Designed Date:** 4/16/2018		
Executed By:		**Executed Date:**		
Short Description: Participants can request for withdraw according to their account balance				
Pre-condition: 1.participants and bet creator have sufficient balance in their account 2. They must have a valid account number				
Step	**Action**	**Expected result**	**Pass/Fail**	**Comment**
1	Click on request withdraw	Request form will show		
2	Input the account number	System will check the account number of the participants or bet creator		
3	Input the requested amount	Participants and bet creator can request as much as they need		
4	Requested balance > balance	System will show " You don't have sufficient balance "		
Post condition: If the system administrator accept the request the requested amount will be subtracted from their account and balance will sent to the request person's account				

5.4.6 Result Publish

Test Case #06	**Test Case Name**: Result publish
System: Online Betting System	**Subsystem:**
Designed By: Md Moshiul Islam	**Designed Date:** 4/16/2018
Executed By:	**Executed Date:**

Short Description: When the game over then the bet creator publish the result

Pre-condition:

1. Bet creator select a game which is worth of publishing the result

Step	Action	Expected result	Pass/Fail	Comment
1	Click result publish button	Result announcement form for the selected game will show		
	Select the winning combination	Accurate result will be published		

Post condition: Participants whose participate in the result publish game , if they win they will get back the bet amount with the bet ratio

5.4.7 Bet Amount Calculation

Test Case #07	**Test Case Name**: Login
System: Online Betting System	**Subsystem:** Participants & bet creator ID
Designed By: Md Moshiul Islam	**Designed Date:** 4/16/2018
Executed By:	**Executed Date:**

Short Description: They both are registered and trying to log into the system

Pre-condition:

1. Participants & bet creator both are registered
2. Assume team win ratio 10% and participants bet 100 on this game
3. Teams are Bangladesh & Pakistan

Step	Team	Ratio	Amount	Reduction	Expected result	Pass/Fail	Comment

1	Bangladesh	10%	100	100	Wrong output		
2	Bangladesh	10%	100	110	Successful		

5.5 Testing Deliverables

When tester perm the testing then he records all the inputs that he used to test the functionality.it also defines the hardware and software and network configures. This also provides the overall summary of the testing history for this system.

5.5.1 User Acceptance Test

The purpose of User Acceptance Testing is to ensure that the project meets the functionality and non-functionality requirements specified in the business requirements.UAT may also identify issues that have not been specified in BRD such as those relating to usability.UAT is the final step before rolling out the solution.UAT is typically carried out by end users in an environment that closely models the real world. A well-managed UAT process will give the project sponsor, Project team and end users confidence that the solution being delivered meets the requirements.

Role	**Responsibilities**
Project Manager	Communication with the Business assurance co-ordination to agree format and scope of UAT. Ensure acceptance criteria are agreed prior to commencing UAT.
User: IT support	Assist Business Assurance co-ordination with the creation with the creation of a detailed test plan. Review scripts/cases and scenarios for accuracy, completeness and sequencing. Confirm test data is correct.
User: Duty Ops	Validation of UAT environment
User: IT Help Desk	Ensures that a detailed test scripts /cases, scenarios and instructions are available for test users prior to the start of testing. Ensure that issues identified during UAT are logged in the Test log Ensure testing takes place within agreed time frames.
Administrator: Net Team	Execute test scripts/cases Document test results

Chapter 6

User Manual

6.1 Landing Page

This is the entry page of this system. When a participants, bet creator or system administrator browse this system at first they will show this page. In this page all the games posted by the bet creator will show here. In this page participants can see the game in two categories one is cricket and another is football. Participants also can see there is also three categories in one game and they are to win match, to win toss and to win the man of the match. Participants choose his favorite one and placed bet on it.

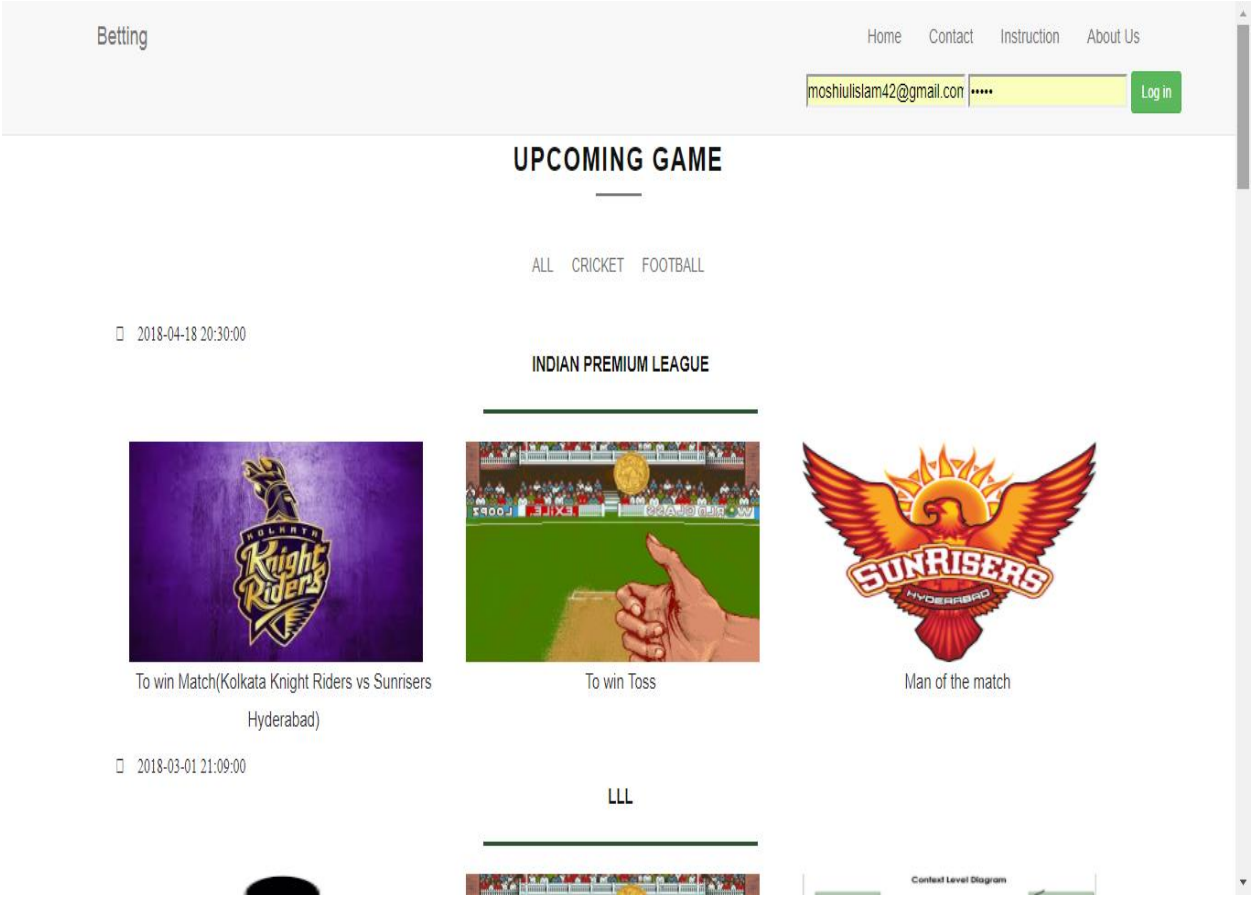

Figure 6.1: Landing page of Online Betting System

6.2 Bet Creator Account

This is the bet creator module where all the activities of the bet creator are represented graphically.

6.2.1 Bet Creator Landing Page

This is the bet creator index page. After entering the system he can see his profile betting history, how many bet he posted and his total earning from this system.

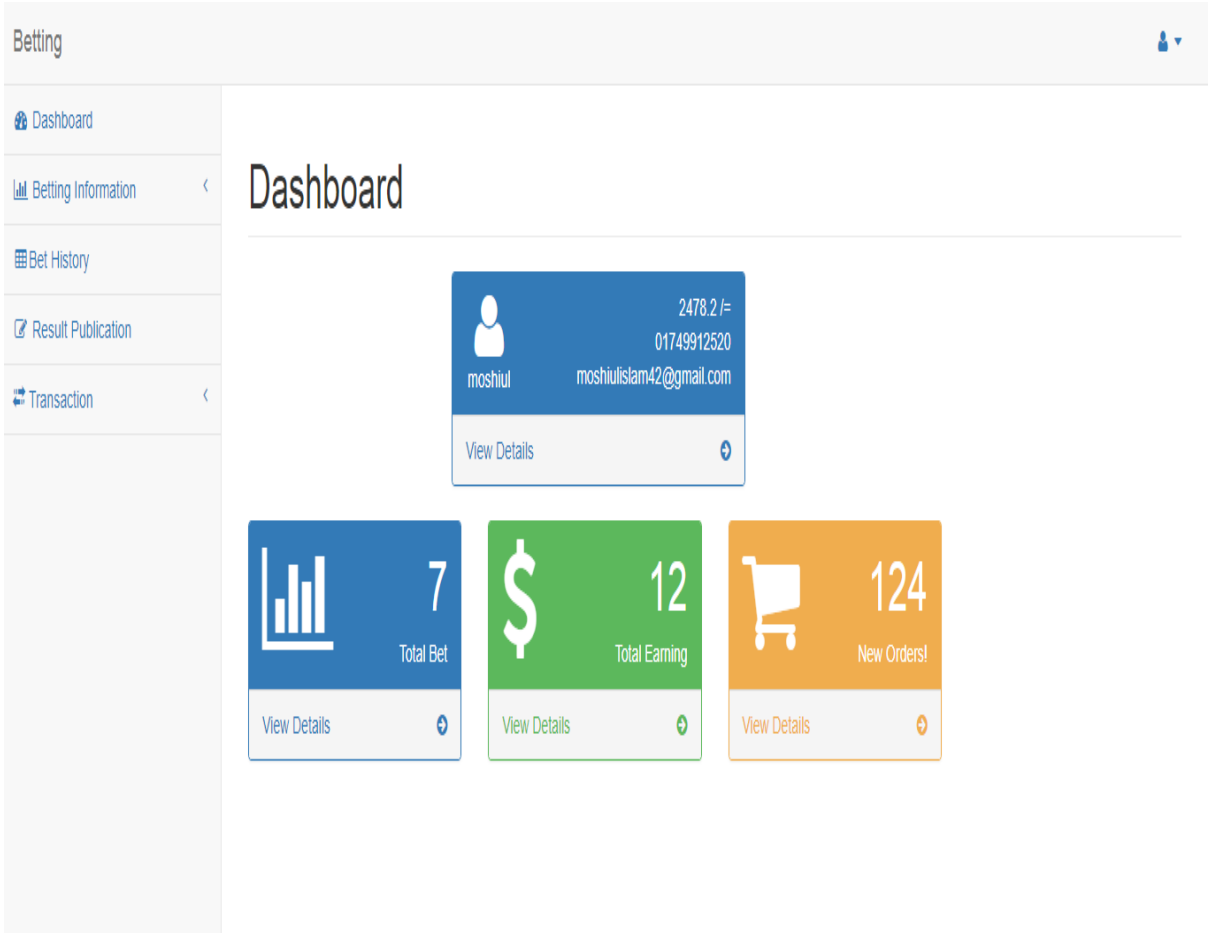

Figure 6.2: Bet Creator Landing Page

6.2.2 Game Add

This is game add form page here bet creator input all the necessary information needed to a game and set all the winning ratio to a bet and input the match and submit the form. If the form submitted successfully the posted game will be shown in the system index page.

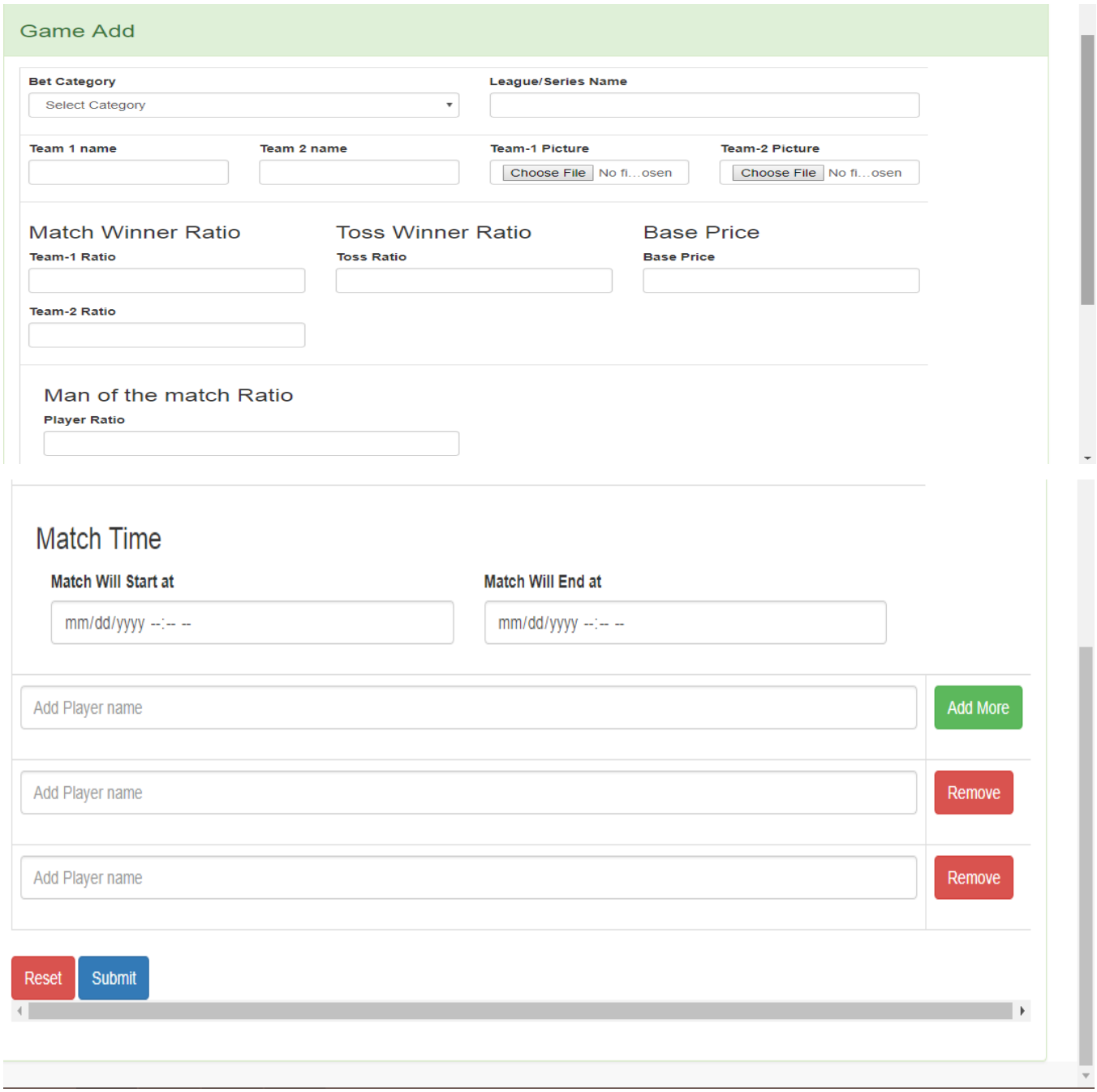

Figure 6.3: Game Add Form

6.2.3 Betting history

In this page bet creator can see all of his posted game and form this page he can edit the game, delete the game and publish the result of this game

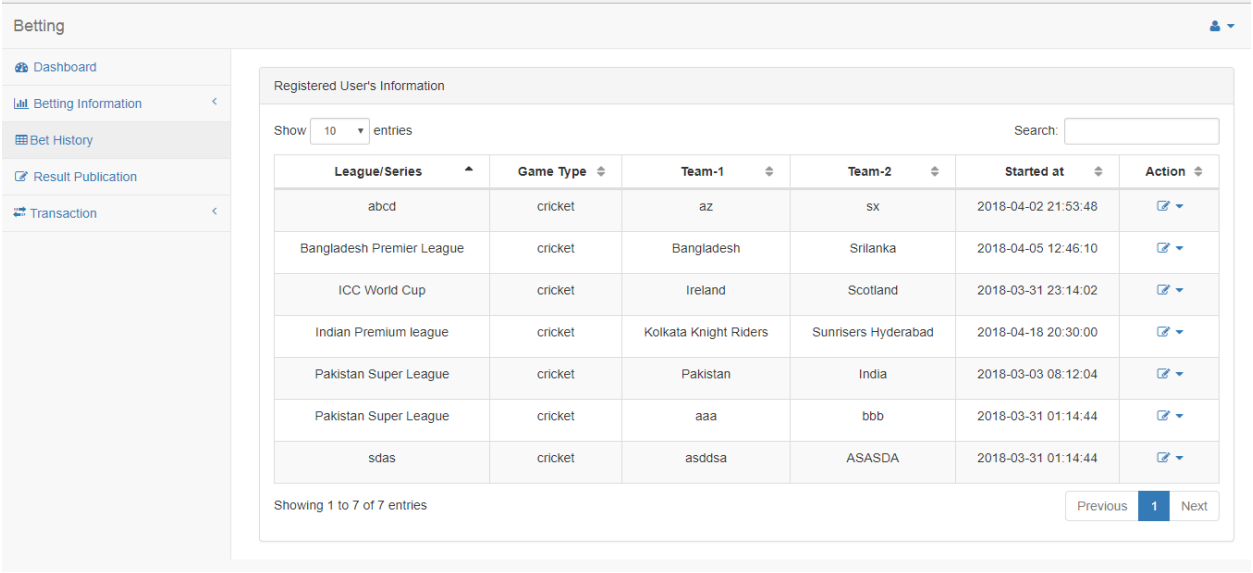

Figure 6.4: Betting History

6.2.4 Result Publish

When a game is finished then the bet creator publish the game result. First he select the whole match winner team then toss winner and man of the match winner and click the publish button. In the meantime system will calculate the all users that took bet on this game and check their bet status and calculate their winning amount and give back to their account who are the winner of this game

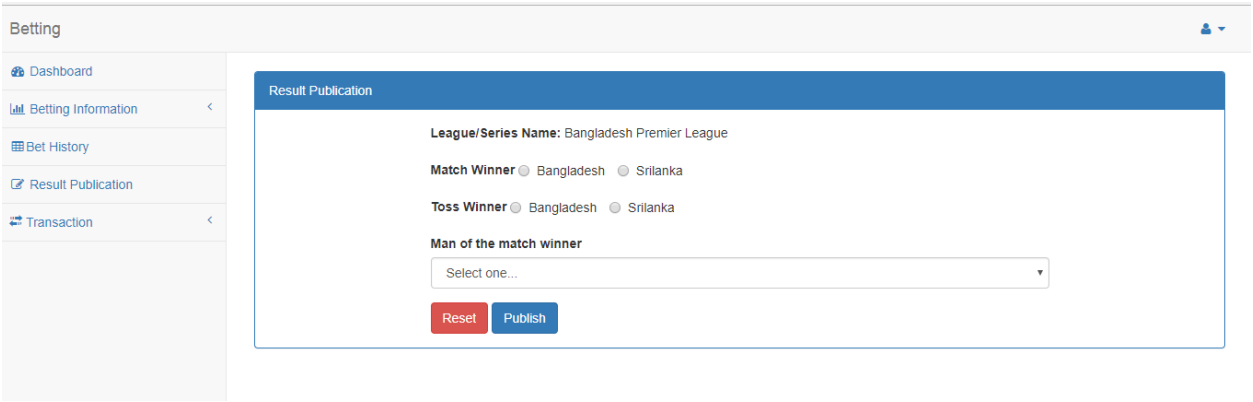

Figure 6.5: Result Publication of a Game

6.3 Participants Account

This is the participants account info page. Participants can see his profile from this page. Here he also can see his current balance of his account and can request for coin and withdraw. Here he also can see all of his betting info.

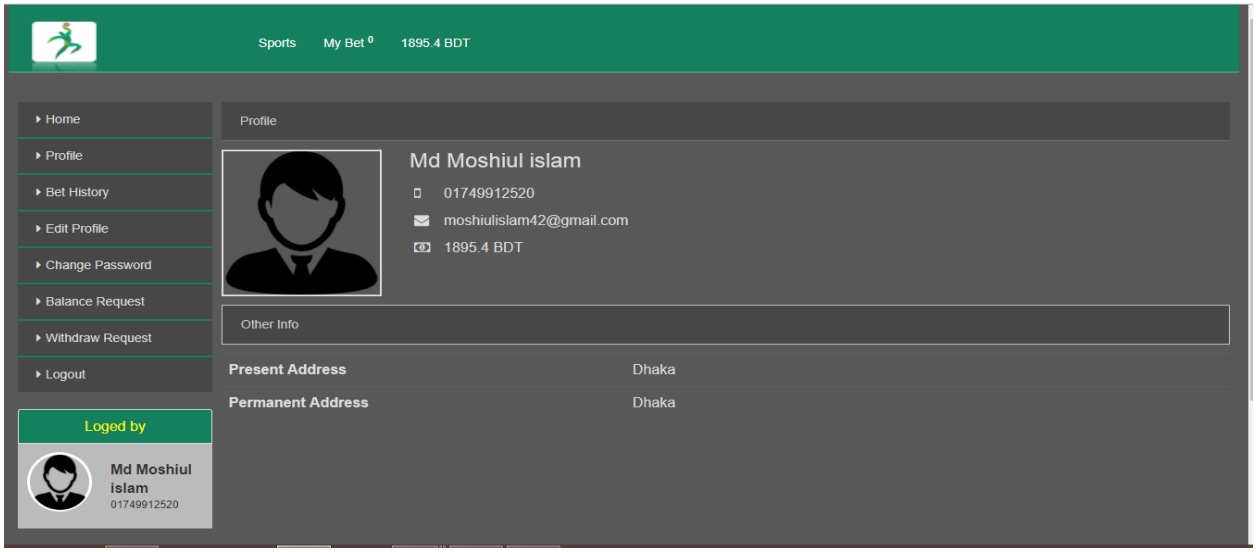

Figure 6.6: Participants Account

6.3.1 Request for Coin

This is the participants request coin page. From this participants can request coin for his account. In this he need to give his requested amount and his transaction number and submit the request. If system administrator accept his request then then amount will add to his account.

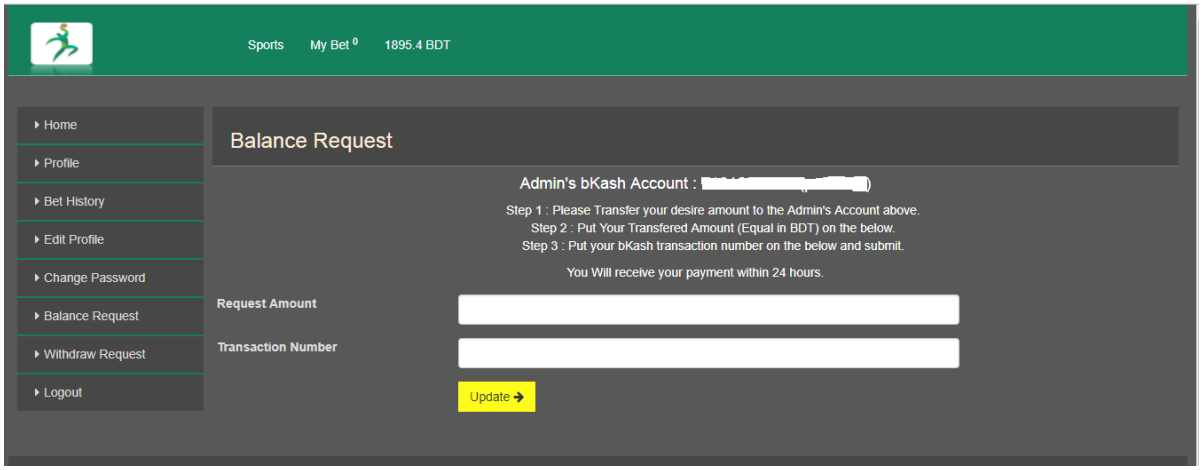

Figure 6.7: Request Coin Form

6.3.2 Bet Place

In this page participants will placed their bet. After choosing the desired game in this page participants can see there is two selection option. Here he also can the win percentage of each team. Participants select his favorite and give the amount he want to bet and then click on the place bet button. If participants account have the sufficient balance then the system shows him a successful message otherwise system will shows an error message. If the bet placed successfully the betting amount will be deducted from the participants account.

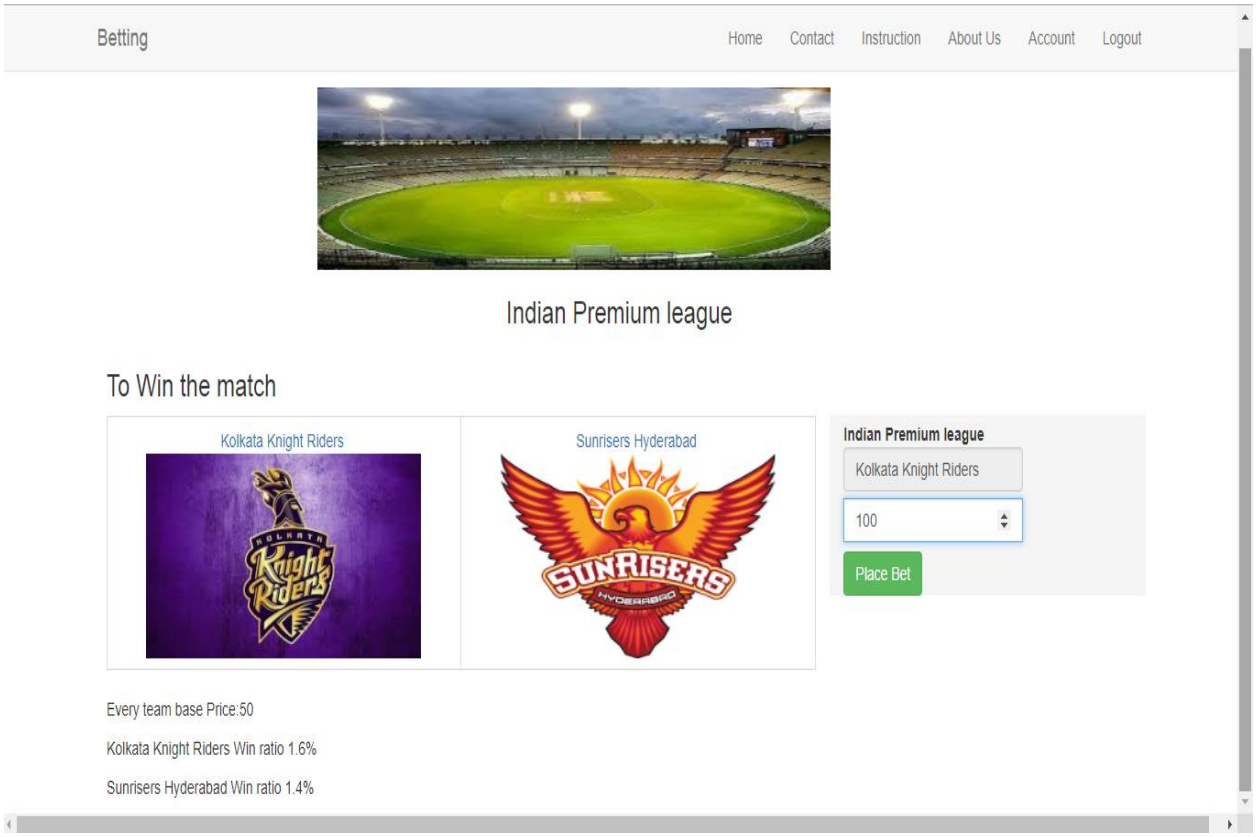

Figure 6.8: Placed a Bet on a Game

6.3.3 Request for Withdraw

This is the participants request withdraw page. From this participants can request withdraw from his account. In this he need to give his requested amount and his transaction number and submit the request. If system administrator accept his request then then amount will be deducted from his account. But before successfully submit the request the system first check his account that the requested whether the amount is available or not

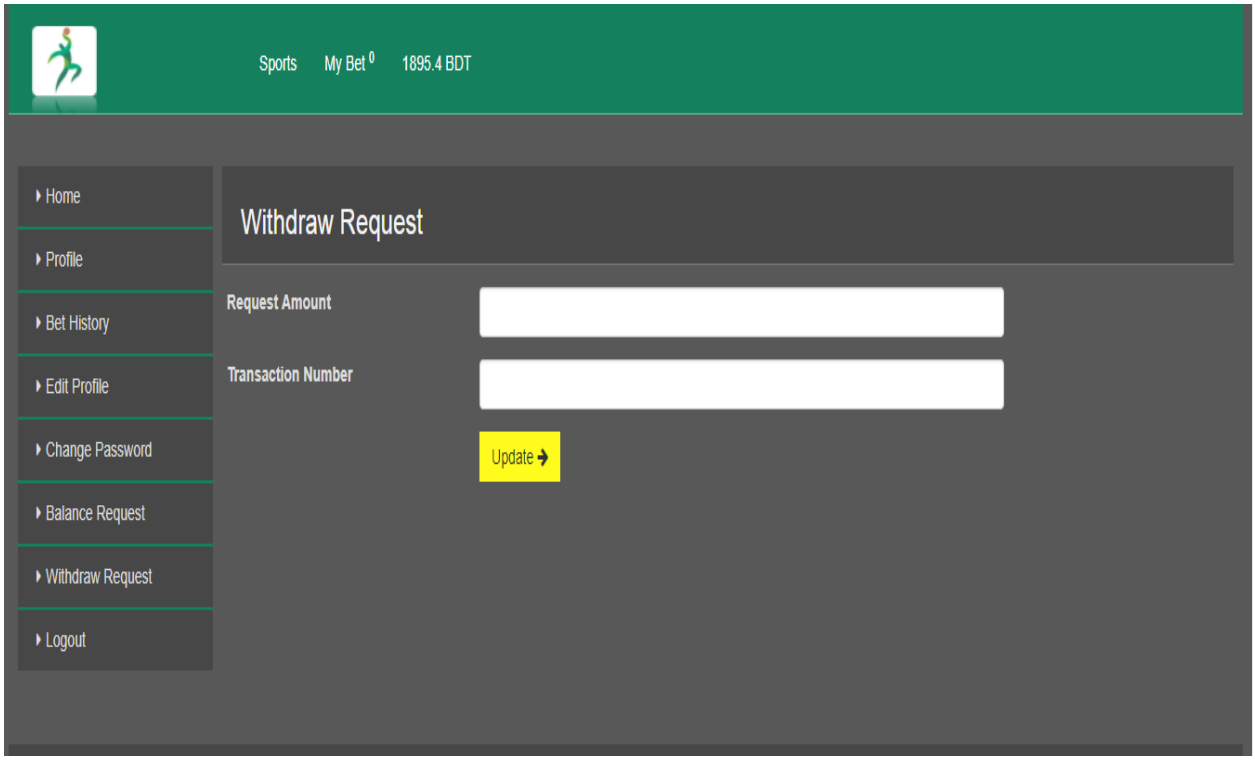

Figure 6.9: Request Withdraw Form

Chapter 7

Conclusion

7.1 Project Summary

Online betting system is a new experience and has greatly impacted of the bet gamblers in short time. Participants easily can play bet without facing any problem. In this system participants easily can play bet. The transaction process is easy for this system. They can transact with their BKASH number.

Online betting system has made Participants more effective and efficient in their betting system and has driven businesses to a new level. This system also unsure their security of their credential information. At the same time, as realized the benefits from this system, participants are more willing to play bet online, it is believed that online betting system will continue as significant role in their business.

7.2 Limitations

There are some limitations in my project such as I only show only one transaction method. Another I cannot set the logic of the system that when the game started then the game link will be disabled that no one cannot place bet on the game. Another is view records option. Here we can see the list but it is not in sequentially.

7.3 Obstacles and Achievements

From the beginning of the system I learn so many things which are needed for developer. Firstly I don't know how to make a design properly such as database design how to write algorithm and diagrams associates of a project work. Before this I don't know the importance of algorithm and how much it is needed for a programmer to build up a project. In the time of building this system many importance part of the using language which I use for building this system. I also learn before starting logical portion if the database design and project UI is ready then it will be very easy to implement the code. In a word it was a great achievement for me to build this system.

7.4 Future Scope

Few features that will be implemented in the future.

First, I will implement the transaction process. I will add more transaction method that participants easily can interact with this system

Second, I will add more games category like tennis golf etc.

Third, I will maintain set the logic to maintain the game time so that no one can place bet after the publication of the game result