ONLINE HAND CRICKET GAME

PROJECT DESIGN DOCUMENT

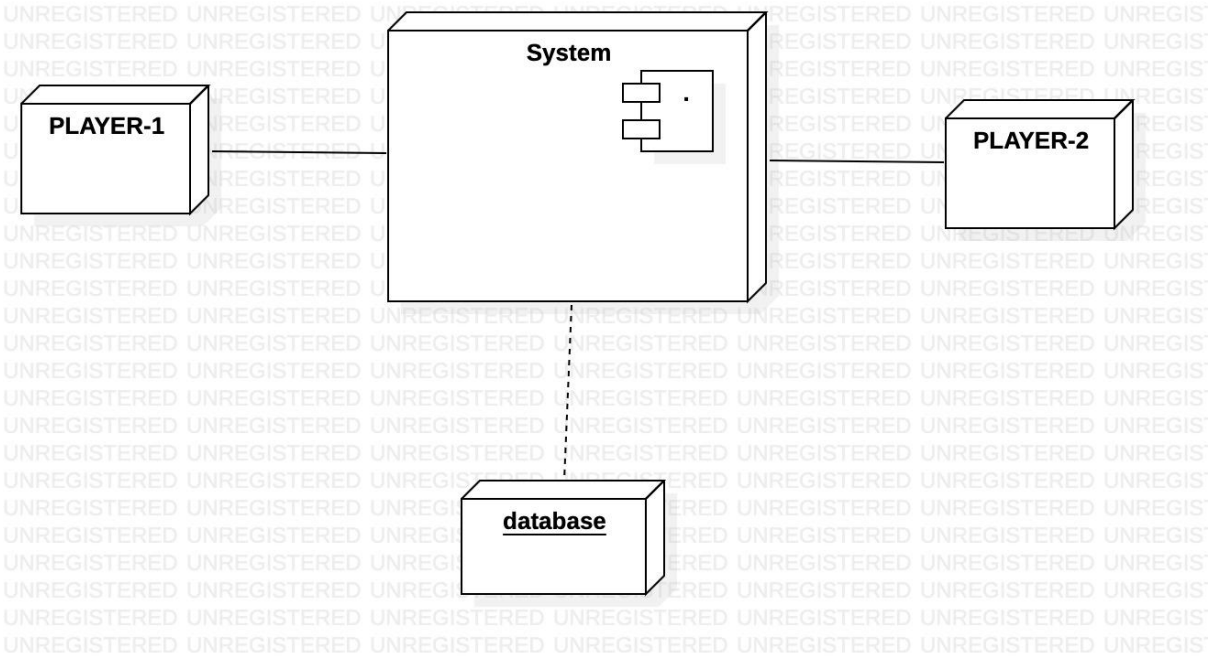
CONTENTS

Project Design Description :

The agenda of the project is to let the user play a online cricket with hand symbols in a new fashion which is simple and entertaining .For playing the game in a suitable environment this website is designed in a user friendly manner with all the requirements specifications which describes the design functionalities and constraints

It has three modules namely player-1, player-2, and cpu . As this is game it requires two users that are player-1 and player-2 , cpu manages the game and also stores the essential information for the statistics reason , also the cpu joins both the players remotely on a secure server with no data loss and mistakes , if the player wish to play without another player then the cpu acts as another player here player-1 and player-2 are real users where as cpu is a virtual user

Application Architecture :



System, player-1 and player-2 , database are the 3 general tier architecture in the application architecture

SYSTEM:

Add Player on the same server : when two players wish to play together then the system makes them join on same server

Add Score : when either player is batting then the system adds the score
Count Wickets : when either player bowl's the system counts the no of wickets
Change innings : when the wicket count reaches ten then the system swap's the bowler with batter and batter with bowler
Store data : stores the essential information regarding the player's gameplay to the database
Cpu opponent : incase of single-player mode the system acts as the opposition

Player :
Select symbol : as per the role given to the player (bat/bowl) the player selects a symbol between one-six
Call for toss : the player selects odd/even for the toss to decide who goes what(i.e bat/bowl)
Select mode : the player decides in which mode he wants to play

UML DESIGN :

UML is a powerful tool that can greatly improve the quality of your system analysis and design, and it is hoped that the improved practices will translate into higher-quality systems. UML is a highly recognized and understood platform for software design. It is a standard notation among software developers. The main aim of UML is to define a standard way
to visualise the way a system has been designed. It is quite similar to blueprints used in other fields of engineering.

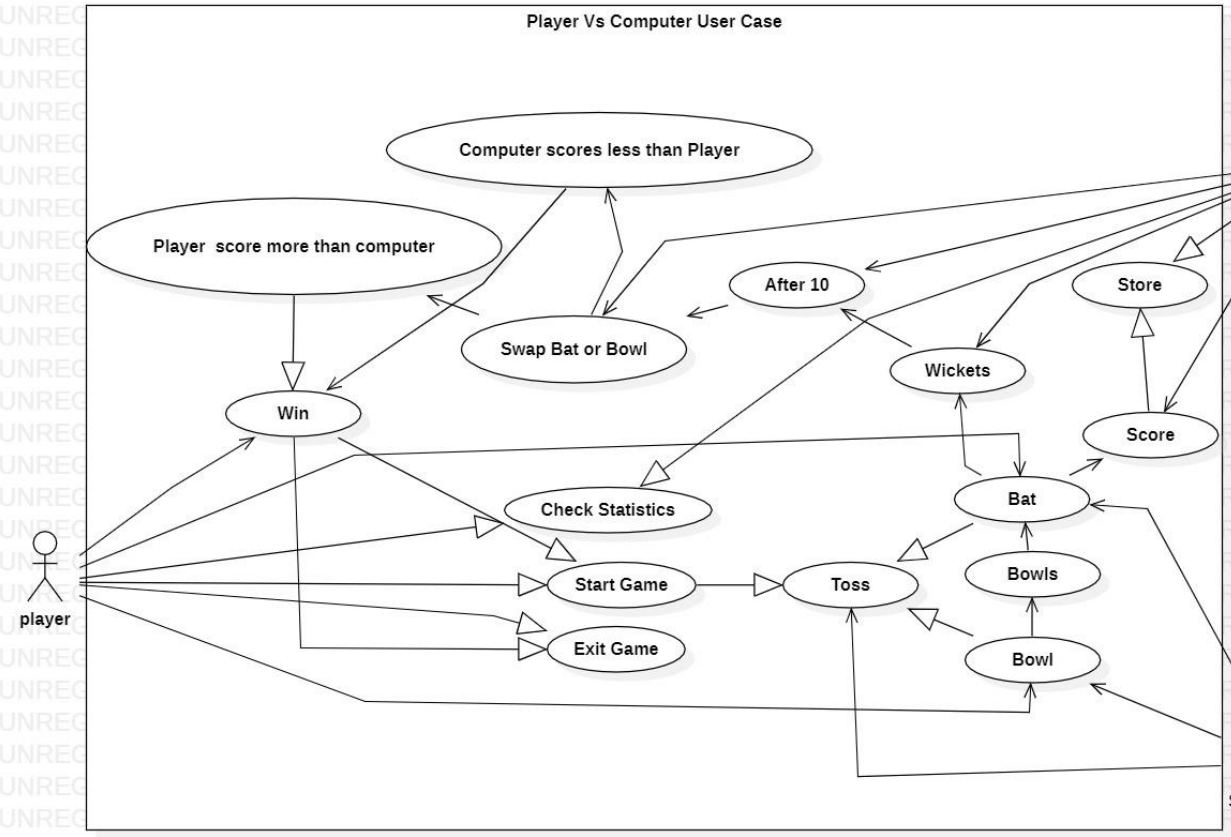
UML Diagram :

A UML diagram is a diagram based on the UML (Unified Modelling Language) with the purpose of visually representing a system along with its main actors, roles, actions, artefacts or classes, in order to better understand, alter, maintain, or document information about the system. By using the use-case diagram one can understand the operations of each user, flow of the help the developer to implement the requirements in the easier way. Following are the Use-case, sequence diagrams.

Use-Case Diagram :

A use case diagram is a list of actions or event steps typically defining the interactions between an actor and a system to achieve a goal. Use Case is shown as an ellipse containing the name of use-case. An Actor is shown as a stick figure with the name below it. Use Case diagram is a graph of actors.

• The actors in player vs system use-case diagram are player, system-player, system
• The actors use arrow to denote UseCases of the project
• The use-cases of player are check-status , start-game, exit-game , win , bat, bowl
• The use-cases of system are wickets, score, store , after-10, check stats , swap
• The use-cases of system-player are toss, bowl, bat



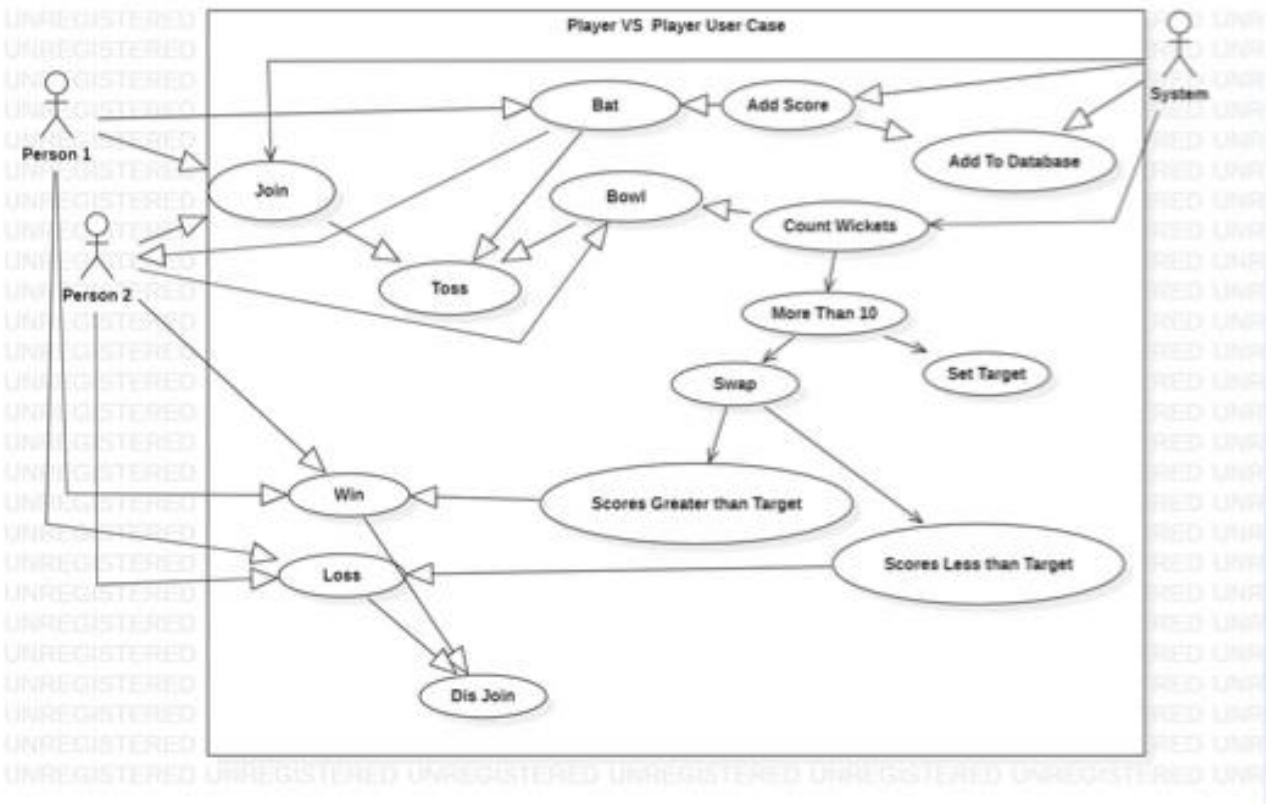
• The actors in case of player vs player mode are player-1, player-2, system

• The actors use arrow to denote UseCases of the project

• The use-cases of player-1 are join, bat, bowl , lose, win

• The use-cases of player-2 are join, bat, bowl , lose, win

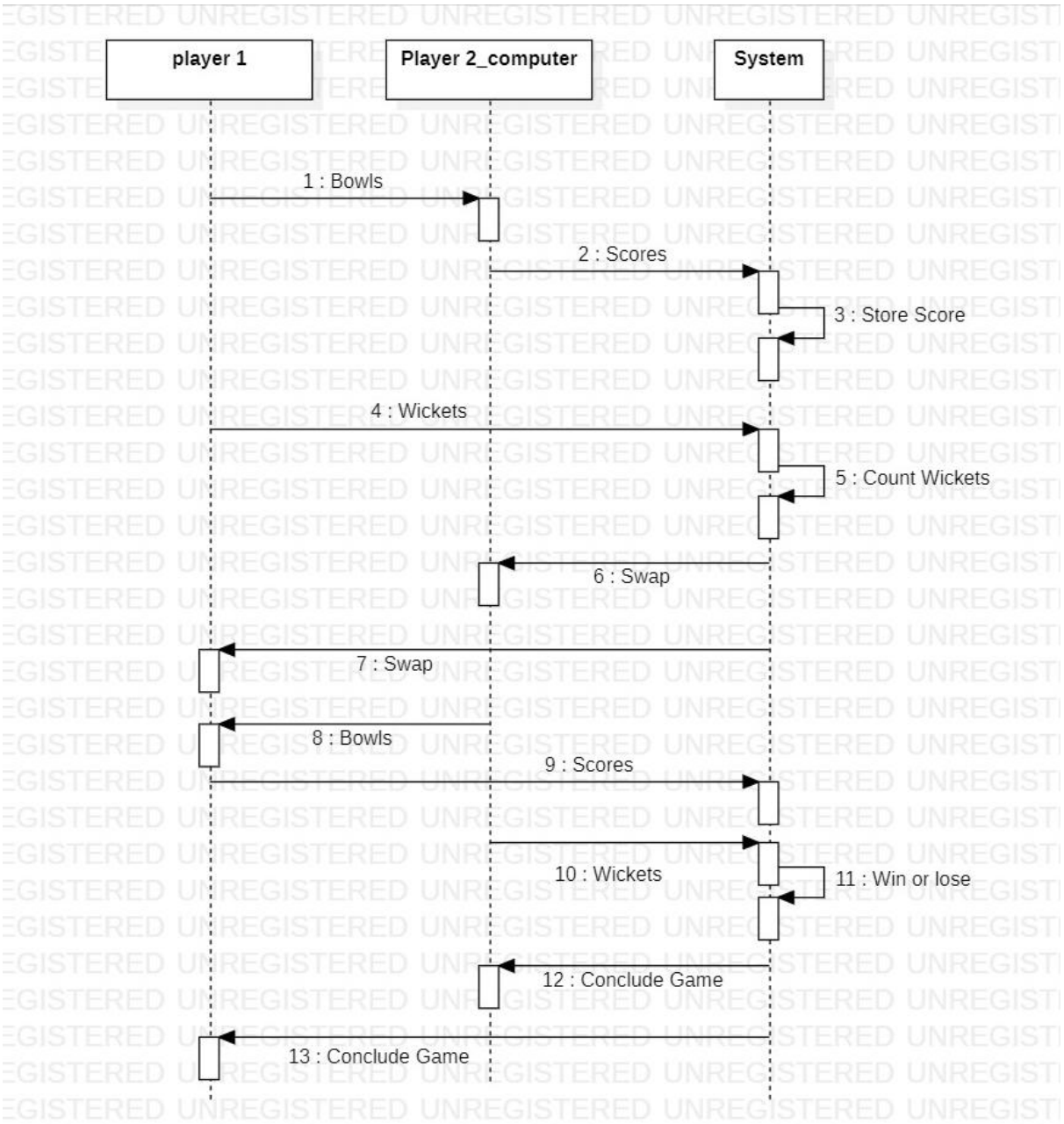
• The use-cases of system are join, disjoin , add score, count wickets, add to database



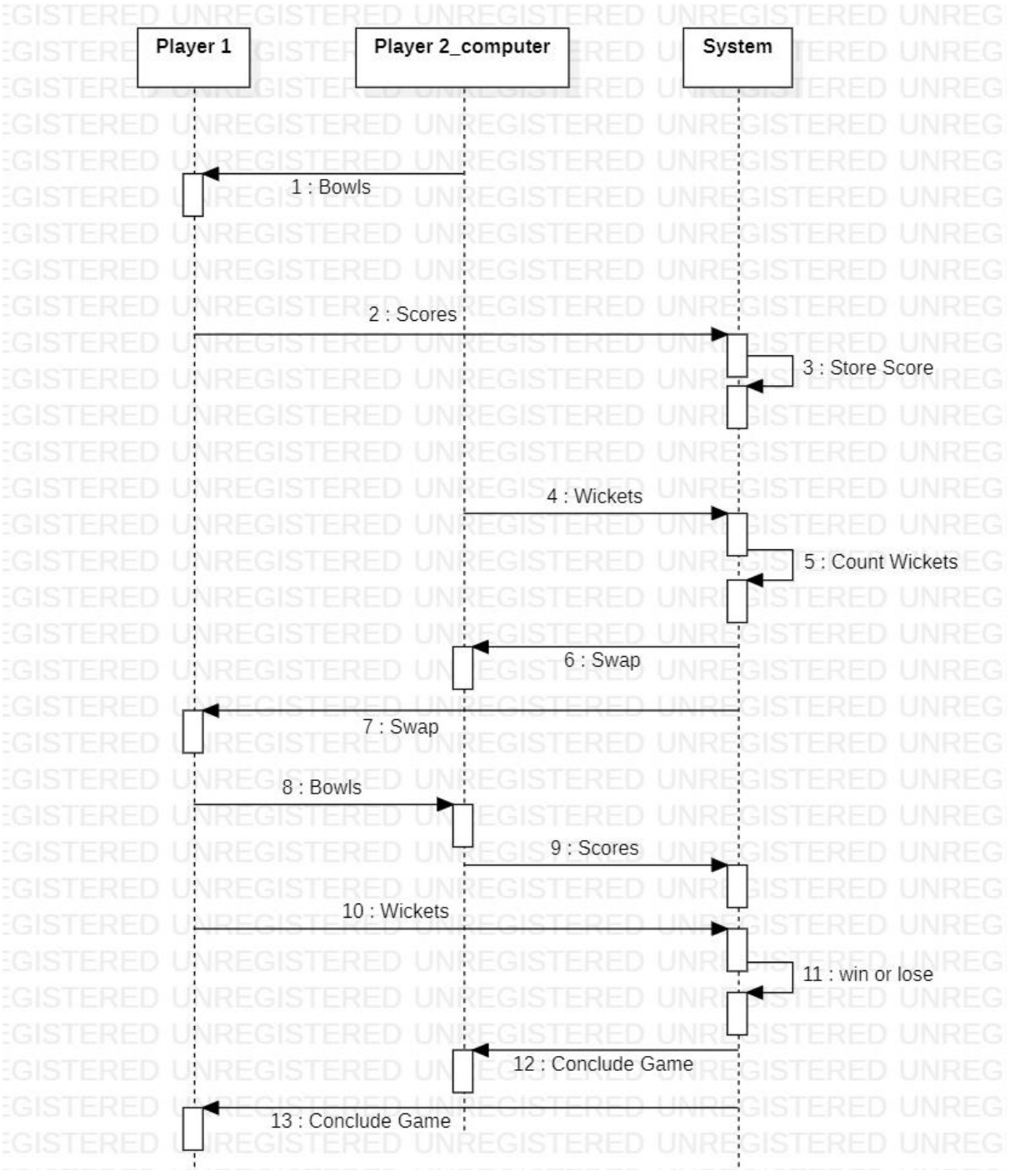
Sequence diagram :

Sequence Diagrams are used for the documentation of various system's requirements and to flush out a system's design. Sequence diagrams are so useful because they show the interaction logic between the objects in the system in the time order at which interactions take place.

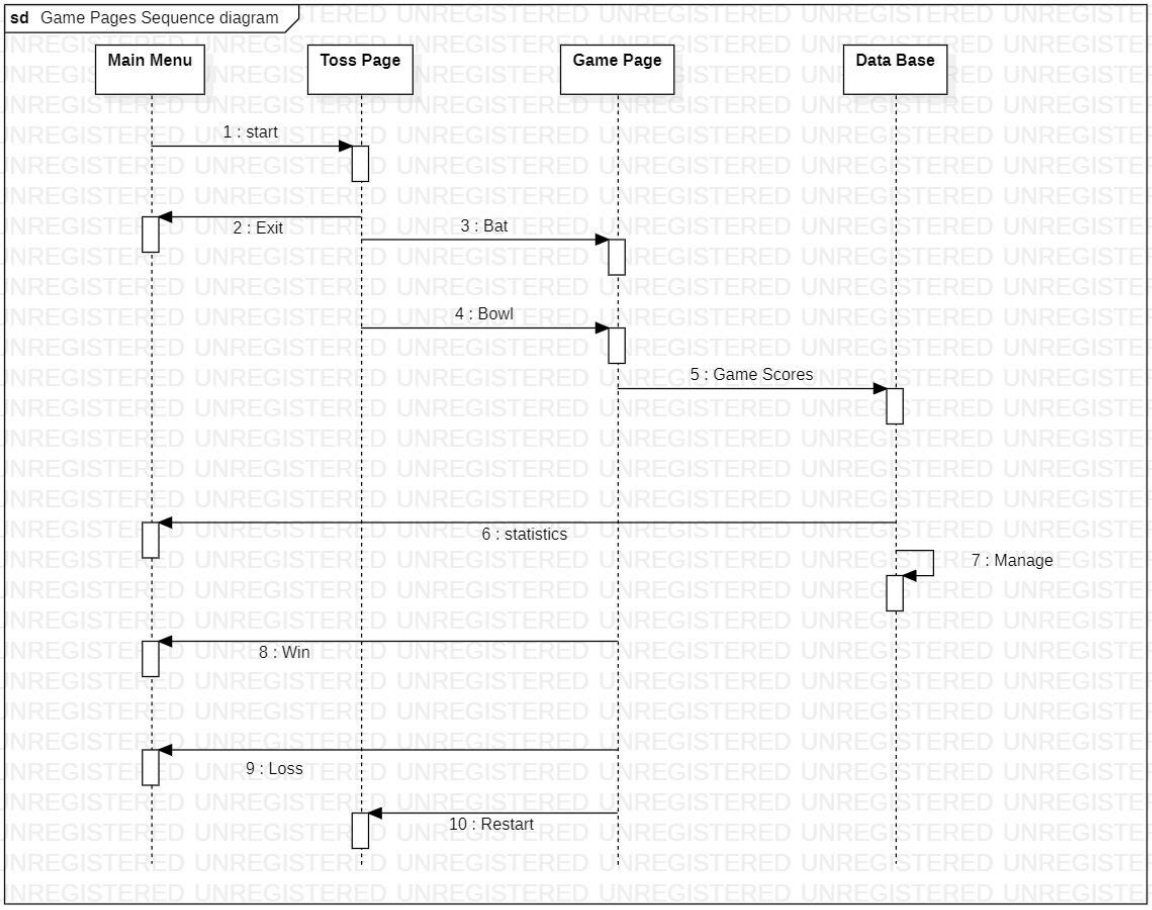
The sequence diagram for player bowling first is



The sequence diagram for player batting first is



The sequence diagram for multiple pages is



Database design :

Database design is the organisation of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model. Database management system manages the data accordingly. Database design includes tables and ER diagrams.

a) Player registration

Column name	DataType
Player id	int
Player name	varchar(50)

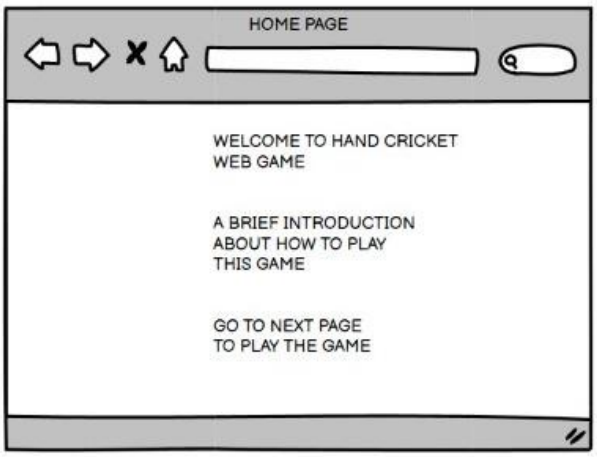
b) Player stats

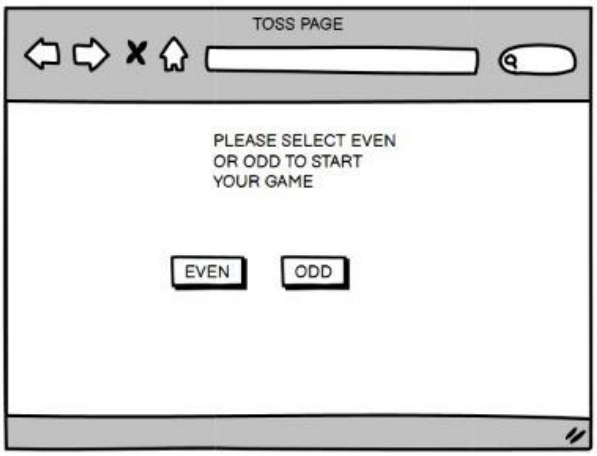
Column name	DataType
Matches played	int
Total wins	int
Total loses	int
Highest score	long
total number of wickets	long
Best figures	text

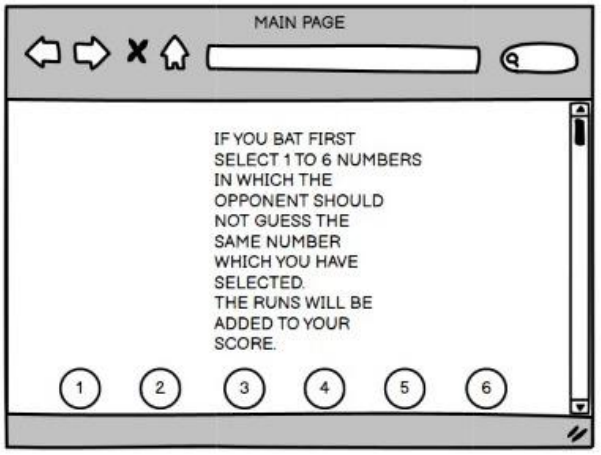
ER DIAGRAM

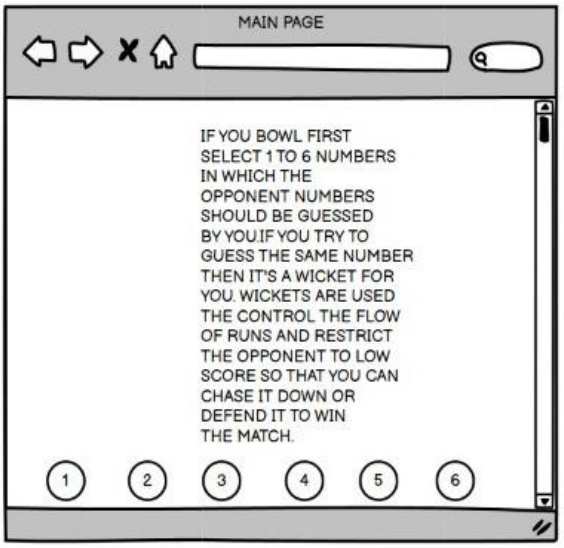
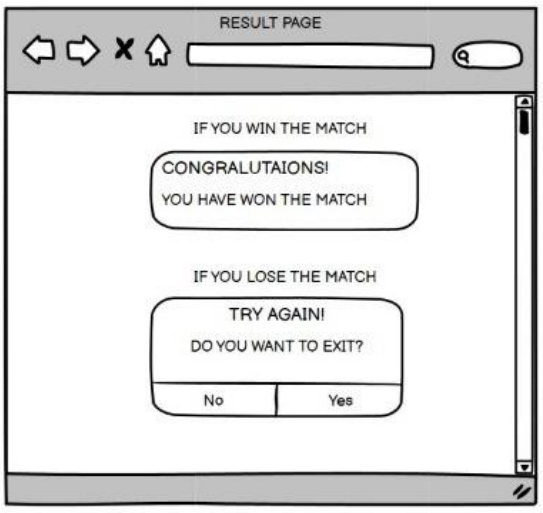
Wire Frame Design

A wireframe is a layout of a web page that demonstrates what interface elements will exist on key pages. It is a critical part of the interaction design process. The Balsamiq tool helps you to design the User Interfaces and to know the flow of the application.

DATE	UI DESIGN	DESIGN DESCRIPTION	EVALUATED FEEDBACK
	Home page : Intro about the game  	Home page is just about brief introduction of this game and it contains set of rules how to play and win the game.	

	Toss page : Players choose Even or Odd numbers to decide the toss result.  	Toss page decides whether the player bats first or bowls first according to user choice and computer choice.	

	Case 1 : User Batting First  	If user is batting first then user must select the numbers 1 to 6 which is shown in the figure and the user should not match the opponent number if that happens then runs will be added to your total.	

	Case 2 : If User Bowls FirsT  	If the user is bowling first then user should keep guessing the number to match the opponent number if that happens then it is declared as wicket.	
	Final Result  	If the user wins the match then the screen lights up-with CONGRATULATIONS! Text. If User lose the match then it asks for exit and try once more.	

Flow of the System :

The functionality of the system regarding its execution is shown with a data flow diagram which represents what happens within the game at each step

DataFlow Diagram :

Data flow is the one of the best ways of documenting the entire functionality of the system. For the system, which will have data flows in and have some processing inside and then some data flow out from the system can be docu- mented or represented effectively by means of data flow out from the system can be documented or represented effectively by means of data flow diagrams. The data flow diagram is a diagrammatic representation of the system, which has input, process and output. Once any system is represented using a data flow diagram we can identify the following things easily:

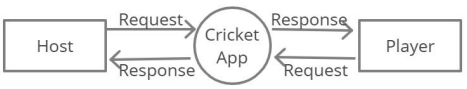
Various entities interacting with the system are identified

Flow of data from one entity to another is identified

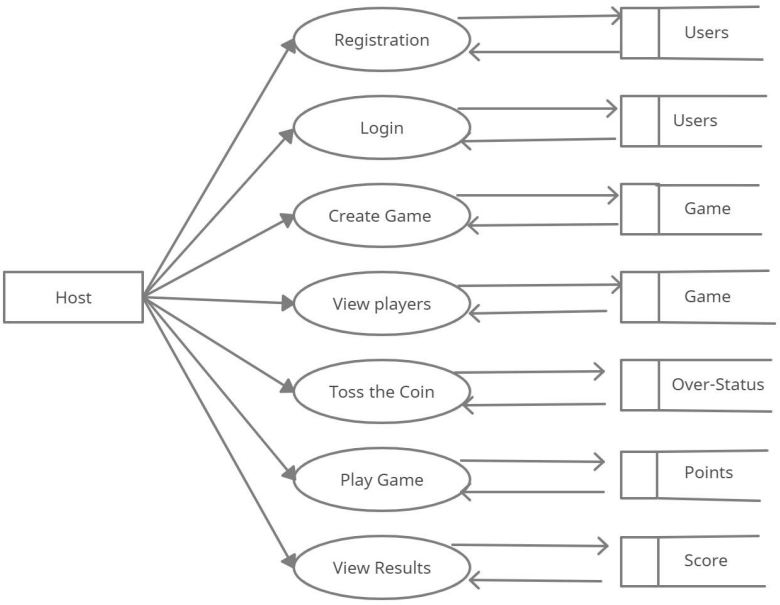
The various processes involved in between the interaction of two or more entities in the system are clearly pointed out

The various data stores which hold the data in between the process,are clearly identified

B.1 Level 0



B.2 Level 1


Host
Registration
Login
Create Game
View players
Toss the Coin
Play Game
View Results
Users
Users
Game
Game
Over-Status
Points
Score

Algorithm design of the system

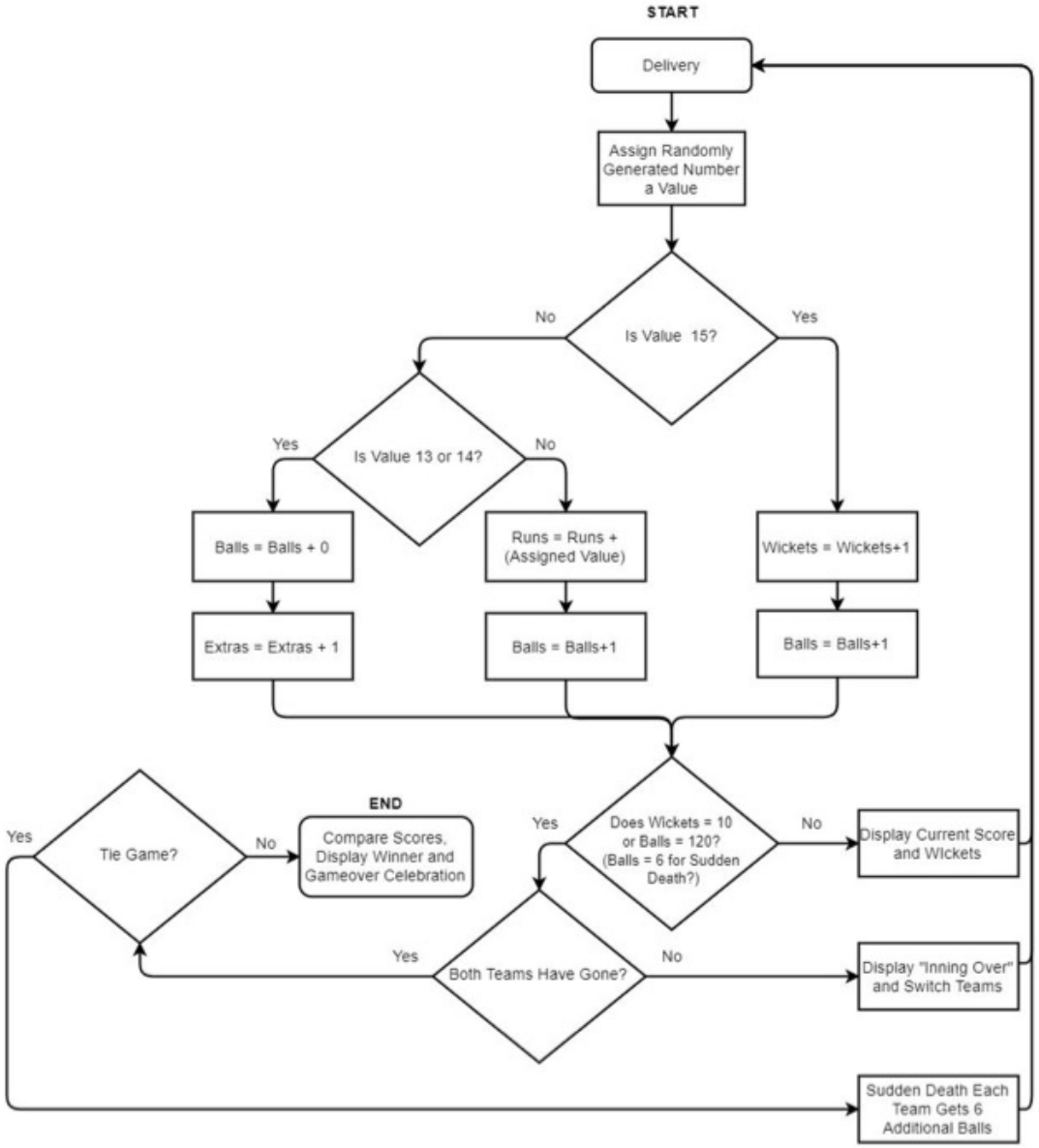


Figure 4: Entire Cricket Game Functionality