

Bingo Bonanza

User Manual

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1. Introduction

Abstract

‘Bingo Bonanza’ is an all in one online platform for both people who enjoy playing bingo and business, charities or other organizations that wish to host a night of bingo. This application allows all users to play/create real bingo games for real cash prizes. This is done using a wide aspect of computer technologies, architecture and frameworks that will be discussed in depth throughout the entire document. Our motivations for choosing to create an online bingo application as our final year project can be found below alongside a detailed description of our design, implementation, problems faced and an in depth explanation of various aspects of our application.

1.1 Overview

As aforementioned, ‘Bingo Bonanza’ is an application that has two distinct purposes for two distinct types of users. We have coined them ‘Host’ for those who wish to host their own games of bingo and ‘Player’ for those users who wish to play games of bingo and potentially win cash prizes. ‘Bingo Bonanza’ is a web application that has been designed for all devices.

All users can create an account on our Web-Application and accounts are not unique to the user type but rather the user selects a user type when they complete logging in. This user type then determines the sections of the web application accessible to the user for the session.

We aim to provide users with an interactive game of bingo that allows many players to play a single hosted game. We achieve this through using Websockets, in the form of Socket.io, to provide full duplex communication between a Host and all Players in that given hosts game. We use AWS Lambda to provide the PRNG Generation and generation of our players game tickets.

2. Getting Started

2.1 Requirements

- Gitlab Access
- Node.Js v18.14
- Device that can connect to the internet

2.2 Installation

- Git clone the repository from here:
 - <https://gitlab.com/computing.dcu.ie/lennos36/2023-ca400-lennos36-simms-b3.git>

Running the application

Open two terminals on the first terminal and change the current directory to the bingo-app folder, the exact path within our project is as follows

“src/Web-App/bingo-app” then run these commands:

- npm install
- npm start

On the second terminal change the current directory to the Socket Server folder, the exact path is as follows “src/Web-App/SocketServer” then run these commands:

- npm install
- Node SocketServer.js

After carrying out the above the application can be accessed through a web browser by navigating to “localhost:3000”, this will serve you the web application side of the app. The Socket Server will be running on port 1025 but this does not need to be accessed in the web browser.

2.3 Live Version

A live version our application exists already hosted on an S3 bucket the website can be accessed through this url

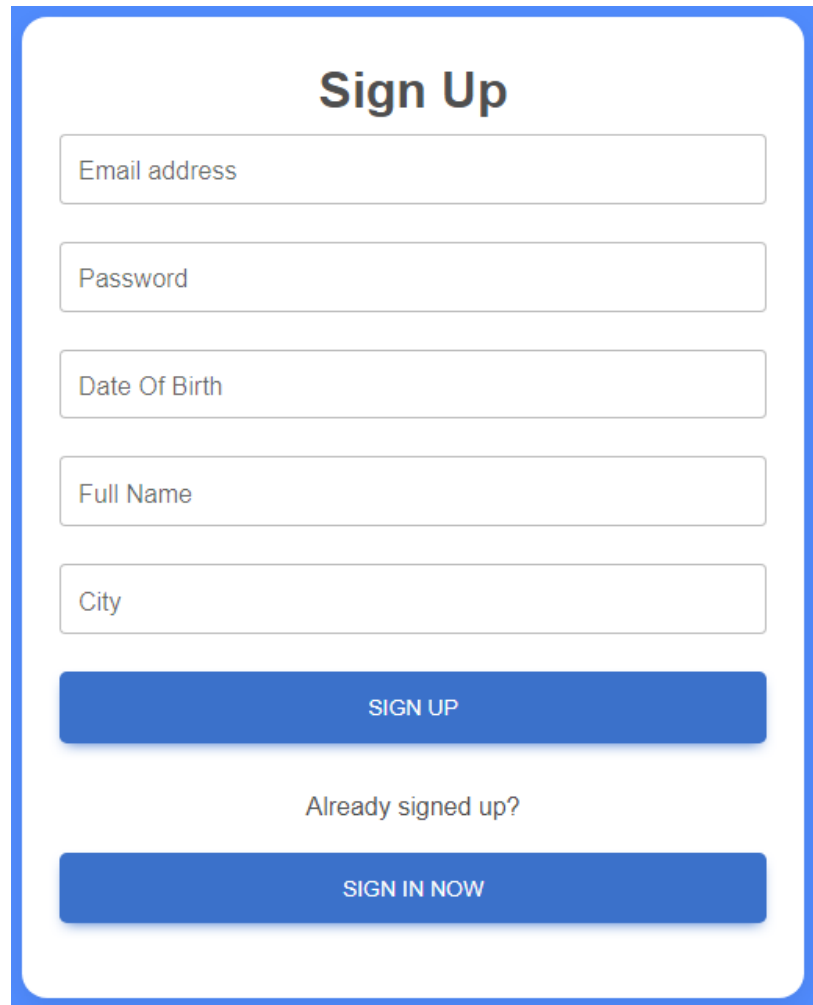
- <http://bingoapp-20230329125729-hostingbucket-dev.s3-website-eu-west-1.amazonaws.com/>

If using the live version of the app the live version of the websocket server will need to be available too this can be achieved by connecting to our EC2 instance. This can be done using SSH unfortunately due to security implications Amazon has security relating to this where it must be accessed with a valid username and password for the AWS accounts managing it. We will not share that information here as the Gitlab repo is public and that would be a huge security risk. If you wish to use the Live version please contact either of the project members through their official DCU email and we can run the live Websocket Server for you. Our emails are as follows:

- brendan.simms3@mail.dcu.ie
- shane.lennon36@mail.dcu.ie

3. Walktrhough

3.1 Sign Up

A sign-up form titled "Sign Up" with a blue border. It contains five input fields: "Email address", "Password", "Date Of Birth", "Full Name", and "City". Below the fields is a blue "SIGN UP" button. Underneath the button is the text "Already signed up?" followed by a blue "SIGN IN NOW" button.

Sign Up

Email address

Password

Date Of Birth

Full Name

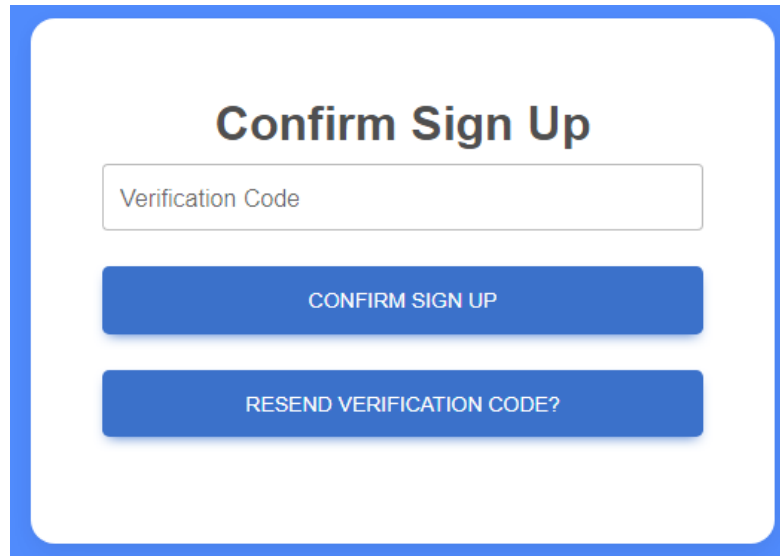
City

SIGN UP

Already signed up?

SIGN IN NOW

Click the Sign Up button and you are brought to this page. Here you need to fill out your details as require the date of birth should be in the format (dd-mm-year)



The image shows a 'Confirm Sign Up' form. It has a title 'Confirm Sign Up' at the top. Below the title is a text input field labeled 'Verification Code'. Underneath the input field are two blue buttons: 'CONFIRM SIGN UP' and 'RESEND VERIFICATION CODE?'. The entire form is enclosed in a blue border.

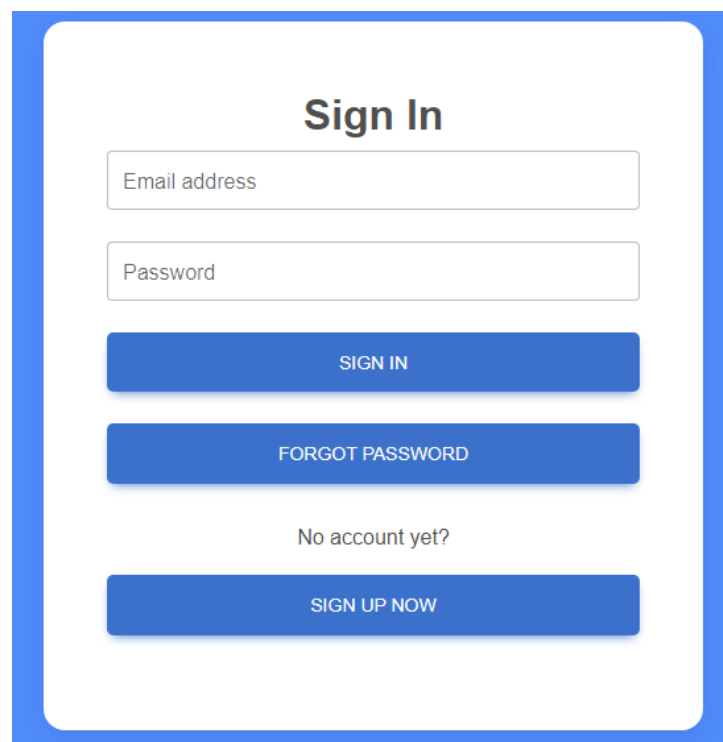
Confirm Sign Up

CONFIRM SIGN UP

RESEND VERIFICATION CODE?

Once you hit sign up with correct details you will be brought here. The application will send a verification code to your email address. Enter the code above and confirm sign up.

3.2 Sign In



The image shows a 'Sign In' form. It has a title 'Sign In' at the top. Below the title are two text input fields: 'Email address' and 'Password'. Underneath these fields are three blue buttons: 'SIGN IN', 'FORGOT PASSWORD', and 'SIGN UP NOW'. There is also a link 'No account yet?' located between the 'FORGOT PASSWORD' and 'SIGN UP NOW' buttons. The entire form is enclosed in a blue border.

Sign In

SIGN IN

FORGOT PASSWORD

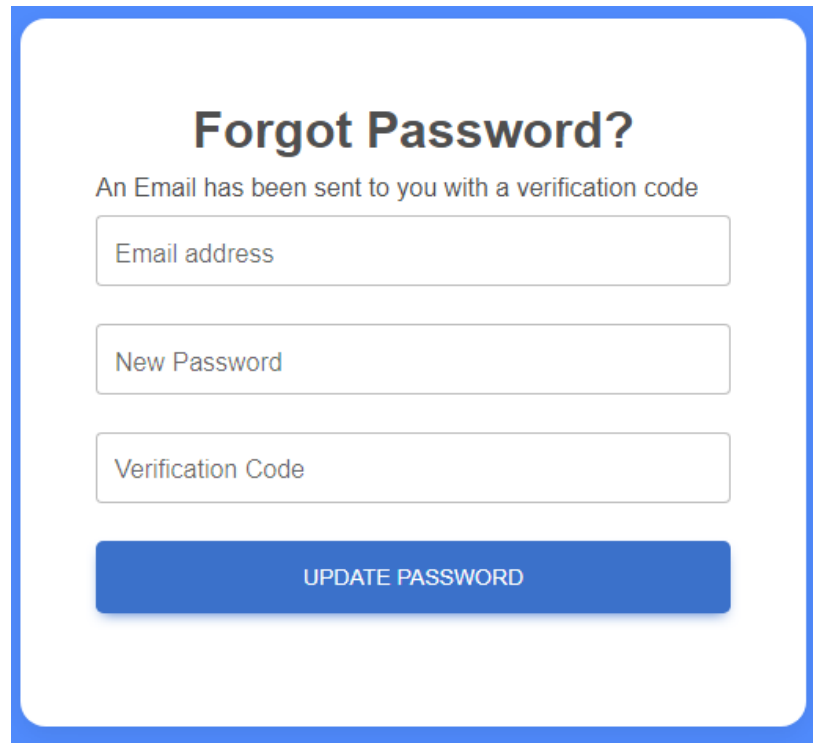
No account yet?

SIGN UP NOW

You can sign in using details used on the sign up, enter your email address and password and hit sign in.

3.3 Forgot Password

If you forgot your password you may enter your email address in the field and click forgot password.

A screenshot of a 'Forgot Password?' form. The form is enclosed in a blue border. At the top, the title 'Forgot Password?' is centered in a bold, dark font. Below the title, a message states 'An Email has been sent to you with a verification code'. There are three input fields: 'Email address', 'New Password', and 'Verification Code'. Each field has a light gray border and a small icon on the left. Below the input fields is a blue button with the text 'UPDATE PASSWORD' in white, uppercase letters.

Forgot Password?

An Email has been sent to you with a verification code

Email address

New Password

Verification Code

UPDATE PASSWORD

A verification code will be sent to your email, enter the code, your email address and the new password to update your password.

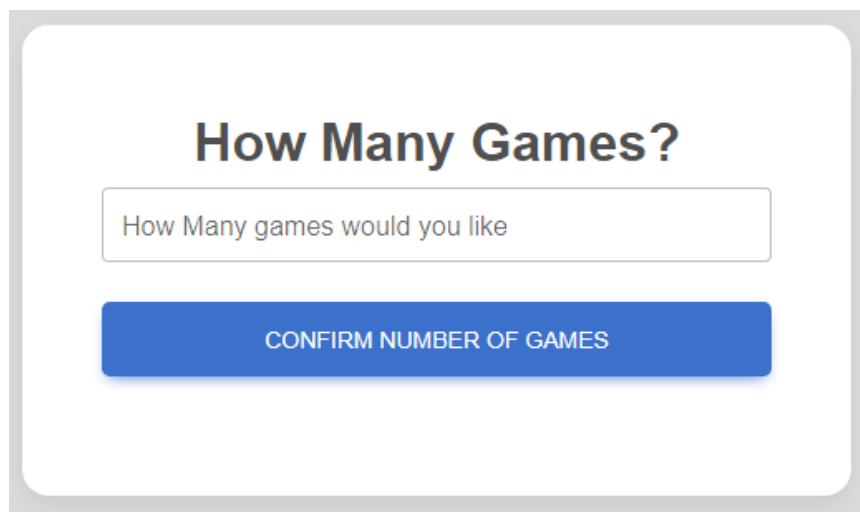
3.4 Select user type



A screenshot of a web form titled "Which Type of User Would You Like to Be?". The form is enclosed in a blue border and contains four blue buttons stacked vertically. The buttons are labeled "HOST", "PLAYER", "CONFIRM PLAYER TYPE?", and "SIGN OUT?".

Once Signed In you will be asked to select your user type, simply click Host or Player and then click Confirm Player Type button. You will then be brought to your home page.

3.5 Setting Up a Game



A screenshot of a web form titled "How Many Games?". The form is enclosed in a grey border and contains a text input field with the placeholder text "How Many games would you like" and a blue button labeled "CONFIRM NUMBER OF GAMES".

Here you would enter the number of games you wish to play.

Please Set your Prize Money
for Each individual game

Game1

Single Line Prize Money?

Double Line Prize Money?

Full House Prize Money?

Game2

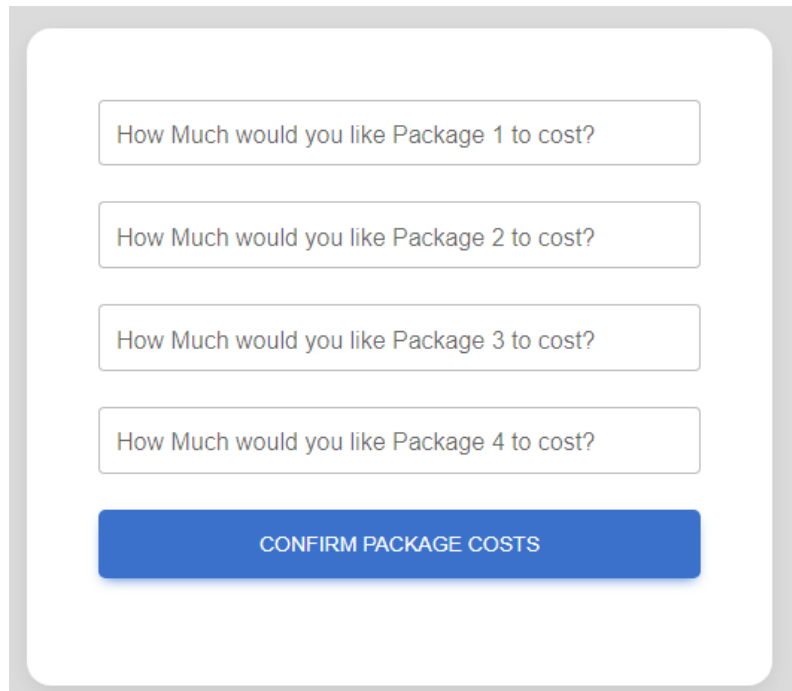
Single Line Prize Money?

Double Line Prize Money?

Full House Prize Money?

CONFIRM PRIZE MONEY

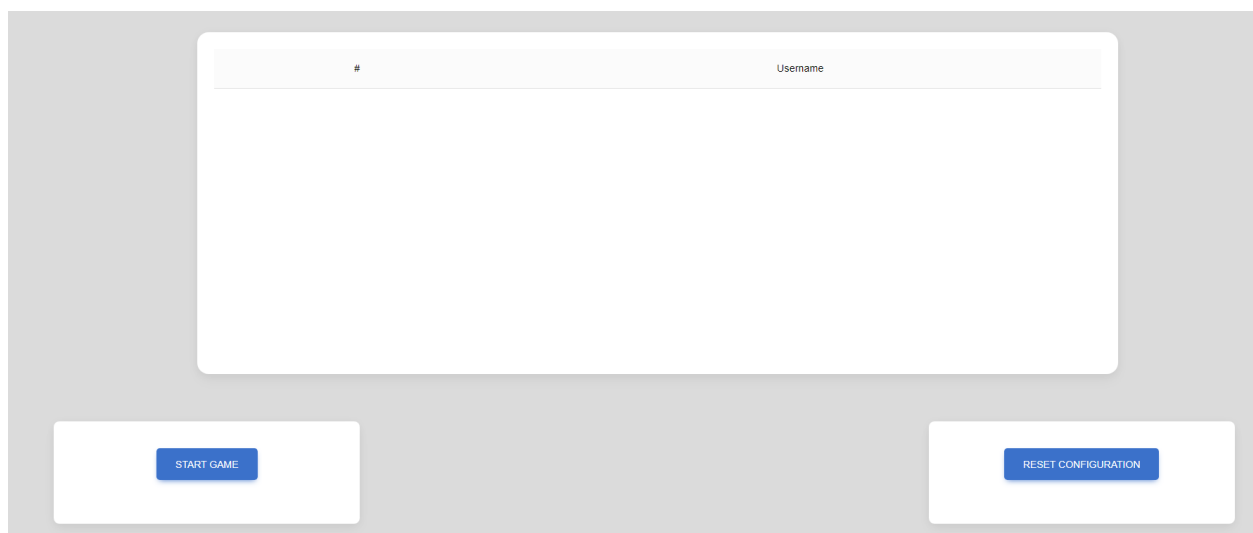
You will then be asked to set your prize money for individual games. Enter the prize money for single double line and full house and confirm the prize money



A screenshot of a web form for confirming package costs. The form is white with rounded corners and a subtle shadow, set against a light gray background. It contains four text input fields, each with a placeholder question: 'How Much would you like Package 1 to cost?', 'How Much would you like Package 2 to cost?', 'How Much would you like Package 3 to cost?', and 'How Much would you like Package 4 to cost?'. Below these fields is a prominent blue button with the text 'CONFIRM PACKAGE COSTS' in white, uppercase letters.


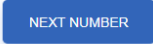
Then you must select how much each package of books is going to cost once entered you can confirm the package costs.

3.6 Hosting a Game



A screenshot of a web interface for hosting a game. It features a large white rectangular area with rounded corners and a shadow, intended for a table of player information. At the top of this area is a header bar with two columns: '#' and 'Username'. Below the main area are two white rectangular buttons with rounded corners and shadows. The left button is labeled 'START GAME' and the right button is labeled 'RESET CONFIGURATION', both in blue text.

Here is the waiting room after you have set up the game configuration. Here you would wait for players to join your game and their email address will be displayed in the table above. Once all the users you wish to play have joined click start game.

Current Number						
						
4	5	6	7	8	9	10

Inside the game you may hit the next number button to call the next number for the players.

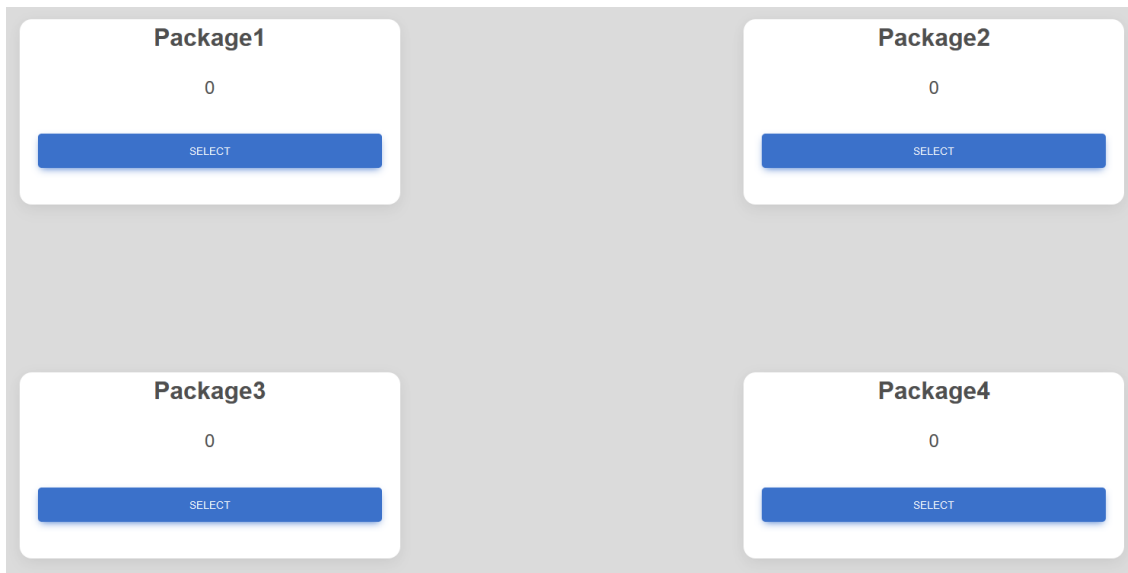
3.7 Playing a Game

To play a game you must join using the hosts email address this is case sensitive, then submit.

Enter the users name you wish to join

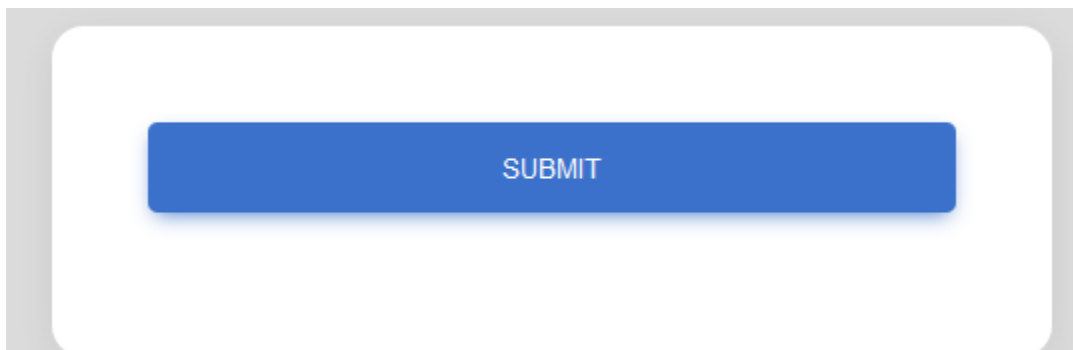
SUBMIT

You will then be required to select one of four packages.



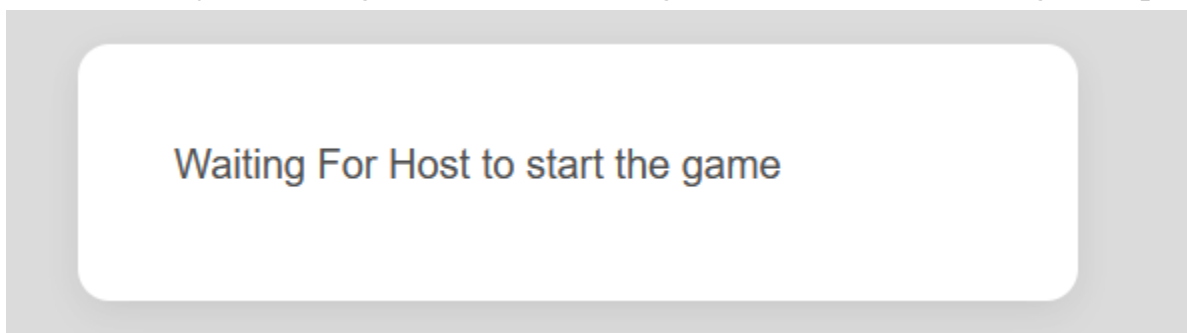
The screenshot shows a gray background with four white rounded rectangular boxes arranged in a 2x2 grid. Each box contains the following text from top to bottom: a package name (Package1, Package2, Package3, or Package4), the number '0', and a blue rectangular button with the word 'SELECT' in white capital letters.

Each package contains more books than the last and the cost will be set by the host. Once selected you need to hit the submit button at the bottom of the screen



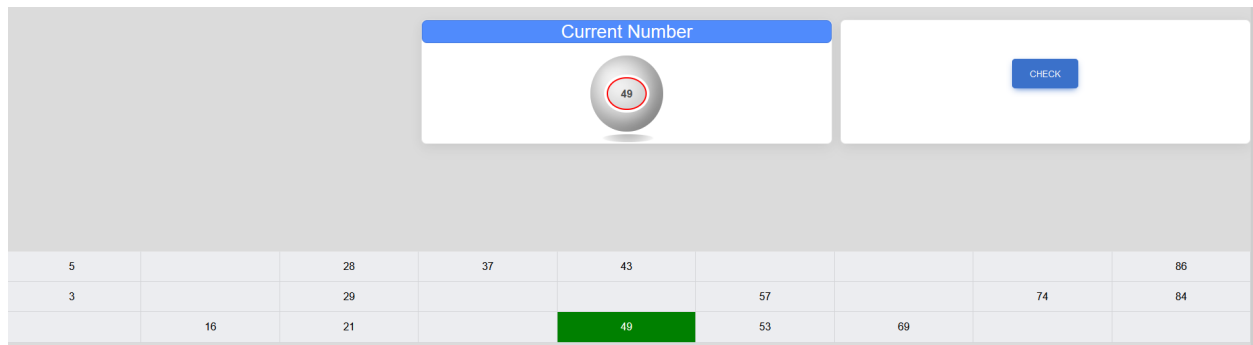
The screenshot shows a gray background with a large white rounded rectangular box in the center. Inside this box is a single blue rectangular button with the word 'SUBMIT' in white capital letters.

You have now joined the game and are waiting for the host to start the game up

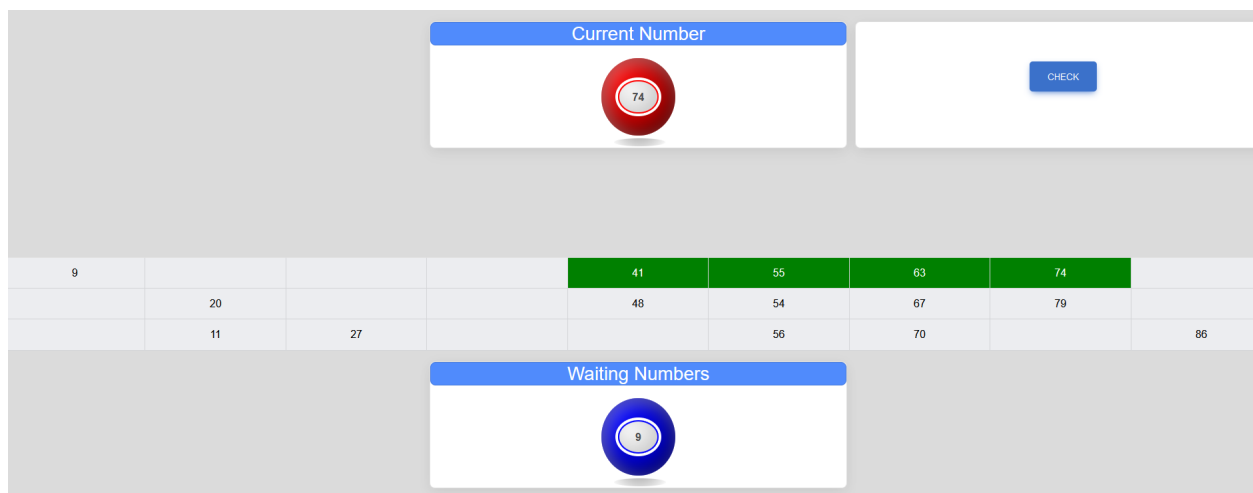


The screenshot shows a gray background with a large white rounded rectangular box in the center. Inside this box is the text 'Waiting For Host to start the game' in a black, sans-serif font.

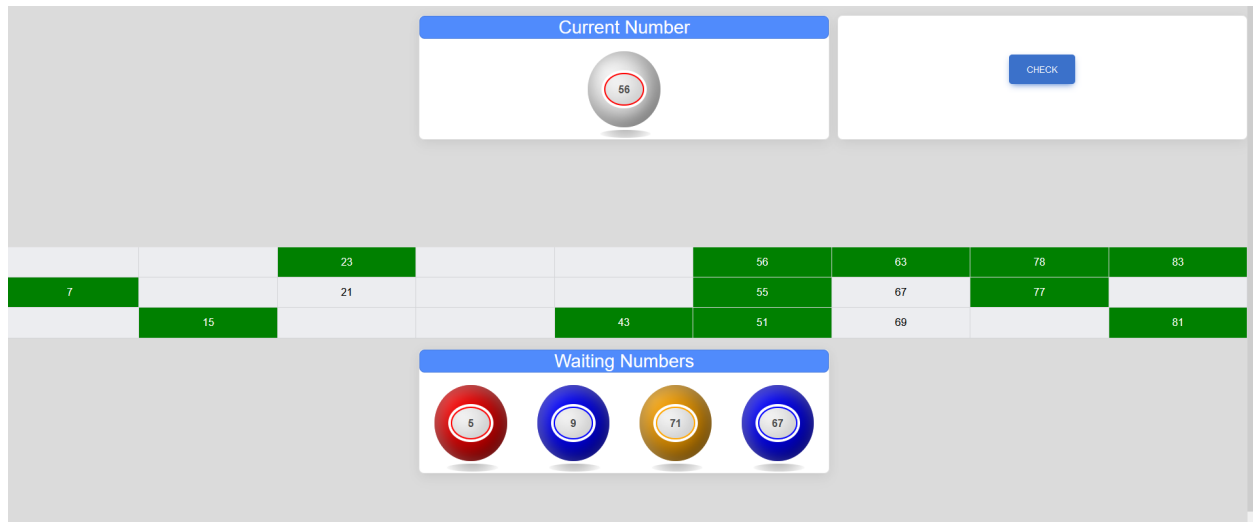
Once the host has started the game and has called a number you will see the number at the top of your screen. The bingo ticket will also mark off any numbers that have been called out.



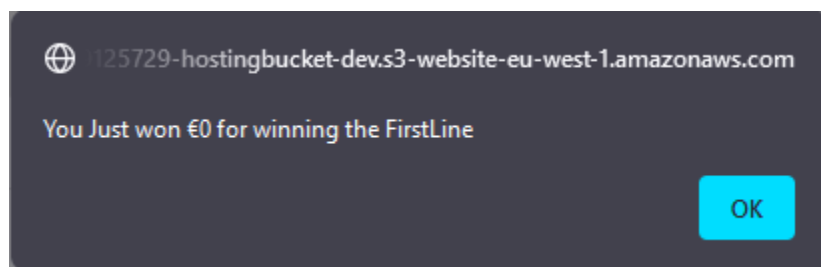
Your bingo ticket will automatically update to your best ticket ie. the closest ticket to winning that current game stage.



In the picture shown above you can see that you are only waiting on the number 9 to win the single line game. And as such you can see the number you are waiting on on the bottom of the screen, this will update and show numbers you are waiting on even if the ticket isnt currently on the screen.



Once you have filled out the (single line, double line, or full house) you will be shown the ticket that has won. You now need to hit check and see if you have indeed won that game stage.



If you have won a pop up will tell you that you won that game and how much you won on the game and it will move onto the next game.