

scienceexperiment.online

A platform for experiencing Games Theory

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Introduction

The present document intends to be a User Manual for anyone interested in using the platform scienceexperiment.online for creating and running online games and whose goal is to study and experiment with the fundamentals of Game Theory.

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1. The Beauty Contest Game

The Beauty Contest game is a game in which all players are asked to pick up a number in a predefined interval, and the winner of the game will be the player whose choice was the closest to half of the average of all player's choices.

Creating a Beauty Contest Game

1. Go to scienceexperiment.online/classroom
2. Look for the text at the bottom that says: "**Want to create a game? Click [here!](#)**" and click there.

The screenshot shows the homepage of the website. At the top, there are links for 'Home' and 'Welcome'. Below that, a large central area has a light gray background. It displays the text 'Hello there!' in blue, followed by 'Welcome to the classroom demo. Please, log into a game to get started:' in black. There is a text input field labeled 'Game PIN:' with the placeholder 'A game PIN you have been provided'. Below it is a button labeled 'Enter game'. Further down, there is text for users who own a game: 'Own a game? Log in to access the dashboard.' and 'Want to create a game? Click [here!](#)'. The word 'here!' is enclosed in a red rectangle.

3. Configure the game
 1. Select type "Beauty contest"
 2. Enter email address (required but for the moment not relevant, you can put any address here)
 3. Set a password. Important. (This will allow you to log into the game dashboard)
 4. Click on "Create game", it will then redirect you to the game dashboard

The screenshot shows the 'Create new game' form. At the top, there is a link for 'Home' and a 'Welcome' message. The main form area has a light gray background. It starts with a 'Game type' dropdown menu set to 'Beauty contest'. Below it are two input fields: 'Email address' containing 'email@example.com' and 'Admin password' containing '*****'. There is also a 'Create game' button. At the bottom of the form, there is text for existing users: 'Already own a game? Log in to access the dashboard.' and 'Want to play? Log into a game'. The entire form is contained within a light gray box.

After this, you will be redirected to the dashboard of the game, where you can also control every aspect of the game.

The screenshot shows the 'Beauty contest' dashboard. At the top left is a 'Home' link and a 'Welcome, log out?' button. Below is a 'Game details' panel with a blue header labeled 'Running'. It contains the Game PIN (jnujfL), Registration URLs (https://scienceexperiment.online/class/beauty-contest and https://scienceexperiment.online/beauty-contest), Status (Running), Type (Beauty contest), and Votes collected (0). To the right is a 'Game configuration' panel with a grey header labeled 'Edit'. It shows Min: 1, Max: 100, and a Prompt: -- no prompt set --. A message below says 'No votes are collected yet'. On the far left of the dashboard is a QR code.

Game details: (Left blue panel)

Here you can see some info about the game and the Game PIN. This PIN is the key to register to the game; it should be shared with the players of the game.

In addition, two URLs and a QR code are shown there too that can be used to access the game directly without entering the PIN code.

There is also information about the number of votes collected and about the Status of the Game, which can be "Running" or "Closed".

When the game is closed, information about the average of votes is also shown, and the Minimum and maximum votes are also displayed.

Game configuration: (centre grey panel):

Here you can edit the game configuration, as for the beauty contest, this is the min and max allowed votes, along with a prompt, which is the message that will be displayed to the participants.

Above the blue panel there is a button to stop the game, once you click it, the game will not allow further registrations nor votes, and will change its status to "closed". Then the winner of the game will see a message in his/her screen after refreshing the page.

On the top right corner, there is a link to log out.

As game administrator, you log in into the dashboard [here](#) using your game PIN and the password you set before.

Playing a Beauty Contest game

The subjects could enter the game in several different ways:

- by scanning the QR code provided on the Game details panel
- by entering in a browser the URL provided on the Game details panel
- by entering the game's PIN code in scienceexperiment.online/classroom:

A screenshot of a web page titled "Hello there!". The page says "Welcome to the classroom demo. Please, log into a game to get started:". There is a text input field labeled "Game PIN:" with the placeholder "A game PIN you have been provided". Below it is a button labeled "Enter game". At the bottom, there is text: "Own a game? Log in to access the dashboard." and "Want to create a game? Click here!".

Once the subjects enter, they will be redirected to a new page where they can place their vote. Any prompt set earlier in the game's configuration panel will be shown now.

A screenshot of a web page titled "Place your vote". It has a text input field and a blue "Submit" button.

Once the vote is placed, a page will be displayed to let players know that they have to wait until the end of the game in order to get to know the results

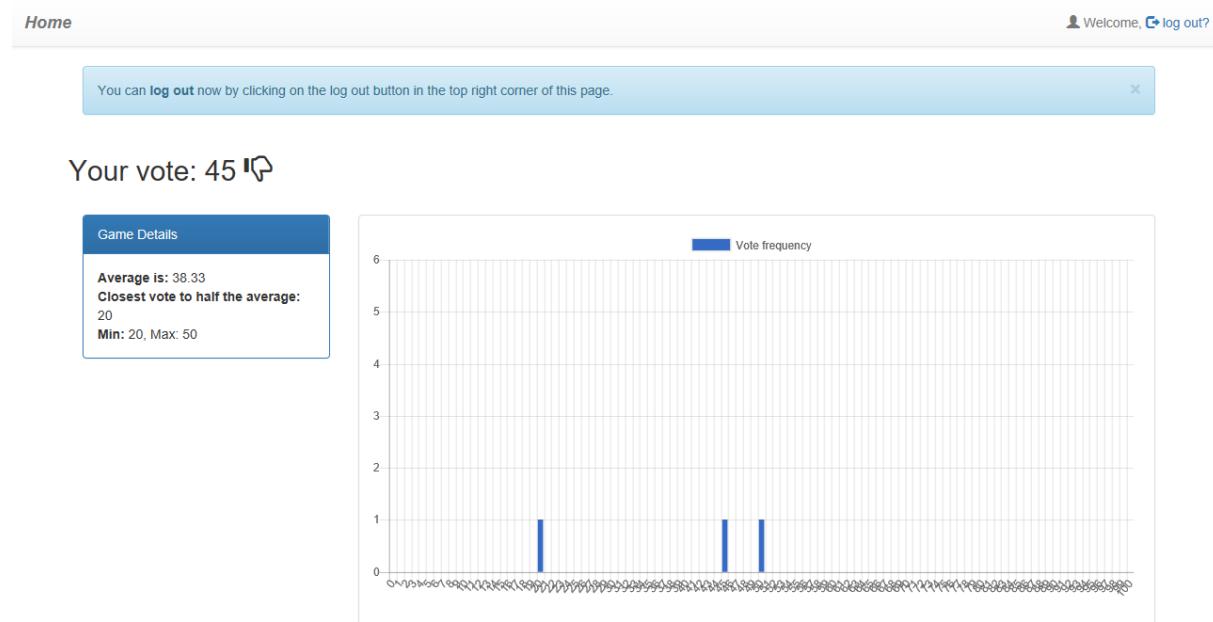
A screenshot of a web page with the message "Votes are yet to be collected. Please wait until the game is over."

When the game is finished, the players can refresh their browsers and they will be notified of their results:

The winner(s) as follows:



And the rest of participants as below:



On the administration side of the game, all the information is available as well:

Home Welcome, log out?

Beauty contest dashboard

Closed

Game details

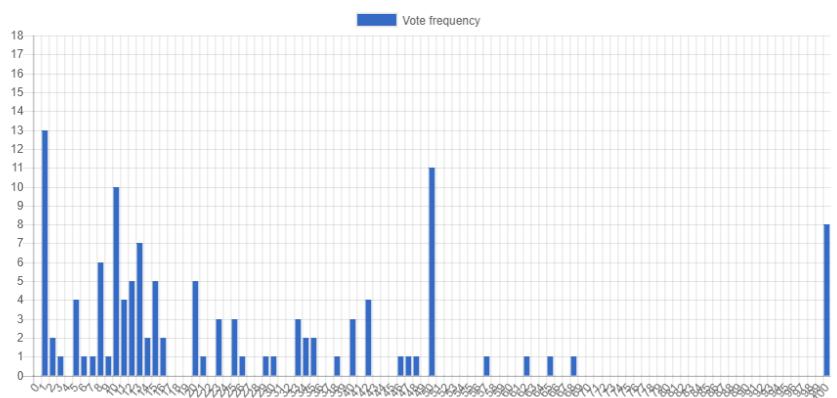
Game PIN: [https://scienceexperiment.online/class](#)
Registration URLs: [https://scienceexperiment.online/class](#), [https://scienceexperiment.online/beaut](#)

Status: Closed
Type: Beauty contest
Votes collected: 120
Average is: 26.63
Closest vote to half the average: 13
Min: 1, **Max:** 100



Game configuration

Min: 1 **Max:** 100 **Prompt:** -- no prompt set --



The histogram displays the distribution of votes. The x-axis represents individual voters, and the y-axis represents the frequency of their votes. The distribution is highly right-skewed, with most voters casting between 1 and 10 votes, and a few individuals casting significantly more.

Vote Range (approx.)	Frequency (approx.)
1-2	13
3-4	5
5-6	10
7-8	7
9-10	4
11-12	3
13-14	1
15-16	1
17-18	1
Total	120

2. The Voluntary Contributions Game

The voluntary contributions game is a game in which each player has a number of coins that can voluntarily and secretly place in a common pot together with other players' contributions. The number of coins in the common pot is then multiplied by a certain factor (greater than one and less than the number of players) and the common earnings are evenly divided among players. Each player also keeps the coins that he did not contribute, and the winner of the game is the player that earns the most coins by adding his share of the common earnings and those coins he did not play.

Creating a Voluntary Contribution Game

1. Go to scienceexperiment.online/classroom
2. Look for the text at the bottom that says: "**Want to create a game? Click [here!](#)**" and click there.

The screenshot shows a web page titled "Hello there!" with a light gray background. At the top, there is a navigation bar with "Home" on the left and "Welcome" on the right. Below the title, a message reads: "Welcome to the classroom demo. Please, log into a game to get started:". There is a text input field labeled "Game PIN:" with the placeholder "A game PIN you have been provided". Below the input field is a button labeled "Enter game". At the bottom of the page, there are two links: "Own a game? Log in to access the dashboard." and "Want to create a game? Click [here!](#)". The "here!" link is highlighted with a red box.

3. Configure the game
 1. Select type "Voluntary Contributions"
 2. Enter email address (required but for the moment not relevant, you can put any address here)
 3. Set a password. Important. (This will allow you to log into the game dashboard)
 4. Click on "Create game", it will then redirect you to the game dashboard

Create new game

Game type

Voluntary contributions

Email address
example@example.com

Admin password
.....

Create game

Already own a game? [Log in](#) to access the dashboard.
Want to play? [Log into a game](#)

After this, you will be redirected to the dashboard of the game, where you can also control every aspect of the game.

Voluntary contributions dashboard

Running

Stop game

Game details

Game PIN: PYoUwS
 Registration URLs:
<https://scienceexperiment.online/class/> <https://scienceexperiment.online/beat/>

Status: Running
 Type: Voluntary contributions
 Votes collected: 0



Game configuration

Min: 0 Max: 4

Prompt: You have 4 coins to spend. Please, enter your contribution
 Factor: 3

No votes are collected yet

Game details: (Left blue panel)

Here you can see some info about the game and the Game PIN. This PIN is the key to register to the game; it should be shared with the players of the game.

In addition, two URLs and a QR code are shown there too that can be used to access the game directly without entering the PIN code.

There is also information about the number of votes collected and about the Status of the Game, which can be “Running” or “Closed”.

When the game is closed, information about number of votes and contributions is shown.

Game configuration: (centre grey panel):

Here you can edit the game configuration, as for the voluntary contributions, this is the minimum and maximum number of coins, and the multiplying factor of the common pot, along with a prompt, which is the message that will be displayed to the participants.

Above the blue panel there is a button to stop the game, once you click it, the game will not allow further registrations nor votes, and will change its status to "closed".

On the top right corner, there is a link to log out.

As game administrator, you log in into the dashboard [here](#) using your game PIN and the password you set before.

Playing the Voluntary Contribution Game

The subjects could enter the game in several different ways:

- by scanning the QR code provided on the Game details panel
- by entering in a browser the URL provided on the Game details panel
- by entering the game's PIN code in scienceexperiment.online/classroom:

The screenshot shows a web-based game entry interface. At the top, there are 'Home' and 'Welcome' links. The main area has a light gray background with a central gray box. Inside the box, the text 'Hello there!' is displayed in blue. Below it, a message says 'Welcome to the classroom demo. Please, log into a game to get started:'. There is a text input field labeled 'Game PIN:' with the placeholder 'A game PIN you have been provided'. Below the input field is a 'Enter game' button. At the bottom of the box, there are two links: 'Own a game? Log in to access the dashboard.' and 'Want to create a game? Click [here!](#)'.

Once the subjects enter, they will be redirected to a new page where they can place their bet. Any prompt set earlier in the game's configuration panel will be shown now.

The screenshot shows a contribution page. At the top, there are 'Home' and 'Welcome' links. The main content area has a light gray background with a central white box. Inside the box, the text 'You have 4 coins to spend. Please, enter your contribution' is displayed. Below this text is a horizontal input field with a 'Submit' button to its right. The rest of the page is blank white space.

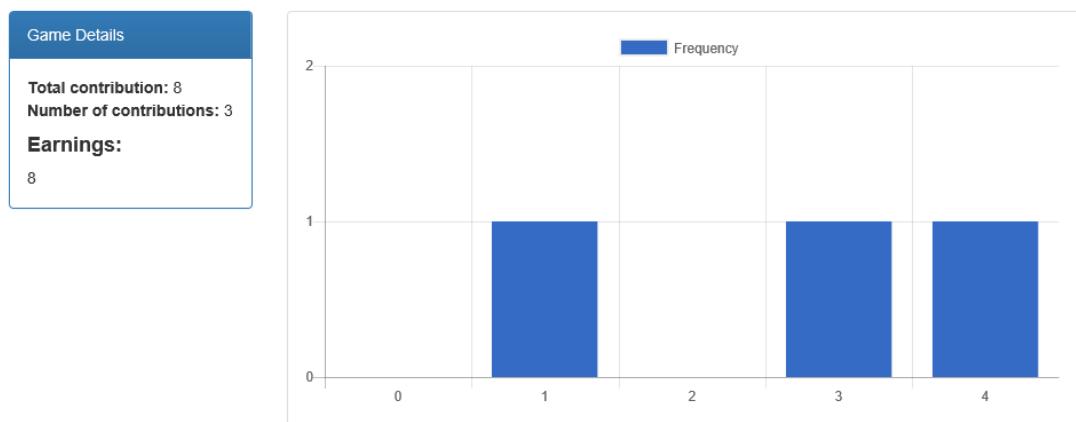
Once the contribution is placed, a page will be displayed to let players know that they have to wait until the end of the game in order to get to know the results



When the game is finished, the players can refresh their browsers and they will be notified of their results:

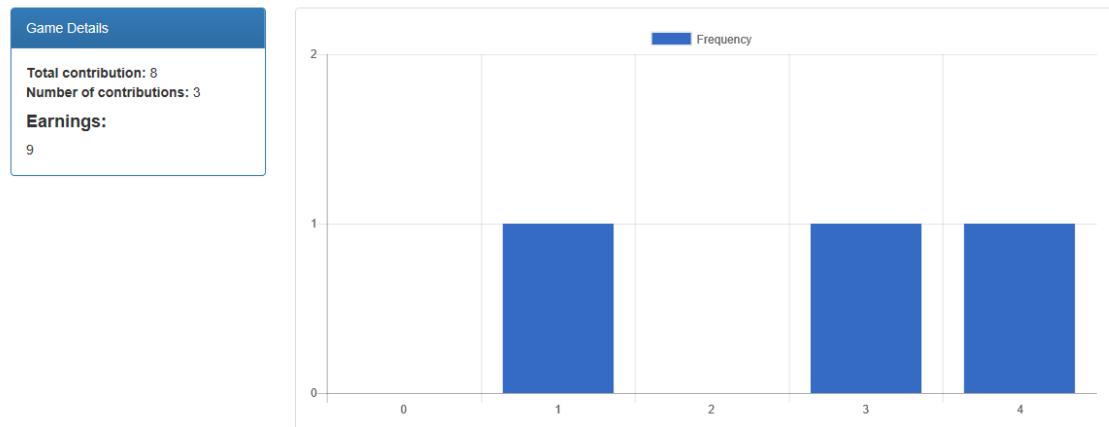
The winner(s) as follows:

Your vote: 4 



And the rest of players as below:

Your vote: 3 



On the administration side of the game, all the information is available as well:

Home

Welcome, [log out?](#)

Voluntary contributions dashboard

Closed

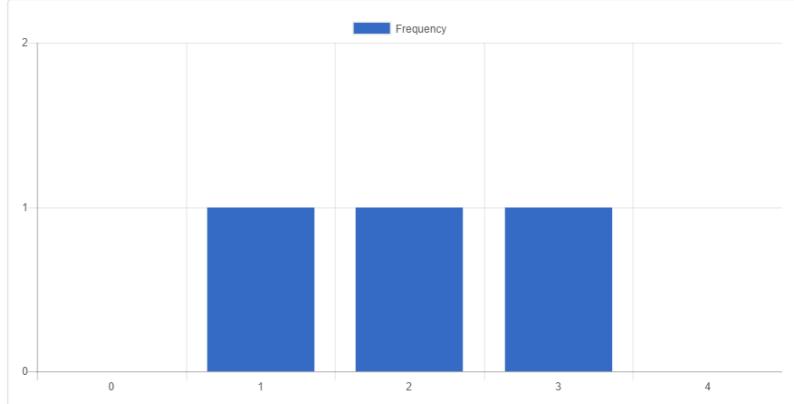
Game details

Game PIN: Ttkc8Q
Registration URLs:
https://scienceexperiment.online/classroom/
https://scienceexperiment.online/beautycare/
Status: Closed
Type: Voluntary contributions
Votes collected: 3
Total contribution: 6
Number of contributions: 3



Game configuration

Min: 0 **Prompt:** You have 4 coins to spend. Please, enter your contribution
Max: 4 **Factor:** 3



Coins	Frequency
1	1
2	1
3	1

3. The Second Price Auction Game

The Second Price Auction Game is a game in which certain good is being auctioned and several players are secretly bidding for it. Players send their bids individually and the player who sends the highest bid is the winner of the auction, although he will not pay the price on his bid, but the price of the second highest bid, for the good in auction.

Creating a Second Price Auction Game

1. Go to scienceexperiment.online/classroom
2. Look for the text at the bottom that says: "**Want to create a game? Click [here!](#)**" and click there.

The screenshot shows the 'Home' page of the website. At the top, there's a navigation bar with 'Home' and 'Welcome'. The main content area has a light gray background. It starts with a greeting 'Hello there!'. Below it, a message says 'Welcome to the classroom demo. Please, log into a game to get started:'. There is a text input field labeled 'Game PIN:' with the placeholder 'A game PIN you have been provided' and a button labeled 'Enter game'. At the bottom of this section, there are two links: 'Own a game? Log in to access the dashboard.' and 'Want to create a game? Click [here!](#)'.

3. Configure the game
 1. Select type "Second Price Auction"
 2. Enter email address (required but for the moment not relevant, you can put any address here)
 3. Set a password. Important. (This will allow you to log into the game dashboard)
 4. Click on "Create game", it will then redirect you to the game dashboard

The screenshot shows the 'Create new game' form. At the top, there's a navigation bar with 'Home' and 'Welcome'. The main title is 'Create new game'. The form has fields for 'Game type' (set to 'Second price auction'), 'Email address' (example@example.com), and 'Admin password' (represented by a series of dots). A 'Create game' button is below these fields. At the bottom of the form, there are two links: 'Already own a game? Log in to access the dashboard.' and 'Want to play? Log into a game'.

After this, you will be redirected to the dashboard of the game, where you can also control every aspect of the game.

The screenshot shows the 'Second price auction' dashboard. At the top, there are buttons for 'Home', 'Welcome', and 'log out?'. Below this, the title 'Second price auction dashboard' is displayed. A green button labeled 'Running' is shown, along with a red button labeled 'Stop game'. On the left, a blue panel titled 'Game details' contains information: Game PIN: CsYpcn, Registration URLs: https://scienceexperiment.online/classroom/ and https://scienceexperiment.online/beta/, Status: Running, Type: Second price auction, and Votes collected: 0. It also features a QR code. To the right, a grey panel titled 'Game configuration' has fields for Min: 0, Max: 10000, and a prompt: 'Enter your bid'. A link 'Edit' is at the top right of this panel. Below these panels, a message box states 'No votes are collected yet'.

Game details: (Left blue panel)

Here you can see some info about the game and the Game PIN. This PIN is the key to register to the game; it should be shared with the players of the game.

In addition, two URLs and a QR code are shown there too that can be used to access the game directly without entering the PIN code.

There is also information about the number of votes collected and about the Status of the Game, which can be "Running" or "Closed".

When the game is closed, information about number of votes and bids is shown, together with the highest bid and the second highest bid.

Game configuration: (centre grey panel):

Here you can edit the game configuration, as for the second price auction, this is the minimum and maximum numbers for the bids, along with a prompt, which is the message that will be displayed to the participants.

Above the blue panel there is a button to stop the game, once you click it, the game will not allow further registrations nor votes, and will change its status to "closed".

On the top right corner, there is a link to log out.

As game administrator, you log in into the dashboard [here](#) using your game PIN and the password you set before.

Playing the Second Price Auction Game

The subjects could enter the game in several different ways:

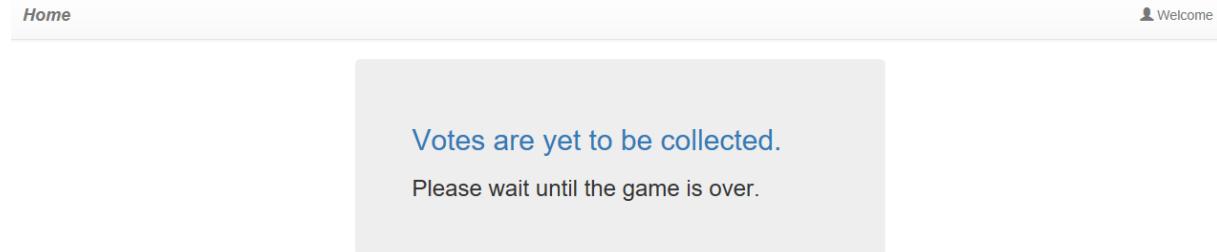
- by scanning the QR code provided on the Game details panel
- by entering in a browser the URL provided on the Game details panel
- by entering the game's PIN code in scienceexperiment.online/classroom:

The screenshot shows a web page titled "Hello there!". It says "Welcome to the classroom demo. Please, log into a game to get started:". Below this is a text input field labeled "Game PIN:" with the placeholder "A game PIN you have been provided". There is a button labeled "Enter game" next to it. At the bottom, there are links for "Own a game? Log in to access the dashboard." and "Want to create a game? Click [here!](#)".

Once the subjects enter, they will be redirected to a new page where they can place their bid. Any prompt set earlier in the game's configuration panel will be shown now.

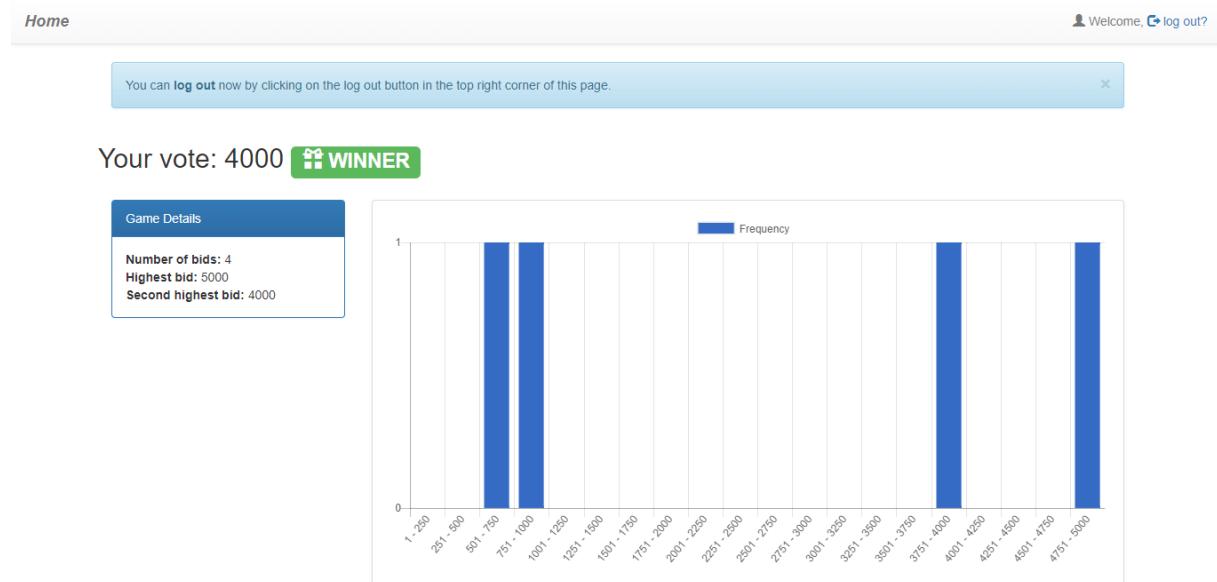
The screenshot shows a web page with the title "Enter your bid". Below the title is a text input field and a blue "Submit" button.

Once the bid is placed, a page will be displayed to let players know that they have to wait until the end of the game in order to get to know the results



When the game is finished, the players can refresh their browsers and they will be notified of their results:

The winner(s) as follows:



And the rest of the players as below:



On the administration side of the game, all the information is available as well:

