

# CS-C3170 - Web Software Development

## Final Project Report: World Games. Instructions

The website can be accessed using this [LINK](#). Our main functionality is the following:

1. **Main page:** the url of our website can be used in any browser. After entering it, user can get to the main page of our game store whose name is “World Games”. There are mainly 4 functional parts in the main page: the header with our icon and a login/signup area, the search bar, and the game list. Users can get back to the main page anytime by clicking the icon on the upper left corner. Users can search for specific games in our game library through the search bar. By default, the game list would display all the games that are currently in the database. If users make search in the search bar, the game list be filtered and search results will be shown in it.

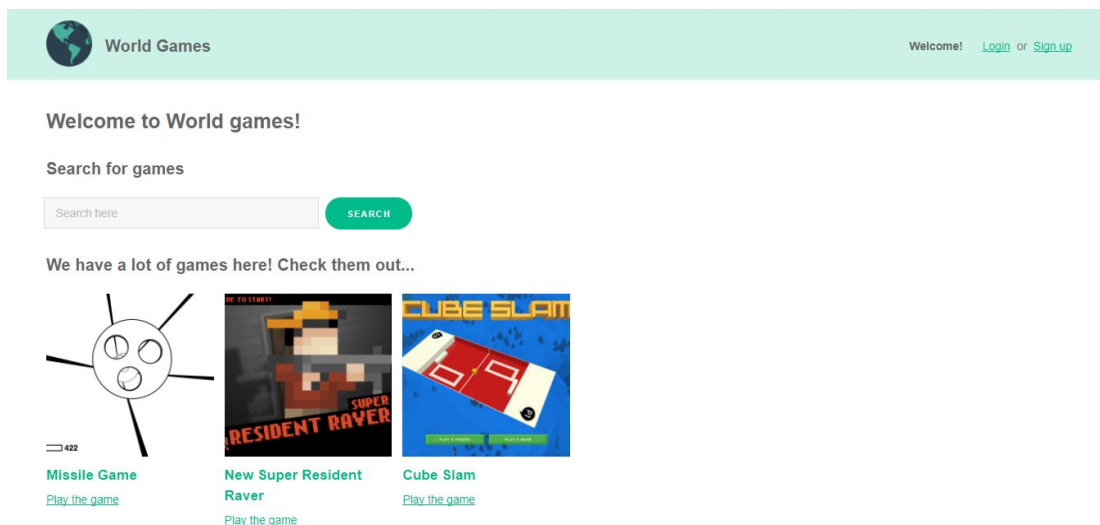


Figure 1. Main page

2. **Signup/Login:** Users need to sign up to get full functionalities. Users can sign up by sending credentials to our website or through Facebook account and get an activation link<sup>1</sup>. When user signs up, user can choose his role in the website: Gamer or game Developer or both. In our case, if user chooses to be a Gamer at the first time, he can choose to be a Developer in the future. However, after choosing to be the Developer, he cannot abandon the Developer role.

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<sup>1</sup> Currently, it is difficult to get the confirmation email (this can be done only by using Heroku logs), therefore, we offer several test account (**username:** testuser0 / Dog / Cat / Fish, **password:** wsd-2017 (all four accounts have same password)). It is likewise possible to login and test with Facebook account.

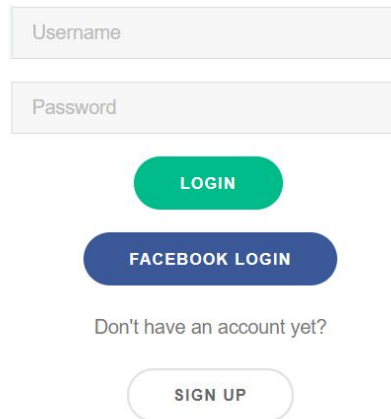
A login form with two input fields: 'Username' and 'Password'. Below the fields are three buttons: a green 'LOGIN' button, a blue 'FACEBOOK LOGIN' button, and a light gray 'SIGN UP' button. A link 'Don't have an account yet?' is positioned between the Facebook login and sign up buttons.

Figure 2. Login form

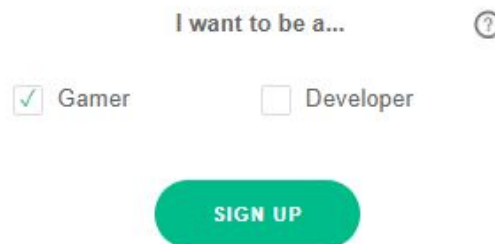
A sign up form with the text 'I want to be a...' followed by a help icon. Below this are two radio buttons: 'Gamer' (selected) and 'Developer'. At the bottom is a green 'SIGN UP' button.

Figure 3. User can choose his role at Sign up form

3. **Dashboard functionality:** After user has logged in to the web store, our website would redirect him to his personal profile dashboard. In the dashboard page, user can see his personal information that slightly differs depending on the user's role (e.g., developers can see their total profit). Likewise, dashboard provides users with several functions which also depend on their role:
- both developers and gamers can edit personal profile by clicking *Edit profile* button;
  - both developers and gamers can see their personal list of games (developers in this list likewise see the games that they have developed and gamers only those that they have bought);
  - Both developers and gamers can search for games. The search functionality works in the following way: when user enters a keyword to the search bar, his personal list of games is filtered and games that have this keyword in their name or description are shown; likewise, the second list of games "Discover new Games" appears when a keyword is entered and new games which are not in the personal game list that match the criteria are shown.
  - In developer profile, there is *Add one more game* button which leads developer to the Add game page and supports this functionality.
  - In developer profile, there is *Statistics* button which leads to the page where developer can explore his statistics.

## Your dashboard



Full name: Dog the gamer

Email: Doggamer@gmail.com

Profit: 27.95

Secret Token: [SHOW!](#)

Who is Cat and why she stole my fish?

[EDIT YOUR PROFILE](#)

[ADD ONE MORE GAME](#)

[STATISTICS](#)

Figure 4. Developer's dashboard layout

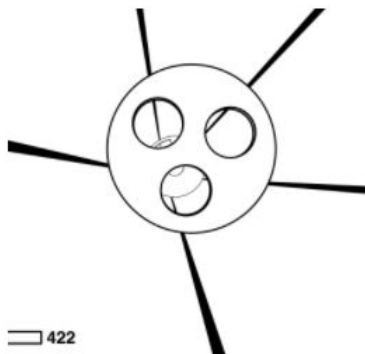
## Search for games

Search here

[SEARCH](#)

Figure 5. Game search bar

## Your games



### Missile Game

Highest Score: 0.0

[Play the game](#)



### rock scissors paper

Highest Score: 8.0

4 copies sold

[Play the game](#) [Edit game](#)



### New Super Resident Raver

Highest Score: 0.0

1 copies sold

[Play the game](#) [Edit game](#)

Figure 6. Owned game display

## Discover new games



### Example 1

Highest Score: 70.0

[Play the game](#)



### HexGL

Highest Score: 0.0

[Play the game](#)



### Cube Slam

Highest Score: 0.0

[Play the game](#)

Figure 7. Not owned game display

4. **Edit Profile:** After clicking the *Edit profile* button, user is redirected to profile settings page. The user is allowed to change his profile name, self-description, upload an avatar photo, and change the role (being a Gamer or being both Gamer and Developer) in this page.



## Profile's Settings

Change your account details here

First Name:

Dog

Last Name:

the gamer

Self-description:

Who is Cat and why she stole my fish?

You can add a profile photo here



File path

CHOOSE A FILE

Change your role



Gamer



Developer

SUBMIT

YOUR DASHBOARD


Figure 8. Edit profile page

5. **Add a new game:** After clicking the *Add one more game* button, the user can be redirected to the Add game page. In the this page, developers can modify a game's name, add picture of the game, write a game description, set the selling price of the game, and paste the JavaScript game url. Each game has a separate page where it can be played. Game page, likewise, contain all relatable information about this game.

## Add one more game

Add a game's url here

Add a game's picture here



CHOOSE A FILE

ADD GAME

Figure 9. Add game page

6. **Edit game:** Each developer can modify the games that he developed. This can be done on a separate page, *Edit game*. Developers can change change all information connected to a certain game except its name. Likewise, developer can delete his game from the search list, therefore, users will not be able to see this game when searching for new games. However, those users who have already bought this game will still have it in their library and they will still be able to play it as they payed money for this game.

## Edit rock scissors paper

### Modify Description

I love play this game with Fish, he is a computer!!!!

### Add a new game's photo here



File path

CHOOSE A FILE

### Modify Price

1.99

### Modify URL

<https://worldgames-wsd2017.herokuapp.com/>

You can delete your game from search by unclicking the checkbox. Users will not be able to buy it

☒ rock scissors paper is released

SUBMIT

YOUR DASHBOARD

Figure 10. Edit game page

7. **Statistics:** Developers can check their sales statistic data in their statistics page by clicking *Statistics* button in their dashboard. This webpage displays how many copies of each game were sold, and the time when a certain game was purchased. Information is organized in a form of a table.

## Your sales statistics

Your total profit: 27.95

Dota 3 1 copies sold	
Deal Price:0.00	Sold At Feb. 19, 2018, 7:24 p.m.
rock scissors paper 4 copies sold	
Deal Price:1.99	Sold At Feb. 19, 2018, 7:11 p.m.
Deal Price:1.99	Sold At Feb. 19, 2018, 5:46 p.m.
Deal Price:1.99	Sold At Feb. 19, 2018, 5:32 p.m.
Deal Price:1.99	Sold At Feb. 19, 2018, 5:32 p.m.
New Super Resident Raver 1 copies sold	
Deal Price:19.99	Sold At Feb. 19, 2018, 7:09 p.m.

Figure 11. Statistics page

8. **Game functionality:** Game page contains an iframe with a certain JavaScript game, which users can play. When user is not logged in, she still can access this page, however, she cannot play the game and see a game restriction message in the iframe suggesting to buy this game (Buy button is presented in the same page). After the user purchases the game, she can get an access to the game at this page. On the right side of the page, users can see useful information about the game (its description, developer's name, rating - user can rate the game presented on the page and see its average rating). Likewise, social networks (Facebook and Twitter) sharing buttons are presented. Below the iframe block, **Top 3** highest scores for this game are displayed in a form of a table. The highest score in the database is updated every time user submit his score and if the score is high enough, the table will be updated right away as well.
- Each game provides user with an opportunity to save the current progress (Save button) in the game, and if user has already played the game, load his previous progress (Load button). These features are done by using postMessage function. Scores that the user has achieved can be submitted to the server by pressing Submit score button.



## rock scissors paper

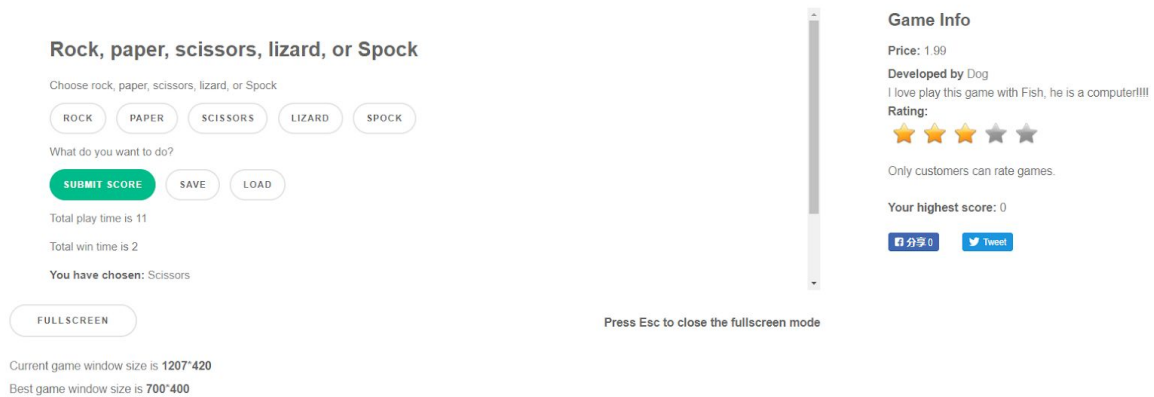


Figure 12. Game play page

## Table of scores

8	Fish
3	ElenaKazakova
2	Cat

Figure 13. Table of scores in game play view

- Buying a game:** User can buy a game, when he is logged in to the website. However, Buy button is also visible when user is not logged in. In this case, user will be redirected to the Login form and after login procedure will get to the game, he was planning to buy. When user clicks the button, he is redirected to the payment confirmation page, where all details about current payment are presented. If user is not agree with something, he can reject the payment. If everything is fine, he will be redirected to the payment system, where he can cancel the payment (will be redirected to the page which will tell user about it and suggest to return to the front page or try to pay once again) or accept it (will be redirected to the payment success page, where he can return to the game or to the front page). If payment failed, user is suggested to to return to the main page or pay once again.

## You are purchasing the game HexGL

The price is **9.99**

You are going to be redirected to bank service by clicking the button below



Figure 14. Game purchase page



Figure 15. User is redirected to the “bank” page

10. **REST functionality:** Three different APIs are implemented, all of them response JSON data. GET /API/game/list all available games. GET /API/score/(gameid) list top scores of the game ranked by score. A parameter 'num' is expected to decide the number of rows returned, otherwise the default number is 5 GET /API/sales/ return a developer's sales statistics, developer's secret token must be submitted as 'token' parameter.

```
[{
  "name": "Fish",
  "score": 8.0,
  "time": "2018-02-19T15:32:14.066Z"
}, {
  "name": "ElenaKazakova",
  "score": 3.0,
  "time": "2018-02-19T17:13:07.952Z"
}, {
  "name": "Cat",
  "score": 2.0,
  "time": "2018-02-19T15:32:47.025Z"
}]
```

Figure 16. Data got from '/API/score/4'

11. **Logout:** User can log out from the website by clicking the Logout link in the website header.
12. **Https:** Hosting the game on HTTPS server is highly recommended, since our website is using HTTPS, when the game is host on HTTP, an error would happen on some browsers.



Figure 17. The browser gives an error when the loading game is not hosted on https.



## HexGL



Figure 18. After user loads the http game, Chrome will show the “Not Secure” alert