

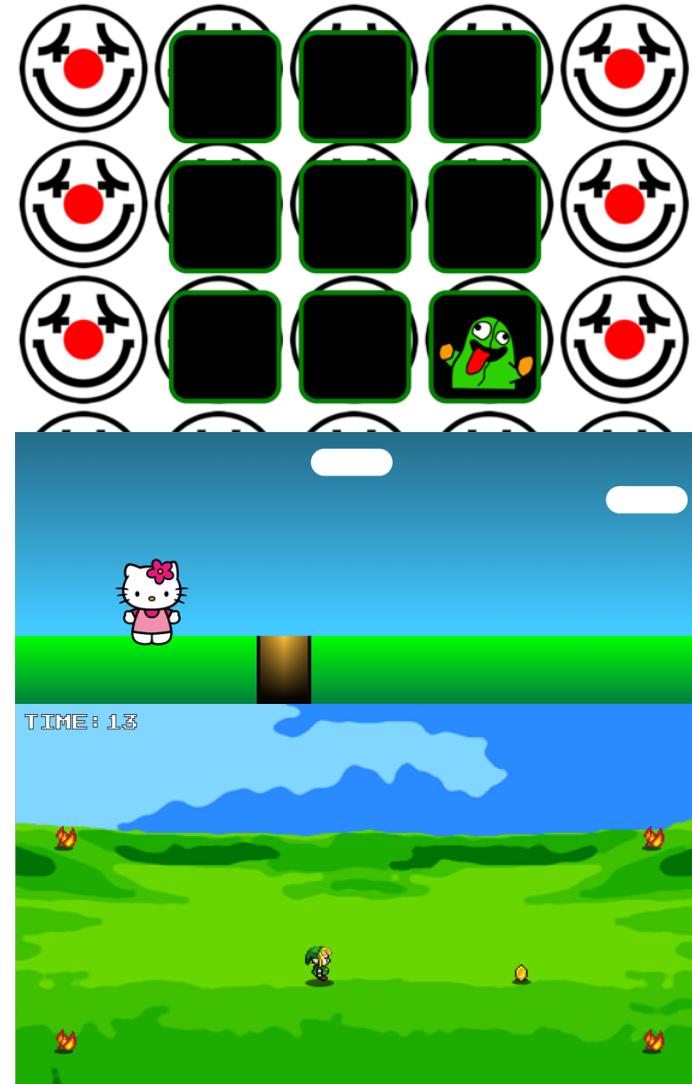
Internet Computing

Course Project –
A Multiplayer Game

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Making a Multiplayer Game

- In your labs, you have made some games using various client-side techniques
- In the course project, you will extend those ideas by making a multiplayer game using a web server
- This is a group project



Topic of the Game

- You can design your own game for the course project
- It does not have to be something that you have done in the course
- For example, you can make:
 - A shooting game
 - A platform game
 - A puzzle game
 - A board game

Useful Websites

- Here are some useful websites which give you ideas:

<https://www.retrogames.cc>

<https://www.twoplayergames.org/2-player>

<https://hexxagon.com/>

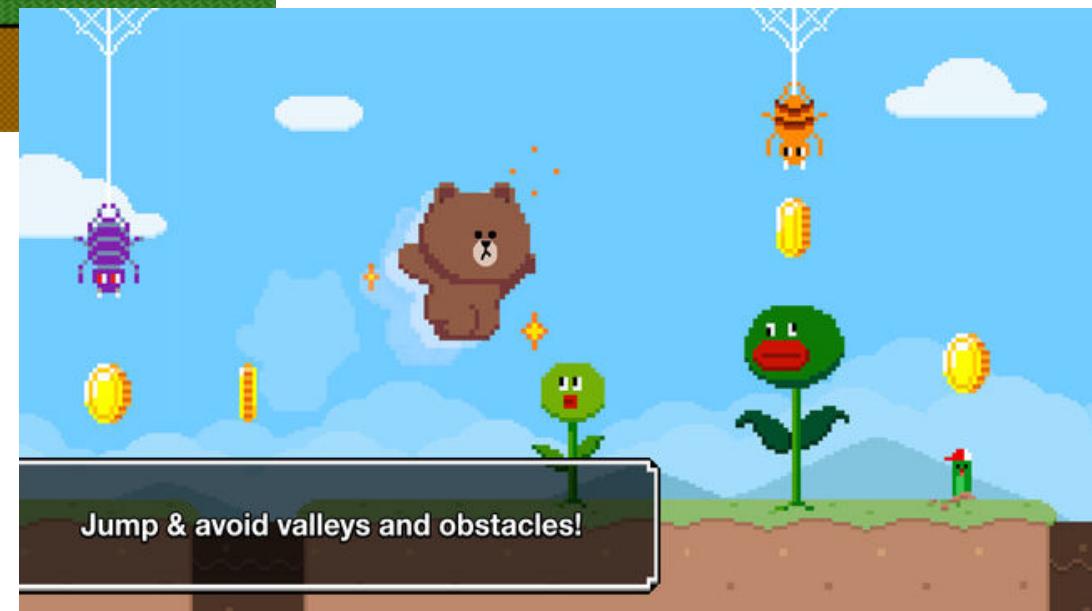
<https://poki.com/en/two-player>

[https://yandex.com/games/category/
for two persons](https://yandex.com/games/category/for_two_persons)

Shooting Games



Platform Games



Puzzle Games



Board Games

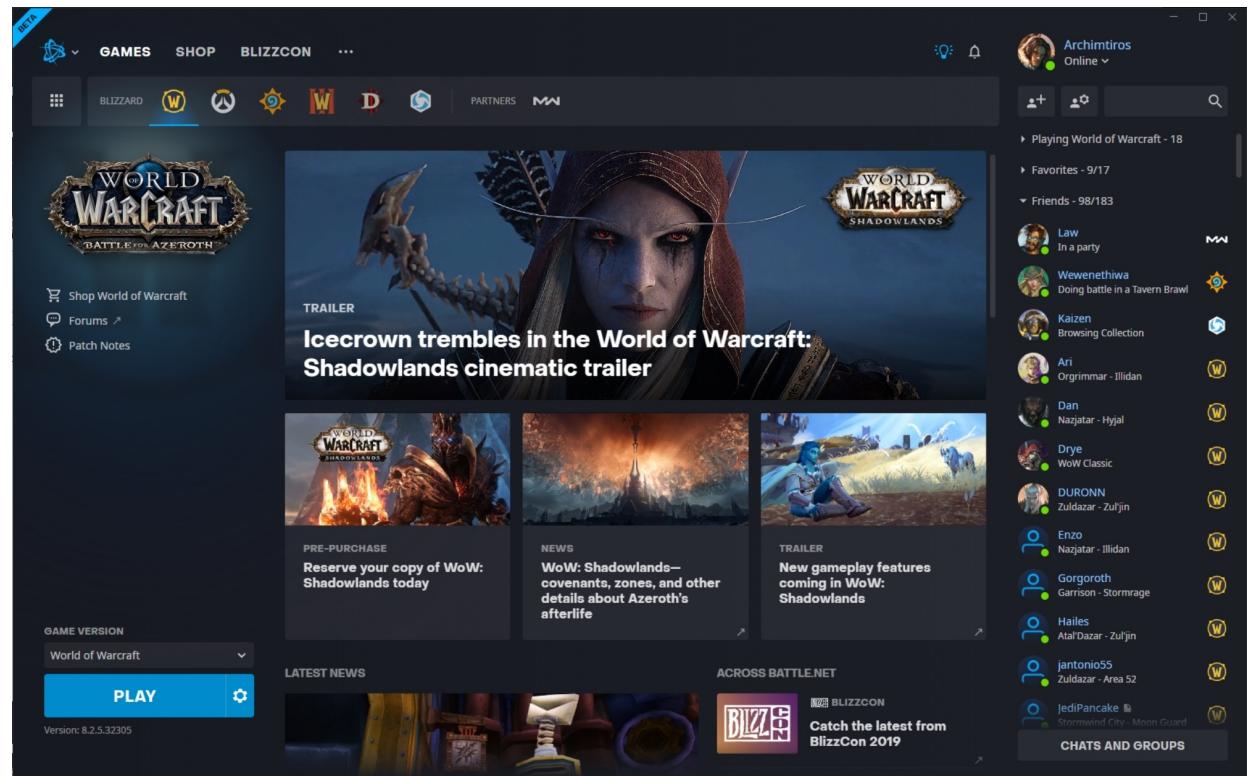


Components of the Game

- Your multiplayer game should have these components:
 - The game front page
(this is based on the work you will work on for your lab 5 and lab 6)
 - The game play page
(this is based on the work you did for your lab 3 or 4)
 - The game over page

The Game Front Page

- This is the front page of the game web application, which has the description and instructions on how to play the game
- Players can register, sign-in and pair up for the game here



The Game Play Page

- Here is where the actual game takes place
- The game is a two-player game
- The interactions between the two players are shown in almost real-time
- This will be done using the WebSocket API



Things in the Game

- There are at least four different types of things in the game
- One of them is the players
- The others can be bad things, bullets, obstacles, platforms and so on



Game Controls

- You can choose the game control method
- For example, you can use keyboard keys:

```
$(document).on("keydown", ...)
```

- And/or you can use mouse events:

```
$("#shoot-button").on("click", ...)
```

Game Duration

- Normal game play should last for at most 3 to 4 minutes
- This helps make sure the markers can finish their work on time!



Cheat Mode

- The game must have a cheat code/cheat mode so that one player can win easily
- The cheat mode can be activated by a secret key or a secret button
- Please don't use a crazy selection of keys!



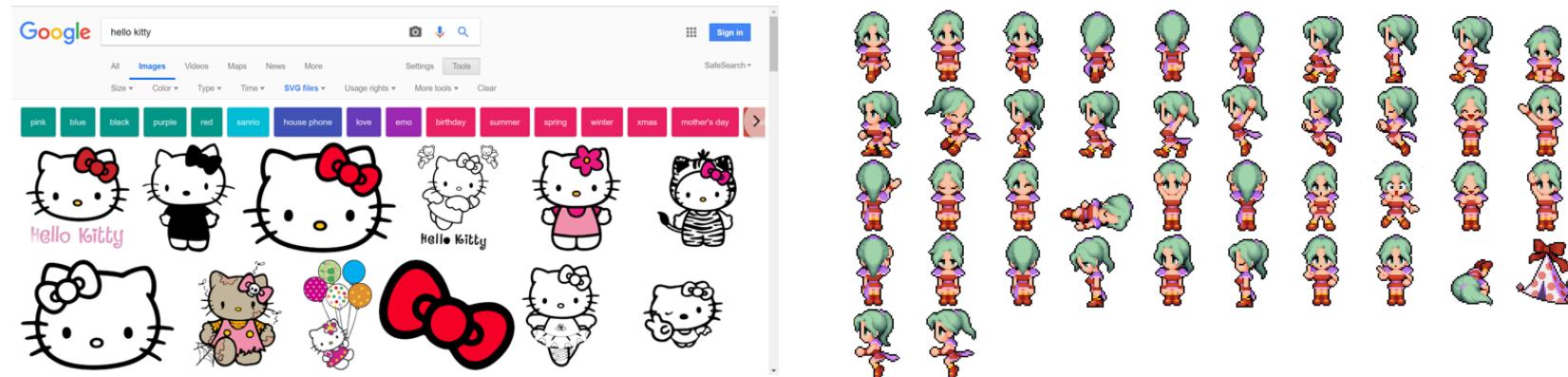
The Game Over Page

- The game over page needs to contain some kind of statistics about the players
- An overall ranking of all players must be shown on this page



Graphics and Sounds

- The game play is created using either SVG or canvas – that means a 2D game



- Your game can have different sound effects and background music using the HTML <audio> tag

Web Server

- You need to use Node.js as the game web server (use just one server)
- You may install additional packages, but we need to be able to run your game by:
 1. Doing an npm install
 2. Running the server JavaScript file
 3. Browsing to `http://localhost:8000`
- We won't use any scripts to automate the process