

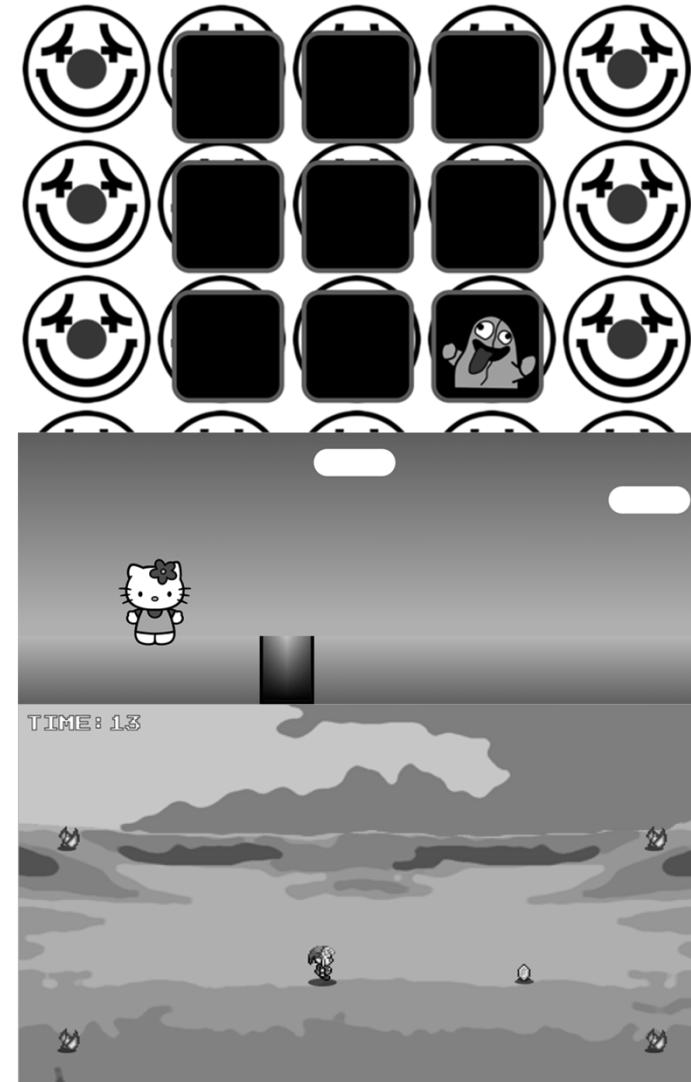
COMP4021 Internet Computing

Course Project – A Multiplayer Game

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Making a Multiplayer Game

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



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 puzzle game
 - A platform game
 - A board game
- The retro game website may give you ideas:

<https://www.retrogames.cc/>

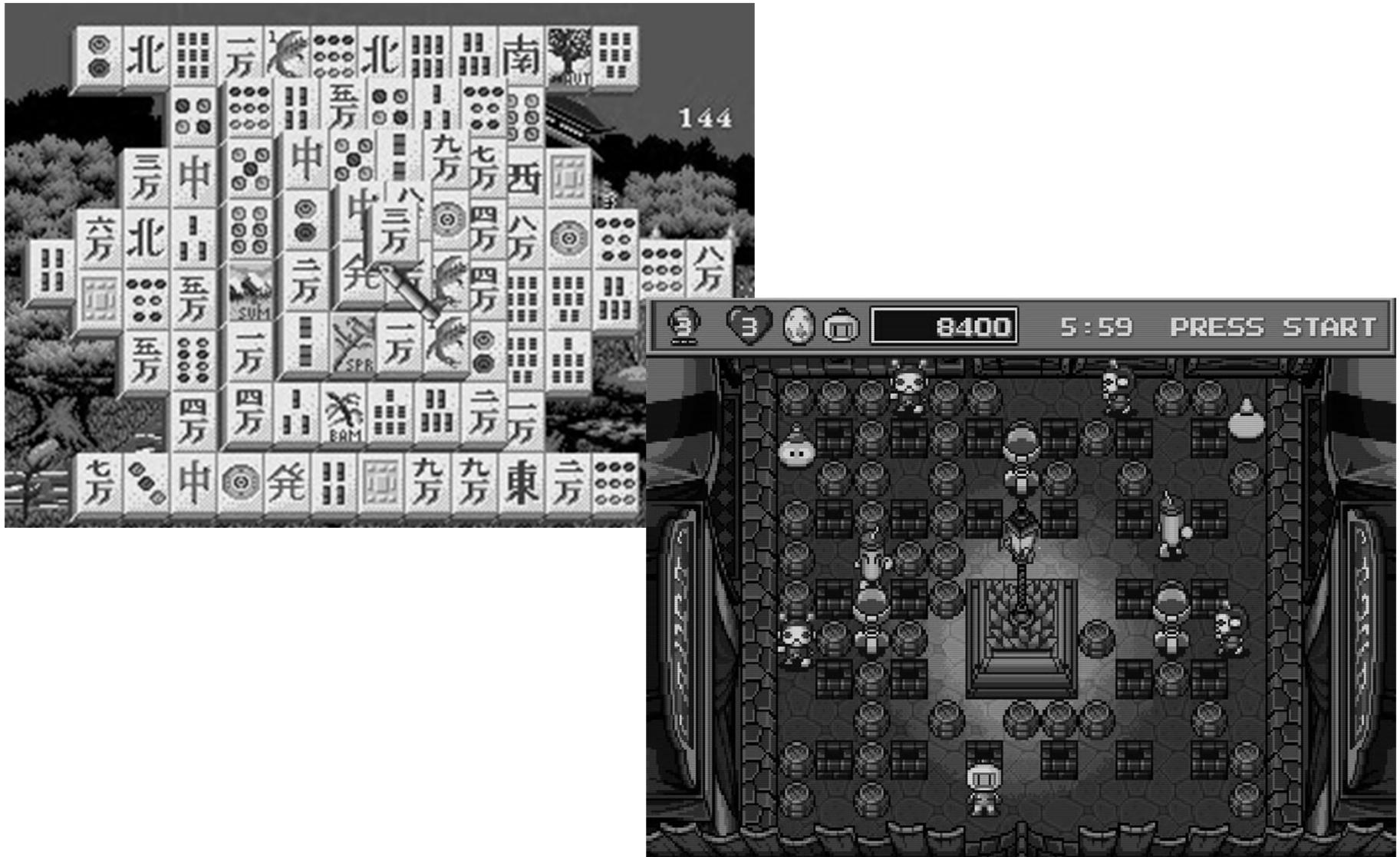
Shooting Games



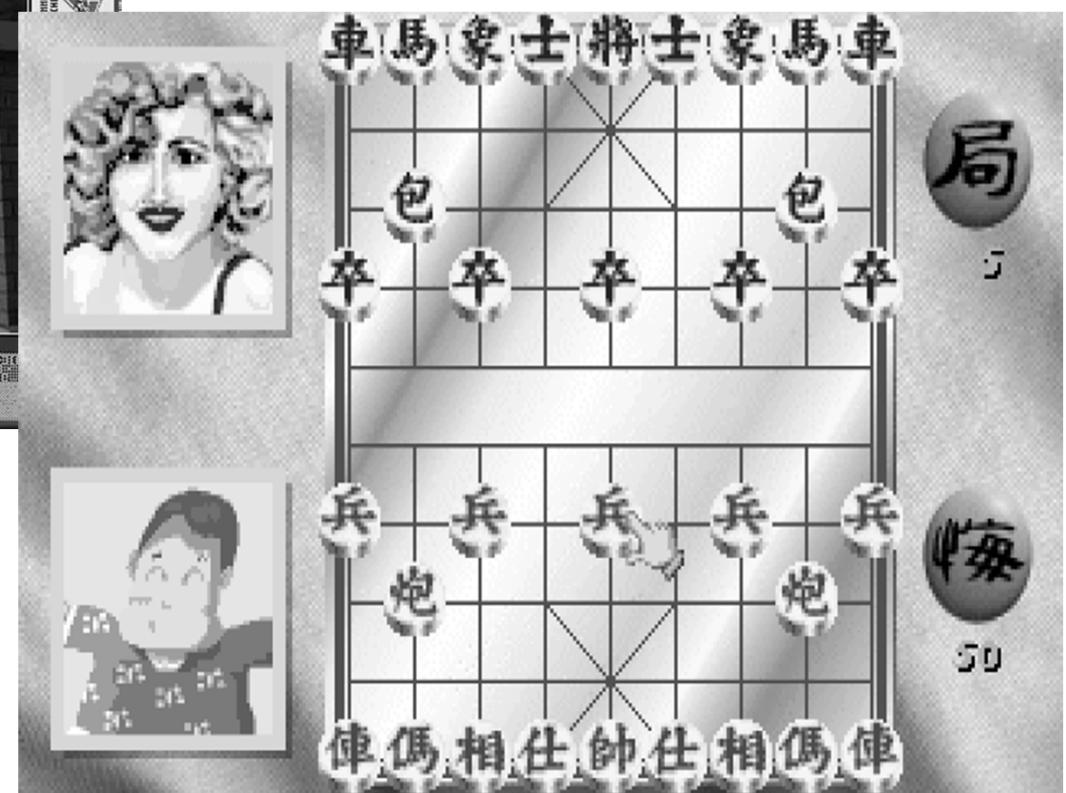
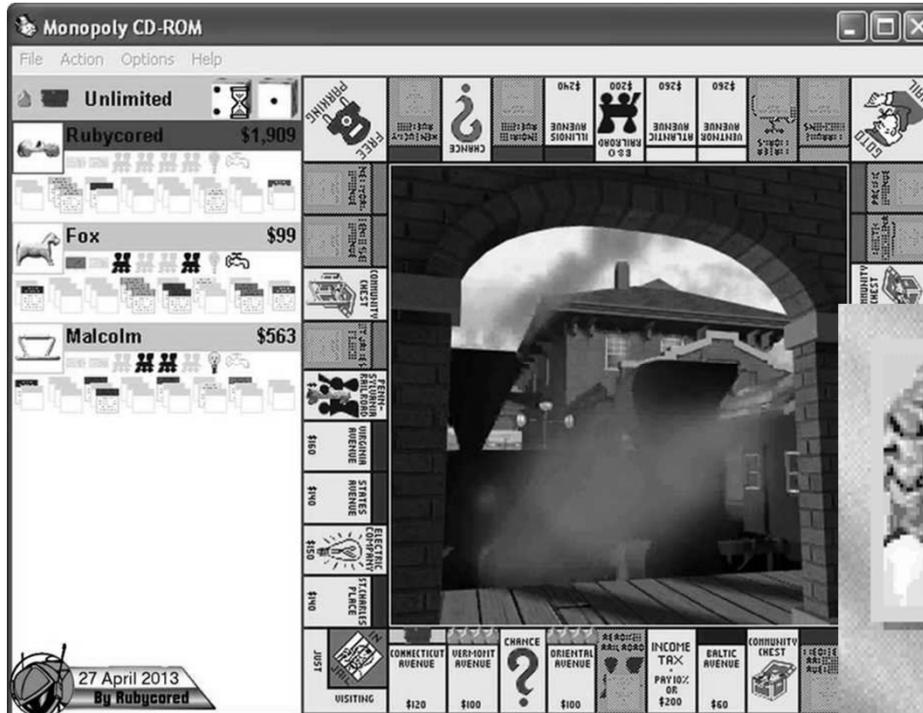
Platform Games



Puzzle Games



Board Games

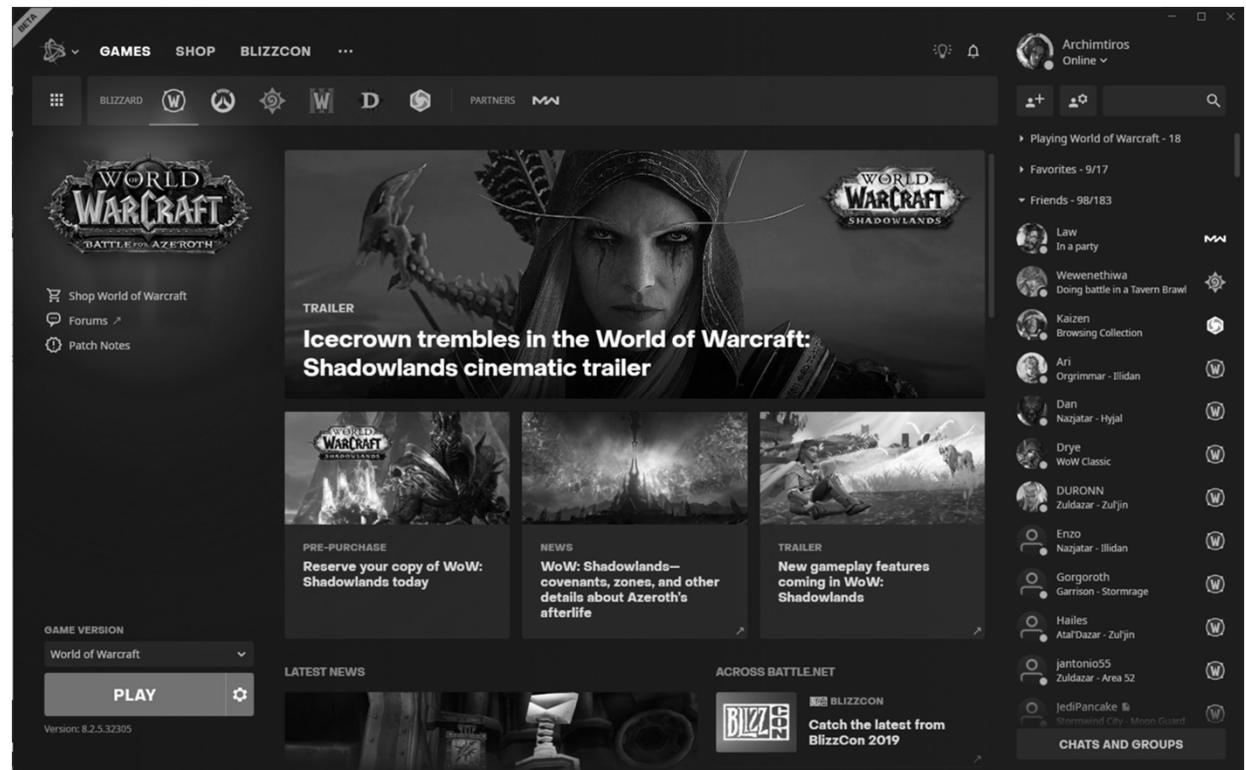


Components of the Game

- Your multiplayer game should have these components:
 - The game front page
 - The game play page
 - The game over page

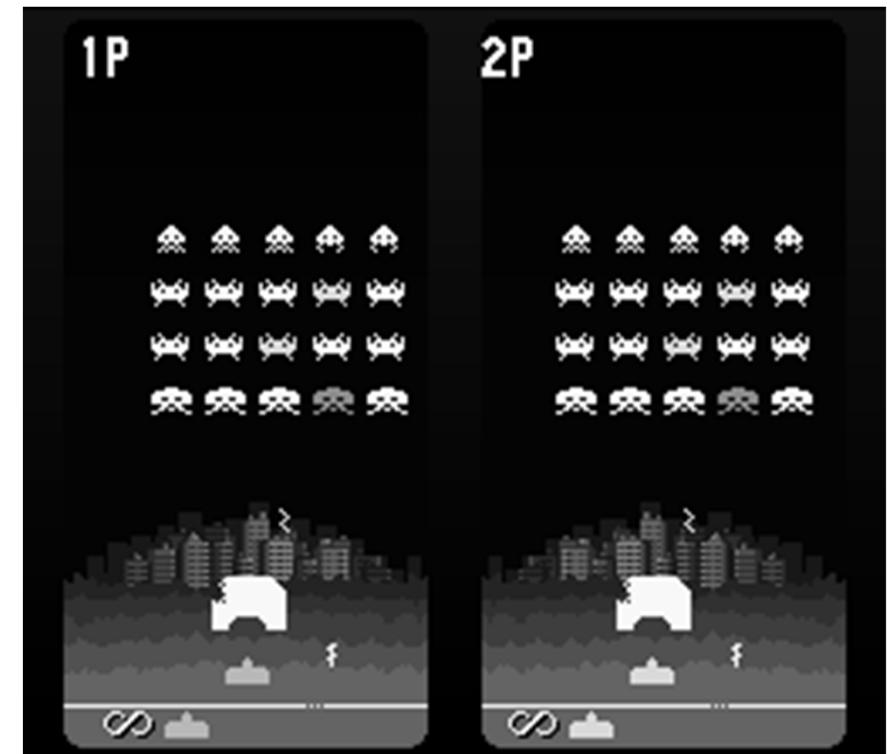
The Game Front Page

- This is the front page of the game web app, 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 is done using WebSocket



Things in the Game

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



Game Controls

- It doesn't matter what you use for the game controller
- For example, you can use keyboard keys:

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

- Or mouse events:

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

Game Duration

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



Cheat Mode

- The game has a cheat code/mode so that one player can win easily
- The cheat mode can be activated by a secret key or a secret button
- Don't use any crazy combination of keys!



The Game Over Page

- The game over page should contain some kind of statistics of the two players
- An overall ranking of all players is also shown on this page



Graphics and Sounds

- The game play is created using either SVG or canvas, so only 2D games
- Your game can have different sound effects and background music using the HTML <audio> tag

Web Server

- You will use Node.js as the only web server of the game
- You may install additional packages but we need to be able to run the game by:
 1. Doing a npm install
 2. Running the server JavaScript file
 3. Browsing to `http://localhost:8000`
- You don't need to use any scripts to automate the process

Forming a Group

- You need to form a **group of 2 or 3** to work on the course project
- A page has been set up to let you form groups by yourselves:

<https://canvas.ust.hk/courses/42327/groups>

- The deadline for forming a group is

8pm, Monday, 11 Apr 2022

Confirming Your Group

- After forming your group, add yourselves to the group that you want to be in
- Then, one of you in the group sends me an email to confirm the group before the deadline
- Don't randomly put yourself in any groups, be nice and ask first!
- If you do not have a group after the deadline, I will put you in a group randomly

Submission Deadline

- The deadline of the project is:
8pm, Wednesday, 11 May 2022
- The submission includes:
 - Self-contained project files
 - Project video demonstrating your game
- The submission details will be released later