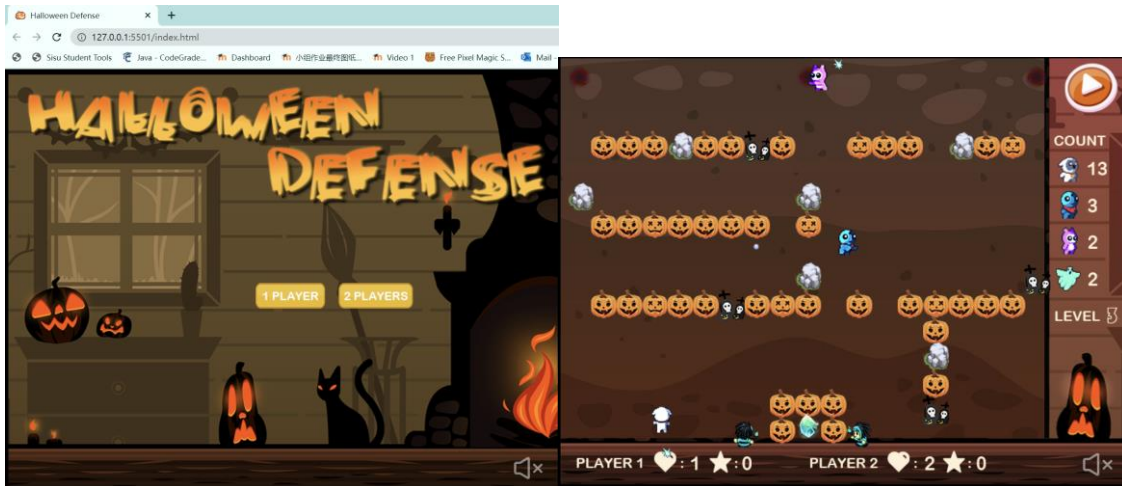


## Project Report

A tower defense HTML5 mini-game built with HTML, CSS and JavaScript (using the JQuery library). The background of the game is Halloween, and the player fights against the ghosts in order to protect the crystals from being destroyed by the ghosts. There are three levels in total, supporting two players to play together.

Some of the in-game screens:



Feature	Points
Well written PDF report	3
Application works on Firefox, Safari, Edge and Chrome	3
The application has clear directory structure and everything is organized well	2
There is a clear plot in the game. It has a start and end. The game fails and ends when the crystal is destroyed by enemies or when all players have zero lives. The game ends when the player successfully guards the crystal and destroys all enemies.	4
User can get their name in the scoreboard. The game has a very clear points program and is summarized at the end of each level.	3
There are more than one map. There are three maps in total, with gradually increasing difficulty.( I used the json file)	4
Gamer needs to use both keyboard and mouse to meaningfully control the player character	3
There are enemies that can hurt the player	3
The game has sounds effects. Player, enemies, obstacles, and crystals each have different sound effects when they are attack.	3
Appropriate background music is set and can be muted or played at any time with the button in the lower right corner. There are also sound effects when the buttons are clicked.	3
The game can be played by single player or two players at the same time, (single player mode arrow keys: up, down, left, right, attack key: space; two player mode P2 arrow keys: WSAD, attack key: G)	3

The points system is very clear, with each player's current points displayed in real time at the bottom of the game. At the end of the level, it also shows all players their respective scores in detail.	3
The player's blood level is fixed (set to three life points per player) The player's current remaining blood level is clearly displayed in real time on the game interface.	2
The game interface switches very smoothly with transition animations. Each button is also animated with hover and other animations. The buttons will show a different appearance when the mouse is hovered and clicked.	3
Attack effects in the game are beautiful and accompanied by matching sound effects. Smooth animations are different when characters are injured and when bases explode. Smaller animations are shown if bullets only hit walls and not enemies or obstacles that can be attacked.	3
Characters are fully fleshed out with four orientations, a feature that allows players to judge end orientation well to enhance the gameplay experience.	2
There are three different kinds of obstacles. One of the obstacles (the pumpkin) disappears after being attacked twice, and the other two cannot be attacked.	3
There are four different enemy images and have different enemy parameters; the little ghost has three life points and attacks more quickly. The other enemies have one life point. The points earned for defeating each enemy are different.	3
Players can press any key on the settlement page to smoothly advance to the next level (if passed. The last level will jump to the main page).	1
The game interface has a pause button that allows you to pause at any time. After pause you can choose to return to the main page or choose to continue the game.	3
Each level of the game will have a different number of different types of enemies, the specific information on the right side of the game interface information bar in real time to show how many monsters will appear (the total number of monsters will appear in each level is fixed).	1
Monsters will spawn randomly from the top three birth points, with a maximum of three monsters in the map at once. When the number of monsters is less than three, a new monster will be born (if it can still be born).	3
The browser header has a small exclusive icon belonging to the game (a cute little pumpkin)	0.5
Application is not responsive	-2

There are still a lot of features I would like to implement, and the game's interface design and music could be better. However, due to time constraints, this is the best I could do in the limited time I had. Finding pictures and editing them took me a lot of time. While I was writing the code, I also worked on some subsequent features, such as letting the player choose a different background image or a different look for the obstacles. Bonus modes (such as eating gold coins) are also a fun way to play. This project has helped me to strengthen my foundation and increase my interest in learning. I think I'll continue to learn to improve it in the future.

Thanks for reading!