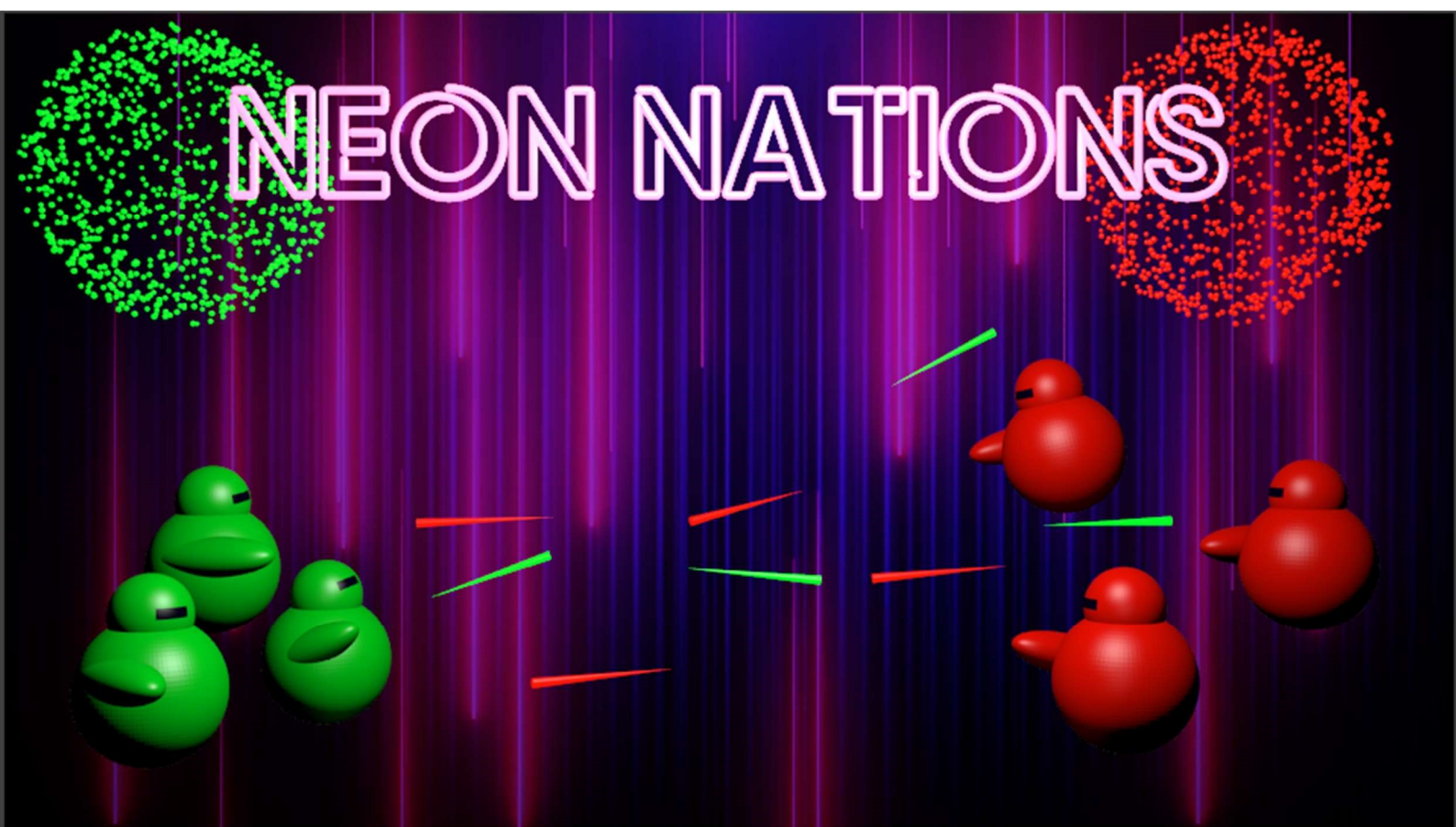# Game Design

Project   Neon Nations
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Game description

Neon Nations is a top-down multiplayer shooter that takes place in a dark environment which consists of rectangular rooms and corridors. The only thing that's constantly visible is your player. You can see throughout the map by emitting light, but this might show your location to the enemies. The goal is to fight enemies by shooting them with light bullets. There are 2 teams in the game, the player is added to the team with the lowest number of players. Bots can be added to the teams if there are not enough players.

Rules

The goal is to be the first team to reach 10 eliminations. A game lasts 5 minutes and if none of the teams has reached 10 eliminations within the allocated time, the team with the highest number of eliminations will win. If the number of points is equal, the game will result in a draw.

Actions

Movement

A player can move around by using WASD by default. He can then move in all directions along 2 axes.

Shooting

To kill an enemy, a player must shoot at him. He can do so by using left click by default. In addition to damage the enemies (shots do not damage players from the same team), shots generate a bit of light that helps to see in this dark environment. This can be a subtle way to see around with a smaller chance of being seen yourself.
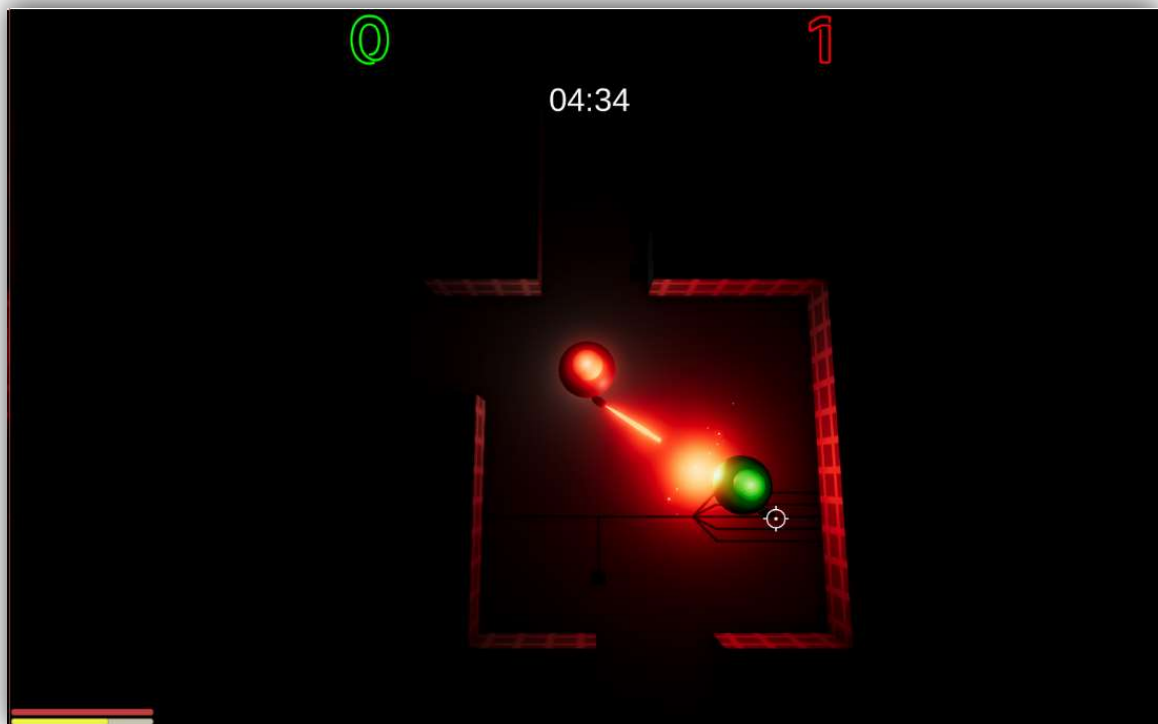
Red player shooting at a green player

Sonar

A player can also see by using the sonar. He can do so by pressing the space key by default. This does not deal damage but allows the player to see a large area all around him. However, it will probably reveal his position so enemies may shoot at him.
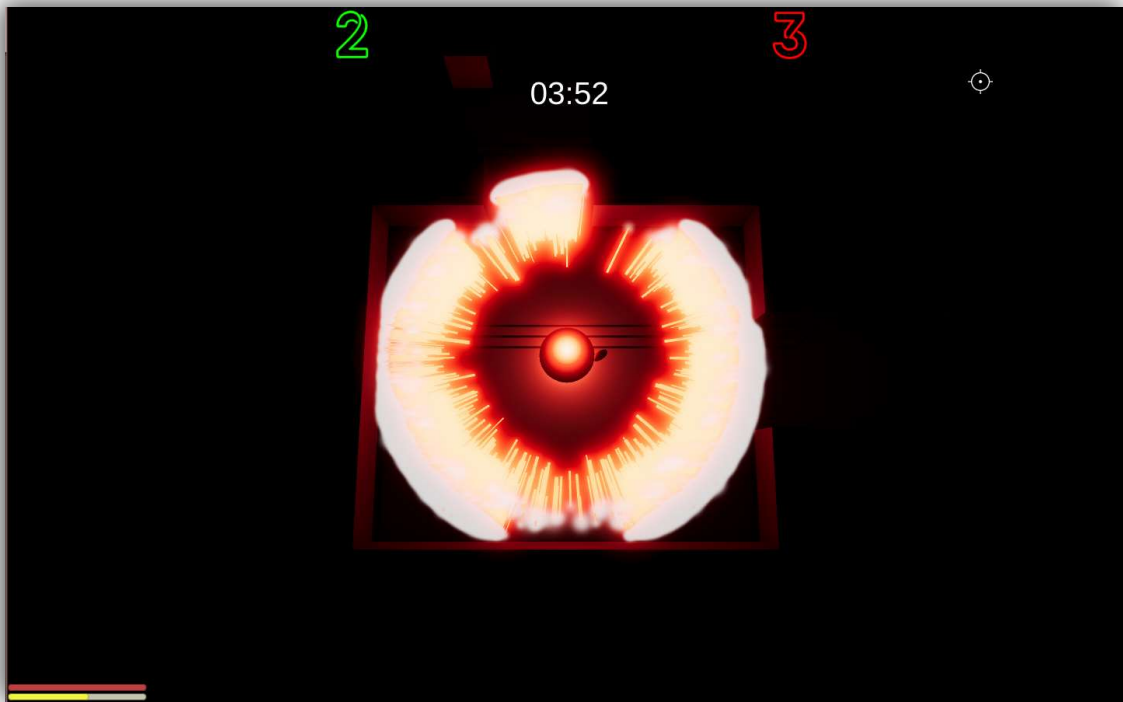

Red player using the sonar

Dash

Finally, a player can move quickly in a direction by using the dash. He can do so by pressing the shift key by default while moving. This results in a slight emission of light behind him. A player may want to dash to flee an enemy or to run at him and surprise him for instance.


Green player using the dash

Health

A player can play while his health is above zero. If he is hit by a bullet, he will lose some health. When his health drops below zero, he will die and has the possibility to respawn 5 seconds later.
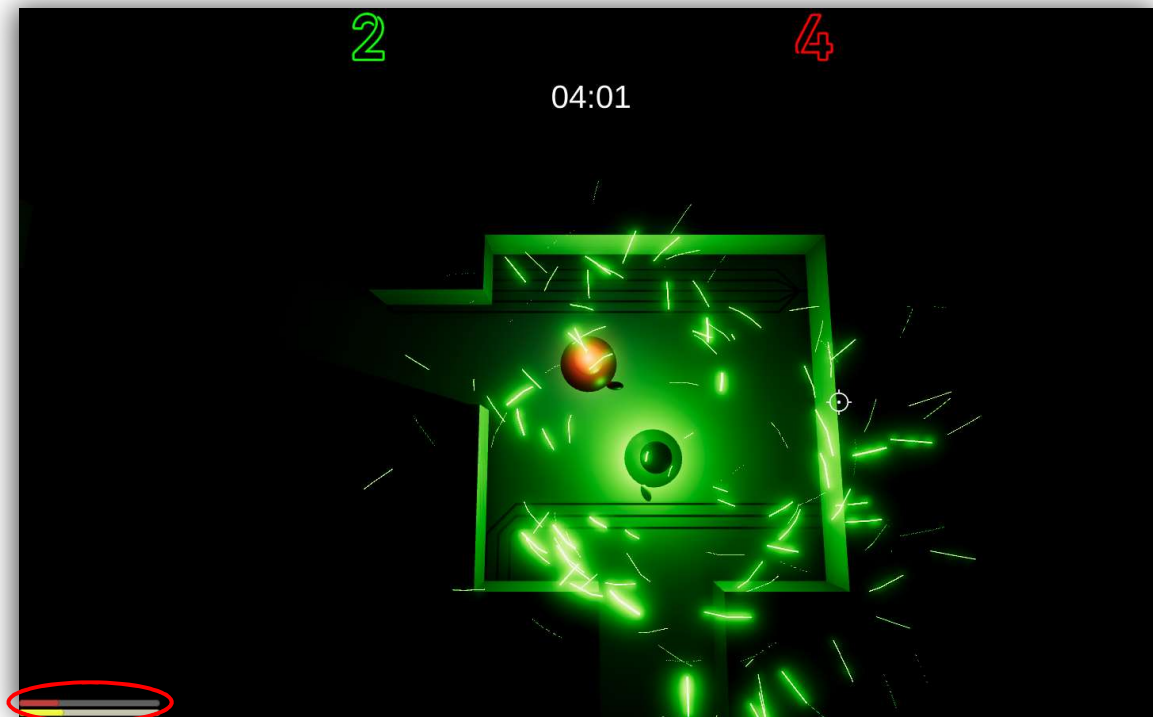
Death of a green player
The red player has still some life (red bar circled)

Energy

A player can shoot, use the sonar or dash while he has energy. When he performs one of these actions, he will use some energy. The loss is proportional to the amount of light emitted (shots use the least amount of it, then dash and last the sonar). If a player tries to perform an action without having any energy, nothing will happen.
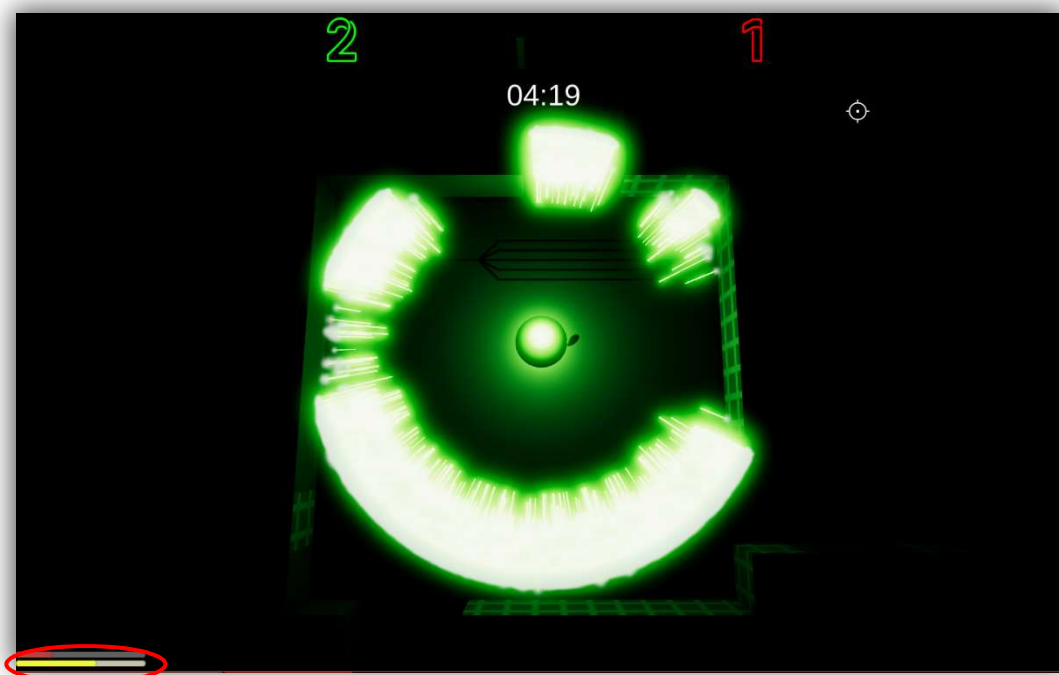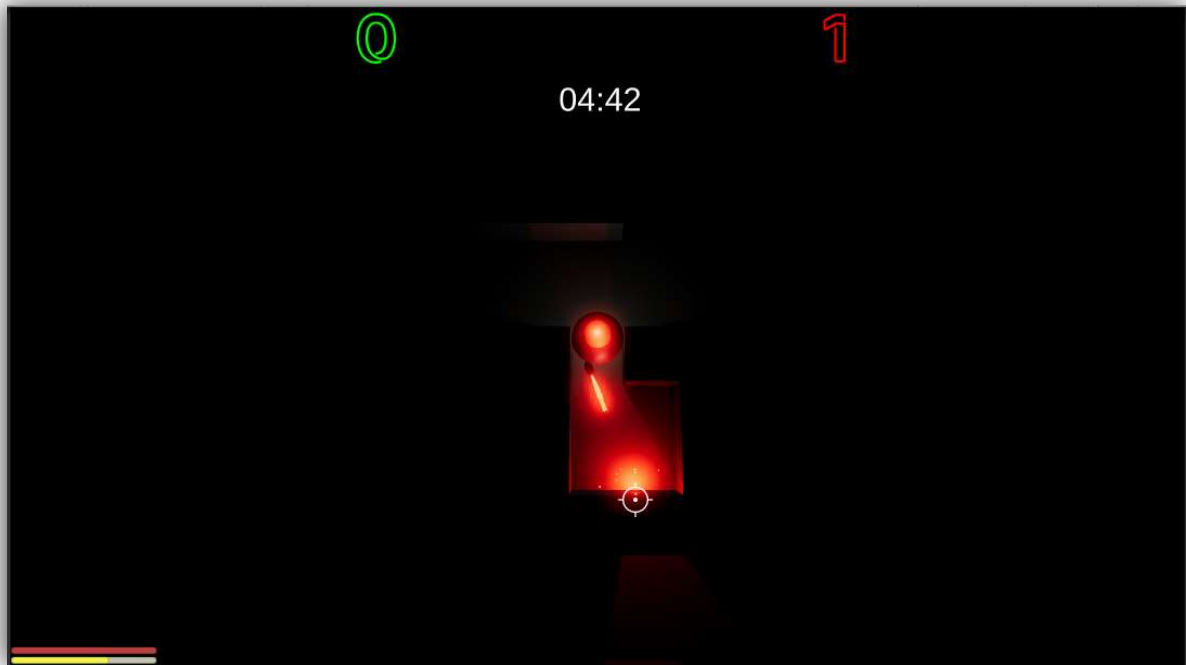

The player has lost energy by using the sonar (yellow bar circled)

Features

Breakable walls

One of the particularities of the map is that it has some breakable walls that players can destroy by shooting at them. Destroying them reveals shortcuts that can then be used to flee or go faster from one point to another.

The player destroyed a wall and is shooting at another to destroy it

Reflectors

Another feature is that the map has an area covered in reflectors. If a player shoots at them, his shots will bounce on the reflectors for a certain time until they fade away or until they hit something else. It is easier to kill an enemy in a reflector zone, but it is also easier to get killed since there can be many shots bouncing all around you.
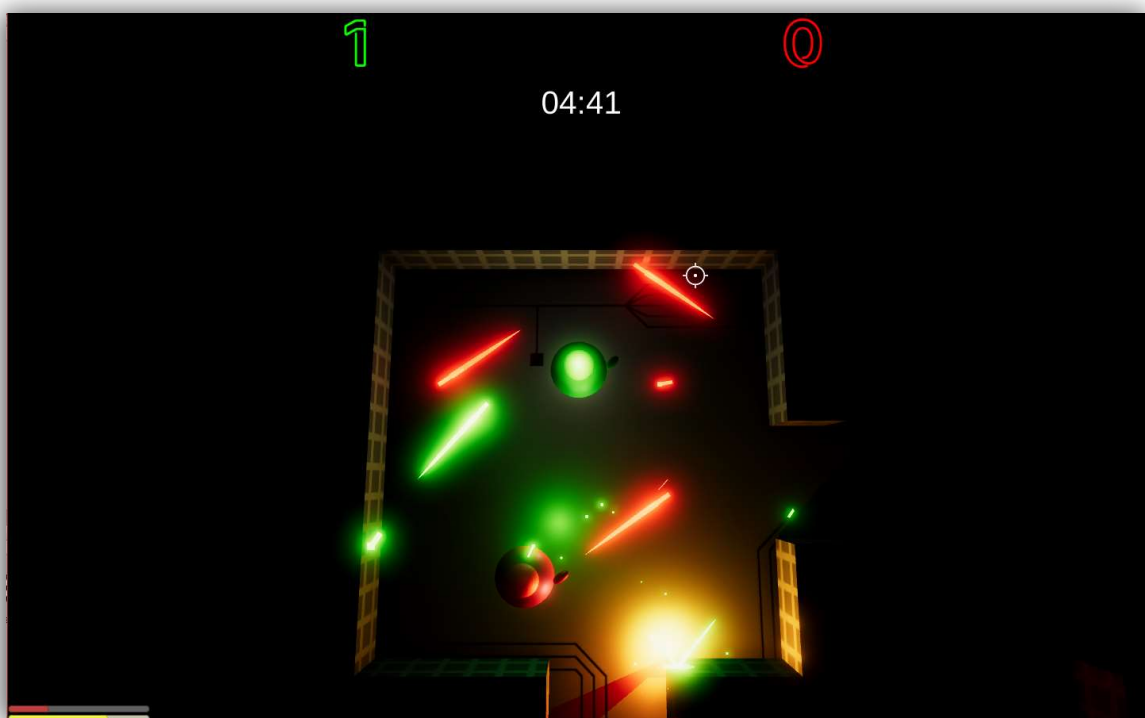
Players shooting at mirrors

Multiplayer

Neon nations is playable in local multiplayer. The steps below describe how to create and join a game.

Host

The host is the person to whom the other players will connect. The host must allow other players to connect to him.

To do this, the host must follow those simple steps on Windows 10:

1. In the Windows task bar, click on the bottom right corner.
2. A panel will be opened with options. If this is not already the case, click on "Expand" to show all the options.
3. Enable "Mobile hotspot" by clicking on it (see figure 1).
4. Your computer will now appear as a Wi-Fi hotspot (secured by a password) for other computers.
5. To find the password, right click on "Mobile hotspot".
6. Click on "Go to parameters".
7. A new window will appear with all the information including the password.
8. If your computer does not appear as a Wi-Fi hotspot on another computer, in the "Mobile hotspot" parameters, modify network properties and switch to "Network bandwidth: 2.4GHz" which is the most common (see figure 2).
9. Other players are now able to join you using the password. To create a lobby, start Neon Nations, click on "Play" and then "Start Host".
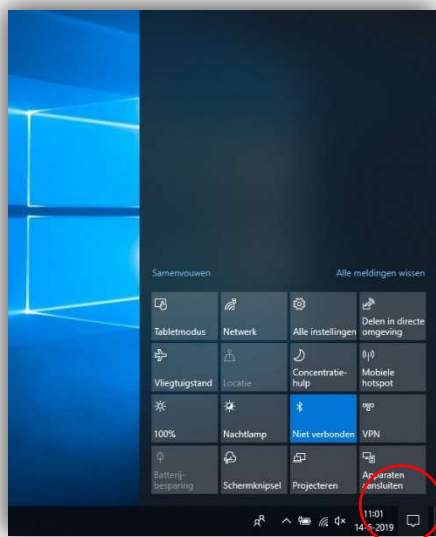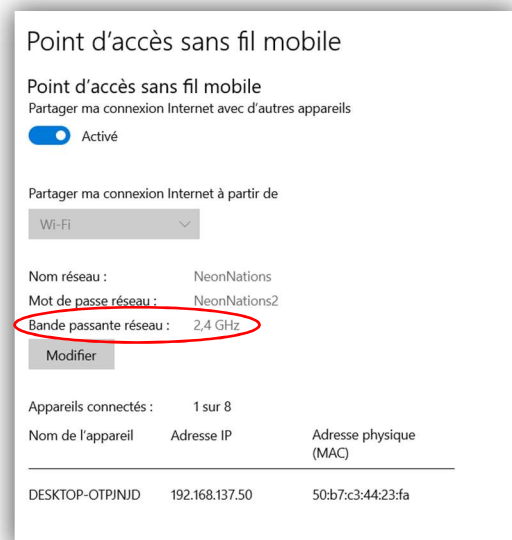

Figure 1

Figure 2

Client

Once someone is hosting the game, it is easy to join him as a client.

To do this, the client must follow those simple steps on Windows 10:

1. Activate Wi-Fi.
2. The computer's host should appear in the list of available hotspots, connect to it using the password as described in previous step 7. If this is not the case, check that the previous step 8 is done.
3. If Windows asks if other computers from the same network should see your computer, click on Yes.
4. Start Neon Nations, click on "Play".
5. The host lobby should appear in the "Lobby list".
6. Click on "Join".
7. Click on "Ready" once ready. Once everyone is ready including the host himself, the host will be able to start the game.