# Game summary

The game is based on the game agar.io which can be found at <http://agar.io/>. The player gets spawned into an appropriate server, one which requires players. A sever will require players when the mass of the food available added to the mass of all the players is less than a certain threshold. The player spawns in as a “blob”, which the objective to become the biggest “blob”. There is no winning sequence to the game, as the player’s aim is to stay at the top of the leaderboard for as long as possible.

The player grows in size by eating food which is spawn by the server in random places, or by eating other players and adding the mass of their body to their own body. The player’s body grows in proportion to its mass, which increases by the size of the object that has just been consumed.

The player moves by moving the mouse over the screen. The “blob” will follow the mouse at a speed that is proportional to the distance the mouse is from the centre of the player. The player can also press “mouse one” to have a speed boost: the player’s body moves much faster in the direction of the mouse, at the expense of losing a lot of mass in the process.

The player’s mass can be viewed at the bottom left of the screen. A player can shoot bits of its own mass at another player, causing them to grow in size, by pressing “SPACE”. If another player absorbs these mass bullets too quickly, they will split apart into multiple blobs and these will spread in multiple directions, and will be out of the game. These blobs can then be eaten as food by other players, again trying to avoid eating too quickly.

Once a player disconnects, their blob remains in the location they were in. Other players can then consume this blob. Players can also be consumed by this blob, so they need to be careful of it.

The main difference of this game to agar.io is the way players interact: players can give other players part of themselves, but players consuming parts of other players too quickly will risk exploding, which is indicated by a progress bar appearing below the player. Players also have the ability to speed-boost to catch other players; agar.io prefers to allow to split apart, with the split part being propelled at some velocity to catch a player.

# Storyboard

# Implementation specification

The game is composed of two parts: the backend and the frontend. The backend is also composed of two parts: an ExpressJS server that serves the static client files, such as JavaScript and HTML used by the browser to render the game. It also has a WebSocket server running. This is the game server that the clients connect to in order to send and receive messages about the game state. This is all handled by the **ServerNetwork** class in the src/network.js file. It extends off the Node **EventEmitter** class, and will emit events when a client connects, disconnects, etc.

# Network utilisation

# Critical Review

# Assets

explode.aiff (converted to .wav) = <https://freesound.org/people/bareform/sounds/218721/>

eat.wav = <https://freesound.org/people/pan14/sounds/263133/>

shoot.wav = <https://freesound.org/people/V-ktor/sounds/435418/>

# References

# Individual contribution