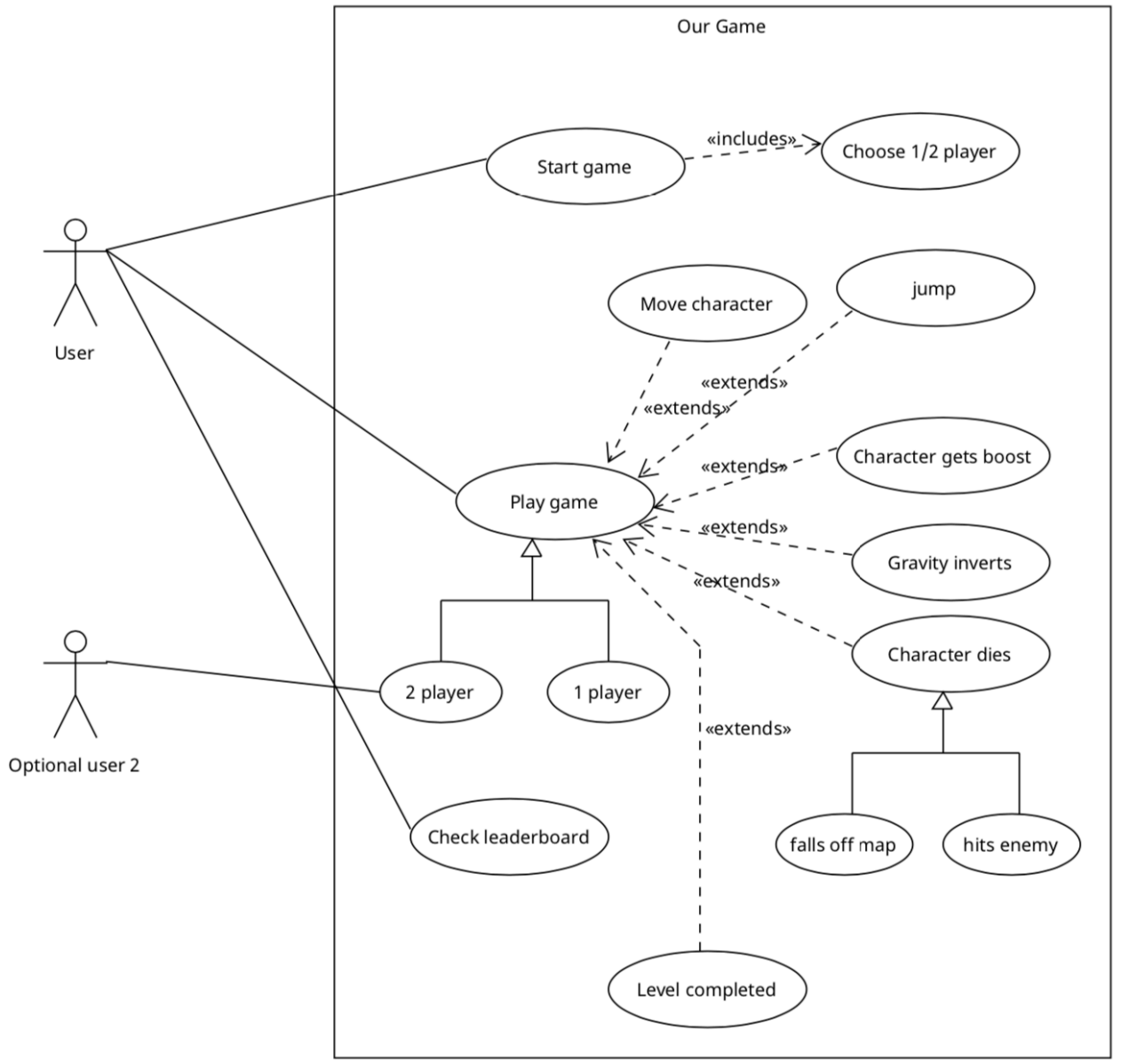
Requirements

Ideation Process:

When beginning the process of our game-design, we considered what sorts of games we have previously enjoyed playing and created a short list of game styles we liked. Eventually we narrowed down our ideas to two finalists: a Super-Mario style platform game or a Connect-4 style puzzle game. We paper-prototyped both games in order to visualise how the end product might look. After this stage we collectively decided that we preferred the platform game. We began to think about what features we wanted the game to have and drew up a Use-Case diagram in order to clearly and precisely map these features.

Use-Case Diagram:



Use-Case Specifications

Use-Case Name: Single Player Game

Description: A simple walk through of a one player game

Basic Flow:

1. Right arrow pressed, map appears to move left so that the sprite appears to move right
2. At a predetermined time gravity flips and the sprite moves to the top of the screen and their orientation changes
3. Right arrow used again to navigate further through the map
4. The sprite reaches the end of the level which will be clearly marked and the game is won

Alternative Flows

1. Obstacle is encountered which the sprite cannot move around. Up arrow is pressed to allow the sprite to jump onto/over the object
2. The sprite encounters an "enemy" and dies this leads the game over screen

Use-Case Name: Two Player Game

Description: A simple walk through of a two player game

Basic Flow:

1. Player one will use the left, right and up keys to navigate their sprite while player two uses 'W', 'A', and 'D' to navigate their sprite.
2. At a predetermined time gravity flips and both sprites move to the top of the screen and their orientation changes
3. The players continue to navigate to the end point in order to win the game: the first to cross the finish line is named the winning player

Alternative Flows:

1. One character runs into a hole or an enemy and dies, the game continues**NEED TO DECIDE ON**, and the remaining player has the chance to try and complete the level

User-Stories:

As a part of developing our products requirements we began to think of user-stories. Planning what a user/player would want out of our product. We thought the following would accurately describe the desired outcome of our system:

"As a player, I want to be able to play a satisfyingly challenging game that requires some skill so that I feel engaged, interested and entertained."

“As a second player, I want to be able to have fun racing against my friend to complete a level so that I can have just as much fun or more playing with two players than on my own.”

“As a player, I want to be able to view my scores so that I can see myself improve as I learn the skills of the game.”

Statement of services:

Our game provides one (or two) players with platform-style game play, navigating a sprite through a game map in order to complete levels. The user will initially, upon loading the game, be able to select whether to play as one or two players or to view the leaderboard. Gameplay consists of using the right, left, and up keys to navigate the character through the map jumping over obstacles. Artificial gravity is a key component of our game —changing at intervals so that the user now must navigate “upside down” as if gravity has flipped. The leaderboard allows users to view their scores over time.

//need to specify how the leaderboard works - do we have usernames or will it just display dates and times

Inputs/Situations:

The user can use the keyboard to interact with the game. Using the left and right keys will move the map so that the sprite appears to move across the screen through the map. Using the up key will allow the sprite to jump, always being pulled back to the ground (with a slight delay) by gravity. When gravity is flipped the sprite’s orientation will change and when the sprite jumps they will be pulled up (the new down). The game will be won if the user makes it to the end of the level, in this situation the screen will display a “game won” screen. The game will be lost if the user falls into a hole or touches a dangerous object in the game environment. The sprite will receive a speed boost if they collect (come into contact with) a boost object.

//need to specify whether key inputs change depending on gravity

Constraints:

We made the decision to only allow the user to move the sprite left, right, and up, but not down. This is because one of the highlights of our game is the element of gravity which should do all of the downwards motion that is available to a character. Characters cannot move totally freely around the screen for precisely this reason, they will always be constrained by gravity.