**Core project document**

## **Group name and number**

Group 18 - Brant Game Design

## **Theme and interpretation**

We chose the theme ‘Water is cool’. Water will be the main theme in our

parkour-and-running-based game: Obstacles, weapons and enemies will all be water based.

## **Game idea**

In this game you must outrun the boogeyman on a water-based parkour. You have to traverse waterslides, fountains and water cannons all the while tormenting the boogeyman and smaller adversaries with water based weapons.

If you are too slow and get caught by the monster, you’ll enter an arena, outside of the normal parkour, where you have to fight the monster in order to return to the parkour. If you manage to get to the end of the parkour at a specific distance set by the player beforehand and kill the monster one final time, you win the game.

## **Student names, emails and role assignment**

Thies Blaakman, [thiesblaakman@hotmail.com](mailto:thiesblaakman@hotmail.com), game designer/world builder

Benjamin Aartsen, [b.aartsen@student.tudelft.nl](mailto:b.aartsen@student.tudelft.nl), lead artist

Ardijan Dzeloska, [a.dzeloska@student.tudelft.nl](mailto:a.dzeloska@student.tudelft.nl), gameplay testing

Niels Beaufort, [n.m.beaufort@student.tudelft.nl](mailto:n.m.beaufort@student.tudelft.nl), lead programmer

Rick van Arkel, [p.f.vanarkel@student.tudelft.nl](mailto:p.f.vanarkel@student.tudelft.nl), producer

## 

## **Game features**

The game features are sorted in four different categories to specify the importance of the feature to the final product.

**Must have:**

*The must have features are absolutely essential to the framework of our game and are needed to complete the most basic gameplay.*

* **3D animated models (procedurally) \*\* (\*)**

*We’ll add enemies in the game, which will have to be generated with the map as well. We need to be sure they are loaded properly.*

* **3D models \***

*Simple models without moving parts only require textures and placement, depending on whether the map is auto generated or not.*

* **Animated textures \*\***

*We’ll have to make sure the textures remain logical while animations are being played.*

* **Dumb enemy \***

*Simple character who shoots or moves towards a player, not very hard to program.*

* **Smart enemy \*\***

*More sophisticated mechanics and smarter moves, so harder to program.*

* **Pre generated boss room with own view and tactics \*\***

*We make a new kind of game mechanic here, but not too complicated.*

* **Highscore \***

*A scoreboard to show the end scores of each play of the game. Not too hard to create, but a challenge keeping everything sorted and aesthetically pleasing.*

* **Power ups \***   
  W*e change the values of a few attributes in the script (speed, health etc.), so quite easy.*
* **Waterslides, water blasters, fountains\***

*We mostly make an object that has an influence on the gameplay once the player interacts with them.*

* + **FPS independent \***

*A small feature to keep the gameplay the same for each device you play it on. Necessary to have as a feature, but not t0o complicated.*

* **Use unity’s physics to simulate normal movement and collisions, water physics etc. \*\***

*Essential features to make the game realistic and playable. Quite a lot of features have to be taken into account, so it will be time consuming.*

* **Create a user interface\***

*Necessary to give the game pausing/starting options. Not too complicated*

**Should have**

*Features that will make the game a lot more interesting and complete, but aren’t 100% essential to complete the gameplay.*

* **Procedurally generated textures \*\****We want the textures to be generated randomly so each time the game is played, the gameplay is different. This will be quite a challenge to do correctly.*
* **Smart boss (neural network) \*\*(\*\*)**

*The boss will learn based on the player’s behaviour. When the player uses a certain weapon a lot during the first battle, the boss will develop defenses against that weapon for the second battle.*

*If we choose to develop a neural network to really simulate a learning process, we think there will be a lot of challenges. None of us have ever created a neural network. How to select and use the inputs is an example of a challenge.*

* **Data analysis: keep different scores next to highscore \*\***

*Next to the highscore we also want to keep track of other scores by analysing the data generated during the runs. It is quite hard to keep track of everything and show this in a nice view.*

* **Create gamer accounts \***  
  *We can make a script that stores the data and makes the account.*
* **Create server for storing data \*\***  
  *We can make an online server that is connected to the game. We just have to find what kind of server can be used.*
  + **Dynamic difficulty \*\***

*We’ll have to buff the frequency of enemies and tricky obstacles once the game advances.*

**Could have**

*Extra features that will provide the final touches to the game.*

* **Particle Systems \***

*Water-gun, boss particles, explosions. These are all basic features.*

* **Audio effects (explosions, soundtracks etc.) \***

*We can download some free files and/or record some of our own, and implement these when something happens. We have done this before.*

* **Consciousness in the level \*\***

*We can implement different behaviour in the level based on the players performance, but we do have to implement some kind of learning in this.*

* **Local multiplayer (two different characters in the same level) \*\***  
  *We have to add another player with its own key binds, shouldn’t be too complicated.*

**Won’t have**

*Features which aren’t possible given the timeframe and our experience*

* **Online multiplayer**

*A lot of time and experience is needed to create an online multiplayer. Since we have neither, our game won’t have online multiplayer.*

* **No console gameplay**

*To make the game compatible for consoles, we have to get into partnerships with console companies, which isn’t realistic*

* **No A+ graphics**

*We want the game to be as realistic and aesthetically pleasing as possible, but since we have no experience in this manner, we will not be able to create models and textures with A+ graphics*