Groep 4

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**Theme and interpretation:**

We chose the theme things you hate. We don’t like nerds and those will be our main enemies.

**Game idea:**

In the game our protagonist is going up against a horde of nerds, commanded by the evil uberNerd. Every time you start a game, a city is randomly generated and the player starts in a random location. The player’s goal is to survive long enough against a horde of nerds to “spawn” their leader, the uberNerd. He survives by fighting the horde of standard nerds with a variety of weapons. Their leader will be more complicated to defeat. The player will need to be out smarted by different brain teasers and puzzles.

**Key Components:**

* Computer Graphics
  + Procedural generated buildings. We want to procedurally generate different types of buildings with different heights, windows, colours and sizes. \*\*\* Lise
  + Players can build their own player (hats, clothing colours etc.). Character is a 3d model with animations for walking, jumping etc. \*\*\* Lise
  + Enemies are generated with random features, also animated \*\* Lise
  + We will use import textures for buildings, background, sky and clothing. \*\* Lise
  + Animated textures for fire, water \* Lise
  + Audio effects will be added for shooting, powerups, nearby nerds\* Tom
  + Particle systems for explosions, enemy hits, jet pack trail \* Tom
  + UI aspects: \*\*\*
    - Menu screen with start pause etc. Olivier
    - Highscore screen Olivier
    - Options menu Olivier
    - Credits after defeating the uberNerd Olivier
    - Buttons in the UI are animated Olivier
* Artificial Intelligence
  + Swarm of nerds that will chase you and try to catch you. \*\* Ajdin
  + Use a neural network that makes the nerds smarter based on the choices of the player.\*\*\*\* Ajdin
  + uberNerd must be defeated in a puzzle of some sort. uberNerd will be very smart and hard to beat. \*\* Ajdin

Genetic algorithms can be used for the enemies:

Chromosome: the stats of the enemy

During gameplay iterations. So new spawned enemies shoud be from new generations.

Pathfinding: how will we make the enemies move?

Enemies movement: how will they damage the player?

* Web and Database
  + Online server with account and character information (avatar, highscores etc.) \*\*\*\*
  + Share scores on facebook \*\* Jia Ying

GAME ANALYTICS: what do we do with the gameplay data?

* Programming
  + Procedurally generated levels\*\* Jia Ying (Try unity terrain)
  + Nerds get smarter and more difficult to defeat based on the player choices \*\* Ajdin
  + Splitscreen coop multiplayer \*\* Tom
  + FPS independent\*\* Jia Ying
  + Change between 1st person and 3rd person \*\* Tom
  + Trigger collisions for pick ups and bullets\* Olivier

Physics should be more detailed for both the player and the enemy. What kind of physics will we use? E.g. bouncing weapons, throwing weapons, jumping etc.

**Student names:**

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**Schedule:**

First deadline: Tuesday 24 November (week 3).  
We want to finish our prototypes of our main components at the end of week 2 so we have enough time to create prototypes of a certain level but also have enough time to test them in week3.

Second deadline: Friday 27 November (week 3).  
We also want to have a clear view of what the game design will entail at the end of week 2. That way we have a good week to write the Game design document, while testing the prototypes.

Third deadline: peer reviews (week 5).  
This will be done be every team member individually.

Fourth deadline: Friday 18 December (week 6).  
Ideally we have a complete game at the start of week 6 (Monday). That way we still have four days to remove any bugs or to improve details. But the main components should be working fine on Monday.

Fifth deadline: Wednesday 6 January (week 7).  
The holiday will give each member of the group enough time to have some friends and/or family members test the game. This can be put together at the beginning of week 7.

Sixth deadline: Friday 15 January (week 8).  
Again, ideally we have everything we wanted to implement working in the beginning of the week, so we have the remainder of time to work out the final bugs and improve small details.

Final deadline: To be announced (week 9)

**Link to GitHub project page:**

https://github.com/gitjiaying/minorProject