

Game Pitch Group 10

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Team

Name	E-mail	Team-Role
Jorien Knipping	jorien.knipping@xs4all.nl	Producer
Joseph Verburg	josephverburg@gmail.com	Lead Programmer
Rick Koster	rick_koster12@hotmail.com	Lead Artist
Jasper Binda	jasperbinda@hotmail.com	Game Designer
JanCees van Senden	jancees.van.senden@gmail.com	World Builder
Koen Ziere	koen@ziere.nl	-

Theme

“1 minute to win it!”

GitHub Project Page

<https://github.com/orgs/groep10/dashboard>

Game Idea

We want to create a new type of game by combining several gametypes. Picture an arena battle, combined with die-hard racing to trigger mini-games that will contain parts of other game-genres.

In the arena 4 vehicles will race to reach a generated checkpoint. The later you reach the checkpoint, the bigger your handicap during the mini-game. When the last vehicle reaches the checkpoint a random mini-game starts. This can be either free-for-all, 2 vs. 2 or 1 vs. 3. The vehicle(s) that win(s) the mini-game get(s) a point. The first vehicle to gain 3 points wins the game. When a mini-game is finished a new checkpoint will be generated after several seconds.

The arena is aware of its surroundings and constantly changing using procedural generation. The level also adapts to the mini-game to be played.

Key Elements

In the tables below you find the key elements for each of the 4 subjects, Computer Graphics, Artificial Intelligence, Web & Database and Programming. Below the tables there will be a more detailed explanation for the elements that require it.

Computer Graphics

Subject	Difficulty	Who is responsible?
Level Tour	**	JanCees van Senden
High Scores	*	Rick Koster
Options	*	Rick Koster
Credits	*	Rick Koster
UI Animations	*	Rick Koster
Start-, Pause-, End-Screen	*	Rick Koster
Procedural Textures	****	Rick Koster
3D Animated Models	**	Jasper Binda
Sounds	*	Joseph Verburg
Total	14	

The **level tour** will be a movie through the arena before the game starts, the players can skip this if they like.

Procedural Textures will be generated in blender using cycles render.

3D Animated Models such as the vehicles, enemies, etc. will be created with blender and contain animations to for example turn the wheels when steering and simulate suspension.

Artificial Intelligence

Subject	Stars	Who is responsible?
Path finding	***	Jorien Knipping
Genetic algorithm to create fairness in the checkpoint generation	****	JanCees van Senden
Level consciousness	***	JanCees van Senden
Enemies	**	Jasper Binda
Total	12	

Path finding to find the positions of players towards a certain point. This information is used as input for the **genetic algorithm** to find a location for the next checkpoint that is as fair as possible for all the players.

The **arena will be conscious of its surroundings** and change in response to that. For example where the players are located and which of the player should be favoured over other players because he won the check-point race. Getting this to work smoothly and look natural is not easy and therefore we rate it at 3 stars.

Web & Database

Subject	Stars	Who is responsible?
Collect playthrough data	**	Joseph Verburg
Store player data on webserver	**	Joseph Verburg
Online accounts with avatars	***	Joseph Verburg
Collect and show highscores from webserver	**	Joseph Verburg
Total	9	

The game will be **online focused**, bots are a side-option in our plan. People can **create characters with avatars** and their **highscores will be collected** and **viewable in leaderboards**.

Programming

Subject	Stars	Who is responsible?
Procedurally generated level	***	JanCees van Senden
Moving platforms	*	JanCees van Senden
Online Multiplayer	****	Jasper Binda
Rear view option	*	Jorien Knipping
Physics collisions	*	Jorien Knipping
Vehicle movements/controlling	*	Jorien Knipping
Mini-map	**	Jorien Knipping
Total	13	

The level will procedurally generated. The way it is composed changes all the time. For example ramps can appear and disappear, mountains can split the level in 2 and there can appear multiple planes at different hides to ride on. This includes **moving platforms**, for example the mountain rising from the ground or the planes moving around in 3D space.

As **the game is online multiplayer oriented** there will be some proper coding needed to create this feature. There is an overlap between *Web & Database* and *Programming* here. The basic idea is that one player will be the host of the game and others can join his session. Because of the overlap between the two subjects and the fact that this is hard to get running at real time we have rated it at 4 stars.

There will be a **rear view option** for the players. By this we mean that as long as player holds a given button his view will change to see what is behind him instead of in front of him.

Physics will be used to simulate collisions between objects. This can be between vehicles and the arena, vehicles amongst each other, vehicles versus enemies, enemies amongst each other, etcetera.

The **movement of the vehicles need to be controlled**. We will use forces to control the accelerating and breaking process, steering and jumping.

In the corner of the player's screen there will be a **mini-map** that displays the arena, the position of all players and the location of their current objective depending on their mission.

Time-Line

Week 1

➤ *Food for thought*

- Decide on a style/setting
- Brainstorm on minigames
- Brainstorm on game title

➤ *Prototypes*

- Player model
- Arena
- Transition between race and minigame
- Player controller
- Textures
- Gamer accounts

Week 2

➤ *Food for thought*

- Brainstorm on minigames
- Point system
- Game balancing (1 vs 3, 2 vs 2, free-for-all)

➤ *Prototypes*

- Animations for player model
- Arena elements (ramps, traps, etc.)
- 1 minigames (at least)
- Genetic algorithm
- Highscores on web server
- Textures
- Pathfinding algorithm
- Arena props (vegetation, buildings, props in general)

Week 3

➤ *Deliver*

- Prototyping report
- Revised core project document
- Prototypes

➤ *Prototypes*

- More minigames
- More animated models (motor cycles?, trucks?, enemies, etc.)

Week 4

➤ *Food for thought*

- Combining game elements
- Game balancing

Week 5

➤ *Deliver*

- Peer reviews

Week 6

➤ *Deliver*

- Early access game

Week 7

Week 8

➤ *Deliver*

- Beta game

Week 9

➤ *Deliver*

- Peer reviews
- Finished game

➤ *Prototypes*

- Presentation