

Design Document

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1. Game Design

1.1 Summary

This is an interactive game for a casual environment, in which coordination and cooperation are key. The game features asynchronous gameplay between one player with an Oculus Rift and four players with smartphones.

1.2 Gameplay

The player wearing the Oculus Rift, the commander, is located on top of a virtual platform and can look around in his environment. The platform is carried and controlled by the four other players, the carriers, who can not see the environment.

The goal of the game is for the carriers to carry the platform for as far as possible without taking too much damage from obstacles or enemies. Since the carriers cannot see the environment, the commander will need to communicate the locations of upcoming enemies and obstacles to them.

1.3 Mindset

The two different roles provide different experiences.

The commander, who has the most hectic task, cannot directly influence the environment and therefore relies completely on the actions of the four carriers. This will mean that the commander can feel a strong sense of control, when this communication works out. On the other hand, when it does not work out, he can feel helpless. Because the platform the commander is standing on is moving around a lot, shaking and wobbling, the commander will experience a real sense of danger, which adds up to the intensity.

The four carriers will need to find an effective way of cooperation, because good synchronicity is important. This will give the carriers a feeling of team spirit. Because the carriers will need to perform physical acts to play the game, like tilting and shaking their phone, they will feel actively involved.

All in all, the game keeps all players involved at all time, requiring attention from all players. When a group is successful, they will get a feeling of group accomplishment. Proving who is the best commander can also give the game a more competitive edge, since high scores are recorded

2. Technical Specifications

2.1 Hardware

The commander needs an Oculus Rift and a desktop pc or laptop. The four carriers all need an Android smartphone, which minimally runs Android 4.0 and has a gyroscope. Nearly all Android smartphones satisfy these requirements. To be able to connect all players, an internet connection is needed as well.

2.2 Controls

How the game is controlled differs for the commander and the carriers.

The commander can only look around, which he can do by moving his head around. This movement is registered by the Oculus Rift. Controls like this give the player a sense of immersion.

Carriers control the game by tilting their smartphone and by performing on-screen actions.

2.3 Mechanics

A number of interesting mechanics are used in the game.

The platform will start to shake while the carriers are running and getting hit by something will make it shake even more. This will make the commander feel like he is in a dangerous situation. When too much damage is taken, the commander will fall off the platform, which will be an interesting experience that the commander might want to prepare for.

For the carriers, the focus will mainly be on performing physical actions. They can steer the platform by all tilting their smartphone left or right. Players need to do this all at the same time or the platform won't move and will become less stable. By moving their phones downwards, players can duck, to evade low-hanging branches.

3. Art

3.1 General

The theme will be cartoonish and minimalistic. It fits the game since the game itself doesn't have a very serious nature. The world will not have high res textures or high end shading. The world design will be simple for the reason mentioned above and because it will hit a broader audience; the Oculus Rift requires a pretty beefy computer on it's own, not everybody owns one. Also the time constraint on this product influenced the decision.

3.2 Characters

The commander will be the only player who can do anything in the virtual world. He will only see his own legs and feet and parts of the carriers, since they are located under the platform and mainly invisible to the commander. The need for highly detailed characters and character models is therefore very low. The same goes for animation of the characters, walking and swinging of the sword will not have any randomness to it. It will look the same every time.

3.3 The world

The virtual world itself will be a long road with walls on either side. The walls will consist out of rocks, bushes and trees. Since the commander can't look past these walls, there will be nothing behind them.

3.4 Sound and music

The sounds in the game come from two sources: the computer that is used by the player wearing the Oculus Rift and the smartphones of the carriers. The computer will play music and environmental sounds. Each individual smartphone will produce sounds that are made by the player that is connected to it. This includes sounds for taking damage and for jumping. The background music will be upbeat, which fits with the active nature of the game.

4. Gameplay

4.1 General

The game will consist of 5 players working together. 1 player is called the 'commander' and will be wearing the Oculus Rift. The other 4 players are called the 'carriers', they will each be holding an Android smartphone. The commander will be the only one who can see anything in the virtual world, the others only have their smartphone as visual output.

Ingame, the commander will be standing on a square platform, the carriers will be holding up this platform and each stand under one of the four corners. The platform will be moving at a constant speed along a road. This road is randomly generated and infinite.

The carriers will have to balance the platform and commander by using the gyroscope in their mobile devices. They use this to steer the platform left and right. They have to this in union or else the platform will get unstable and the commander will start to wobble. Since the carriers cannot see what's ahead, the commander has to inform them in real life about incoming obstacles. Obstacles include rocks, pits and branches.

Enemies can appear on the road and will target a random player to attack. They can attack each player from 3 different sides, it will randomly choose a side once it has decided which player it will attack. The commander has to tell the carrier from where the enemy is attacking. The player can swing his sword in one of the three directions but can only attack every 3 seconds, so missing can cost you your life!

The goal is to get as far along the road as you can, but beware, it gets harder the further you go. It starts off pretty easy and that's why checkpoints are implemented. Once you reach a checkpoint, you can start from there the next time you start a game. The game getting harder means more enemies, stronger enemies, faster movement by the platform and more obstacles on the road.

When the group gets further along the road, carriers are bound to die. As soon as a carrier loses all it's health, this player will be out of the game for a little while. The whole game is not lost yet, but it becomes much harder for the other players to keep the platform stable. The commander will wobble more, making it harder for him to see the dangers ahead making the three remaining carriers more vulnerable. Once the 'dead' carrier gets back up again the game continues as normal. The game is officially lost when the platform tumbles over and the commander lands on the ground. This happens if two carriers on the same side of the platform lose all their health or if any three players die at the same time. When two carriers

diagonally of each other are still alive the game can continue in theory, but the platform will be incredibly tough to handle at this point.

4.2 Game flow

Once the game is booted up, the person with the Oculus Rift can see the menu and open a lobby, the carriers can then connect via LAN to the person with the Oculus (the server). As soon as all players are connected the commander can select where to start, if any checkpoints have been reached. Once the game has started the carriers will be notified on their device which space under the platform they occupy. After that, the fun can begin!