



Wipeout 2021

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Class A 3-INF:

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Curricular Unit:

Game Development

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- Sound
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Overview

➤ Theme / Setting / Genre

- ⌘ Wipeout 2021 is a 3D platforming course action/sports game, with realistic material and character physics. The player aims to get to end of the course in the fastest time possible, while avoiding obstacles on its way that aim to knock him/her off the course.
- ⌘ It is set on an open stage in an aquatic park.
- ⌘ The obstacles can be big foam objects mostly platforms, bouncy balls, and other types of objects.
- ⌘ The faster the player finishes each course and reaches the end, the better the score will be.
- ⌘ In the end the winner will be able to see the time he/she took to complete the game, that being the score.

➤ Core Gameplay Mechanics (Brief)

- ⌘ Player Movement
- ⌘ Time “limits”
- ⌘ Rewards/Penalties
- ⌘ Strategy/Planning

➤ Targeted platforms

- ⌘ Windows 10

➤ Monetization model (Brief/Document)

- ⌘ Free-to-play (F2P) allows players to play the game for free without the need to pay anything. Playing the game for free encourages its spread, acting as great word of mouth so that other people are more likely to pick up your game. The more people who play, and the longer they play, the more likely the game is to be a commercial success.

➤ Project Scope

- ⌘ Development
 - Cost: The development of the game won't have any additional cost other than the team's time on developing and the resources we already possess (PC's or Desktops)
 - Time Scale: This project is for an academic purpose so it will take the remainder of the year until the deadline defined by subject's teacher.
- ⌘ Team Size

- Elements:
 - David Pinto
 - Hugo Castro
 - Ricardo Sousa
 - Sabina Dziugeviciute
- ⌘ The only license worth mentioning is the Unity Developing license which is free for this case.
- ⌘ In total there aren't any costs worth mentioning since all the developing is of free will of our team and for a Final Project of a Subject on our Course.

➤ Influences (Brief)

- ⌘ Wipeout
 - TV Show
 - This is the main influence for the development of the game, it's the reference used for the levels, type of levels and game modes and most of the features implemented.
- ⌘ America Ninja Warrior
 - TV Show
 - This is also one of the strongest influences for the game since it also incorporates some of the gameplay mechanics but with a timer function and harder courses.
- ⌘ Mirrors Edge (2008)
 - Video Game
 - An acclaimed title from 2008 known by its fluid movement mechanics and parkour gameplay. This reference influenced more on the character controller and movement aspect of the game.
- ⌘ Titanfall / Apex Legends
 - Video Game
 - Two popular multiplayer games. These are more of an influence due to its fluid player movements and physics; these are references for the player movement intended for our game.
- ⌘ Fall Guys
 - Video Game
 - A recent popular multiplayer game known by its physics-based gameplay and obstacle courses. It embodies everything mentioned above but in a more cartoon way with exaggerated animations.

➤ The Elevator Pitch

Wipeout 2021 is the newest and spiciest course runner game in the modern market, with a difficult and challenging course coupled with fluid movements and mechanics, challenge yourself to complete the course in the fastest time, for the highest score! Jump into it!

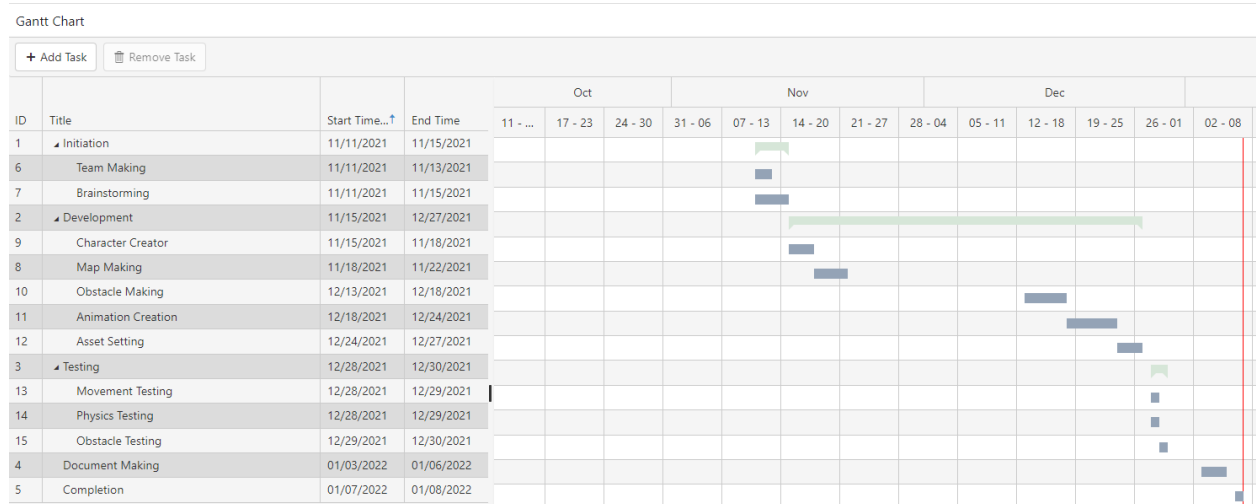
➤ Project Description (Brief)

The idea of this Project is a recreation of the TV Gameshow Wipeout, having a character figure, running through the course from start to finish avoiding obstacles and completing it in record time.

The game will start at point A, with the player character having to maneuver through a course to point B, containing obstacles whose objective is to knock the player off the course, restart the game and try again.

➤ Project Description (Detailed)

The project will be separated into 4 Sections as seen in this Gantt Chart:



The Initiation will be comprised of the Team Making + Brainstorming, that took only 3 days, where we decided the game we'd be making, along with many other ideas and suggestions.

Following that we had the Development section that took arguably the longest time considering that some group members had part-time jobs, along with nightly classes, and other projects, making it harder to reunite for this project.

The Testing was taken care of rather quickly compared to other sections since it was relatively easier to manage and fine-tune since all the basic work was taken care of preemptively.

The Document Making was also done rather quickly, with all the members detailing the group's work, together, it was arguably the easiest part.

➤ Core Gameplay Mechanics (Detailed)

⌘ Player Movement

- The Player character can move omnidirectionally, always has free control of the character (including airborne), it can jump once, obeying the usual laws of physics, has normal gravity, and objects have physical properties, meaning the player can't phase through walls, or the ground.

⌘ Time "limit"

- Every stage will have a time counting the top of the screen this will mark how much time the player is taking to complete the stage at the end the time the player took to finish the stage will be evaluated comparing it to reference times.
- Also, the overall score of the course will take to consideration all times made in the previous stages giving the player a final score.
- This idea was scrapped due to wanting to make the game feel freer and more competitive at the same time, as such, the player can take as much time as he/she wants, however the longer he/she takes, the lesser points he/she'll get at the end of the game, plus, forcing a player to restart the game due to time limits tends to cause the players to churn away from the game.

⌘ Rewards/Penalties

- Completing the stage (getting from the beginning to the end) will award you points, the faster you clear it, the more points you get, resulting in a Grade at the end, falling from the course into the water means you'll have to restart the game, therefore always making sure you can do it in the least possible time.
- The point system was also scrapped in favor of the time record, being an easier way to measure how well you played.

⌘ Strategy/Planning

- Throughout the stages the player will be confronted with decisions and branching paths that might take longer, be more difficult or the other way around. For that the player needs to carefully time jumping or running to get to the finishing line.

Gameplay

➤ Gameplay (Brief)

- ⌘ In Wipeout 2021 the gameplay starts from a player spawning in the start point of the game, then player must start moving and complete the first series of course that appear in front of him, every course has specific obstacles that player must avoid, if player can't complete the first course, he can't move to another course, as the player completes the first course he can move to another, the player must always keep the track of the time, because the shorter time = better score

➤ Gameplay (Detailed)

- ⌘ The player, has one objective in this game, getting from the start of the course to the finish line in the best time as possible, to have the highest score possible.

The gameplay course includes obstacles like bouncing balls, swinging foam hammers, rotating foam bars, wall with punches and more. In this course the player must use his free control of the character to make it through to the finish. The player must pass every obstacle that is trying to knock him off (if the player doesn't manage to keep him/herself on the course, either by "slipping" or being pushed by the obstacles, he will fall on the water, after which, the game will restart back at the title screen. By keeping track of the time that he sees on the top of the screen in-game the player must carefully think all his/her possible moves, making use of the Pause function to think forward, all the possible outcomes and plays, minimaxing his/her chances of getting the highest score possible. The course begins with a swinging hammer section where 4 foam hammers will move like a pendulum and the player must move across the section, the player must jump on each platform in between the swinging obstacles, timing him/herself correctly to avoid being knocked by the hammers. There are 4 platforms, and when the player reaches the 4th platform, he/she can continue to another set of obstacles. The next section includes 3 giant bouncy balls, this one requires the player to jump over each one, controlling him/herself mid-air, strafing to bounce in the right angles to get to the end platform. When player reaches the end of the platform, he must pass a set of inclined platforms that are in front of him. Another section of the course is a foam propeller obstacle, in this part, to avoid being thrown into the water below, the player must jump over the rotating obstacles. The propeller never stops rotating, making it harder for the player to make it through the course without falling. When the player passes this obstacle, he/she'll need to go down a set of stairs that are in front of him/her followed by jumping on the platform ahead and on another bouncing ball that leads to the last section of the course. This part includes a wall with punches that come out in a pattern that the player must learn, adapt, and dodge accordingly to avoid falling and having to restart the course. After the player passes the wall with punches, he/she'll need to jump on a trampoline to reach the end platform where the game will promptly end, and the player will see his/her time on the screen.

Assets Needed

➤ 2D

⌵ Textures

- Different Materials (Rubber, Wood, Rock, Styrofoam ...)
- Skin
- Hair
- Eyes
- Clothing
- Vegetation
- Water
- Mirrors

⌵ Height maps and Normal maps

- Whenever needed, dependent of the material (brick wall, pool floor for example)

➤ 3D

⌵ Character List

- Humanoid Player

⌵ Environmental Art Lists

- Bouncy Balls
- Punch Wall
- Propellers
- Audience Stand
- Pendulums
- Platform
- Stairs
- Aquapark
- Podium
- Slides
- Trampoline

➤ Sound

⌵ Sound List (Ambient)

- Material collision sounds
 - Material Collisions
- Sound Effects
 - Player checkpoint
 - Player Respawns

- UI Sounds (clicks and changes in menus)
 - Ambient noises (birds singing, water moving ...)
- Music
 - Background Music
 - Player Wins Theme
 - Menu Music
 - Title Screen Music
- ⌵ Sound List (Player)
 - Character Sounds Queues
 - Winning sound queue
 - Checkpoint reached
 - Character Movement Sound List
 - Footsteps (In different materials)
 - Jumping (from different materials)
 - Landing (in different materials)
 - Character Collision Sound list
 - Player Collisions in the environment and/or Objects
 - Jumping and landing sounds (in different materials)
 - Character on Injured / Death sound list
 - Landing from a high-altitude sound
 - Running fatigue

➤ Animation

- ⌵ Environment Animations
 - Pendulum Movement
 - Propellers
 - Jump pads
 - Giant rotating wheel
 - Moving objects
 - Crowd Cheering (x)
- ⌵ Character Animations
 - Player
 - Jumping
 - Running
 - Landing
 - Walking