University of Plymouth

School of Engineering,

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COMP3000

Computing Project

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Timeline Takedown

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Acknowledgements

Not sure who I would like to thank

Abstract

This report covers the development of Timeline Takedown, a first-person survival(or wave-based shooter?) game created within the Unity game engine. I chose to create this game as I grew up playing games with a similar mechanic and I have noticed the recent decline in quality of these same games as time has gone on, so I wanted to create my own version for my friends and family to enjoy.

This report begins with

This main body of this report covers

The final section of the report reviews the success of the project

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**WORD COUNT:**

**Code Links:**

GitHub Repository:

Itchio Page where the game is hosted:

Insert link to your code submission directory

1. **Introduction**
   1. **Overview**

Timeline Takedown is a video game that I created for the PC, specifically to be released on Itch and possibly in the future, on steam. I created this using Unity Editor version 2022.3.18f1 ,I wrote the game scripts in the language C# and used Inkscape for the UI elements. The game takes place across 3 unique levels, each with a different theme to keep the player constantly engaged and entertained. The player must survive 5 waves of enemies and then defeat the boss enemy at the end of round 5 in order to collect the time piece part that will then allow them to progress onto the next level.

* 1. Audience

Timeline Takedown will be within the PEGI 12 (1)age rating as it includes “violence in a fantasy or non-realistic violence”. However, I believe the game will appeal to a wide range of players of all ages as it is a fun survival experience that you don’t need to try to hard to play or learn any complex mechanics in order to enjoy.

The project is within the round-based survival market , along side games such as call of duty zombies, Killing Floor and more. Based off games such as these that state their audience is “males between the ages of 18 and 34 (2) ”, I will estimate that Timeline Takedown will be of a younger age due to the less violence tones as some of these other games.

* 1. **Purpose**

The purpose of Timeline Takedown was to create a game that would be enjoyed by my friends , family , and players all over the world who enjoy playing games in this category. I wanted to create a game in the Round Based Survival category that hadn’t quite been done before, I wanted to make something unique that I would enjoy playing, I wasn’t bothered about if the game would be successful or make any money.

For fans of the round-based survival category I wanted to create a game that I felt like they would enjoy too. I did this by focusing on creating what I enjoyed when playing these types of games, that included intricate level design, different locations, and unique enemies that are relevant to the level environment.

1. **Background, objectives & deliverables**
   1. **Project Background**

Timeline Takedown is a round-based survival shooter, these types of games have become a widely recognised and engaging subgenre within the wider category of first-person shooters. These games typically challenge the player to survive increasingly difficult waves of enemies, the player tends to play strategically, use map knowledge to their advantage, and ration their resources in order to survive. One of the most iconic examples in this genre is the Call of Duty Zombies mode that was originally introduced as a bonus reward for completing the main games campaign in Call of Duty: World at War. This example was one of the first instances that popularised the round-based survival genre that included fast paced combat, puzzle like map design, hidden easter eggs, and wave-based progression.

This genre is known for its high replayability value, and its ability to create intense moments of gameplay. Players are placed in intricately crafted level maps, facing off waves of AI enemies that increase in both number and difficulty with each round.

This project explores the design and development of a custom round – based survival game that is created in Unity. Timeline Takedown and my thought process behind certain mechanics in this game take direct inspiration from the mechanics and pacing of Call of Duty Zombies. The goal is to develop a game that captures the intensity and satisfaction of surviving waves of enemies, while also exploring exciting locations through custom made levels and enemies. (Maybe more like not custom levels but relevant cux it has same weapon theme and enemy and map)

As part of this project, two (possibly three) fully playable maps have been created, each offering unique layout, theme, weapons, and enemies. These maps aim to test different survival strategies and enhance repalyabilty as they all have completely different layouts, For example one is inside a tight cornered hospital and another is outside in the sandy climate of Egypt. This project also investigates how wave escalation, player agency, and environmental design contribute to overall player engagement in round based survival games.

* 1. **Market / Competitors**

Waved-based gameplay is a core mechanic used in many successful titles. The following table compares several games that utilise this system, highlighting their unique features, supported platforms, and player feedback to help inform future design considerations.

|  |  |  |  |
| --- | --- | --- | --- |
| Game Title | Features | Platform | Reviews (Customer Feedback) |
| Call Of Duty Zombies (1) | * “Easter Eggs” – Objectives hidden in maps requiring puzzle solving * Custom maps * Perk system * Progressive weapon upgrades * Large AAA team behind development | PC, Xbox, PlayStation, limited Nintendo products | Generally positive – praised for addictive gameplay, creativity, and replay value. However, more recent titles have shown a lack of player engagement due to poor choices by the developers such as replacing beloved voice actors with AI(3). |
| Killing Floor | * Co – op survival horror * Unique perk system * Boss fights * Variety of enemies and weapons | PC, Xbox, PlayStation | Positive – loved for teamwork focus, fun to play with friends. But some say it can feel repetitive. |
| Left 4 dead | * AI Director (4) dynamically changes the gameplay * Co- op story mode * Different infected types * Fast-paced wave combat | PC, Xbox | Very Positive – acclaimed for co op fun, replayability, and modding support |
| Sker Ritual | * Round based survival horror * Co-op (1-4 Players) * Supernatural enemies * Weapon upgrades and unique abilities * “Easter Eggs” – Objectives hidden in maps requiring | PC, PlayStation, Xbox | Mostly Positive – praised for atmosphere and gameplay loop, though some desire more content |
| Deep Rock Galactic | * Co-op wave survival * Objective based missions * Class system * Procedurally generated caves | PC, Xbox, PlayStation | Very Positive – praised for teamwork mechanics, humour, and replayability |

*Figure 1: Competitor Analysis*

* 1. **Objectives & Deliverables**

My objectives for Timeline Takedown where:

Create a gameloop where the enemies spawn for 5 rounds then boss spawns

Create at least 2/3 custom levels that are unique and have matching enemy and weapon themes

Implement Powerups to the game

Create Devlogs to keep track of progress and save for employment refreces

Create an Itch page and publish the game on it

Deliverables (check GDD):

1. **Ludology**

 is the study of games, the act of playing them, and the players and cultures surrounding them.

1. Introduction to Ludology / Game Studies
2. Genre & Gameplay Analysis – Round-Based Survival Games
3. Case Study – Call of Duty Zombies
4. Map Design and Environmental Ludology
5. Mechanics & Player Feedback
6. Ludology Reflections on Your Development
7. Conclusion

**4. Method of Approach**

**4. 1 Methodologies**

When deciding on a development methodology for Timeline Takedown, I chose to use Agile. As a solo developer, Agile was the perfect fit as it allowed me to adapt and evolve the game based on new ideas, playtesting results, and feedback. For instance, one level originally began as an underwater map, but after testing the swimming mechanics, I realised it added unnecessary complexity. I made the decision to pivot and redesign the level as an abandoned hospital, which better suited the gameplay and development timeline.

Agile worked well for me because it doesn’t lock you into a rigid plan. This flexibility is ideal for solo game development, where iteration is constant, and creative direction can shift at any moment. I organised my work into two-week sprints, each with clear goals and deliverables. These sprints helped keep my workload manageable and track progress on what had been done and what needed to be done. I also had regular supervisor meetings at the end of each sprint, which I attended everyone without fail. These were useful as they allowed for discussion of the progress made on the current sprint , receive feedback and ask questions.

For project management, I used Trello to track tasks, prioritise features, and stay organised throughout development.

**3. 2 Technologies**

Enemy AI maybe idk YEH I THINK SO

**3.3 Project Management Approach**

This project was managed by breaking down tasks into Sprints. The sprints took place every 14 days and consisted of a set list of tasks that I had to complete during that sprint time. In order to manage my Backlog, Sprints, Important dates and other key times I used

This dude spoke about phases (sprints)

Image

Speak about how long each sprint took and typically how many tasks were there

Trello

Github how I labeld commits and only would do them if neeed , good if I needed to refer back to old save. Used the Desktop app as it had a easy interface

**7.Implementation**

**7.1 Planning & Research**

Read Books

Watcged videos

GDD

**Sprint 1 (8.11.2024 – 22.11.2024)**

For my first sprint I started by creating my GitHub Repository

Set up Trello and github

Paper Level Designs

GDD

Movement

Player

Playing around with modelling tools and finding assets

Sprint 2 (22.11.2024 – 6.12.2024)

Started to create level 1 Design

Started to implement mechanics ?

Create Basic UI

Create Game States (start, menu , pause)

Devlog 1?

Sprint 3 (6.12.2024 – 20.12.2024)

Map Models starting to be created,

Game States

Found assets online

Not to sure what I did in this sprint , I think on the Trello this can count as 3 and 4 maybe

* 1. User Testing GO THRO AND RE RITE

User Testing was crucial to the development of this project as I needed to get an understanding of what the general public thought of the game at its current state, so I can receive feedback and apply changes that become apparent through that feedback.

When creating the user testing forms I decided to make the questinare annonamouse as I had no need to collect personal data, I just wanted to receive feedback on the game, I was asking no personal questions. With having no personal data collected , that meant I did not have to spend more time adhering to GDPR and other data regulation rules as I just cut it all out by making it annoanmous.

I wont discus every single playest as this would take up half of this report, I will cover the most impactfull ones, and leave the data below:

**First Play test** 17/02/2025

My first Play Test was conducted on the 17/02/2025, this playtest was shortly after I had finished with my first level. I conducted this playtest in person inside of the University of Plymouths Smeaton Building. For this playtest I created a excel spreadsheet that held questions and required the testers to fill out their responses in a dedicated box next to the questions. You can find photos here link to apendenciees

Speak about what I chose to test in this ..

A screenshot of a computer screen

AI-generated content may be incorrect.

*Figure IDK, User Testing Excel sheet*

The playtest proved to be successful as I got feedback that I would proceed to use to iterate on my game such as a bug with the boss not spawning in, and players not knowing that they can pick up health packs. I took this feedback and made it so the boss spawned and so on…

**Changing the Testing Approach / Method**

However, this method of testing using an excel sheet was extremely unprofessional and so much more complex than just creating a forms doc using google forms or Microsoft forums as this method overwhelmed the tester with so much text on the screen and unclear instructions on what they need to fill out and where. Because of this I created a new user testing document using Teams Forums , that I would use in the testings in the future. I used this because …. Ez to turn into redable data etc

You can view the revised empty testing document here : link

Or View photos In the appendix

**Continuing testing**

All dates testing happened

**Testing Results**

The results were turned into data for graphs and stuff so its easy to read, this was used to improve changes to the game. You can view all the data here in apendenciees.