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Out Of Time Development

Out of time game design document

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# Game Title: Out of Time

The reason for this title is that the game is about time travel and the player ending up in different time zones due to them entering a rift. Another reason for the title is due to the license plate on the DeLorean in Back to the Future was “OutofTime” and that is one of my favourite Science Fiction films.

# One Sentence Pitch

Through time, things will not be okay…

# Genre

Out of Time is a 2D Side Scrolling Shooter

# Platform

Out of Time will only be available on Windows PCs

# Target Audience

The target audience for the game will be for people who are a fan of 2D side scrollers, 2D shooters and even the aspect of time travel. Out of Time will not be a very violent game even though it will feature guns and killing. The game will be suitable for ages 12 and up due to the use of guns in the game.

# Theme

The theme of Out of Time is that it is a time travelling adventure.

# Storyline

The story of Out of Time is that a man named Dean Anderson is a futuristic detective and has been on the lookout for an evil villain who has been making people disappear. Dean makes it to this villain, called Dr Sullivan Gomez, whilst he is in the process of using his new time travelling device and whilst Dean tries to make an arrest, Sullivan’s device breaks sending Dean through a rift. Dean wakes up in Ancient Egypt where his first adventure Out of Time begins.

Dean must first make his way through Giza in order to make it to the next rift that has opened up however due to being in a different time the soldiers and mummies of Egypt are unsettled and are trying to kill Dean. Dean must fight his way through them in order to survive. The rift in Giza will then take him to the Medieval times. Along this era Dean will have to fight Medieval knights and soldiers. As they are not happy with him being in their time zone either. There will be another rift in the Medieval time which will take him to the Roman era of time. Roman soldiers will fight Dean here and Dean will have to make it out to finally get back to his own time zone of 2184.

When Dean arrives in 2184, Sullivan has sent out robots to fight the police but to also attack Dean on sight. Dean will have to fight his way through all of these robots to have a final fight with Dr Gomez to put an end to the rifts that he has created.

Out of Time will feature 4 playable levels and these will consist of in order

1. Ancient Egypt “Giza” “1536 BC”
2. Medieval Times “England” “734 BC”
3. Ancient Rome “Italy” “96 BC”
4. Dean’s current day time “New York” “2184”

# Unique Selling Point

The unique selling point of Out of Time is that it is a time travelling 2D shooter, this is something that the industry has been missing out on for a good few years. TimeSplitters was a game series known for time travel but there hasn’t been a new one since 2005 and this game is slightly inspired by it

# Key Factors Influencing the Project

## Functional Requirements

* The game must have a main menu in which it will have the options to start the game, view the controls and quit the game
* The game must have 4 playable levels in their own time zones
* The player must be able to move left and right, jump and shoot in the direction they are facing.
* If the player dies then the gameover screen must be displayed.
* The game must have enemies which move on their own and shoot when they see the player or attack him.
* The player’s health bar should update based on being hit by an enemy.
* The player’s ammo must update if they have shot a round out of their gun.
* The score should be carried through each level but not on a new game.
* The player must start with a full health bar which is increased each level.

## Non-Functional Requirements

**Type of Game**

The finished game of Out of Time should be a 2D Side Scrolling Shooter built for Windows PC. It will include a Main Menu to start the game, a Help Menu for player instructions and a Quit Game function.

**Platform**

The game will be required to run on the minimum of Windows 7 and will be able to be run on Windows 8, 8.1 and 10. The game will be made using Unity 2017.3.1f1 and will be coded in C#

**Data Storage**

The game will be required to be stored either on the PC’s drive or on an external drive in order to run. The user will need enough space on their drive to play the game.

**Input Method**

All input will be made using both a Mouse and Keyboard on PC. The game will not natively support gamepads or any other input device.

**Output Method**

All visual output will be made via either a monitor or tv screen. Sound will be enabled in the game and will come out of either a built-in speaker or any headphones plugged into the PC.

**Security**

There will be no security methods for this game, i.e. Anti-Cheat or DRM due to it being a single player game and DRM would be unfair to the consumer and the playing experience is more important than DRM for the game.

## Constraints

The following is a list of constraints we will have as a team during the project.

* Short development time: We only have 12 weeks to complete the entire project and the submission for the project is the 27th of November 2018
* Budget: As a team we do not have a large budget and the only budget we have is that of our student loans. This means that if any assets are to be purchased then they will have to be a low cost.

# Proposed Approach and Justification of Approach

**Chosen Approach**

For development of the game as a team we will be going for the Agile development approach. There are a few good reasons we are going for this method. One of the main reasons is that it is suited to small teams and for our game we are only a group of 3. Another is due to us not having a lot of time in order to develop the game. We only have 12 weeks in order to produce the game. “In short, agile favours speed of delivery” (Hellard, 2018)

With Agile development, as a team, we can create a to do list and create an early prototype to test and then continue doing the next segment whilst throwing away any ideas that will either be too complicated or would take too long to add. “Agile processes divide projects up into smaller parts, known as 'user stories', with each representing a specific feature that the user has requested for the software. Those working on the projects stick to these segments like a to-do list, prioritising those that need to be completed first and grouping others into iterations with deadlines” (Hellard, 2018)

Agile development is perfect for our type of development for the game as it allows us in such a small time to do multiple sprints in order to get a working game in time for hand in.

**Rejected Approaches**

The first approach we decided against was the Waterfall Method. This is due to having used this approach before and whilst good it doesn’t allow us a lot of manoeuvrability throughout the development. The six stages of the waterfall method are: Requirements, Analysis, Design, Coding, Testing and Operations. In past projects I have used the waterfall method however it has always hindered due to little time on each project. One of the major disadvantages is that there is a delayed testing period. “While most of the more modern SDLC models attempt to integrate testing as a fundamental and always-present process throughout development, the waterfall model largely shies away from testing until quite late into the life cycle.” (Powell-Morse, 2016) This is an issue as any issues that aren’t apparent at first wouldn’t be found until it’s too late and they might not be fixed if we were to use for our development.

An advantage however is that it forces a well-structured development. “While some may argue this is a burden rather than a benefit, the fact remains that the waterfall model forces the project, and even the organization building said project, to be extraordinarily disciplined in its design and structure.” (Powell-Morse, 2016) Thankfully our project isn’t too complex meaning the structure whilst still important isn’t needed to be extremely disciplined.

# Main Concept

The concept of Out of Time is that the main character Dean Anderson has been following a scientist called Dr Sullivan Gomez. However, when he gets to him, Dean tries to arrest him but Dr Gomez’s time travel device breaks and sends Dean through a rift to Ancient Egypt. Dean must use any weapons he finds in order to escape through each time zone to get back to his own time in 2184.

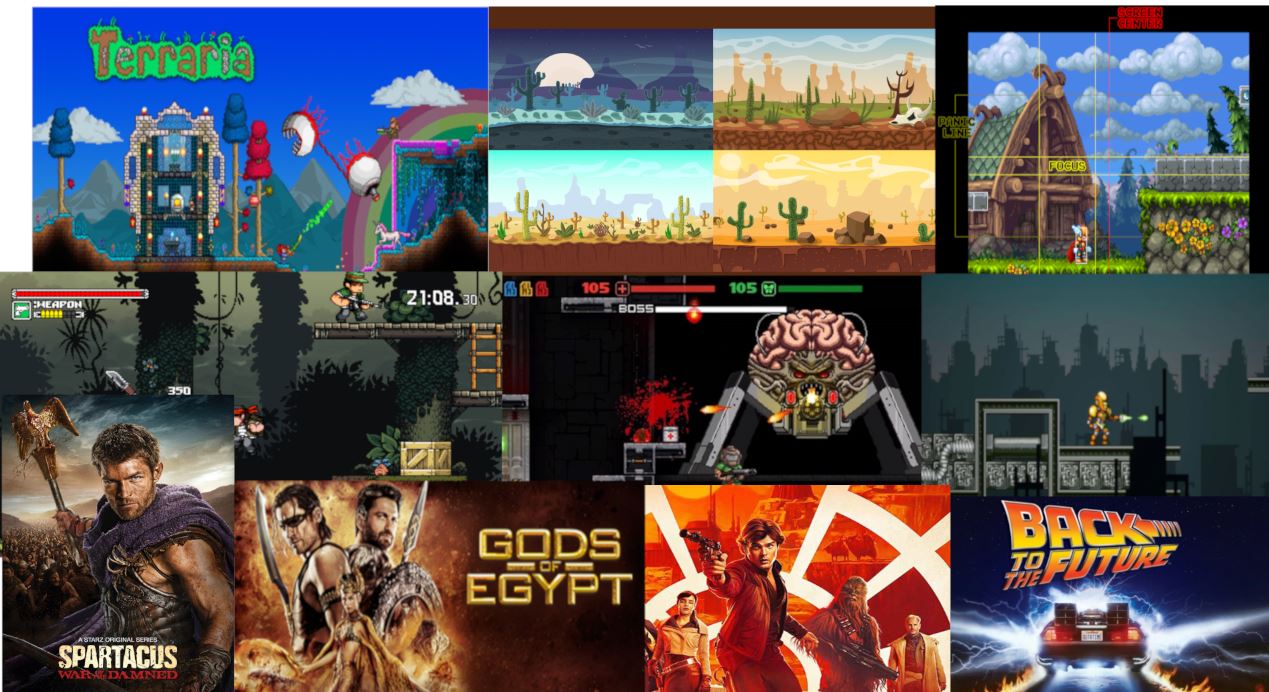
Dean must go through Ancient Egypt, the Medieval Times, the Ancient Roman Empire and finally his own time in order to defeat the evil Dr Sullivan Gomez.

# Visual Style

## Storyboards/Concept Art

## Mood boards

Overall Mood board: This mood board was created to try and get the overall feel for how we wanted the game to look and feel. It references a few games and a few films that we have played which helped us greatly come up with ideas.



## Inspiration

Out of Time isn’t based on any other game or film series but it draws inspiration from Doctor Who and the TimeSplitters game series. It also takes some inspiration from classic 2D shooters.

TimeSplitters was always a game that inspired me “Kieran Lewis” when it came to game development. I always loved the idea of time travelling in video games due to this.

. (Perry, 2005)

The games levels would be crazy and would not have any linear sense in terms of story. “Like in series' past, the levels bounce all over the place, starting in 1924, jumping into the 1960s, and swirling into the close and far-off future” (Perry, 2005)

This is a video of one of the levels in the game called Mansion of Madness. <https://www.youtube.com/watch?v=x9XY4bDbrVY> (BaucomsRazor, 2012)

# Audio Style

Out of Time will include audio throughout the game. The main menu will have a music track playing whilst the player chooses their option. There will not be any sounds when the player has clicked a button however. There will be background music played throughout each level in the game and will be suited to that era that the game represents.

Whenever Dean shoots his guns a sound corresponding to the gun he fired will play. For example, when the shotgun is fired a sound of a shotgun will be played and when the plasma rifle is fired the sound of an energy weapon will be played.

If Dean is killed he will play a scream sound and whenever he is hit he will make a noise to show he has been hit.

Whenever an item that increases the player’s score is picked up then a sound of the item being collected will be played. This will also happen when a health pickup or ammo pickup is collected.

# Gameplay and Mechanics

## Interaction

### Controls

Due to the game being for PC the main way of control will be a keyboard and mouse. The mouse will be used to control the onscreen cursor in menus in order for the player to click on any button. The left click will be used to confirm a button selection.

The keyboard will be used to move Dean, make Dean shoot and to pause the game. The controls are as follows. D and Right Arrow will move Dean to the right, A and Left Arrow will move Dean to the left and Spacebar will make Dean jump. CTRL will allow Dean to shoot in the direction he is facing and Escape will pause the game.

### Menus

The player will interact with menus by using their mouse. Moving the mouse will move the onscreen cursor which will allow them to hover over a button like New Game or Help and using the left click will allow them to select this option. So on the main menu the player will be greeted with New Game, Help and Quit. Hovering over and clicking New Game will begin the game, hovering over and clicking Help will bring up the help menu and finally hovering over and clicking Quit button will quit the game to player’s desktop.

When the player dies, a game over screen will be displayed which will allow them to restart the level or quit to the main menu.

### Heads Up Display

On the screen there will be a Healthbar which will be red in colour at the top left hand-side of the screen. This will be a horizontal bar and will degrade when the player is hit. Below this will be the player’s score counter, this will increase whenever the player kills and enemy or picks up a collectible item. The score counter will be white in colour and will be just text and numbers.

At the bottom right hand-side of the screen there will be a box which will show the weapon the player is using and how much ammo there is left. The ammo counter will be white and will consist of text and numbers. This is everything that will be displayed on the HUD

### Player to Environment

The player will be able to move in 3 directions and these are: Left, Right and Up. The player can jump over and onto platforms. The platforms in each level will blend to the environment so they don’t look out of place for example in the Egypt level there will be sandstone platforms that the player will be able to jump on. The player will also have to avoid pitfalls so they don’t die.

In each level there will be new weapons for the player to pick up which they can use on the enemies, there will also be ammo boxes to refill the player’s ammo and health kits to refill the player’s health. Along each level will also be collectibles such as coins and food which will increase the player’s score.

### Player to Enemies

The player can interact with enemies by shooting them with their weapons or walking into them. If the player shoots the enemy and kills them then they will get their score increased however if they walk into the player then they will be forced back and will lose some health.

There are different enemies in the game, the Egyptian, Roman and Medieval enemies will consist of different attacks such as the close-range enemies in these levels will attack Dean with swords and the long-range enemies will use spears to try and hit Dean from range. If any attack connects with the player then they will be forced back and take damage. If he has no health left then he will die however.

### Win/Lose Conditions

For the player to win they must complete each level of the game. This means that they must get to the end of each level successfully and then finally kill the final boss. The final boss will be at the end of the last stage.

The player will lose if they have their health reduced to zero. This means that if they are killed by an enemy, a boss or fall into a pit. If the player dies then they can choose to restart the level or just quit back to the main menu. There won’t be any checkpoint system in the game.

### Game Modes

The only game mode in Out of Time is the single player story. Due to limited development times there isn’t enough time to incorporate any multiplayer aspect into the game or any sort of challenge maps. There may be challenge maps in the future of the game however.

### Weapons

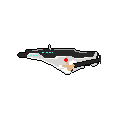
There will be 3 guns that the player uses in the game these will be: The Handgun, Shotgun and the Assault Rifle

**Handgun**

****

**Shotgun**

**Assault Rifle**

****

The enemies in the game will use their own weapons but the player will not be able to pick them up. These weapons will be the sword, the spear and the energy gun. Short Range enemies will use the swords and attack the player when they are in range. There will only be short range enemies in the first 3 levels. Long range enemies will utilise the spears and will attack the player at any range. These enemies again will only be in the first 3 levels. The final level will have robots who will utilise only long-range attacks but will be using energy weapons which are much harder to dodge as these guns will be fast and deadly to the player.

### Characters

**Dean Anderson**



Dean Anderson is the playable character in the game. He is also the only character that is playable throughout the game. His goal in the game is to get back to his own time

**Dr Sullivan Gomez**

Sullivan is the main villain in Out of Time and is also the game’s final and only boss. Sullivan is an evil scientist who wishes to create new ways of time travel but with his new device he creates a rift in time that sends Dean back to the past.

### Pseudocode

**PlayerMovement**

**IF Key Pressed = Right OR D THEN  
 Dean Move Right  
 Play Walking Animation Right**

**IF Key Pressed = Left OR A THEN  
 Dean Move Left  
 Play Walking Animation Left**

**IF Key Pressed = Spacebar THEN  
 Dean Jump  
 Play Jumping Animation**

**IF Key Pressed = CTRL THEN  
 Dean Shoot  
 Play Shooting Animation**

**END IF**

**PlayerHealthUpdate**

**IF Dean IS Touching EnemyProjectile THEN**

**PlayerHealth -=10F  
 HealthBar Update**

**IF Dean IS Touching DeathZone THEN**

**PlayerHealth ==0F  
 HealthBar Update**

**IF Dean IS Touching EnemySword THEN**

**PlayerHealth -=20F  
 HealthBar Update**

**END IF**

**MainMenu**

**IF StartGameButton IS Pressed THEN**

**BeginGame**

**IF HelpMenuButton IS Pressed THEN**

**OpenHelpMenu**

**IF QuitGameButton IS Pressed THEN**

**QuitGame**

**END IF**

# Level Design

## Layouts

## Progression

### Paths

### Difficulty

# Player Progression

## Missions

The main objective for Out of Time is to progress through each of the 4 levels and then defeating the final boss whilst getting as high a score as possible.

**Level 1 –**

**Level 2 –**

**Level 3 –**

**Level 4 –**

## Power Ups, Levelling and Perks

There will be no power ups per say in Out of Time however there will be Health Kits that replenish the player’s health and Ammo Kits that replenish the player’s ammo for their respective weapon.

There will be a small form of levelling when the player gets to the next level, this is that the player’s health will be increased slightly. This will be showed to the player in form of a larger health bar in each level.

There will be no perks in the game in any form.

# Appendix

This is the test plan unfilled for Out of Time:

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