AT03 Gamification Document

Chris O’Brien

30060241

PRE-PRODUCTION

**Game Genre Analysis**

**Simulation**

**Core Mechanics:** Simulation games often revolve around intricate systems and mechanics that mirror real-world processes. These mechanics include:

1. **Resource Management:** Players must allocate and manage resources efficiently to achieve specific goals or outcomes within the simulation.
2. **Sandbox Environment:** Simulation games frequently provide open-world or sandbox environments where players have the freedom to experiment and make choices that impact the simulated world.
3. **Decision-Making:** Complex decision-making is a central mechanic, requiring players to strategize and plan their actions to achieve success.

**Gameplay Elements:** Simulation games incorporate various gameplay elements that contribute to their immersive nature:

1. **Realism:** Simulation games aim for realism, often replicating real-world scenarios, environments, and mechanics to create an authentic experience.
2. **Progression:** Players advance by achieving goals, completing tasks, and improving their simulated entities (cities, characters, etc.).
3. **Customization:** Many simulation games offer extensive customization options, allowing players to personalize their experience and tailor the simulation to their preferences.

**Player Objectives:** Player objectives in simulation games are diverse and often reflect real-world aspirations:

1. **Creation and Building:** Players might be tasked with constructing and managing cities, theme parks, or civilizations, fostering a sense of accomplishment as their creations thrive.
2. **Economic Success:** Simulation games frequently involve economic simulations, challenging players to generate profits, manage budgets, and make financially sound decisions.
3. **Problem Solving:** Players engage in critical thinking and problem-solving as they address challenges and obstacles within the simulation.

**Target Demographic**

The primary target audience for this application includes potential property buyers who are interested in remote properties, such as vacation homes or investment opportunities. They seek detailed information about the property and its surroundings before making a purchase decision.

also most likely aged 21 to 60 and an equal split of males and females, because it is unlikely that a minor would be looking to buy property.

**Consumer Habits**

Consumer habits may include Research-Oriented Behavior, Preference for Visual Content, Desire for Convenience, Need for Information, Interest in Interactive Experiences, Preference for Personalization, Concern for Sustainability and Interest in Future Potential.

**Game Design Principles and Gameplay Strategies**

**Objectives.** The idea that there needs to be a goal for the player to work towards.

**I can implement this by adding a checklist of tasks that need to be completed, this list could include locations to visit and objects to interact with.**

**Constraints.** The idea that the player needs limits on what that can do.

**I can implement this by limiting the player’s movement in the environment by removing jumping and making it so the player can only move by teleporting between waypoints placed around the environment.**

**Focal Point.** Having a focal point is the idea of never having the player guess where they must go or what they must do. You can implement this principle by adding markers, waypoints or build the map in such a way that it draws the player’s eyes to the objective.

**I can implement this by adding bright waypoints that will let the player know where to go.**

**Sound.** Sound is the idea of asking the question, what sound does that make? Is the sound appropriate? Is the sound necessary? Does it benefit the experience or hinder it?

**I can implement this by adding calm music that fits the scene and appropriate sound effects for interaction.**

**Version Control and Project Management**

Git Hub is the software I will use to conduct appropriate version control throughout the project. It will be used to save different versions of the project and any relating files and make them accessible from any computer.

<https://github.com/mooza99088/2024_AT03_Gamification>

I will be managing my project tasks and schedule in a word document. This document will contain a schedule to keep me on track throughout the project and a list of all tasks that need to be completed.

**Asset Implementation**

**SPRITES**

**PNG** is an image file type and uses lossless compression, they can be used for transparent textures, sprites and UI elements, issues include larger file sizes.

**JPG** is an Image file type and uses lossy compression, they are suitable for textures and background images. Issues include quality loss and no transparency.

**AUDIO**

**WAV** is an audio type file that is uncompressed, it can be used for High-quality sound effects and voice recordings, issues are that they can have large file sizes and high memory usage.

**MP3** is an audio file type that uses lossy compression, it can be used for music, voice recordings and ambient sounds, the issues include quality loss, licensing issues and it’s not ideal for high-fidelity effects.

**3D MODELS**

**FBX** is a 3D model file type that can contain models, animations and textures, they can be used for Character models and animated objects, Issues may include large file sizes and import issues.

.**BLEND** is the native file type in Blender, it can contain 3D models, animations and scenes. It is used for Blender-created assets, issues are that they can be quite large and there is potential data loss.

Based off my findings I will be using PNG files for sprites and UI elements, WAV files for my sound’s effects and music and FBX files for models.

**MONITORING PROGRESS**

**1. Milestone-Based Monitoring**

**Implementation:**

* Key Milestones: Identify critical milestones in the timeline.
* Milestone Reviews: Evaluate progress at each milestone.
* Action Plans: Address any delays or issues promptly.

**Benefits:**

* Focused Checkpoints: Assess project health at key points.
* Early Problem Identification: Prevent issues from escalating.
* **Goal Alignment:** Ensure the project meets objectives and deadlines.

**2. Regular Progress Reviews**

**Implementation:**

* Weekly Meetings: Review progress against the schedule.
* Progress Reports: Team members submit weekly updates.
* Adjustments: Modify schedules and resources as needed.

**Benefits:**

* Frequent Check-ins: Early detection of issues.
* Transparency: Clear documentation of progress.
* Responsive Adjustments: Keep the project on track.

Using these strategies, I can effectively monitor and maintain production progress, ensuring timely project completion.

**Game Engine Evaluation**

**Unity**

|  |  |
| --- | --- |
| Pros | Cons |
| Free to use | New licensing policies |
| Can import unity packages | Does not have built in templates |
| Uses C# as native programming language  Which is easy to learn and a simpler language than C++ | Does not have the most advanced graphics engine |
| Has all tools needed to make a 3D game |  |
| Capabilities for realistic graphics |  |
| Clean and easy to learn interface |  |

**Unreal Engine**

|  |  |
| --- | --- |
| Pros | Cons |
| Free to use | Cannot import unity packages |
| Full toolset specialized for making 3D games | Uses C++ as native coding language,  A more complex and harder to learn language. |
| Advanced Lighting and graphics systems  (Nanite and Lumen) | Difficult to understand interface |
|  | Small community than unity and less online resources |

Based off the comparison and extra research the most suitable game engine for the project is unity.

**Peer Review Prototype**

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| --- |
| * Add ambience instead of music, this is needed to make the experience more immersive and to engage the player. To implement this, I downloaded island ambience sounds and added them to the scene to play on loop in background of the game, * change font from the basic unity font to a font that better suits the game. I downloaded a new font that fits in better with the theme and added it onto all relevant objects. * add a banner to remind the players of the controls, this is needed so that the player knows how to play and does not get confused while playing, I added a banner that sits at the top of the players screens with instructions on the relevant controls. * fix spelling and grammar mistakes in the game, I went through all text in the scene and revised any spelling or grammar mistakes. |

**User Trial Improvements**

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| --- |
| A screenshot of a computer  Description automatically generated |
| A screenshot of a video  Description automatically generated |
| A screenshot of a computer  Description automatically generated |

**FEEDBACK ANALYSIS**

I organised three players to conduct user trials with and got them to fill in forms with their feedback on the game.

I then conducted an analysis on the feedback received.

|  |  |
| --- | --- |
| Question 1  General response | General response was that the sounds were calming and added to the immersion of the game.  I believe this is because the sounds and ambience I used are quieter and softer sounds which is what creates the calming and atmospheric feel. |
| Question 2  General response | General response was that the sprites stand out too much and don’t fit well in the scene.  I believe this is because the sprites were too big and the colour scheme of black and white do not go with the rest of the cabin design because the environment is all warmer colours. |
| Question 3  General response | General response was that the placement of the waypoints made sense and that moving between them felt smooth.  This is because the teleportation between waypoints is built to be instant and because the game is optimised which makes game feel smooth |
| Question 4  General response | General response was that the game ran smoothly and there were no issues encountered.  This is because there are no objects in the scene that use up too much memory which increases the game speeds and makes the experience feel smooth and I did proper testing to make sure there is no bugs in the game. |
| Question 5  General response | General response was that the layout of the house and waypoints was easy to understand and made sense.  I believe this Is because I placed the waypoints in open and easy to see locations that are near to the main areas in the cabin. |
| Question 6  General response | General response was that the text was clear to read and understandable.  This is because the text boxes were properly setup and optimised to be large and have a clear resolution. |

From my analysis I have found that the general feedback was that the sound effects and ambience, the fonts and text, the map and waypoint layout were all good, but the sprites stood out too much and did not fit the theme.

**Quality Assurance**

|  |  |  |
| --- | --- | --- |
| **Features** | **Implemented** | **Working** |
| Camera looks up and down | ✓ |  |
| Camera looks left and right | ✓ |  |
| Crosshair turns green when looking at interactable | ✓ |  |
| Crosshair turns red when not looking at interactable | ✓ |  |
| Player teleports to waypoint when clicks on waypoint | ✓ |  |
| Waypoint menu opens when player presses tab | ✓ |  |
| Waypoint menu closes when player presses tab | ✓ |  |
| Game quits when player presses Escape | ✓ |  |
| Player returns to main menu when they click Main Menu button | ✓ |  |
| Game resumes when player clicks resume button | ✓ |  |
| Player teleports to front porch waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Entry waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Living Room waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Dining Room waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Kitchen waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Kitchen 2 waypoint when they click the corresponding button | ✓ |  |
| Player teleports to bathroom waypoint when they click the corresponding button | ✓ |  |
| Player teleports to Bedroom waypoint when they click the corresponding button | ✓ |  |
| Tooltips open when player clicks on it | ✓ |  |
| Tooltips close when player open different tooltip | ✓ |  |
| Tooltips close when player teleports to new waypoint | ✓ |  |
| Ambience is looping | ✓ |  |
| Button sound plays when player clicks on waypoints | ✓ |  |
| Interact sound plays when player clicks on tooltips | ✓ |  |
| Game starts when player clicks play button | ✓ |  |

**CREDITS**

01\_Lanes\_Island\_Ambient\_48\_24.wav by tomtenney -- https://freesound.org/s/125224/ -- License: Attribution 4.0

<https://assetstore.unity.com/packages/vfx/particles/hyper-casual-fx-200333>