JUMPOCALYPSE

GAME REPORT

Team Members

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1. Game Description:

We created a 3-D game in Unity called Jumpocalypse where players guide a main character through a series of challenges. The character possesses the ability to run and must navigate through various obstacles. Along the journey, players have the opportunity to collect rewards, such as coins and mushrooms, while also facing the risk of being killed by certain elements, like mushrooms or rotating fires.

The game introduces a dynamic feature where the character can crush mushrooms or, conversely, be defeated by them. Progression through the levels is marked by the presence of a castle, and upon entering its doors, players advance to the next level. On ascending to a second level, the challenges intensify, including escaping fireballs and navigating moving platforms to reach the next building.

Engaging with a question block triggers the release of rewards, like mushrooms, for the player to collect. The acquisition of a mushroom increases the player's size, altering the game's dynamics. Additionally, players can explore different worlds, such as the underworld, by entering a pipe.

To enhance the overall gaming experience, a user-friendly main menu is provided, offering players the choice to either quit the game or restart the game if they have lost all three lives.

2. Technology Used

1) **Unity** - We used Unity for development of our game Jumpocalypse. Unity is a powerful and widely used platform for creating and developing interactive 2D and 3D content, primarily for video games, but it's also used in various other industries such as architecture, automotive, film, and simulation.It facilitates the integration of C# scripts,also handling graphics, physics, audio, and other essential components. Unity's cross-platform capabilities also mean that our game can reach a wide audience, whether on desktop, mobile, or other platforms. It offers a comprehensive

suite of tools, a vast Asset Store, and a supportive community with a user-friendly editor, high-quality graphics, and collaboration features.

2) **C#** - It serves as the scripting language, providing the logic and functionality that bring our game to life. It is a versatile and object-oriented programming language, and its usage in our game scripting ensures robust and efficient code. It allows us to create complex gameplay mechanics, handle player inputs, manage character behaviors, and implement various features that contribute to the overall gaming experience.

These two technologies together helped us create an engaging and immersive gaming experience, combining the robustness of C# with the versatility and ease of development provided by Unity.

3. Novelty

While our game description draws inspiration from Mario, there are distinctive elements that set it apart and give it a unique flavor:

1. **Dynamic Mushroom Interaction:**
In our game, the character can both crush mushrooms and be defeated by them. This dynamic interaction adds a layer of complexity, offering players strategic choices on how to approach and engage with the mushroom elements.

2. **Second Level Challenges:**
Our game introduces a second level where challenges intensify. This goes beyond the typical Mario structure and suggests a deeper and more diverse gameplay experience, with unique obstacles like escaping fireballs and navigating moving platforms.

3. **Question Block Engagement:**
Engaging with the question block not only releases rewards but specifically mushrooms. This contrasts with Mario, where question blocks may yield various power-ups, coins, or other items. The focus on mushrooms adds a specific dynamic to the reward system in our game.

4. **Mushroom Size Dynamics:**
The acquisition of a mushroom increases the player's size, altering the game's dynamics. This mechanic seems to have a direct impact on gameplay beyond just gaining points or abilities, providing a distinctive feature compared to Mario's power-up system.

5. **Exploration through Pipes:**
Allowing players to explore different worlds, such as the underworld, by entering a pipe, adds a unique dimension to the game. While Mario also uses pipes for transportation, the ability to explore different worlds leads to a broader and more varied game environment.

6. **Moving Platforms and Fireball Escape:**
Our game introduces the challenge of navigating moving platforms between two buildings, requiring players to jump accurately to progress. Additionally, the need to escape a rotating fireball adds an element of urgency and excitement, providing a unique and dynamic obstacle not typically found in traditional Mario games.

These elements collectively contribute to a game experience that, while drawing inspiration from Mario, stands out with its own set of features and gameplay mechanics, providing players with a fresh and engaging adventure.

4. Learning Outcomes

1) Technology Used

1. **Unity Editor Mastery:** Developed proficiency in using the Unity Editor, and understanding its various features, tools, and workflows.

2. **Programming Proficiency:** Gained a strong understanding of C#, as Unity primarily uses it for scripting.

3. **Game Development Fundamentals:** Learnt the basics of game development, including concepts such as game loops, physics, and collision detection.

4. **3D Modeling and Animation:** Acquired skills in creating and integrating 3D models and animations into the Unity environment.

5. **Game Design Principles:** Gained insights into game design principles, including level design, pacing, and player engagement as well as exploring artistic elements and effective use of sound effects and music

2) Problem Solving and Critical Thinking

1. Debugging and Troubleshooting: Developed strong problem-solving skills by debugging and troubleshooting issues that arise during the development process.

2. User Experience (UX) Considerations: Considered the player's experience, incorporating feedback to enhance usability and overall satisfaction

3) Soft Skills

1. Communication and Collaboration: Enhanced our communication skills, particularly if working in a team, to convey ideas, give and receive feedback, and collaborate effectively.
2. Project Management: Learnt project management skills, including task prioritisation, time management, and collaboration