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Team: 404 Page Not Found

Team Lead: TL-06, Version Control Manager

**Introduction:**

My feature for the game- 404 Page Not Found is to create the main player and its controls. Main player is the heart of our game, which represents the core of the gameplay experience. So, I need to think about the main player’s backstory, abilities, motive which helps me to create a fascinating character that players can connect with.

After we've determined what our main character will look like, we may proceed on to visual design. I’ll sketch some character designs with various styles, forms, and colors. I also need to create sprite sheets for the player’s movements like walking, attacking, and jumping. While defining the player’s controls I need to determine how the player is going to interact with the character using control, or keyboard. At the end I’ll test the main player in our 2D game. By following these processes, I’ll be able to build a main player who attracts gamers and adds the enjoyment of our game.

**Case Diagrams with Scenario:**

**Case Diagram:**

A diagram of a game

Description automatically generated

**Scenarios:**

**Name:** Starts the Game

**Summary:** Player initiates to start the game

**Actors:** Player

**Preconditions:** Game should be installed and launched in Unity

**Basic Sequence:**

**Step 1:** Player chooses to start the game.

**Step 2:** Game start title screen

**Step 3:** Player selects to start a new game.

**Exceptions:** None

**Post Conditions:** Game begins at level-01.

**Priority:** High

**ID:** Scenario-01

**Name:** Player Movement

**Summary:** Player navigates the game environment using movement controls

**Actors:** Player

**Preconditions:** Game should be running, and player’s character is spawned in the game

**Basic Sequence:**

**Step 1:** Player chooses the designated movements to control the ` player’s movement.

**Step 2:** Player moves based on the input.

**Exceptions:** If input is invalid, player should remain stationary

**Post Conditions:** Player’s position in the game should update based the input change.

**Priority:** High

**ID:** Scenario-02

**Name:** Entering the game level

**Summary:** Player enters a level within the game and if he wins the levels and then goes to other levels.

**Actors:** Player

**Preconditions:** Game should be running, and player should be currently in a level or at main menu.

**Basic Sequence:**

**Step 1:** Player chooses the designated movements to control the ` player’s movement.

**Step 2:** Player moves based on the input.

**Exceptions:** None

**Post Conditions:** Player gains control of the character within the new level.

**Priority:** High

**ID:** Scenario-03

**Name:** Pause Menu

**Summary:** Player pauses the game

**Actors:** Player Input

**Preconditions:** Game is in progress and there should be key assigned to use pause button

**Basic Sequence:**

**Step 1:** Player presses the pause menu button.

**Step 2:** Game pause and pause menu displays with options.

**Exceptions:** None

**Post Conditions:** Game should temporarily pause until the player chooses resume option.

**Priority:** Medium

**ID:** Scenario-04

**Name:** Won the Game

**Summary:** Player successfully completes all levels of the game

**Actors:** Player

**Preconditions:** Game ends and player got through all the levels

**Basic Sequence:**

**Step 1:** Player navigates through all levels.

**Step 2:** Player reaches the end of the final level.

**Step 3:** Won the Game Screen

**Exceptions:** None

**Post Conditions:** Game congratulates the player and shows an option to restart or quit.

**Priority:** High

**ID:** Scenario-05

**Name:** Game Ends/ Lost the Game

**Summary:** Player lost all their health which results in game over.

**Actors:** Player

**Preconditions:** Player should be in the game and actively planning

**Basic Sequence:**

**Step 1:** Player loses game completely.

**Step 2:** Game Over/ Lost the game screen displays.

**Exceptions:** Player need to lose the game based on the game rules.

**Post Conditions:** Player can choose to restart the game or return to the main menu.

**Priority:** Medium

**ID:** Scenario-06

**Data Flow Diagram:**

**A diagram of a game

Description automatically generated**

A diagram of a computer program

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**Process Descriptions:**

**Player Creation:** Create a player in unity and movements using sprites sheets.

**Player Controls:** Player control process manages the interaction between the player and game environment. Also need to work on player input handling and user interface.

**Player Control Scripts:** The procedure employs control scripts to govern the flow of gameplay and provide smooth interaction between the player and the game environment.

**Input Handling:** Game starts by getting input from the player using different assigned keys. Players need to follow commands of movement, using pause button and help.

**Interaction with Game Environment:** After receiving input, the process understands the commands and performs the relevant actions. If the player enters movement orders, the procedure determines the player character's activities in the game environment.

**Title Screen:** The method makes it easier to navigate between the game's title screen and other displays, such as the pause menu or game over screen.

At certain moments throughout gameplay, the user may provide input such as orders to return to the title screen.

**Player interaction Pause Menu:** When the player activates the pause menu, the procedure shows the pause menu UI. The pause menu provides options for resuming the game, restarting it from the paused state, or exiting it altogether.

**Game levels:** During gaming, the procedure controls the progression through the various stages of the game. The player's input may include beginning certain levels or moving on to the next level after finishing the current one.

**Game Restarts:** If the player decides to restart the game, the procedure restores the game state to its original setting. This usually entails refreshing the title screen and resetting any progress made in the game.

**Game End/ Lost the game:** When the player completes the game goals, the procedure initiates the endgame sequence. This may involve presenting a victory screen and giving the player the choice to restart the game or exit.

**Acceptance Tests:**

**Player movements:** Test the game's ability to respond appropriately to player movement requests. Include a variety of movement key combinations. Character movement in the appropriate direction on the screen. Boundary instances include evaluating movement near screen borders or obstructions.

**Game Restarts:** Test the restart button's ability to reset the game's state. The game resumes from the beginning, taking the player back to the title screen.

**Game Paused:** Use the pause menu to momentarily interrupt gaming. Click the pause button by knowing the assigned key to pause the game. The game pauses and displays the pause menu interface. Boundary instances involve testing the pause capability during important gaming times.

**Game Resumed:** Test the game's ability to continue from its paused state. Choose the resume option from the pause menu. The game restarts where it was paused, preserving the game state, and enabling the user to continue playing.

**Quit the Game:** Test the quit button's functionality for exiting the game. Clicking the quit button in the pause menu. The game closes and the player return to the desktop or prior program.

**Game levels:** Test the player's ability to move through levels. Inputs include starting certain levels or moving on to the next level after finishing the current one. The game loads the matching level environment, and the player's character appears at the specified starting location.

**Won the Game:** Test the conditions for winning the game. Inputs include completing all game objectives or reaching the final level. The game congratulates the player and shows a victory screen, with the option to start a new game or exit.

**Lost the Game:** Determine the circumstances for losing the game. The player character loses all health or decides to stop the game. The game shows a game over screen with options to restart or exit.

**Returning to the Title Screen:** Test the ability to return to the title screen. Selecting the Return to Title Screen option from various game states. The game returns to the title screen, where the player can select menu choices or start a new game.

**Timeline:**

**Work Items:**

|  |  |  |
| --- | --- | --- |
| TASK | Duration (hrs) | Predecessor Task (s) |
| 1. Project Setup | 1 | **-** |
| 2. Character Design | 3 | 1 |
| 3. Character Sprites | 3 | 2 |
| 4. Player Creation | 5 | 2, 3 |
| 5. Player Animation Creation | 4 | 4 |
| 6. Player Controls Design | 4 | 5 |
| 7. Player Control Scripting | 6 | 6 |
| 8. Input Handling | 3 | 4, 7 |
| 9. Integration with Game Environment | 3 | 6, 8 |
| 10. Collision Detection and Interaction | 3 | 7, 9 |
| 11. Player Boundary Implementation | 5 | 10 |
| 12. Testing & Debugging | 2 | 8, 11 |
| 13. Player Performance Test | 1 | 12 |
| 14. Documentation and Version Control | 2 | 8, 13 |
| 15. Installation | 3 | 12, 14 |

**Pert Diagram:**

A diagram of a computer

Description automatically generated with medium confidence

**Gantt Timeline:**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Week | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Task 1 |  |  |  |  |  |  |  |  |  |  |  |
| Task 2 | 1 |  |  |  |  |  |  |  |  |  |  |
| Task 3 |  | 2 |  |  |  |  |  |  |  |  |  |
| Task 4 | 3, 2 | |  |  |  |  |  |  |  |  |  |
| Task 5 |  |  | 4 |  |  |  |  |  |  |  |  |
| Task 6 |  |  |  | 5 |  |  |  |  |  |  |  |
| Task 7 |  | 6 | | | |  |  |  |  |  |  |
| Task 8 |  |  |  | 7, 4 | |  |  |  |  |  |  |
| Task 9 |  |  |  | 8, 6 | | | |  |  |  |  |
| Task 10 |  |  |  |  | 9, 7 | | |  |  |  |  |
| Task 11 |  |  |  |  |  |  |  | 10 |  |  |  |
| Task 12 |  |  |  |  |  |  | 11, 8 | | |  |  |
| Task 13 |  |  |  |  |  |  |  |  |  | 12 |  |
| Task 14 | 13, 8 | | | | | | | | | |  |
| Task 15 |  |  |  | 14, 12 | | | | | | | |