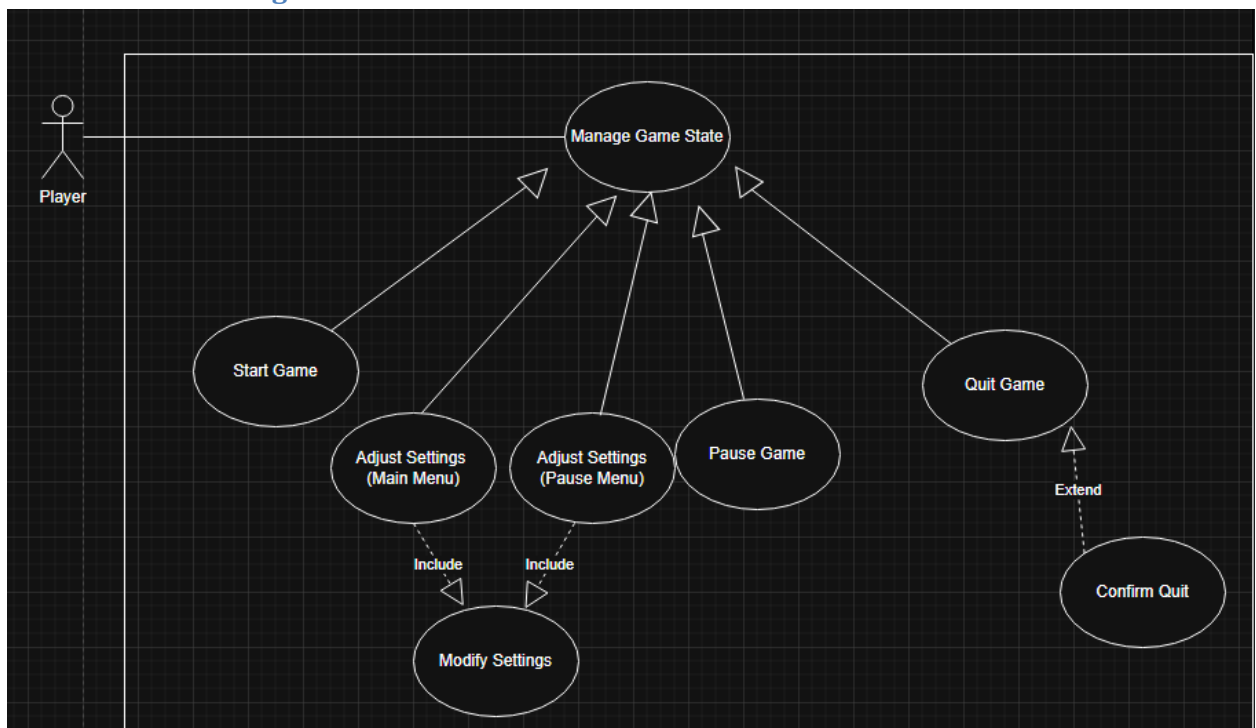[**Instructions**: Remove everything that is not a heading below and fill in with your own diagrams, etc.]

1. Brief introduction __/3

The main menu and pause menu provide options for the user to choose from. The main menu will allow the user to start the game, adjust settings, or quit. The pause menu allows the user to suspend the game, access the settings, and return to the main menu. While the game is suspended, the user will not be able to perform actions.

2. Use case diagram with scenario   __14

Use Case Diagrams

Scenarios

Name: Start game

Summary: The player starts a new game session from the Main Menu.

Actors: Player

Preconditions: Game is launched, Main Menu is displayed.

Basic sequence:

Step 1: Player clicks on the Start Game button.

Step 2: Game initializes new session.

Step 3: System loads the gameplay screen and enables gameplay controls.

Exceptions:

Step 2: Game session initialization fails (missing resources) and system displays an error message and returns to Main Menu.

Step 3: Gameplay scene fails to load and system displays an error message and returns to Main Menu.

Post conditions: Gameplay screen is active and the player can interact with the game

Priority: 1

ID: ETP01

Name: Adjust Settings (Main Menu)

Summary: The player selects the adjust settings button from the Main Menu. A separate menu displays where the user can change the game volume.

Actors: Player

Preconditions: Game is launched, Main Menu is displayed.

Basic sequence:

Step 1: Accept input of the mouse click on the Adjust Settings button.

Step 2: Game displays a Master Volume slider.

Step 3: Player adjusts the Master Volume slider.

Step 4: System updates the game's audio output immediately.

Step 5: Player selects **Back** to return to the Main Menu.

Exceptions:

Step 3: Player attempts to move slider outside allowed range and system restricts value between 0-100%.

Post conditions: Master Volume setting is updated and the Main Menu is displayed.

ID: ETP02

Name: Adjust Settings (Pause Menu)

Summary: The player selects the adjust settings button from the Pause Menu. A separate menu displays where the user can change the game volume.

Actors: Player

Preconditions: Player is mid-gameplay. Game has been paused.

Basic sequence:

Step 1: Player clicks on the Adjust Settings button.

Step 2: Game displays a Master Volume slider.

Step 3: Player adjusts the Master Volume slider.

Step 4: System updates the game's audio output immediately.

Step 5: Player selects **Back** to return to the Pause Menu.

Exceptions:

Step 3: Player attempts to move slider outside allowed range and system restricts value between 0-100%.

Post conditions: Master Volume setting is updated and the Pause Menu is displayed.

ID: ETP03

Name: Pause Game

Summary: The player selects the pause button from the HUD. The game is suspended until the player chooses to resume the game.

Actors: Player

Preconditions: Player is mid-gameplay.

Basic sequence:

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

>   **Step 2:** Game suspends and a Pause Menu is displayed.

Exceptions:

>   **Step 1:** Player presses the pause button while the game is already paused. The system ignores the input

Post conditions: The game is suspended and the Pause Menu is visible.

ID: ETP04

Name: Quit Game

Summary: The player selects the Quit Game button from the Pause Menu.

Actors: Player

Preconditions: Game is paused and the Pause Menu is visible.

Basic sequence:

>   **Step 1:** Player presses the Quit Game button from the Pause Menu.

>   **Step 2:** Game displays a Confirm Quit dialog.

>   **Step 3:** Player selects Confirm.

>   **Step 4:** The system closes the application.

Exceptions:

>   **Step 3:** Player selects Cancel – system closes the dialog and returns to the Pause Menu.

Post conditions: If confirmed: the application is closed.

>   If cancelled: Pause Menu remains visible and gameplay stays paused.

ID: ETP05

Name: Confirm Quit

Summary: The player confirms the Quit Game selection from the dialog. The application closes.

Actors: Player

Preconditions: Game is paused, the player has selected the Quit Game option, and the Confirm Quit dialog is visible.

Basic sequence:

>   **Step 1:** Player press the Confirm button in the Confirm Quit dialog.

>   **Step 2:** The application closes.

Exceptions:

Step 1: Player selects Cancel – the system closes the dialog and returns to the pause menu.

Post conditions: If confirmed: Application is closed.

If cancelled: Game remains paused and Pause Menu is displayed.

ID: ETP06

Name: Modify Settings

Summary: The player modifies the Master Volume setting within the Settings menu.

Actors: Player

Preconditions: Settings menu is visible (accessed either from Main Menu or Pause Menu).

Basic sequence:

Step 1: Player adjusts the Master Volume slider.

Step 2: System updates the game's audio output immediately.

Exceptions:

Step 1: Player attempts to move slider outside allowed range and system restricts value between 0-100%.

Post conditions: Master Volume setting reflects the updated value.

ID: ETP07

3. Data Flow diagram(s) from Level 0 to process description for your feature _____14
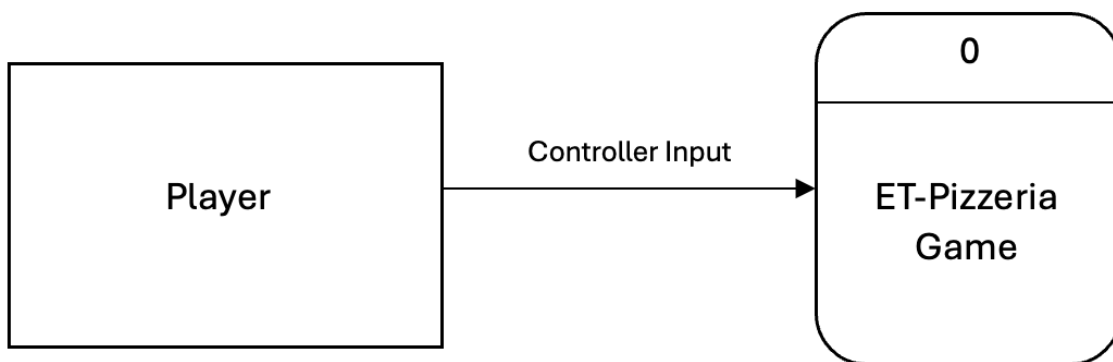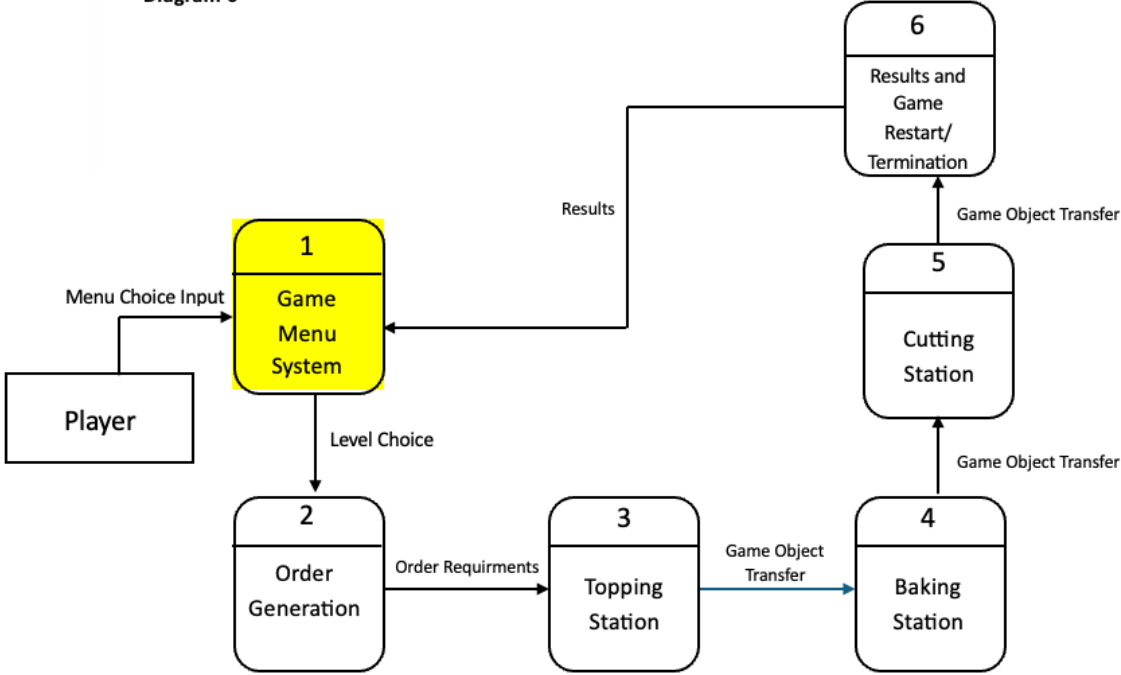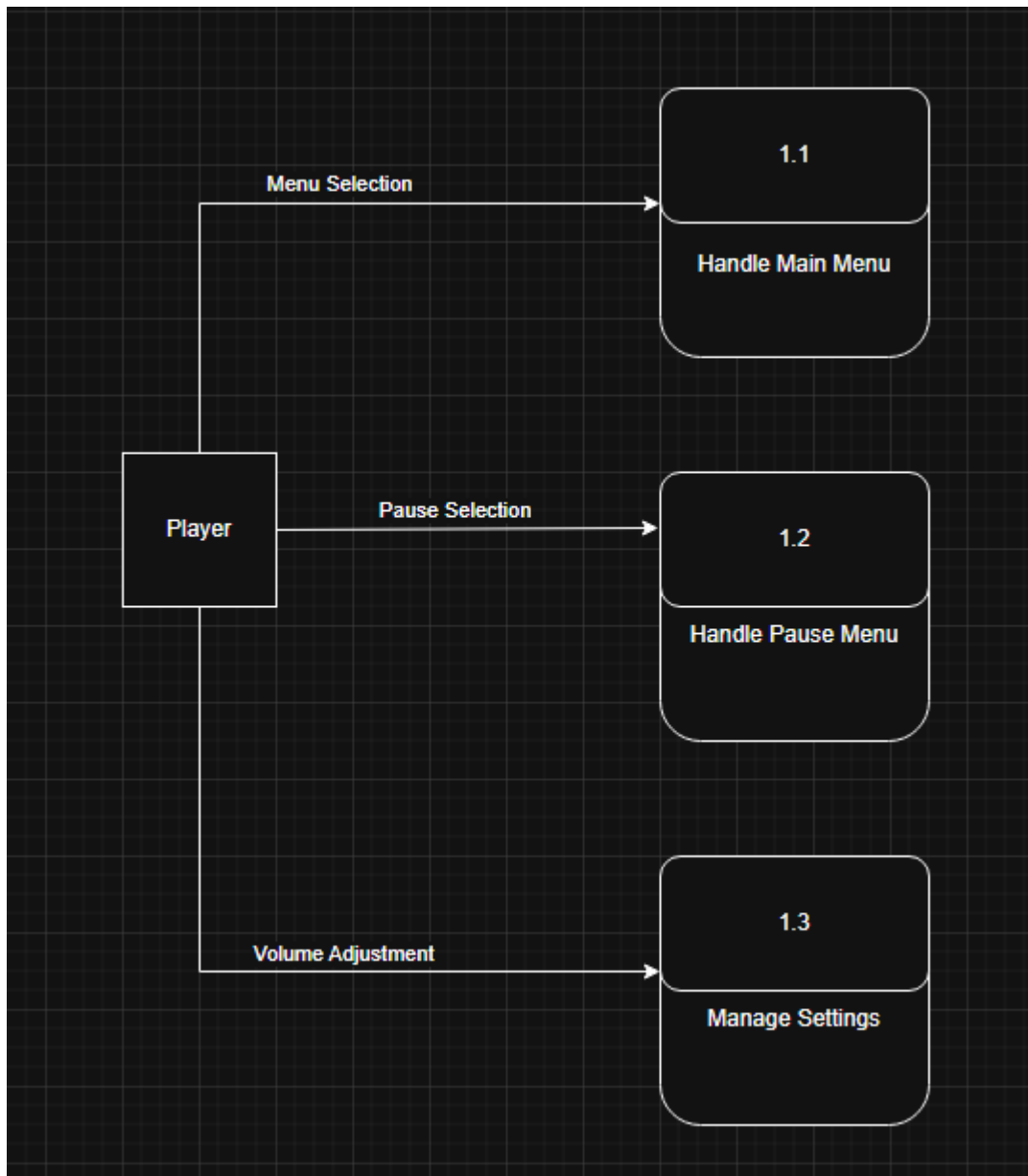
Data Flow Diagrams

Diagram 0

Level 0

Level 1

Process Descriptions

WHEN Settings menu is opened:

Display current MasterVolume value

WHILE Settings menu is active:

IF Player adjusts slider THEN

newValue = slider position

IF newValue < 0 THEN

   newValue = 0

END IF

IF newValue > 100 THEN

   newValue = 100

END IF

Store newValue as MasterVolume

Apply newValue to game audio output

  END IF

END WHILE

4. Acceptance Tests _____9

Acceptance Test 01: Master Volume Adjustment

Verify that Master Volume correctly updates and enforces boundary limits.

Test Inputs and Expected Outputs

Input Volume	Expected Stored Value	Expected Behavior
50	50	Audio output reflects 50% volume
0	0	Audio is muted
100	100	Audio plays at maximum level
-10	0	Value is clamped to lower bound
150	100	Value is clamped to upper bound

Execution Method:

- Programmatically set slider value.

- Read internal MasterVolume variable.
- Assert stored value equals expected value.
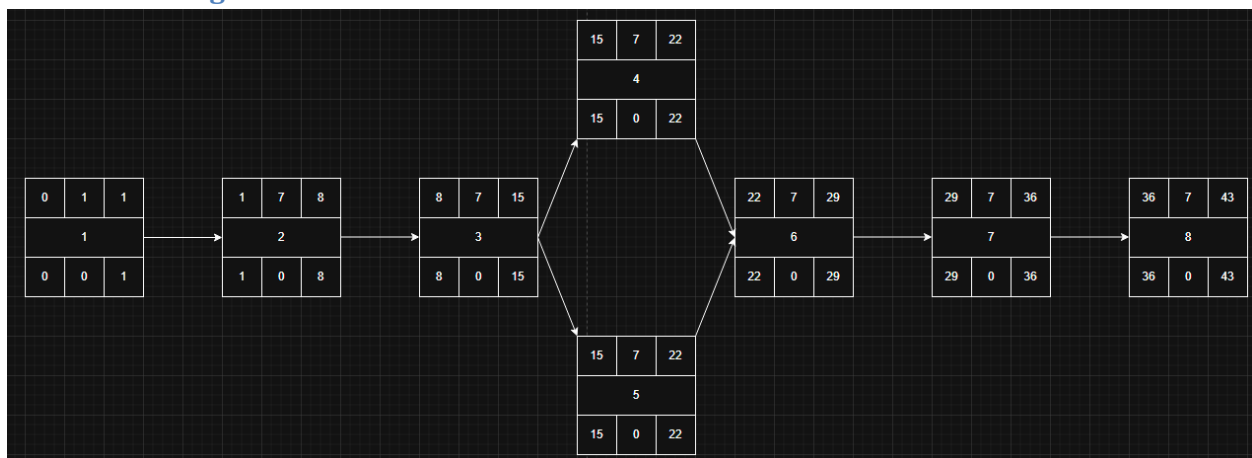- Verify no runtime errors occur.

5. Timeline _____/10

Example:

Work items

Task	Duration (PWks)	Predecessor Task(s)
1. Requirements Collection	1	-
2. Design UI layout (Main, Pause, Settings)	7	1
3. Implement Main Menu Logic	7	2
4. Implement Pause functionality	7	3
5. Implement Master Volume setting	7	3
6. Integrate Settings with Pause Menu	7	4, 5
7. Testing	7	6
8. Final Build	7	7

Pert diagram

Gantt timeline