Fruit of the Witch

System Analysis

Midnight Pineapple Studios:

Asim, Camden, Abdullah, Brandon, Lainey, Nastia, Swikriti

Presenter: **Brandon** (TL3)

Our Game

- With *Fruit of the Witch*, it is our goal to create a fresh 2D stealth adventure experience by blending puzzle design, stealth, and action game design principles into a more engaging experience than traditional stealth games.
- The story follows a hero whose sister has been cursed by an evil Witch. The only way to break the curse is to retrieve a magical pineapple the Witch stole from the town and is holding in her magical lair.

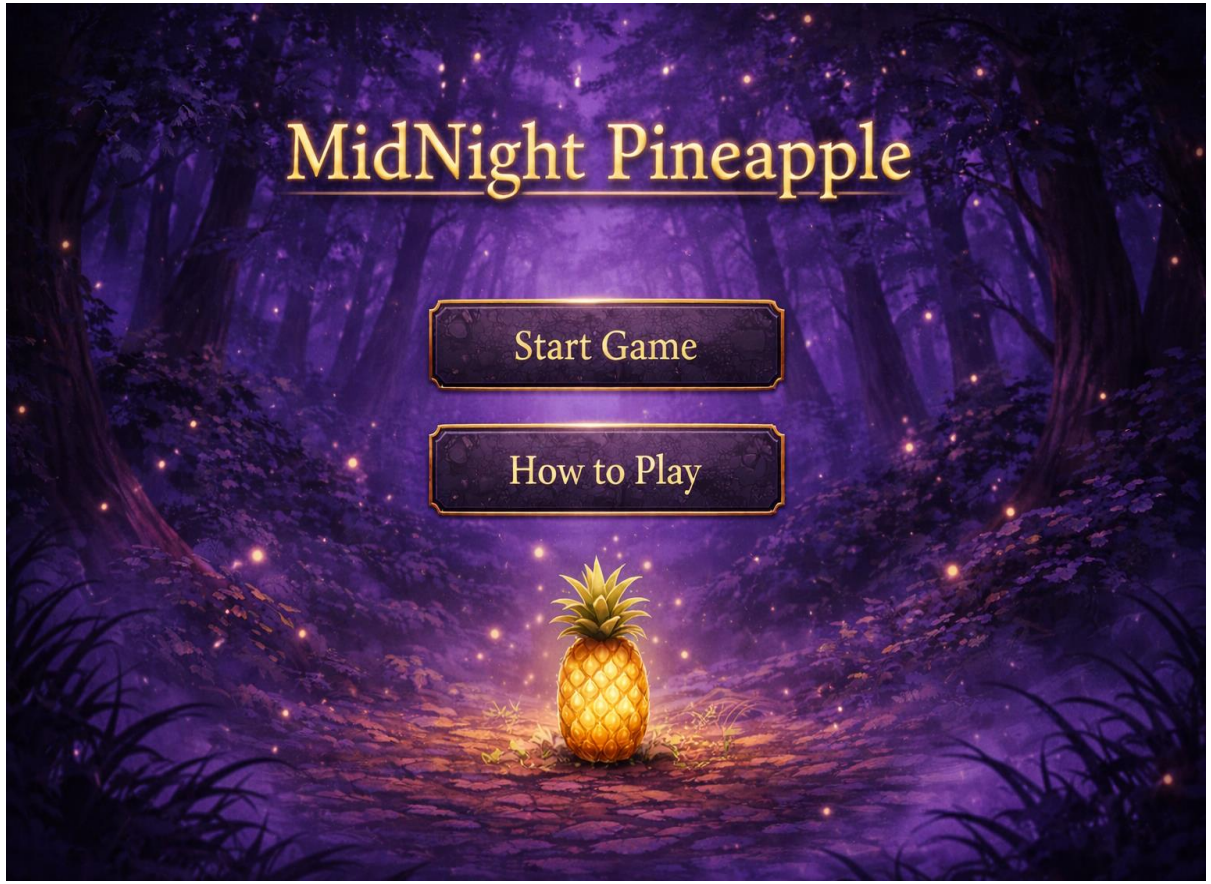
Presenter: **Brandon** (TL3)

Story Boards

Presenter: Abdullah (TL2)

Scene 1: Load to main menu

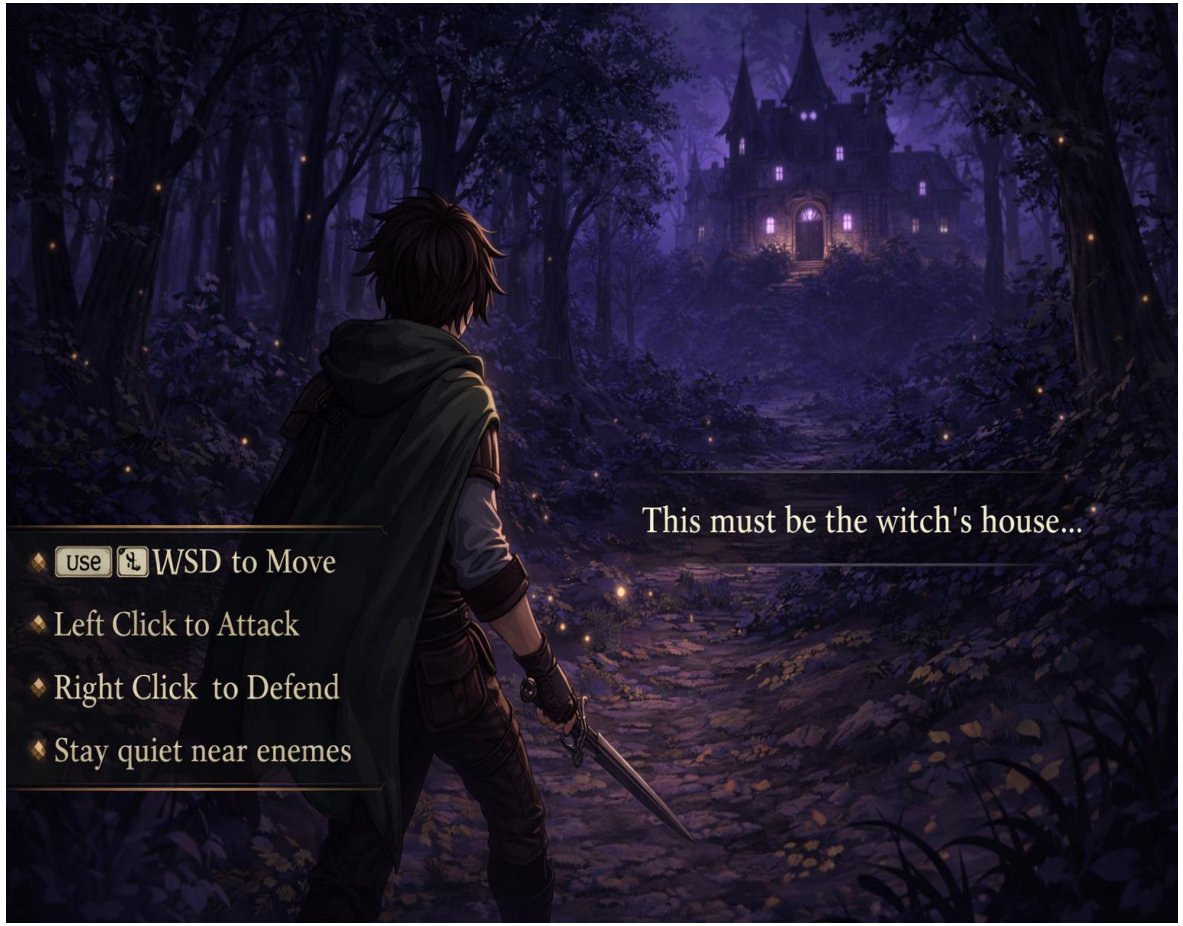
- **Dialogue:** (A curse has fallen upon the forest...)
- **Action:**
  - Player can navigate menu using keyboard.
  - Selecting **Start Game** begins Level 1.
  - Selecting **How to Play** shows controls and instruction
- **Note:**
  - On **Start** → Load Level 1 Scene
  - On **HowToPlay** → Open instruction panel
  - Background music loop active



Presenter: Abdullah (TL2)

Scene 2: Level 1 Introduction

- Dialogue:
  - "This must be the witch’s house..."
- Action:
  - Player gains control.
  - Moves toward the witch’s house.
  - Basic movement and controls are introduced.
- Notes:
  - Player movement enabled.
  - Input system active.



Presenter: Abdullah (TL2)

Scene 3:Level 1 Stealth Mechanism

- **Dialogue:**
  (None)
- **Action:**
  The witch’s guards patrol the area.
  The player hides behind trees and avoids being seen.
- **Notes:**
  Introduces:
- Stealth system
- Enemy detection
- Strategy-based gameplay

Presenter: **Brandon** (TL3)

Scene 4: Chase sequence

- **Dialogue:**
  Witch: “You cannot escape!”
- **Action:**
  The player is detected.
  A chase begins through the forest with obstacles and traps.
- **Notes:**
  Introduces:
- Speed mechanics
- Reaction timing
- Increasing tension

Presenter: Lainey (TL4)

Scene 5: Final Challenge

Dialogue

- **Witch:** “One final battle. Winner takes the pineapple.”
  Player: “Let’s finish this.”

Action

- Player reaches the house.
- Witch blocks the entrance.
- Arena forms.

Notes

- Sets up final boss fight.
- Leads directly to combat scene.

Presenter: Lainey (TL4)

Scene 6: Final battle

Dialogue

- **Witch:** “You cannot defeat me!”
  Player: “I will save my sister!”

Action

- Boss appears; fight begins.
- Both attack and take damage.
- Player respawns if defeated.
- Boss defeated → victory.

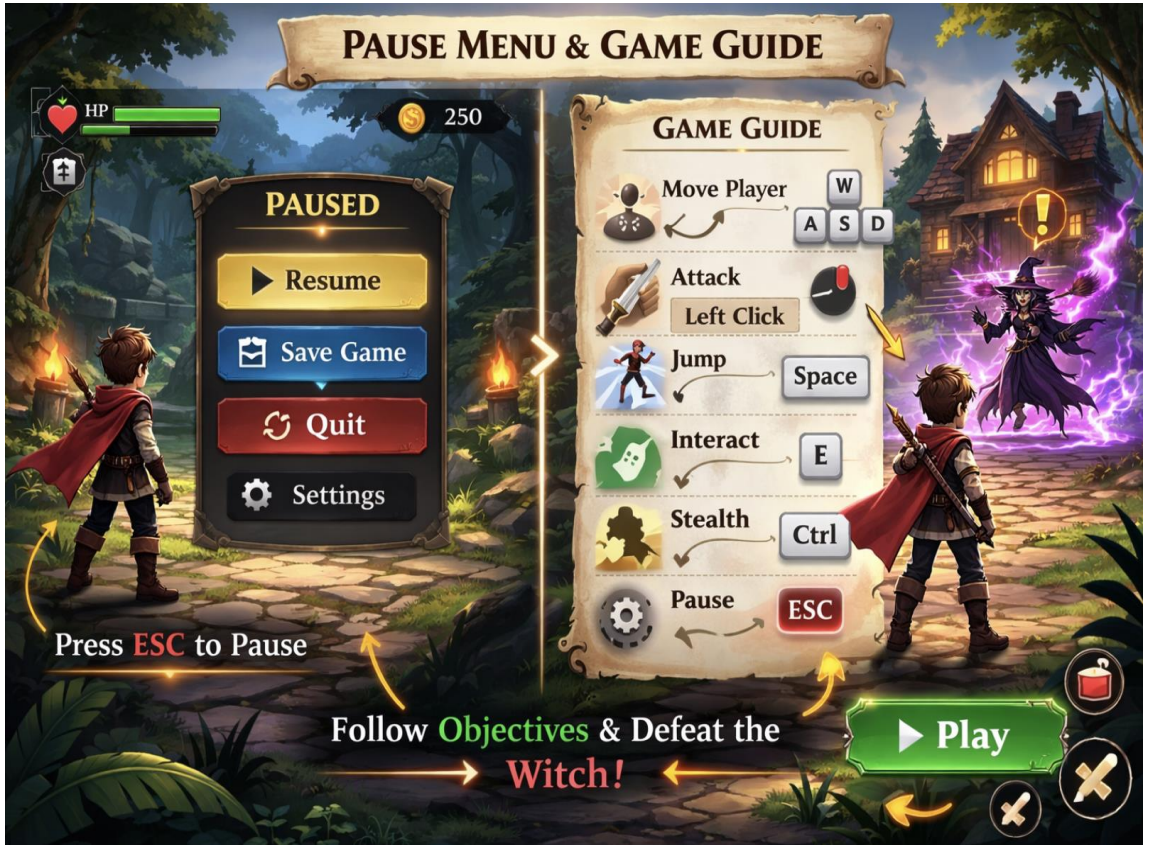
Notes

- Enemy follows and attacks in range.
- Health reduces per hit.
- Game ends when boss health = 0.

Presenter : **Asim Sapkota(TL1)**

Scene 7: Pause Menu

Dialogue
(No Dialogue)
Action
•Player presses ESC.
•Menu appears with:
    •Resume
    •View Controls
    •Save Game
    •Quit to Main Menu
•“How to Play” shows movement and attack controls.
Notes
•Game state freezes when paused.
•Player can save progress.
•Guide explains controls and objectives.



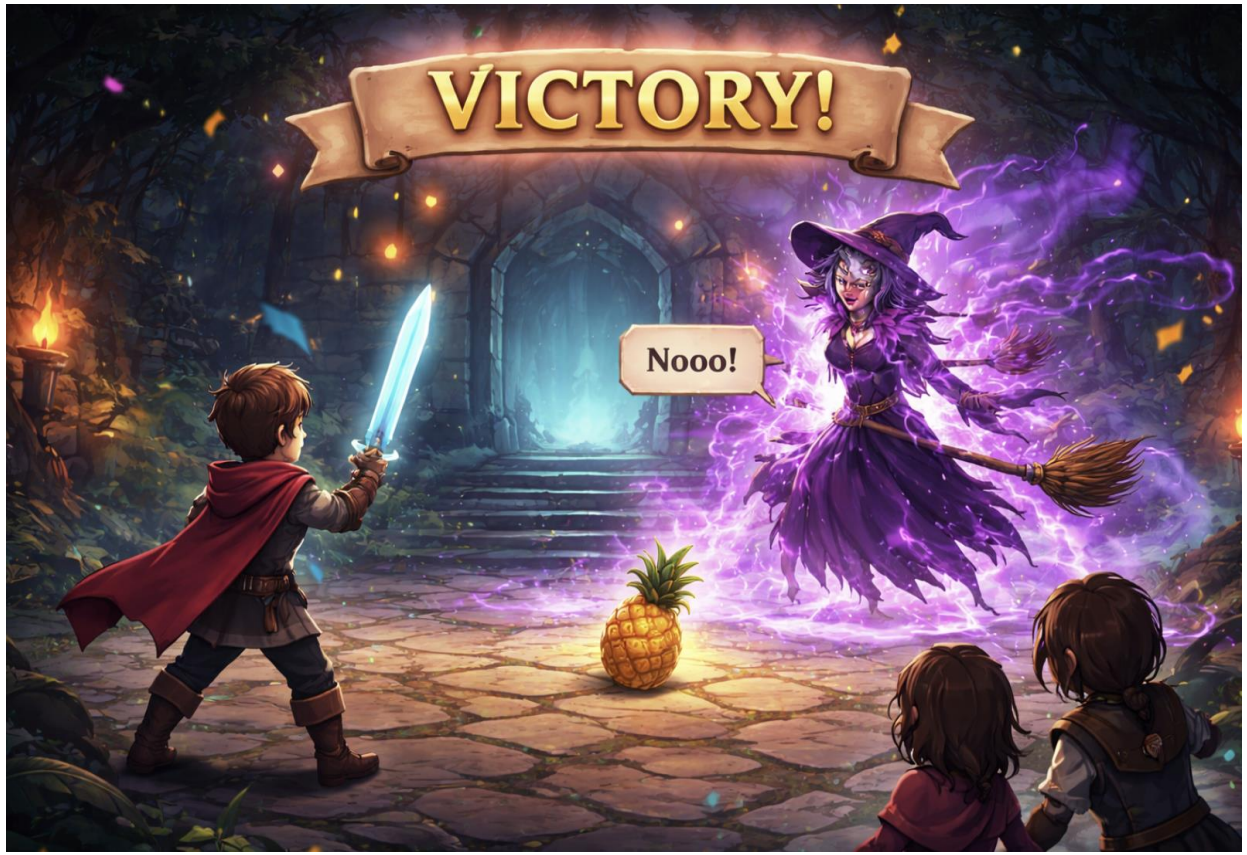
Presenter : **Asim Sapkota(TL1)**

Scene 8:

Dialogue
Witch: “No… this can’t be…”
Player: “It’s over.”

Action
- Witch’s health reaches zero.
- Purple magic fades away.
- Pineapple glows.
- Victory screen appears.

Notes
- Combat ends when boss health = 0.
- Trigger victory event.
- Transition to ending scene.

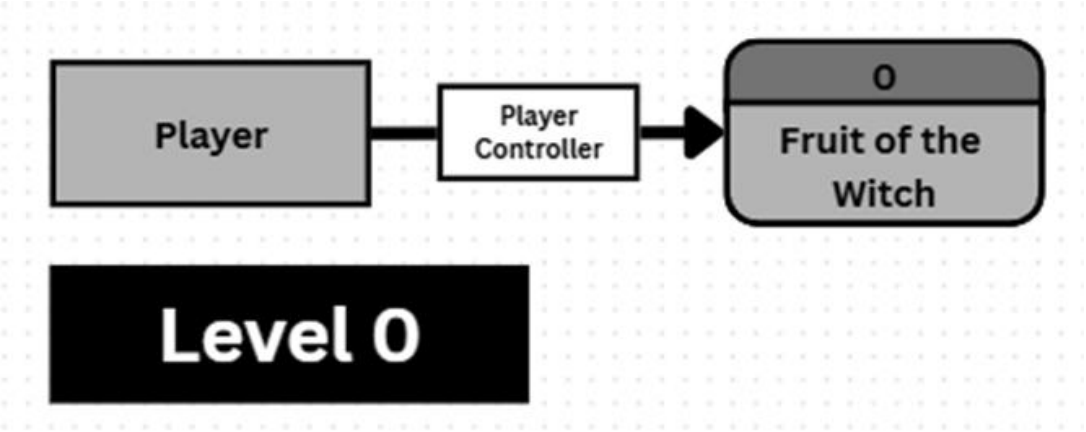


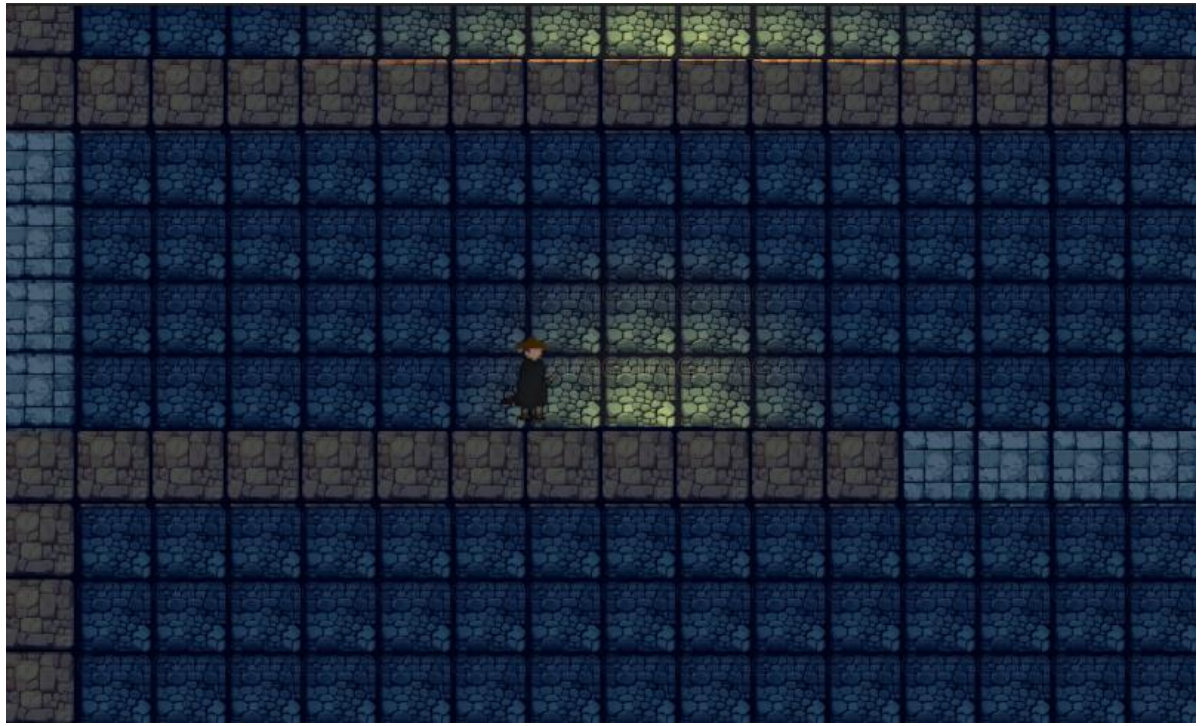
Presenter : **Asim Sapkota(TL1)**

Use Case & Diagrams

Presenter: **Swikriti Shrestha (TL6)**

Context Diagram





Presenter: **Swikriti Shrestha (TL6)**

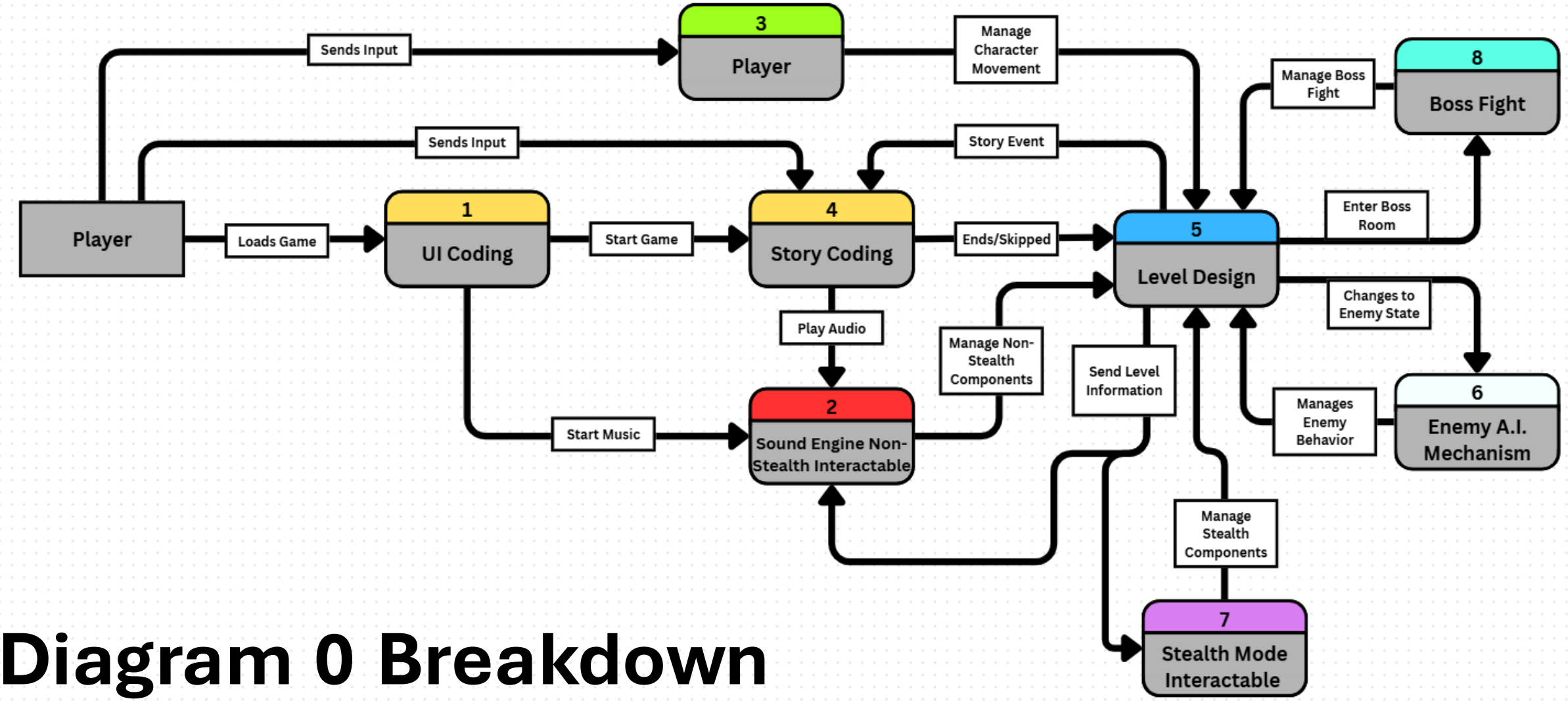
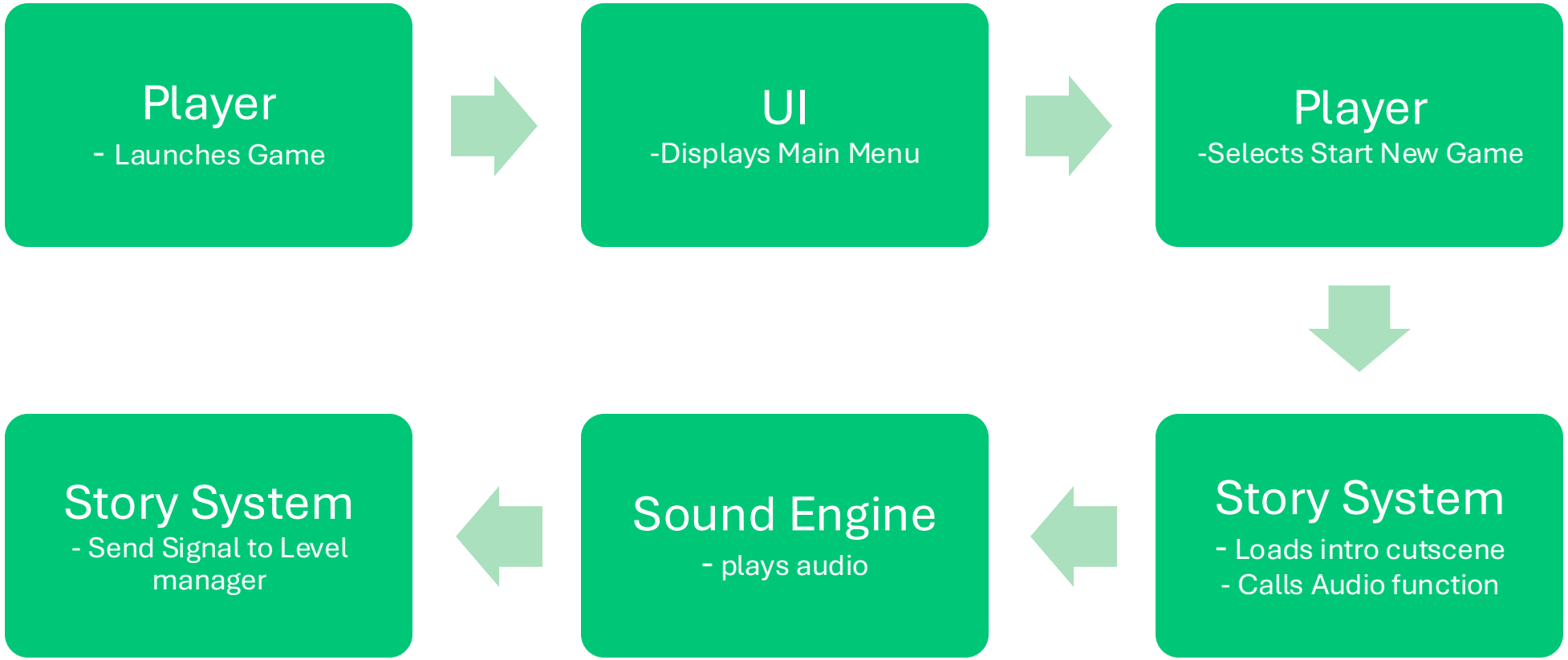


Diagram 0 Breakdown

Presenter : **Team**

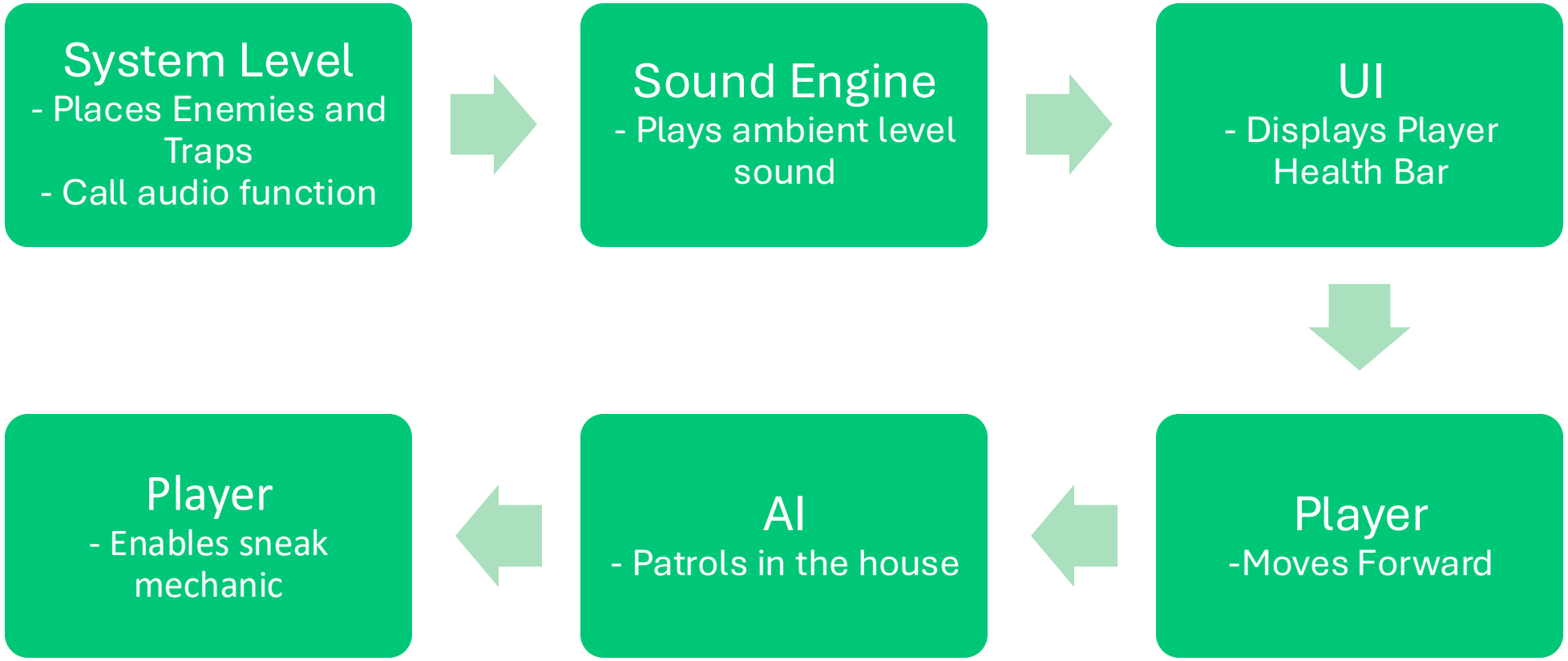
Start Game



Global Use Case

Presenter : **Team**

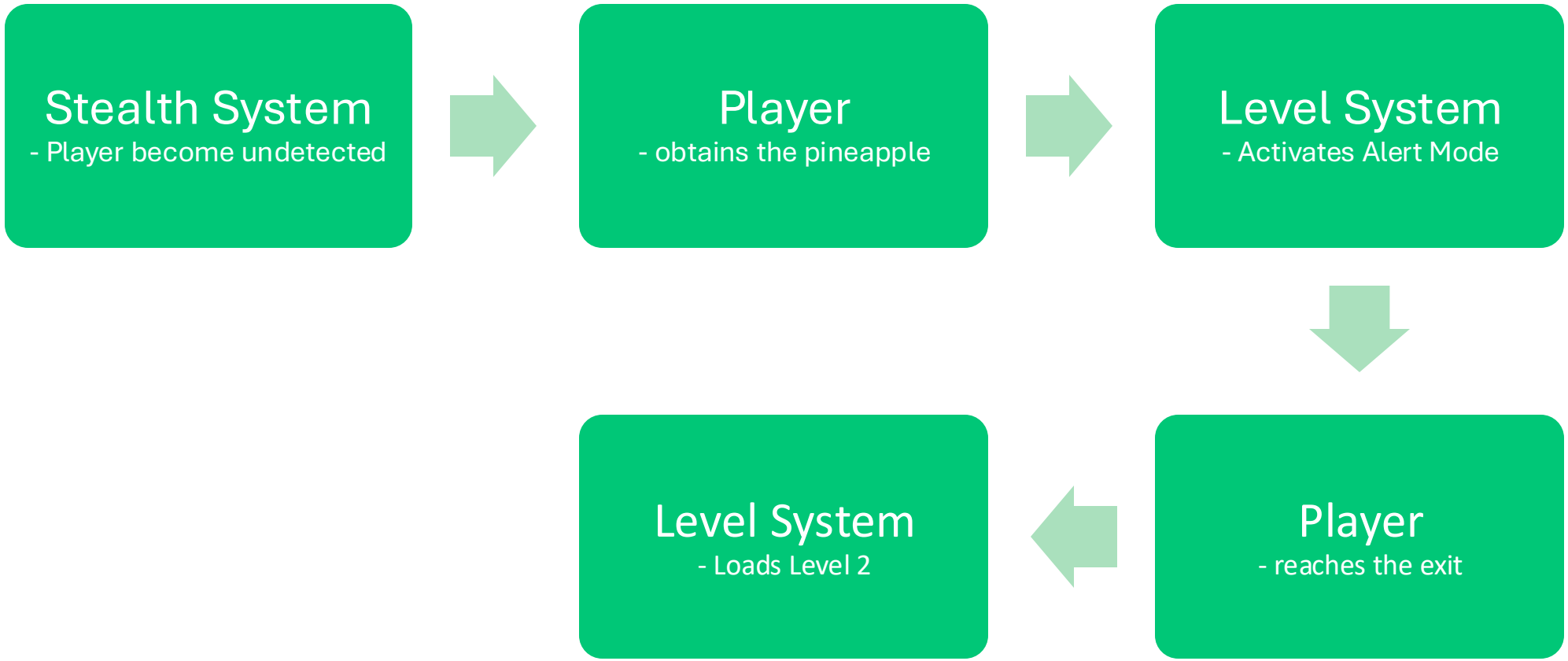
Level 1



Global Use Case

Presenter : **Team**

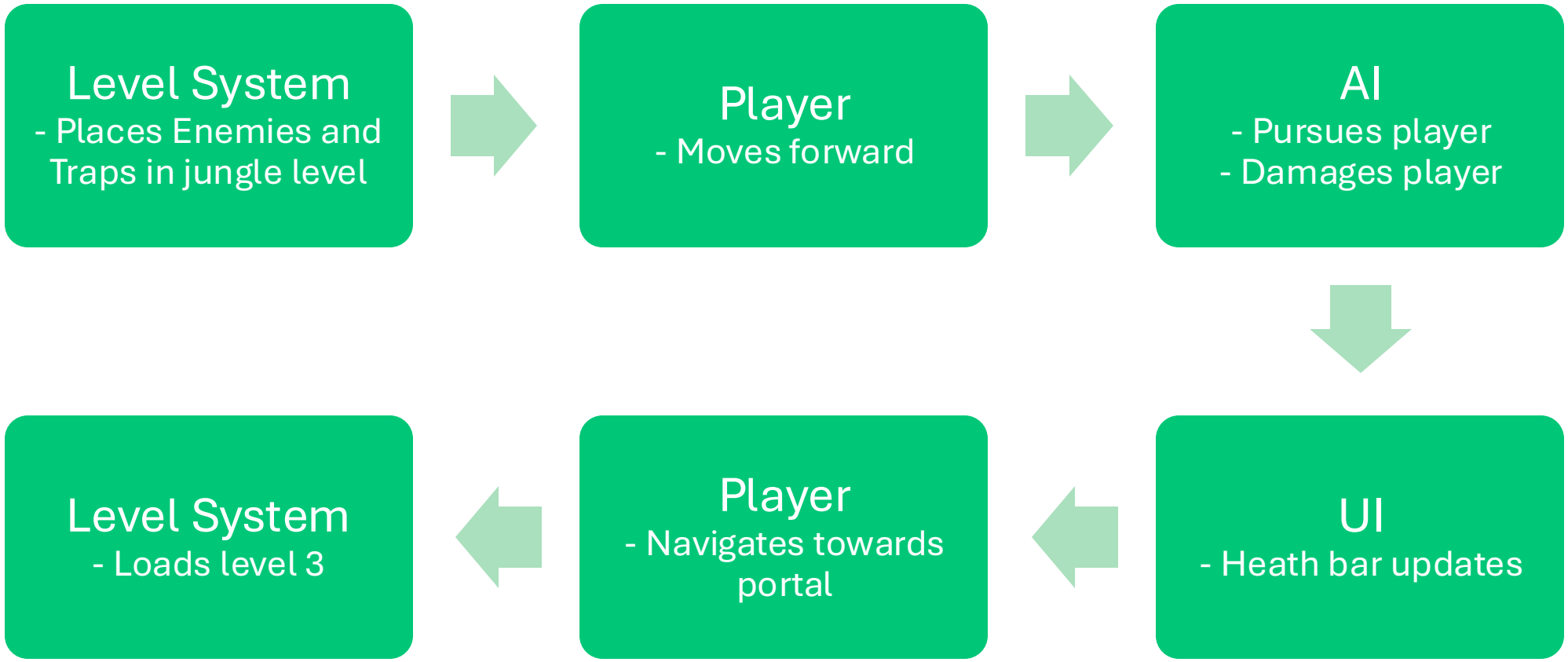
Level 1 cont.



Global Use Case

Presenter : **Team**

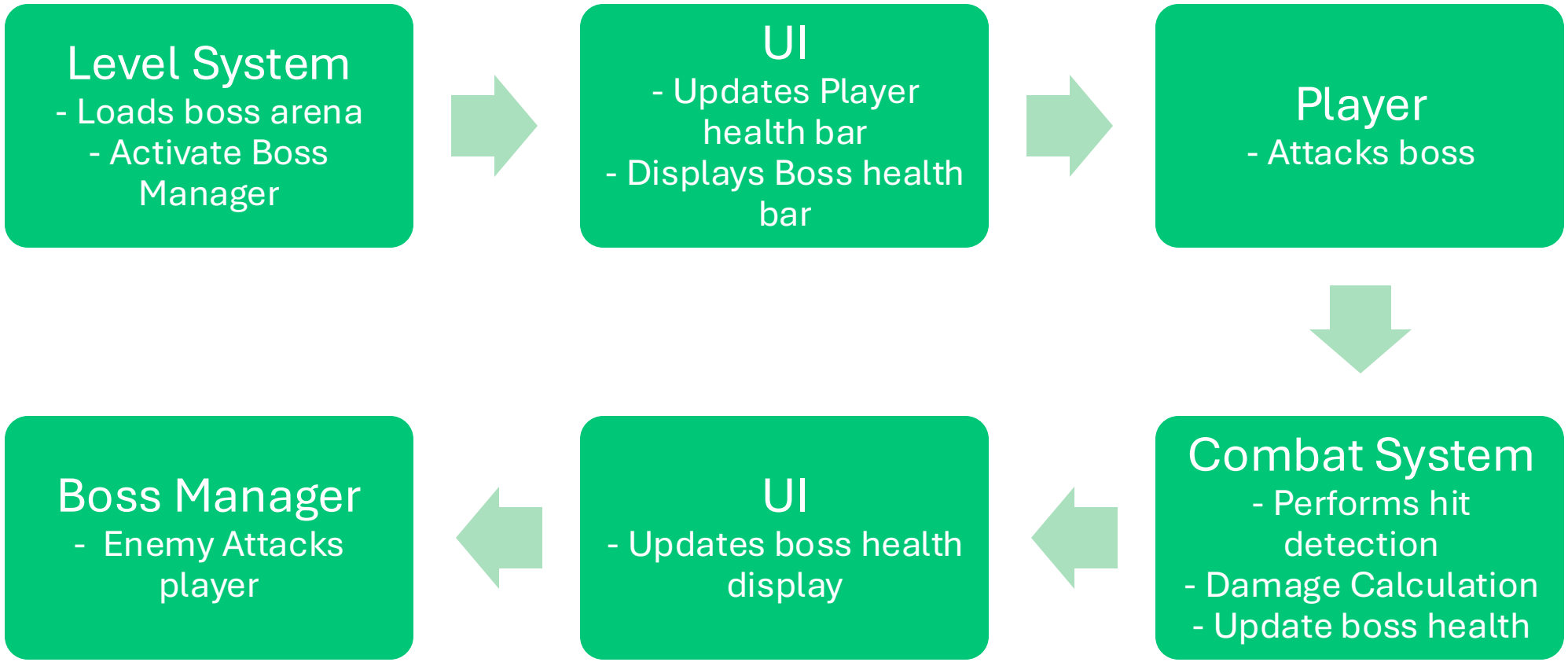
Level 2



Global Use Case

Presenter : **Team**

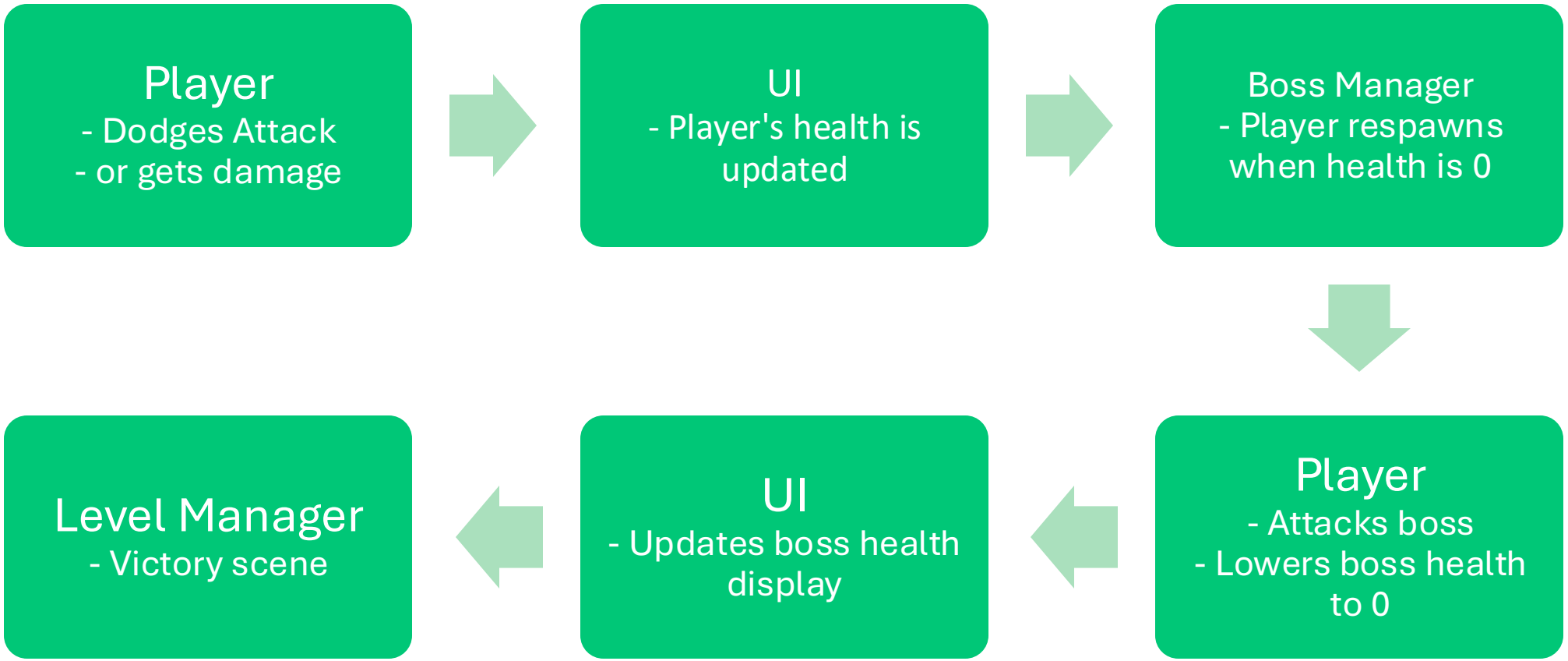
Level 3



Global Use Case

Presenter : **Team**

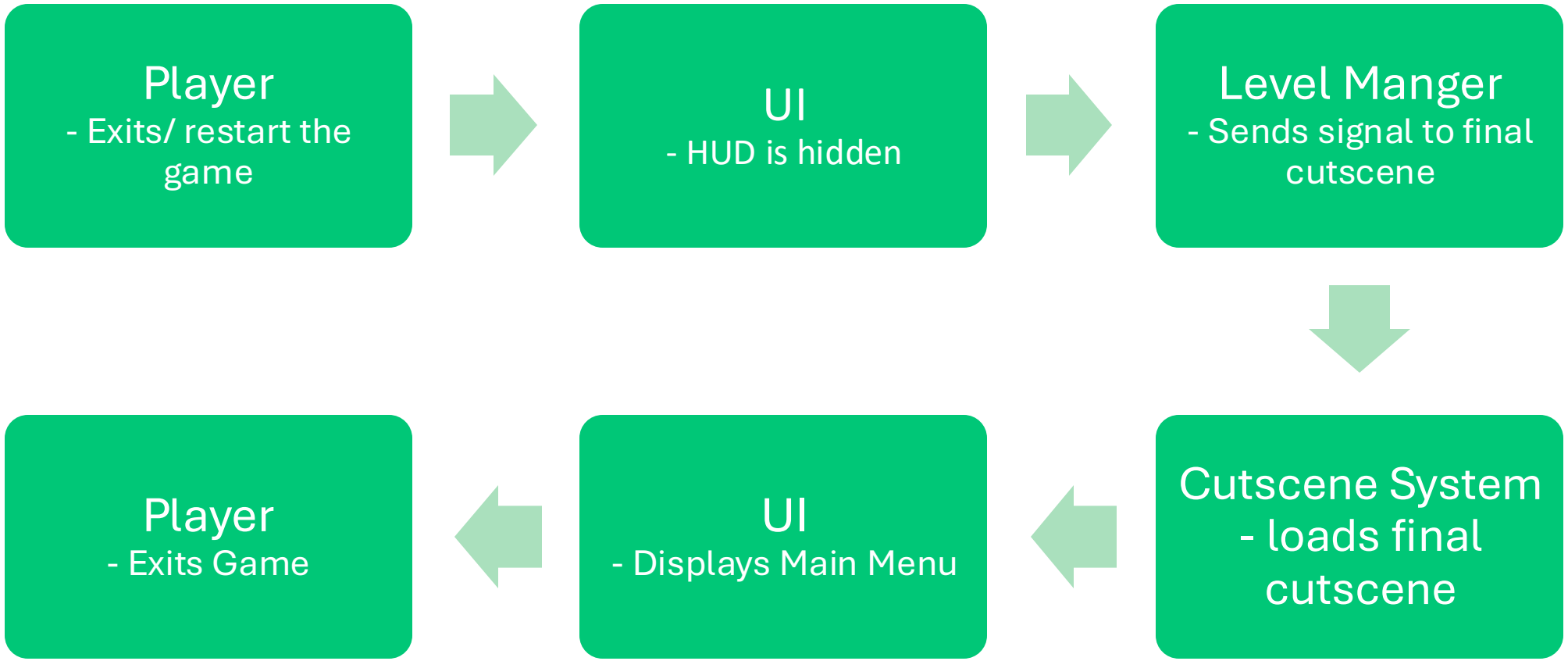
Level 3 Cont.



Global Use Case

Presenter : **Team**

Final Scene



Global Use Case

Presenter : **Team**

Individual Use Cases

Presenter: Lainey (TL4)

UI Coding:

Purpose:

- The UI provides clear information on controls and displays accessible navigation options
- The HUD will display the player's health bar, active status effects, and the final boss's health bar.

Priority:

- Medium Priority
  - Enables player awareness and core game control

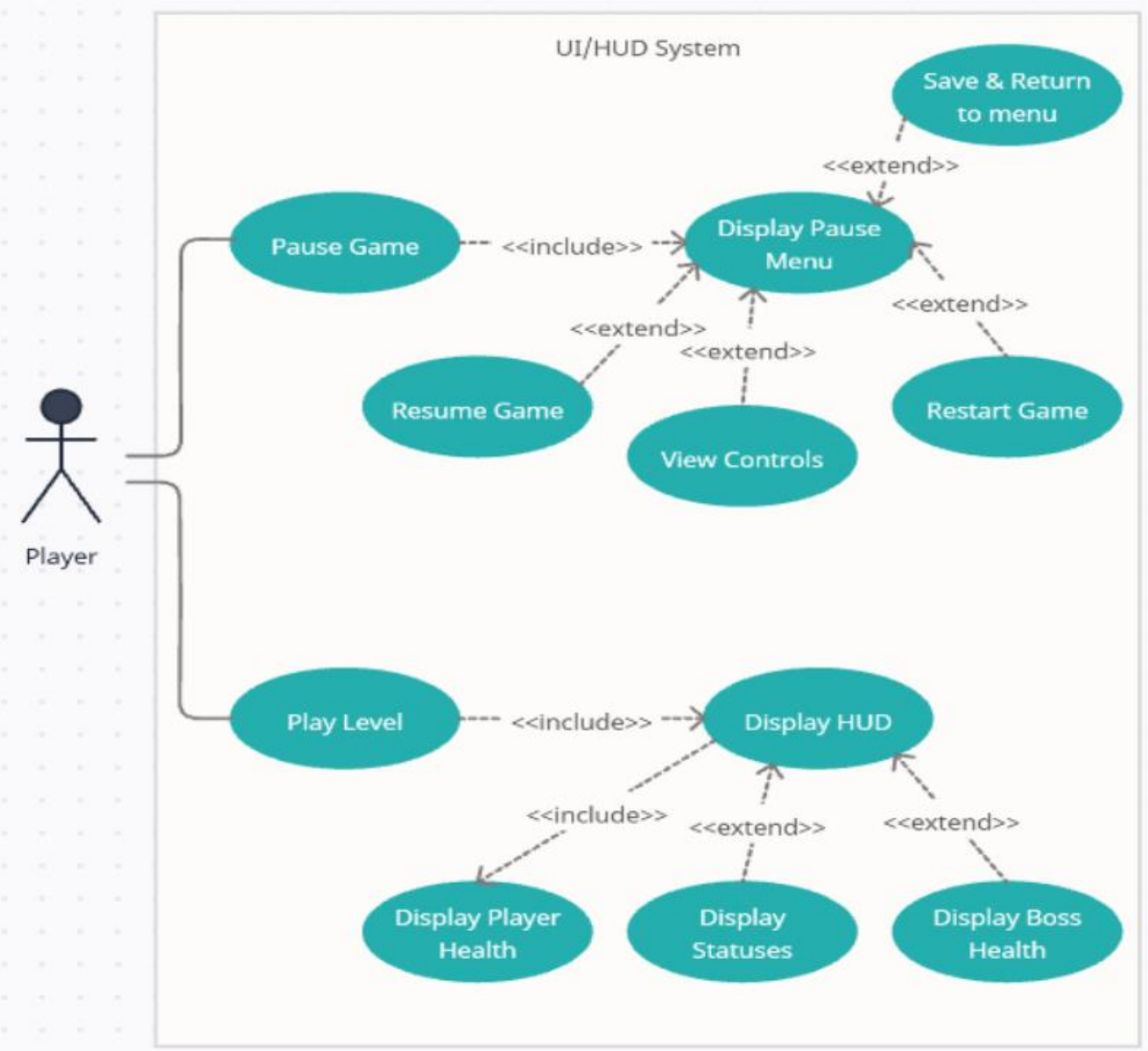
Complexity:

- Low Complexity
  - Simple elements and minimal interactions

Presenter: Lainey (TL4)

UI Coding:

Presenter: Lainey (TL4)



Story Coding:

Purpose:

- Features a short story describing the reasoning behind the player's adventure for the pineapple.

Priority:

- Low Priority
  - Non-essential to gameplay

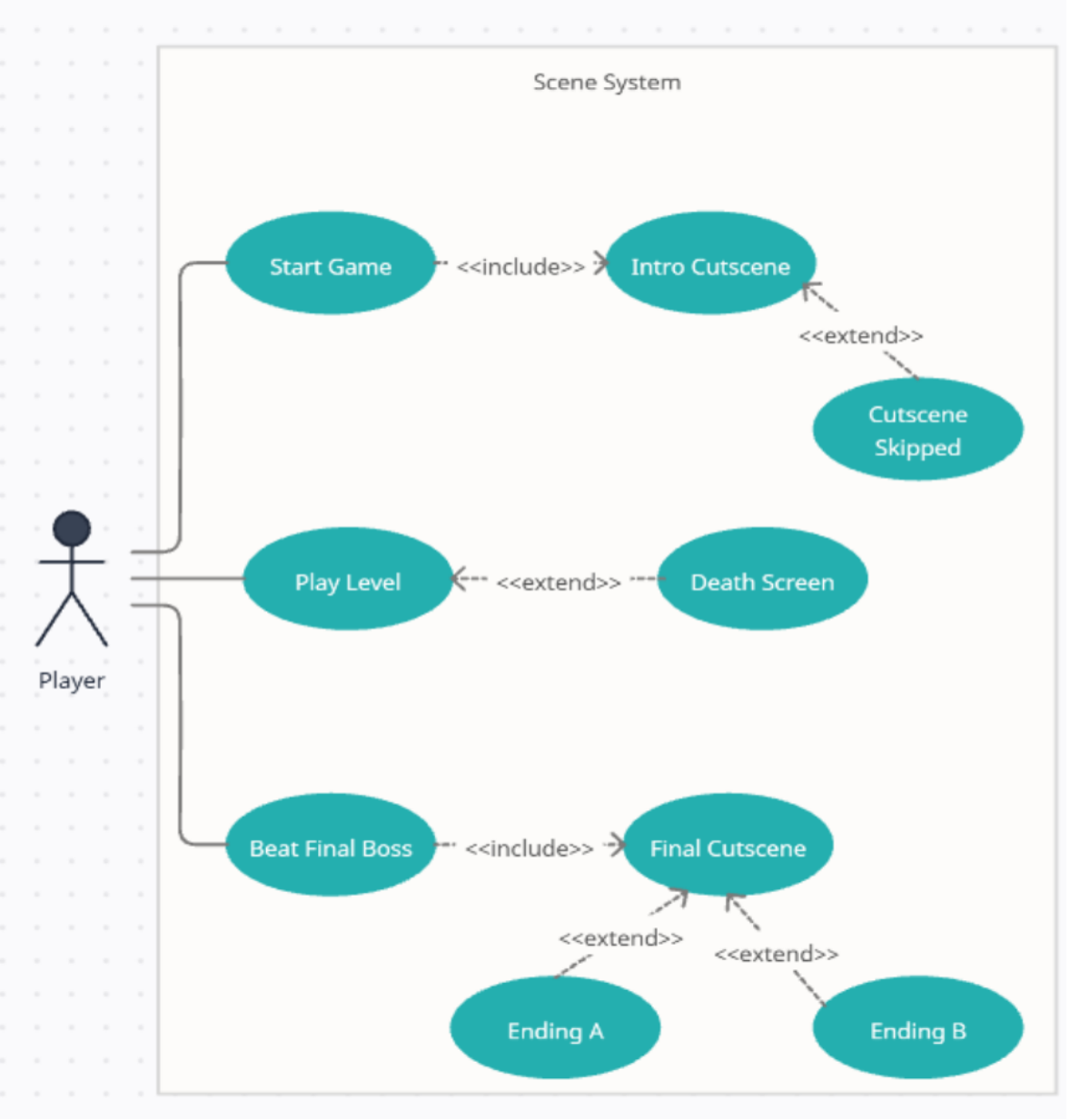
Complexity:

- Low Complexity
  - Simple implementation

Presenter: Lainey (TL4)

Story Coding:

Presenter: Lainey (TL4)



Player:

Purpose:

- Allow the player to dynamically interact with all the other systems in the game.

Priority: High

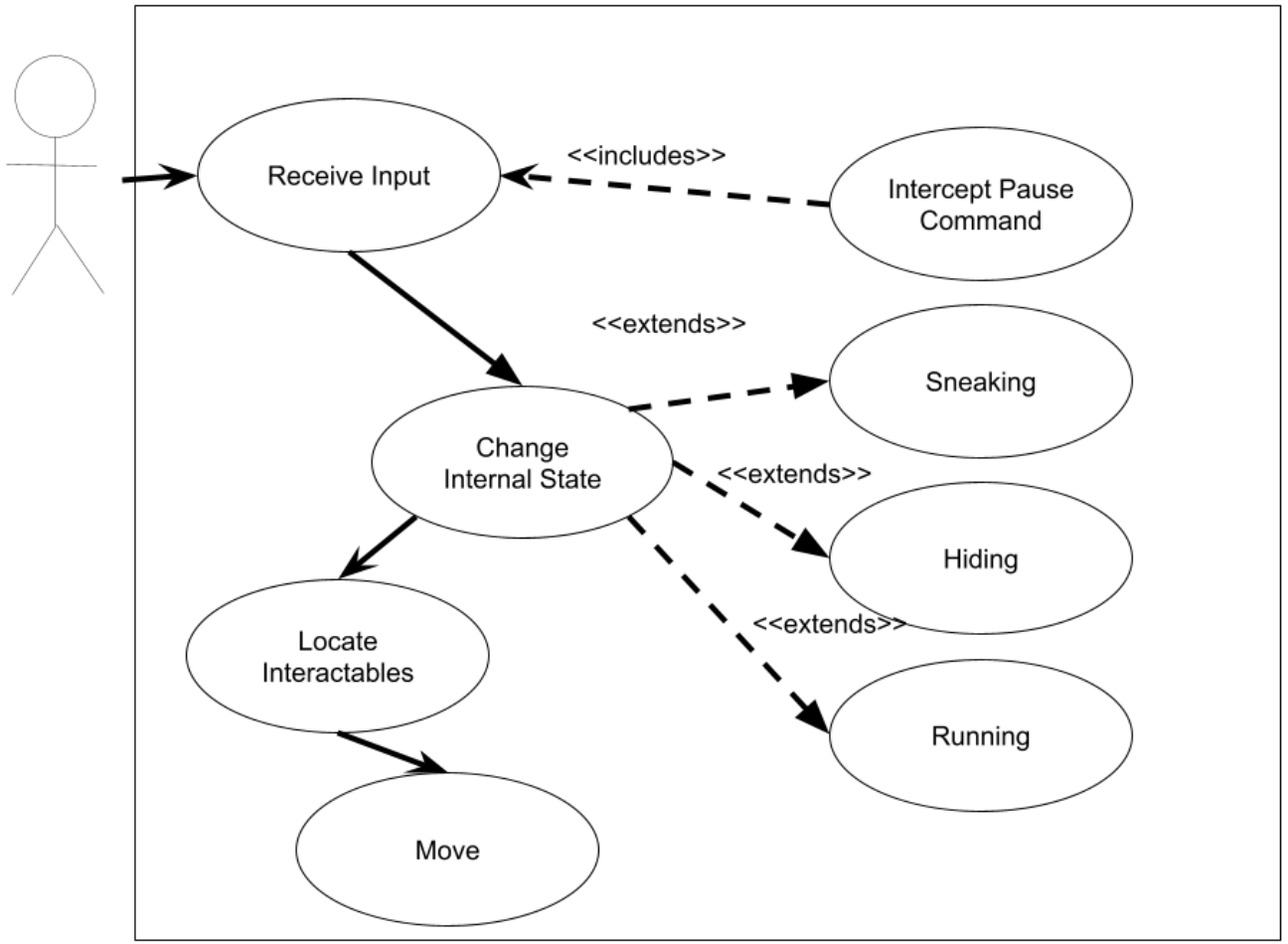
- The player is how the player interacts with the game outside of menus. Ensuring the player can reliably interact with the environment is of vital importance.

Complexity:

- It's on the simpler end.
- Instead of a single, large feature, the player has a number of smaller subsystems that must all interact.

Presenter: Camden (TL2+)

Player:



Presenter: Camden (TL2+)

Level Design:

Purpose:

- Define and implement Level 1 and Level 2 layouts (routes, pacing, checkpoint placement, exits).
- Provide progression flow through checkpoints, respawn at last checkpoint, and level-to-level transitions.
- Maintain progress flags so the game loads the correct state after death or transition.

Priority: High

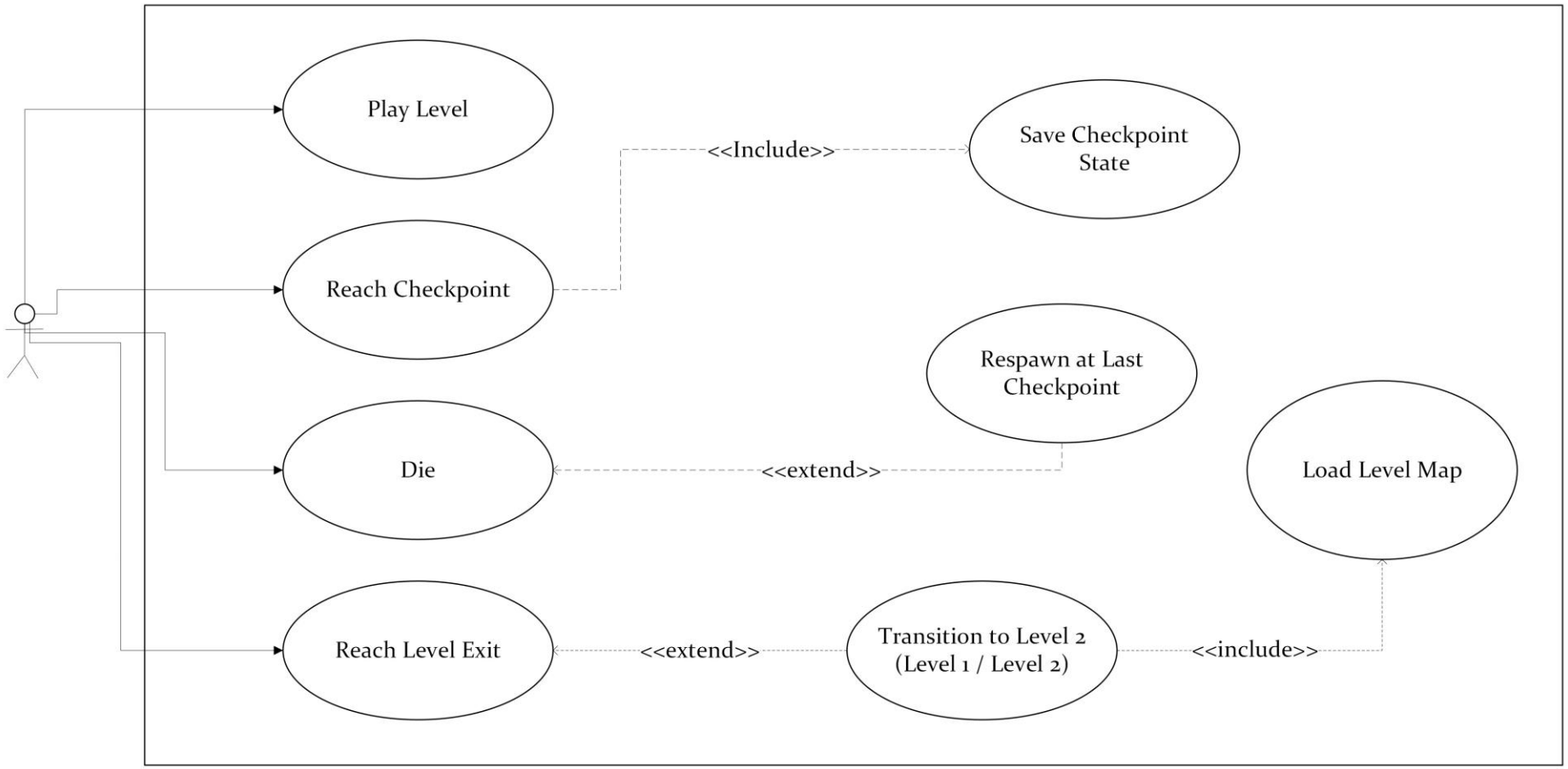
- Levels are the core container for every other system to function (player actions, UI feedback, objectives).
- Without checkpoints/respawn and transitions, the game cannot reliably support progression through Level 1 → Level 2.

Complexity: Medium–High

- Requires coordinating multiple responsibilities: checkpoint persistence, respawn positioning, and transition triggers.
- Must ensure state correctness (progress flags and checkpoint snapshots) across death, reload, and scene changes.
- Needs careful validation to avoid soft-locks and incorrect respawn/transition states.

Presenter: Abdullah (TL2)

Level Design:



Presenter: Abdullah (TL2)

Enemy A.I.

Purpose:

- The purpose of this use case is to control enemy behavior dynamically by detecting the player through sound and light and switching between Stealth, Chase, and Attack states.
- It creates challenge and immersion by reacting realistically, investigating sounds, chasing the player, attacking when in range, and returning to stealth if the player escapes.

Priority:

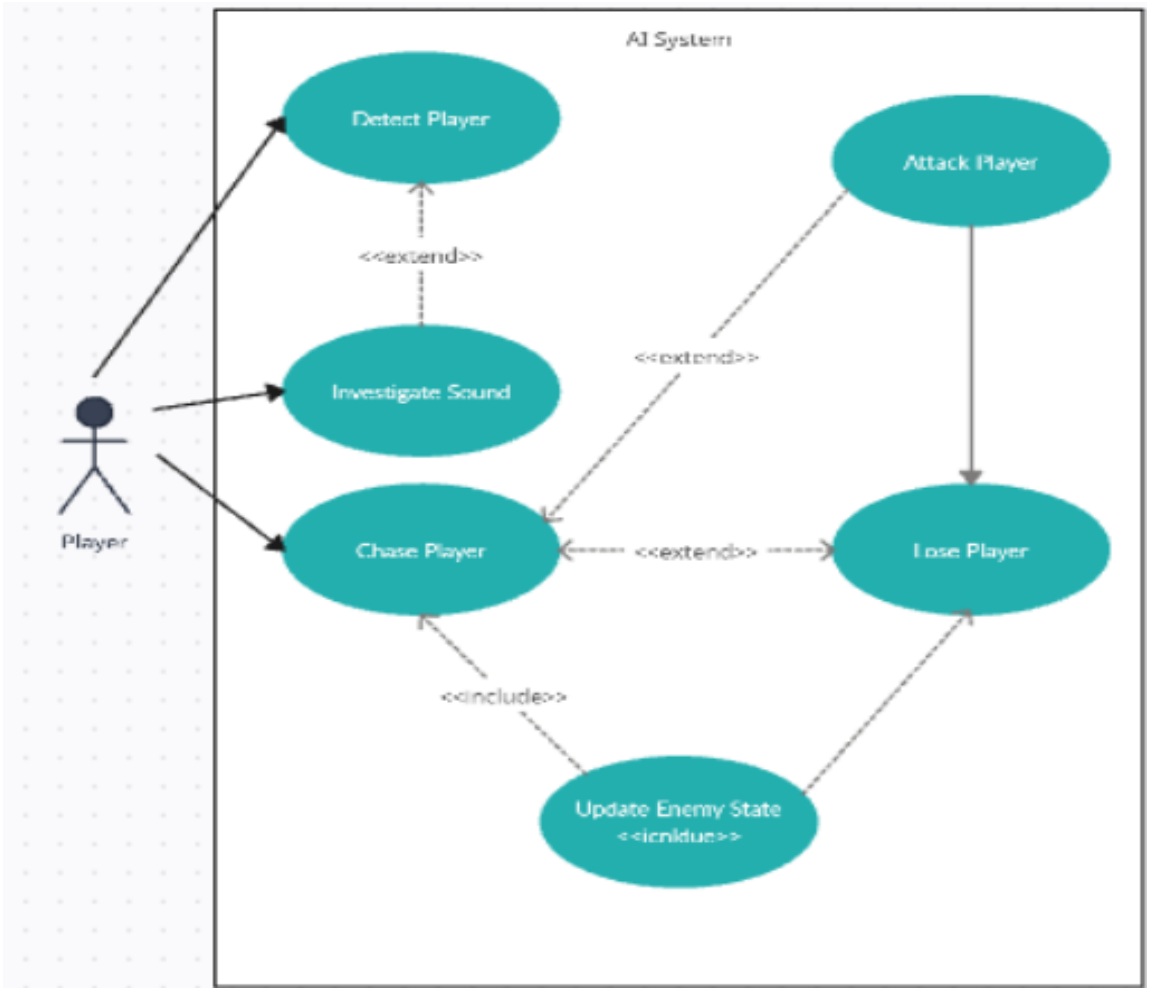
- High
- The Enemy A.I. is a core gameplay mechanic that creates challenge and tension in both Level 1 (stealth) and Level 2 (escape and combat). It directly impacts player experience, difficulty balance, and overall game progression.

Complexity:

- Medium to High
- Multiple states to manage
- State transitions between behaviors
- Detection logic (sound + light)
- Interaction with Player and Level systems
- Alternative outcomes (attack or lose player)
- Requires thorough testing

Presenter: **Swikriti Shrestha (TL6)**

Enemy A.I.



Presenter: **Swikriti Shrestha (TL6)**

Stealth Interactables:

Purpose:

- The purpose of this specific system is to manage the stealth states as well as the implementation all stealth interactable objects in the game.

Priority:

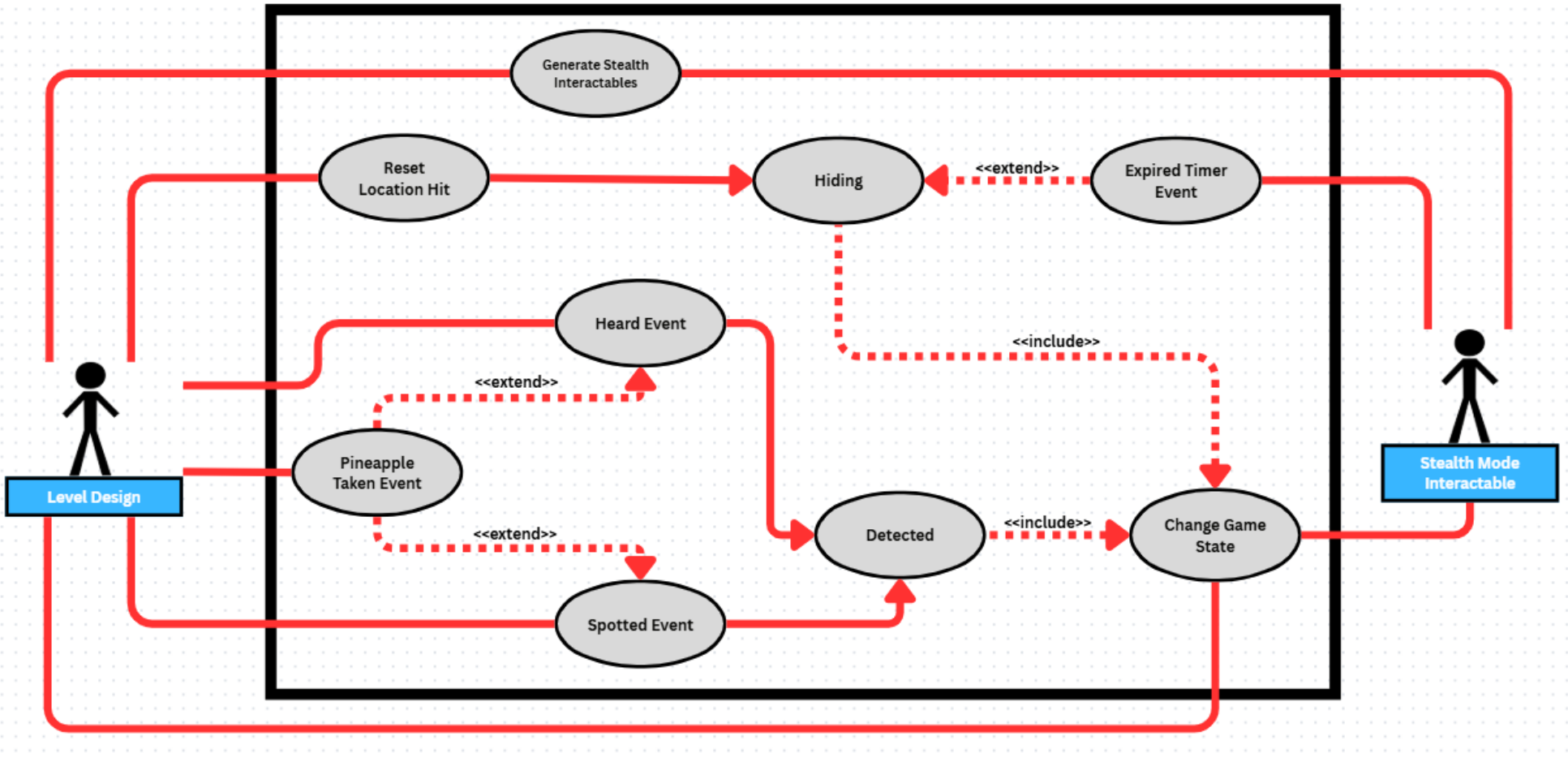
- High
- This is critical to the game design and enables the core functionality of the experience. This feature ties together all of the other components except the story coding to form the basis of the game loop.

Complexity:

- Mildly Complex
- Since this system will pull sound, position, and level design data from multiple external systems, the complexity is on par with the majority of the other systems complexity. Internal design of the stealth interactable will have lower complexity as each detection agent only has two states.

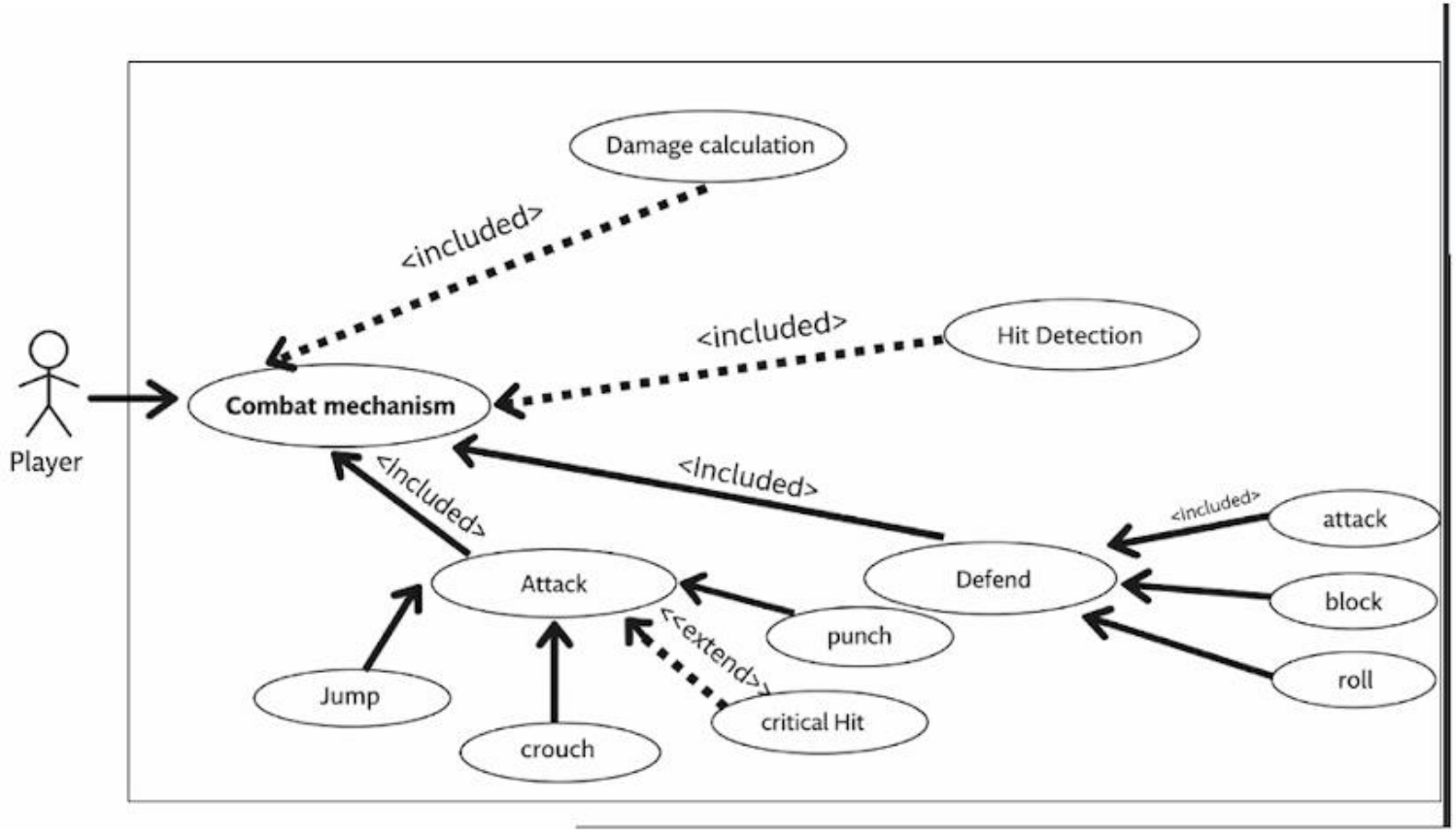
Presenter: **Brandon** (TL3)

Stealth Case Diagram:



Presenter:
Brandon (TL3)

Boss Fight:



Presenter: **Asim Sapkota** (TL1)

Asim: Boss Fight

Purpose

- The purpose of this use case is to manage all combat interactions between the Player and the Boss in Level 3.
  It handles attacking, defending, hit detection, and damage calculation until one character's health reaches zero.

Priority

- High
- This use case is critical because Level 3 cannot function without the combat system.
  The game cannot be completed unless the combat mechanism works correctly.

Complexity

- High
- The combat mechanism involves multiple components including:
- Attack and Defense actions
- Hit Detection
- Damage Calculation
- Health Management
- Conditional logic (e.g., critical hits)
- It also requires coordination between Player input and Enemy AI behavior.

Presenter : **Asim Sapkota(TL1)**

Thank You

Questions or Comments?

Presenter: **Asim Sapkota(TL1)**