Name: Riley Doyle Mark\_\_\_\_\_\_\_\_\_/50

1. **Brief Introduction \_\_/3**

My feature for the Stymphalion game is the battle system for standard fights and boss fights.

When the player interacts with an enemy NPC, my job is to send the player into a battle sequence depending on the type of enemy. If it is a standard enemy, my feature will send the player into a standard RPG style fight where the player and the enemy take turns choosing from four different actions until one has no health remaining.

In certain cases, instead of the standard fight the player will be sent into a minigame to fight the enemy. These minigames will be used for boss combat and will continue until the player completes/fails to complete the objective of the specific minigame.

1. **Use Case Diagram with Scenario \_\_/14**

**Use Case Diagrams**

**Diagram

Description automatically generated**

**Scenario**

**Name:** Battle with NPC

**Summary:** The player interacts with an NPC to begin the battle sequence. The Battle Management System will decide whether to begin a standard battle or a boss battle. The Battle system will continue the battle until the player or NPC run out of health.

**Actors:** Player

**Preconditions:** Player has interacted with an enemy NPC

**Basic Sequence:**

**Step 1:** Start battle

**Step 2:** Player chooses action

**Step 3:** If the action is valid proceed

**Step 4:** Check player and enemy health

**Step 5:** Repeat steps for enemy

**Exceptions:**

**Step 1:** If enemy restricts actions check for invalid action

**Step 2:** If either player or enemy health is zero; end battle

**Post Conditions:** On victory player receives rewards. On loss, event is triggered.

**Priority:** 2\*

**ID:**

1. **Data Flow Diagram(s) from Level 0 to Process Description for Feature \_\_/14**

In the data flow diagram below, I will be covering the battle system feature in its entirety.

**Data Flow Diagrams**

**Diagram 0**

**Diagram

Description automatically generated**



**Diagram 4**

**Diagram

Description automatically generated**

**Process Descriptions**

**Initiate Battle**

The Initiate battle process will be called after the player interacts with an enemy NPC. By calling this process the player will be sent into the battle sequence.

**Choose Action**

This process will be called at the start of the turn for both the player and the AI. Both will be given the choice of multiple actions to damage, heal, defend, etc.

**Check Health Status**

After either the player or AI’s action has been completed the Check Health Status process will determine if either the player or AI’s health is greater than zero.

If both are above zero, the turn will switch either from player to AI or AI to player.

Else if either are less than or equal to zero the battle will end and return based on whether the player or AI won the battle

**Receive Rewards**

If the player wins the fight, rewards will be sent to the inventory

1. **Acceptance Tests \_\_/9**

Run 25 battles, without animation, using AI for both player and enemy. Send output into a file for:

* If the player won or lost
* Which actions were chosen
* Remaining health of player AI and enemy AI

1. **Timeline \_\_/10**

**Work Items**

|  |  |  |
| --- | --- | --- |
| Task | Duration (PWKs) | Predecessor Task(s) |
| 1. Create Battle Management System | 8 | - |
| 1. Implement player actions | 6 | 1 |
| 1. Implement Player Victory | 3 | 2 |
| 1. Implement death case | 3 | 2 |
| 1. Implement Battle Rewards | 3 | 3 |
| 1. Implement different weapons | 6 | 4, 5 |
| 1. Create Battle Help Menu | 1 | 1 |
| 1. Implement case for Boss battles | 9 | 1 |
| 1. Create and implement testing system | 9 | - |
| 1. Create bounds tests for battle system | 6 | 6, 8, 9 |

**Pert Diagram**

**A picture containing diagram

Description automatically generated**

**Gantt Timeline**

**A screenshot of a computer

Description automatically generated with medium confidence**