Name Mikayla Winant Mark \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/50

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

## Brief introduction \_\_/3

My feature for Duck Quest will be to design and implement the enemies. Duck Quest will have a variety of enemy types depending on the environment. The environments in Duck Quest include a village, as well as forest, plains, and mountains. Each region will have different enemy types with different fighting animations and strength levels in the overworld. Duck Quest will also have dungeons in each region with bosses.

## Use case diagram with scenario \_\_14

### Use Case Diagrams

A diagram of a company

Description automatically generated

### Scenarios

**Name:** Spawn Enemy

**Summary:** The level generator has requested an enemy to be created.

**Actors:** Level Generator

**Preconditions:** Level Generator has been initialized.

**Basic sequence:**

**Step 1:** Receive enemy request.

**Step 2:** Generate enemy based on player location and level.

**Exceptions:**

**Step 1.1:** Request for boss enemy type.

**Step 1.2:** Generate boss enemy.

**Post conditions:** Spawn Enemy.

**Priority:** 2\*

**ID:** C01

\*The priorities are 1 = must have, 2 = essential, 3 = nice to have.

## Data Flow diagram(s) from Level 0 to process description for your feature \_\_\_\_\_\_\_14

\*My feature is Generate Enemies in blue.

### Level 0 Data Flow Diagram (Context Diagram)

A close up of a card

Description automatically generated

### Level 1 Data Flow Diagram (Diagram 0)

A screenshot of a computer game

Description automatically generated

### Level 2 Data Flow Diagram (Spawn Enemy)

In the data flow diagram below, I will be describing the Spawn Enemy Feature in its entirety.

A screenshot of a computer screen

Description automatically generated

### Process Descriptions

Spawn Enemy\*:

IF player enters dungeon

Request boss enemy

Generate Boss Object

END IF

ELSE

Request normal enemy

Generate Enemy Object

ENDIF

## Acceptance Tests \_\_\_\_\_\_\_\_9

[Describe the inputs and outputs of the tests you will run. Ensure you cover all the boundary cases.]

**Spawn Enemy Feature**

Input:

* Inputs would include parameters such as enemy type, spawn rate, spawn location, and movement patterns.
* Test min and max spawn rates.
* Test spawning enemies at the edges of the map or level boundary.

Output:

* Verify that enemies are generated at the correct locations.
* Enemies move as expected.
* Enemies interact properly with the game environment and player.
* Enemies perform at the expected strength level.

## Timeline \_\_\_\_\_\_\_\_\_/10

[Figure out the tasks required to complete your feature]

### Work items

|  |  |  |
| --- | --- | --- |
| Task | Duration (hours) | Predecessor Task(s) |
| 1. **Planning and Setup**   Gather/Create Enemy Sprites and Animations | 8 | - |
| 1. **Basic Enemy Creation**   Create Enemy Prefabs, implement basic movement scripts, test enemy movement | 10 | 1 |
| 1. **Advanced Behaviors**   Add Attack behaviors, implement health and damage, test player/enemy interactions | 8 | 1,2 |
| 1. **Spawning and Waves**   Create spawner scripts, test spawn rates and location | 2 | 2 |
| 1. **AI and Pathfinding**   Implement enemy targeting and obstacle avoidance | 4 | 2 |
| 1. **Polishing and Optimization**   Optimize scripts, work with sound manager on sound effects | 5 | 2,3,4,5 |
| **7. Testing/Deployment** | 8 | 2,3,4,5,6 |

### Pert diagram

### A screenshot of a number grid Description automatically generatedGantt timeline

A grid with a number on it

Description automatically generated with medium confidence