

## Basic RPG Demo

### Game World Description:

I have been using the Unity engine with scripts written in C# to develop a 2D turn-based role-playing game.

At the start of the game, only a title screen will be visible with a button that the user can click to play the game.

The game takes place in a medieval style fantasy world, where the player is situated on a 2D map of wilderness. The map will overlay a 24 x 10 grid, where a 1 x 1 square on the grid corresponds to one space unit. An overhead view of the player on the map is the layout on the screen when the player is exploring the “Wilderness” scene. The player can explore within the boundaries of the map for treasure, being mindful of the enemy creature roaming about. If the player gets too close, the enemy creature will become aware of their presence, chase them across the map, and a battle will commence.

In the “Battle” scene, the map is no longer visible and the view-port will instead show the player character facing off with the enemy from a side angle. At the bottom of the screen the HUD will show the Player’s character portrait, health and energy status, an action menu, and an enemy target selector menu. The turn-based combat system still needs to be scripted, but the plan is to allow the player to select an enemy to target and select an attack option during their turn. Attack success and damage dealt to the enemy will depend upon the player character’s stats, which serve as modifiers. Enemy attacks will be implemented through AI using a similar formula. If the character dies in battle, then the game will need to be reloaded. If the player character survives the battle, then they will be able to return to the “Wilderness” map and continue to explore.

In addition to scripting the turn-based combat system for the “Battle” scene, there are some additional things that need to be done before our game is complete. All current place-holder character sprites, which are just colored and labeled squares, need to be replaced with a final version that is a more engaging visual representation of that character and its role. A quest tracking system still needs to be developed where the NPC character on the map in the “Wilderness” scene will act as a quest trigger and provide the player with an explanation of the quest goals. A toggle-based inventory system also still needs to be implemented, along with a trigger system to open treasure chests found on the map in the “Wilderness” scene. Lastly, a leveling system that tracks experience points will also need to be created.

### Goals of the Game for the Player:

1. Complete the game quest:
  - a. Acquire quest from NPC
  - b. Find and defeat a monster.

- c. Return to NPC after monster has been defeated.
- d. Get rewarded with an item and experience points, which marks the end of the quest.

### **Game Characters:**

1. Player - Presently a turquoise square labelled with a "P".
  - a. In the "Battle" Scene:
    - i. Player is engaged in turn-based combat with at least one enemy creature.
  - b. In the "Wilderness" scene:
    - i. Talk with NPC
    - ii. Open treasure chests
    - iii. Character can move to any space on the map, as long as it is not occupied by an object, building, NPC, or a body of water.
2. NPC - Presently a yellow square labelled with "NPC".
  - a. In the "Wilderness" scene:
    - i. NPC will act as a quest trigger.
    - ii. NPC will receive the completed quest and will offer a reward to the player.
3. Enemy - Presently a red square labelled with an "E".
  - a. In the "Battle" scene:
    - i. Enemy engages in turn-based combat with the player.
  - b. In the "Wilderness" scene:
    - i. While player character is out of sensing range, the enemy will wander around the map.
    - ii. While the player is in sensing range, the enemy will pursue the player.
    - iii. When the enemy catches the player, it will prompt a transition from the "Wilderness" scene into the "Battle" scene.

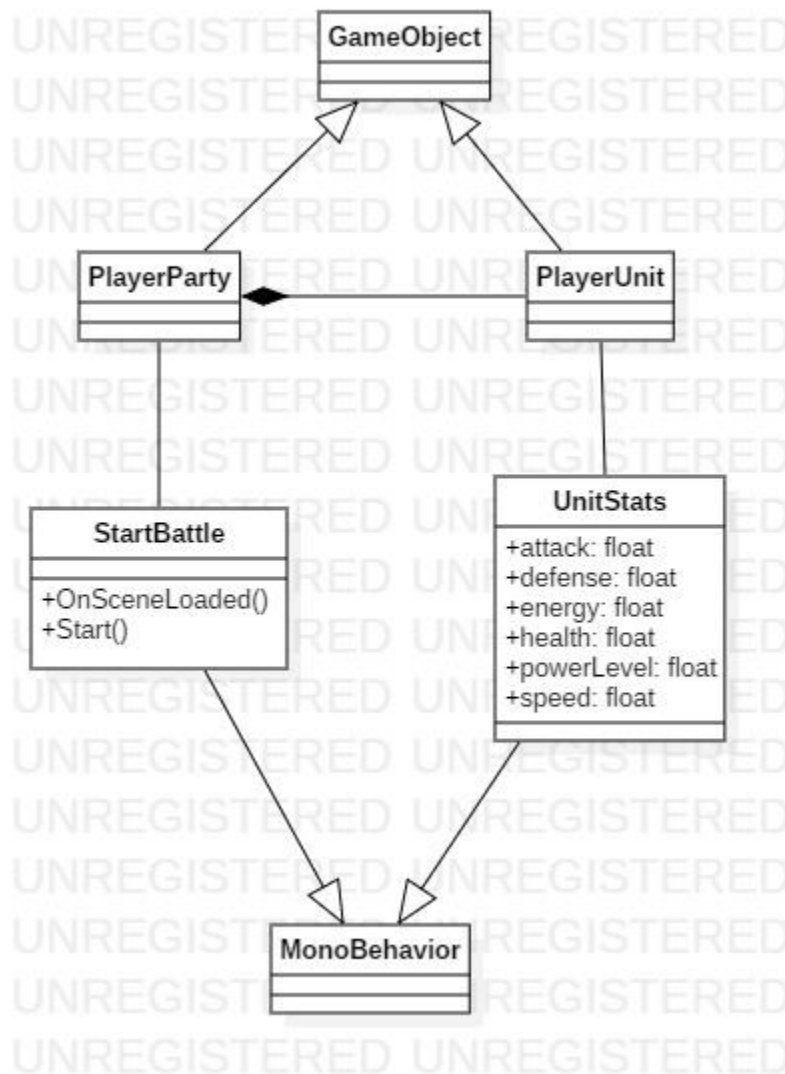
### **Game Rules:**

1. The player can only move around while in the "Wilderness" scene.
2. The player can only occupy a space on the map in the "Wilderness" scene that is not already occupied by an object, building, NPC, or body of water.
3. The player gets a set number of health points at the start of the game. With each attack from an enemy during the "Battle" scene, the player loses [x] amount of health points.
4. Each enemy starts with a set number of health points. With each player attack during the "Battle" scene, the enemy loses [y] amount of health points.
5. If enemy health points go to 0 during the "Battle" scene, the enemy dies and player wins battle.
6. When the player completes a quest or defeats a monster, they will gain experience points.
7. When the player gains [x] amount of experience points, the player will gain a power level and the value of their stats will increase.
8. Attack strength and success rate will depend upon player and enemy stats. Higher stats result in stronger attacks with a higher success rate.
9. The player will start with a set number of energy points to spend on attack skills. The more powerful the attack, the more points will be spent. Energy points can be replenished with potions.

- 10.If energy points are depleted to 0 during the “Battle” scene, the player cannot attack and they will be forced to pass their turn in battle.
- 11.The player wins the game if they complete the main quest objective.
- 12.The player can find energy potions in treasure chests.
13. If the player’s health points go to 0 during the “Battle” scene, the player dies and they lose the game.

### Class Diagrams:

#### Start Scene:



#### Wilderness Scene:

