RPG PSUEDOCODE

Main Objectives

1. Player can interact with enemies, items and chest
2. Player has accessible data about score, lives, HP, etc.

Classes:

1. Player
   1. Attributes
      1. Name
      2. Score
      3. Damage
      4. Health Points
      5. Coordinates (x, y)
      6. Inventory
   2. Actions
      1. Display HP, score, coords
      2. Move character
2. Enemy (parent)
   1. Attributes
      1. Name
      2. Health Points
      3. Damage
      4. Score given when killed
      5. Loot
3. Item (parent)
   1. Attributes
      1. Name
      2. uses
4. Chest/loot
   1. LootTypes:
      1. Appears randomly in map
      2. Get when kill enemy
         1. Enemyloot
      3. Get when kill boss
         1. BossLoot
   2. Attributes
      1. Score given when taken
   3. F

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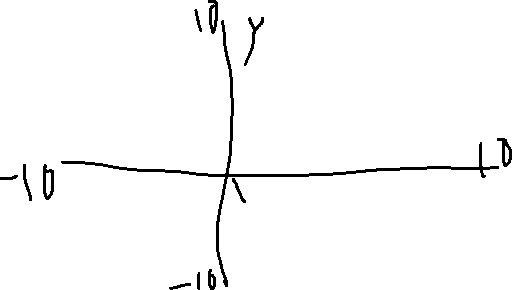
Game Flow:

1. Greet user
2. Ask if user wants to play or view stats or quit

About the Map

Spawn (0,0)

1. Coords in <x,y>



* 1. Start at 0,0
  2. Borders at -10,10
  3. F

Eafafaf

Randomizing Values

1. Ability Chance (boss)
   1. If I want percent chance to be 20%.
      1. Put chance to .2,
      2. Have function that carries out chance operations
         1. Generate random num from 0 to 1
         2. Check if chance was greater than generated number
            1. If chance was .2, then we could say that it has a low chance of happening b/c there are more numbers greater than .2 than less than .2

Potions: Xxxxx

1. X = char, xxxx = amount
2. Healing
   1. Char will be ‘H’
   2. Heals xxxx HP
      1. Ex: heals 2500 HP
3. Strength
   1. Char will be ‘S’
   2. Damage multiplier = xxxx%.
      1. Ex: damageMult = 250% = 2.5x
4. Weakness
   1. Char will be ‘W’
   2. Enemy damageMult = xxxx%.
      1. Ex: damageMult = 50% = 0.5x

PLAN FOR MAP

1. 121 points on map (11x11)
   1. 1 pt for user spawn (0,0) = 120
   2. 60pts for enemies = 60
   3. 20pts for bosses = 40
   4. 25pts for items/loot/etc = 15
   5. 15 empty spots?
      1. 12% of map will be empty…

FILE ORGANIZATION

1. Boss name List
   1. One name per line
2. Enemy name List
   1. One name per line
3. Boss abilities
   1. Extract Ability: name, damage mult, effect
   2. EFFECT (char + int):
      1. Start with:
         1. H : Healing, bosshealth += int;
         2. S : Strength, bossDMG \*= int;
         3. W : Weakness, playerDMG \*= int;
         4. X : No effect
      2. One ability can have 0-3 effects
   3. Name \t dmg mult \t effect

DOCUMENTED PROGRESS:

1. 1/16/24 (Norco College Winter 2024 Term):
   1. Created This doc, Created player and enemy class
   2. Focused on Player class
      1. Added most variables, getters, setters
      2. Added Update() method to show info like a real rpg game
   3. Did a lot of brainstorming
2. 1/17/24:
   1. Worked on the map
      1. Implemented map system
         1. 20 by 20 border
   2. Added first enemy
      1. Prototype for fighting system
3. 1/18/24:
   1. This was when I started documenting progress (last 2 days where off memory).
   2. Furtherly improved map system
      1. Fighting works, not perfect
      2. Able to spawn multiple enemies and fight them
   3. Added random class
      1. Generates random numbers
   4. Random Enemy names
4. 1/20/24
   1. Added boss class
      1. Child of enemy
         1. Added Ability (ultimates)
      2. Began making random boss names
   2. Constructor Automation
      1. Began automation of variables for Enemy and boss class
         1. HP
         2. Damage
         3. Spawn pt
         4. Score drop
         5. Name
      2. Huge issue w/ spawn pt
         1. Adding maps to optimize?
5. 1/23/24:
   1. Fixed issue with spawning
      1. Not optimized by any means but it works
      2. Issue was that the spawn check was being performed in both enemy and boss constructor (parent-child inheritance), removed child (boss) spawn inheritance for now
   2. Removed constructor parameters for enemy class
      1. Boss class only needs ability info
6. 1/24/24
   1. Put all ability info in file
      1. Name, damageMult, effects, chance
   2. Made code to read into file
      1. Not currently working, each line is going to only the name part, and everything else is null
      2. Fixed format of file, tabs were not working properly
7. 1/25/24
   1. Fixed file reading, everything working for now
   2. Automated boss construction (no constructor parameters)
8. 1/30/24:
   1. Last couple of days worked on diff stuff
   2. Smart pointers
      1. Switched all pointers used in code to unique ptr
         1. Mainly the vector for enemies
      2. Debugging Enemy constructor
         1. Switching to unique ptr came with a lot of issues
         2. Enemy object data was corrupted for each enemy object because of how I was adding each enemy to the enemies vector:
9. 1/31/24:
   1. Changed map Bounds from 10 to 5
      1. More realistic and manageable
      2. Area of 121 squares instead of 441
         1. 11x11 instead of 21x21
   2. Finalized Automation of enemy/boss creation
      1. May tweak later, but for now it is good
10. 2/7/24:
    1. Working enemy deletion system
       1. When enemy/boss dies, it is deleted from vector, destructor called
    2. Begin working on Item Class
11. 2/10/24:
    1. Made potion, armor and weapon classes
       1. Each has rarity, rarity name
    2. Potion class has basics
12. 2/11/24
    1. Weapon class has basics
       1. Unique damage and names implemented
       2. Working name, type, potency, description, potions vector, make function
    2. Armor class has basics
13. 2/16/24 (Norco College Spring 2024 Term)
    1. Can not spend as much time as before
    2. Items are now shared\_ptr objects
    3. Tested instances of deleting them successfully
14. 2/18/24
    1. Faaf

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Weapon (%) | Armor (%) | Potion (%) | Rarity |
| Chest | 25 | 25 | 50 | 0-1 |
| Enemy | 25 | 25 | 50 | 0-.8 |
| Boss | 25 | 25 | 50 | .6-1 |

Adawdwaawdwaad

1. F

What determines if an x or y value is filled in a spawn?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X(right) Y(left | -2 | -1 | 0 | 1 | 2 |
| 2 |  |  | E |  |  |
| 1 | E |  | E |  | E |
| 0 | E | E | E | E | E |
| -1 | E |  |  |  |  |
| -2 |  |  |  |  |  |

Y = 0 is unusable now, why?

For every x value with y = 0, an Enemy is present

In our game, there are 21 values associated with one partner value

* + - * 21x coords for one y
        1. Think: (-10,1)(-9,1)(-8,1)(-7,1)…(10,1)

Solution:

Map with <int, Point> (Point has x and y)?

Vector of points (x and y)?

Bool Array[21][21] ([x][y]) or rows, cols

Will hold true if obj is on it, false if not

For each x Look at all y’s

If each y is occupied (holds true),

Add the x value to xList (list to not be used in random)

//Do same thing for y values

ITEM CLASS

Types of items wanted:

1. Armor (Base HP)

2. Weapon (Base DMG)

3. Potions (Healing, damageMult)

* + - * Item class (Parent)
        1. Name (string)
        2. Rarity (double)
        3. rarityName (string)
      * Armor (Child::item)
      * Weapon (Child::item)
      * Potions (Child::item)