FrenchGame Factory

Project specification

❖ *Background :*

The FrenchGame Factory wants to boost its catalog by proposing a new game that will be an RPG.

The project is provided by Flavio the CTO.

Charlotte in charge of the game design provided us with the following elements as a foundation for her project:

She needs a complete and functional prototype of the game and in English.

❖ *Requirements :*

- The game must be initialized with the following parameters:

- We have two players
- Each player selects characters from his team
- A team is composed of 3 characters
- Each character will have a different name from the other characters already created in the game.
- They also have their own characteristics (a name, a life, a weapon).
- The weapon determines the character's damage
- The game is a turn-based fight:
    - Player 1 chooses a character from his team who will perform an attack or healing action (if he can heal).
    - It then selects the character who will undergo the action.
    - The action is completed, then we check if the game is over, otherwise it's player 2 turn.
- The game ends when all the characters of a team are dead.
    - On Game statistics are displayed:
      Number of turns, List of characters and their properties.
- Finally, in an attempt to give more suspense to the game, a chest may appear randomly in front of the character when he is about to take his turn.
    - The chest contains a more or less powerful weapon that will replace its current one.

- <u>The code must be commented as much as possible.</u>

❖ *Project Launch :*

Code name of the project will be Arias Arena to give a more immersive side since we are in an RPG.

- The player's choices are the backbone of the game.

The player comes into the game with choices to make right from the start, beginning with the name of his or her team.

The panel of choices is wide, there are 8 Classes and 8 Basic Weapons available.

Each character will have its own characteristics and abilities: Some can attack and heal others only attack.

Each character has his or her own type of weapon.

Example: The Witcher cannot carry sticks.

The player's choices in building the team will affect the game in such a way that the game renews itself with each new game.

More than fifty team combinations are available at the launch of the game.

- The chest

Above a character is selected and then a roll is made after the selection of the action of this character.

In this way the realization of the player's action is inevitably impacted.

Example : A care of 80 can become a care of 40 or 160.

If a new weapon is assigned a message is displayed, otherwise the game continues normally.

- Game architecture

As can be seen in the class diagram below the game is based on object-oriented program design.

The Configuration class is a class that will allow us to create all the parameters of the game, which will then be used in the Game class, which takes charge of the progress of the game in turn until its end.

For this reason Configuration is linked to the Player class where we will define the name of the team and the characters that will compose it.

The existing characters are in the Character class where each character will have all its parameters (its character class, its life, its abilities, its panel of available weapons and its own weapon that it will use).

Character is also linked to Weapon which defines all the weapons of the game and it is in the latter that we will go to draw for the chest: Chest.

The two classes Character and Weapon each have their own inheritance which defines the 8 Characters and the set of weapons available.

❖ *Class Diagram :*

Glossary

internal	#
private	-

main

- # configuration
- # game

Game

- # round
- # player1
- # player2
- # chest
- # runGame()
- - endGame()

Configuration

- - firstPlayer
- - secondPlayer
- - availableCharacters
- - availableWeapons
- # showGeneral()
- - configureFirstPlayer()
- - configureSecondPlayer()
- - teamBuild()
- - explainLife()
- - helpMode()
- # endingMenu()

Player

- # name
- # allAlias
- # composition
- - limitCharacters
- # createTeam()
- - selectedCharacter()
- # fight()
- - selectedTarget()
- # hasLoose()
- # stats()

Character

- # name
- # alias
- # startLife
- # life
- # weaponGender
- # weapon
- # canHeal
- # abilities
- # static func()
- # changeAlias()
- # witchWeapon()
- # attack()
- # healing()
- # isDead()

Weapon

- # name
- # gender
- # damage
- # care

Chest

- # loot()
- - getWeaponList()

Character Inherance

- Witcher
- Darth Priest
- Shan
- Mage
- Mystic
- Nanga
- Demon Hunter
- Scientist

Weapon Inherance

- Stick
- Pistol
- Crossbow
- Bow
- Axe
- Sword
- Dagger
- Hammer