

Advanced Programming Tutorial

Project, Sprint 1: Laying the foundation of a text based RPG adventure game.

Project description

The goal of this project is to implement a text based RPG adventure game.

The project will be done iteratively and incrementally in multiple “Sprints” of approximately 2 weeks. For each sprint, you will be given a list of “User Stories” describing features from the point of view of someone playing the game. You are therefore free to implement them as you wish, although some hints might be given to guide you. You will also be given the Readme from our solution at the end of the sprint as a way to help you see one way to do it, you are free to implement your project in a different way.

No need to over-engineer and try to fully finish a feature immediately, this project will be built incrementally by refactoring old features to extend them when needed. For example during the first sprint the fight feature will simply be a dummy function simulating the result of a fight, it will be extended to fight real enemies much later.

Sprint description

In this first phase, the foundations of the game are to be implemented. The main menu and in-game main loop will be introduced and supported by dummy functionalities to be extended in future sprints. This phase will mostly focus on input/output features as well as basic C++ functionalities (loops, functions, variable manipulation)

Hint: It is highly recommended to set up a repository and a build script (for example CMake, a Makefile or your IDE “Project” functionalities).

User stories

Main Menu

When I start the game, I see a main menu with “New Game”, “Load Game”, “Exit”. I can pick my choice using the command line.

Hint: use `cout` and `cin` from the `iostream` library

New Game and player character

When I start a new game, I can input a character name and I have an HP (Health Points) statistic, which is positive number that will trigger a game over if it goes to 0. These fully describe my player character for now (will be extended next sprint).

In-Game Loop

In the game, I see a menu where I can chose between the following options:

- fight: placeholder function for now (e.g. just display some text and lose some HP), the fight feature will be developed later
- show stats: display the up-to-date character's information (currently just name and HP)
- save: save the game to a savefile (see save/load US)
- exit: quit the game

The choice is made similarly as in the main menu. The game loop in this menu as long as I have more than 0 HP (= player alive) or chose to exit.

Save/Load

I can save the game to a save file. A save will contain the data necessary to restore the game state (character's name and HP). In the main menu I can load a save file to restore a previous game state.

Hint: Use file input/output with the `fstream` library (`ofstream` and `ifstream`)