CS-355 Project 4 Documentation

Members: Gavin Hopper, Zach Handel, Zack West

Data Structures and Algorithms

Dr. Daniel Ray

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## Description

The goal of this project is to implement personalized functionality into Dr. Daniel Ray’s Interactive Fiction Game Engine. We are tasked with adding 3 new features by the due date of November 8th, 2022. The new features will be added onto the most updated version of the IF engine (project 3).

## Timeline

October 12, 2022: This is when Gavin Hopper, Zach Handel, and Zach West decided they wanted to work together on this project.

October 17, 2022: The group agreed that Zach Handel would fix any issues that they did not finish from the previous project. They would then use the program that he fixed as a starting point for this project.

October 18, 2022: This is when the group members decided they want to add the following features: AI combat system, GUI, and a backpack storage system.

## Difficulties

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## Discoveries

## GUI System

## AI Combat System

Inside the IFD file, there will be a tag called <combat> and inside the tag there will be a number (1 or 0) indicating if it is a combat area or not. 1 is yes, 0 is no. Both basic and hpsp players will have the ability to enter combat. If the player defeats the enemy, they will be able to enter the area. We can even make a new Area that is a Combat Area. When parser reads if the area is a combat area, you can dynamically allocate into the vector a combatArea instead of a regular area. NOTE: Combat Areas will NEVER be instant-death areas, but they can be goal areas.

1. Allow the parser to read if it is a combat area or not
   1. If it is, trigger the combat() function.
   2. If not, do nothing
2. When the combat() function is triggered, create the fighting stuff inside of there.
3. Create a combat rule check list when “help” is typed.

USE COMBAT ID TO TRIGGER EVENT INSIDE GAME.H THAT CAN ACCESS THE PLAYERS STATS AHHHHH

STRUGGLES:

* Trying to use inheritance, but trying to link combat area links and area links is very complicated, so I am treating it as a goal or ID event.
* Tried to access an HPSP player from the combat object, so I needed to find a way to use the player polymorphism implemented in order for it to work
  + This is where I would define some new pure virtual methods for it to work
* Created a delay function to get different values each combat turn
* Now I need to implement that the player can exit and reset during combat, so this means I need to read in a string instead of an int so it is more dynamic with user input
* Have to find a way to terminate the game reading the room being a combat room after an enemy is defeated
* Added a new flag system to detect if the player hits the enemy or not

## Backpack System